

Form 3160-3
(June 2015)

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-015-49984
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory Purple Sage
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | <ul style="list-style-type: none"> 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		Office

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

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



(Continued on page 2)

*(Instructions on page 2)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-49984		² Pool Code 98220		³ Pool Name Purple Sage; Wolfcamp (Gas)	
⁴ Property Code 333281		⁵ Property Name MICHAEL RYAN FED COM			⁶ Well Number 204H
⁷ OGRID No. 228937		⁸ Operator Name MATADOR PRODUCTION COMPANY			⁹ Elevation 3078'

¹⁰Surface Location

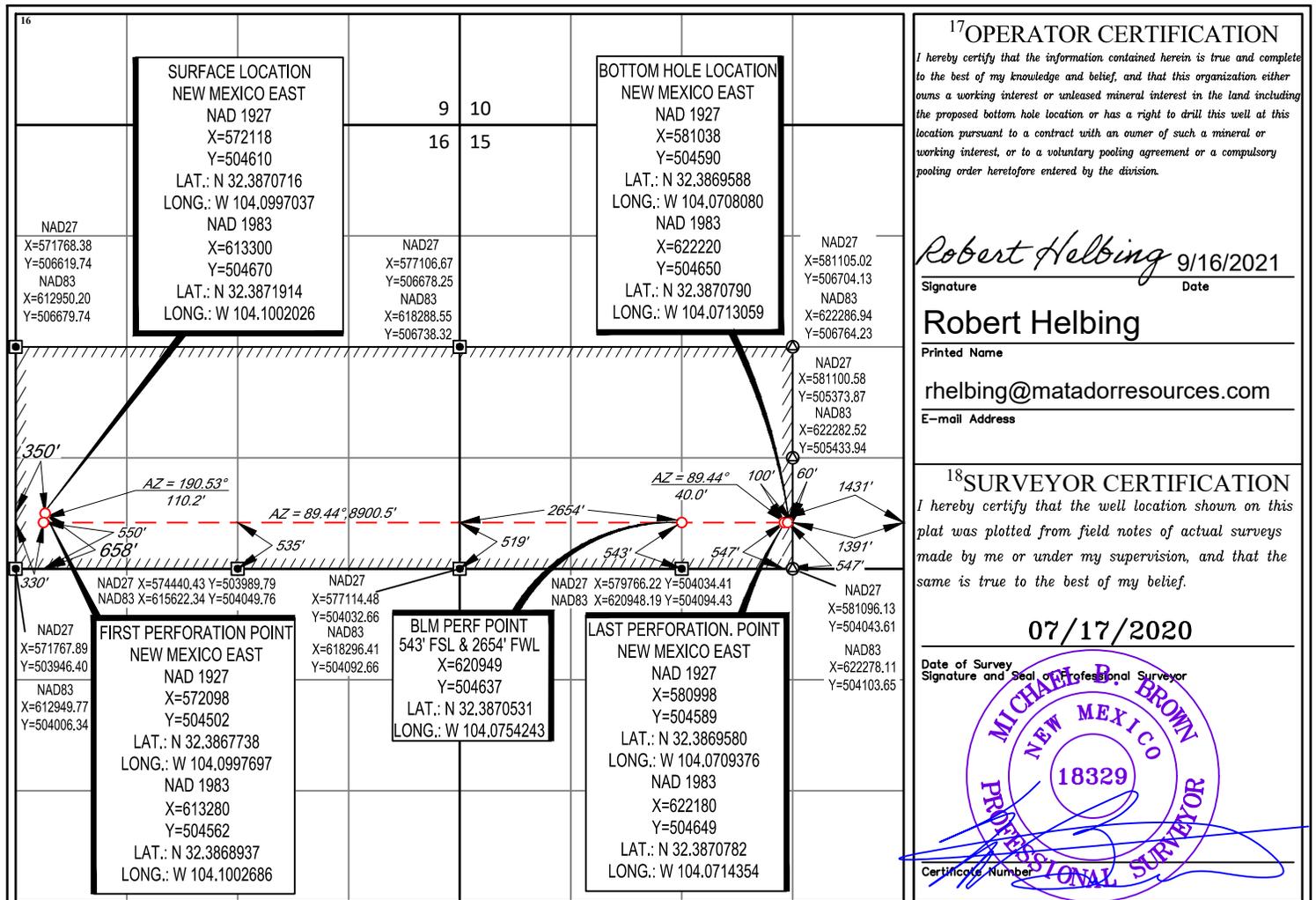
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	16	22-S	28-E	-	658'	SOUTH	350'	WEST	EDDY

¹¹Bottom 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
0	15	22-S	28-E	-	547'	SOUTH	1391'	EAST	EDDY

¹² Dedicated Acres 560	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



Addendum to Natural Gas Management Plan for Matador's

Michael Ryan Fed Com 204H; 203H; 124H; 123H; 138H; 224H; 223H and 137H

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
Michael Ryan Fed Com #203H	1,100	2,500	3,600
Michael Ryan Fed Com #204H	1,100	2,500	3,600
Michael Ryan Fed Com 123H	1,400	2,600	1,400
Michael Ryan Fed Com 124H	1,400	2,600	1,400
Michael Ryan Fed Com 223H	400	4,500	2,500
Michael Ryan Fed Com 224H	400	4,500	2,500
Michael Ryan Fed Com #137H	1,100	2,500	3,600
Michael Ryan Fed Com #138H	1,100	2,500	3,600

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

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:** 09/13/2022

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
Michael Ryan Fed Com #203H	TBD	M 16-22S-28E	549' FSL 320' FWL	1,100	2,500	3,600
Michael Ryan Fed Com #204H	TBD	M 16-22S-28E	548' FSL 350' FWL	1,100	2,500	3,600
Michael Ryan Fed Com 123H	TBD	M 16-22S-28E	658' FSL 320'FWL	1,400	2,600	1,400
Michael Ryan Fed Com 124H	TBD	M 16-22S-28E	658' FSL 350'FWL	1,400	2,600	1,400
Michael Ryan Fed Com 223H	TBD	M 16-22S-28E	518' FSL 320'FWL	400	4,500	2,500
Michael Ryan Fed Com 224H	TBD	M 16-22S-28E	518' FSL 350'FWL	400	4,500	2,500
Michael Ryan Fed Com #137H	TBD	M 16-22S-28E	629' FSL 320' FWL	1,100	2,500	3,600
Michael Ryan Fed Com #138H	TBD	M 16-22S-28E	628' FSL 350' FWL	1,100	2,500	3,600

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
Michael Ryan Fed Com #203H	TBD	06/03/2023	06/23/2023	07/23/2023	09/03/2023	09/03/2023
Michael Ryan Fed Com #204H	TBD	06/24/2023	07/14/2023	07/23/2023	09/06/2023	09/06/2023
Michael Ryan Fed Com 123H	TBD	12/28/2022	01/18/2023	02/18/2023	04/30/2023	04/30/2023
Michael Ryan Fed Com 124H	TBD	01/13/2023	02/02/2023	02/18/2023	05/03/2023	05/03/2023
Michael Ryan Fed Com 223H	TBD	12/15/2024	01/05/2025	01/31/2025	04/19/2025	04/19/2025
Michael Ryan Fed Com 224H	TBD	01/02/2025	01/25/2025	01/31/2025	04/22/2025	04/22/2025
Michael Ryan Fed Com #137H	TBD	05/16/2023	06/05/2023	07/23/2023	09/06/2023	09/06/2023

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:
Printed Name: Omar Enriquez
Title: Sr. Production Engineer
E-mail Address: oenriquez@matadorresources.com
Date: 09/13/2022
Phone: (972)-587-4638
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

Michael Ryan Fed Com 204H
SHL: 658' FSL & 350' FWL Section 16
BHL: 547' FSL & 1391' FEL Section 15
Township/Range: 22S 28E
Elevation Above Sea Level: 3078

Drilling Operation Plan

Proposed Drilling Depth: 18432' MD / 9608' TVD

Type of well: Horizontal well, no pilot hole

Permitted Well Type: Oil

Geologic Name of Surface Formation: Quaternary Deposits

KOP Lat/Long (NAD83): 32.38747308862155 N / -104.10117417156809 W

TD Lat/Long (NAD83): 32.387079047440274 N / -104.07130570434656 W

1. Estimated Tops

Formation	MD (ft)	TVD (ft)	Thickness (ft)	Lithology	Resource
Rustler	172	172	239	Anhydrite	Barren
Salado (Top of Salt)	411	411	2,103	Salt	Barren
Lamar (Base of Salt)	2,514	2,514	72	Dolomite	Barren
Bell Canyon	2,586	2,586	808	Sandstone	Oil/Natural Gas
Cherry Canyon	3,394	3,394	1,201	Sandstone	Oil/Natural Gas
Brushy Canyon	4,595	4,595	1,393	Sandstone	Oil/Natural Gas
Bone Spring Lime	5,988	5,988	362	Limestone	Oil/Natural Gas
Avalon	6,350	6,350	298	Sandstone	Oil/Natural Gas
1st Bone Spring Carb	6,648	6,648	372	Carbonate	Oil/Natural Gas
1st Bone Spring Sand	7,020	7,020	269	Sandstone	Oil/Natural Gas
2nd Bone Spring Carb	7,289	7,289	465	Carbonate	Oil/Natural Gas
2nd Bone Spring Sand	7,754	7,754	329	Sandstone	Oil/Natural Gas
3rd Bone Spring Carb	8,083	8,083	918	Carbonate	Oil/Natural Gas
KOP	8,883	8,863	-	Carbonate	Oil/Natural Gas
3rd Bone Spring Sand	9,022	9,001	323	Sandstone	Oil/Natural Gas
Wolfcamp	9,418	9,324	-	Shale	Oil/Natural Gas
TD	18,432	9,608		Shale	Oil/Natural Gas

2. Notable Zones

Wolfcamp is the goal. All perforations will be within the setback requirements as prescribed or permitted by the New Mexico Oil Conservation Division. OSE estimated ground water depth at this location is 54'.

3. Pressure Control

Equipment

A 12,000' 5000-psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and one annular preventer will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams.

An accumulator complying with Onshore Order #2 requirements for the pressure rating of the BOP stack will be present. A rotating head will also be installed as needed.

Testing Procedure

BOP will be inspected and operated as required in Onshore Order #2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

A third party company will test the BOPs.

After setting surface casing, a minimum 5M BOPE system will be installed. Test pressures will be 250 psi low and 5000 psi high with the annular preventer being tested to 250 psi low and 2500 psi high before drilling below surface shoe. In the event that the rig drills multiple wells on the pad and any seal subject to test pressures are broken, a full BOP test will be performed when the rig returns and the 5M BOPE system is re-installed.

Variance Request

Matador requests a variance to have the option of running a multi-bowl wellhead assembly for setting the Intermediate 1 and Production Strings. The BOPs will not be tested again unless any flanges are separated.

Matador requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. If the specific hose is not available, then one of equal or higher rating will be used.

Matador requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, the wellbore will be secured with a blind flange of like pressure. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test.

4. Casing & Cement

All casing will be API and new. See attached casing assumption worksheet.

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 436	0 - 436	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	9.875	0 - 8783	0 - 8783	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Production	6.75	0 - 18432	0 - 9608	5.5	20	P-110	Hunting TLW-SC	1.125	1.125	1.8

- All casing strings will be tested in accordance with Onshore Order #2 - III.B.1.h
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed
- All non-API joint connections will be of like or greater quality and as run specification sheets will be on location for review
- Request open to deepen Intermediate 1 set depth into curve, no changes in pipe weight or grade is necessary.

Variance Request

Drill Plan

Matador request a variance to wave the centralizer requirement for the 7-5/8" casing and the 5-1/2" SF/Flush casing in the 6-3/4" hole.

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above the current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Matador request option to perform a bradenhead cement squeeze on Intermediate 1 string.

Matador request a variance to utilize a surface setting rig. If this is used, Matador request the option to drill either 17.5" or 20" surface hole.

String	Type	Sacks	Yield	Cu. Ft.	Weight	Percent Excess	Top of Cement	Class	Blend
Surface	Lead	120	1.72	214	12.5	50%	0	C	5% NaCl + LCM
	Tail	250	1.38	347	14.8	50%	136	C	5% NaCl + LCM
Intermediate 1	Lead	670	3.66	2455	10.3	35%	0	A/C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	230	1.38	311	13.2	35%	7783	A/C	5% NaCl + LCM
Production	Lead	10	2.28	28	11.0	10%	8583	A/C	Fluid Loss + Dispersant + Retarder + LCM
	Tail	660	1.35	887	13.2	10%	8883	A/C	Fluid Loss + Dispersant + Retarder + LCM

5. Mud Program

An electronic Pason mud monitoring system complying with Onshore Order 2 will be used. All necessary mud products (barite, bentonite, LCM) for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Hole Section	Hole Size (in)	Mud Type	Interval MD (ft)	Density (lb/gal)	Viscosity	Fluid Loss
Surface	17.5	Spud Mud	0 - 436	8.4 - 8.8	28-30	NC
Intermediate 1	9.875	Diesel Bine Emulsion	436 - 8783	8.7 - 9.4	28-30	NC
Production	6.75	OBM/Cut Brine	8783 - 18432	10.5 - 12	30-50	<20

6. Cores, Test, & Logs

No core or drill stem test is planned.

No electric logs are planned at this time. GR will be collected through the MWD tools from Intermediate casing to TD. CBL with CCL will be run as far as gravity will let it fall to top of curve.

7. Down Hole Conditions

Drill Plan

No abnormal pressure or temperature is expected. Bottom hole pressures is 5995 psi. Maximum anticipated surface pressure is 3882 psi. Expected bottom hole temperature is 154 F.

In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of a "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have a H₂S safety package on all wells, attached is a "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of the equipment being used.

Casing Table Specification Sheet

Michael Ryan Fed Com 204H

SHL: 658' FSL & 350' FWL Section 16

BHL: 547' FSL & 1391' FEL Section 15

Township/Range: 22S 28E

Elevation Above Sea Level: 3078

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 436	0 - 436	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	9.875	0 - 8783	0 - 8783	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Production	6.75	0 - 18432	0 - 9608	5.5	20	P-110	Hunting TLW-SC	1.125	1.125	1.8

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: $DF_c=1.125$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: $DF_b=1.125$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: $DF_t=1.8$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.3 ppg).

Intermediate #1 Casing

Collapse: $DF_c=1.125$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: $DF_b=1.125$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: $DF_t=1.8$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (10.0 ppg).

Production Casing

Collapse: $DF_c=1.125$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.47 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.47 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

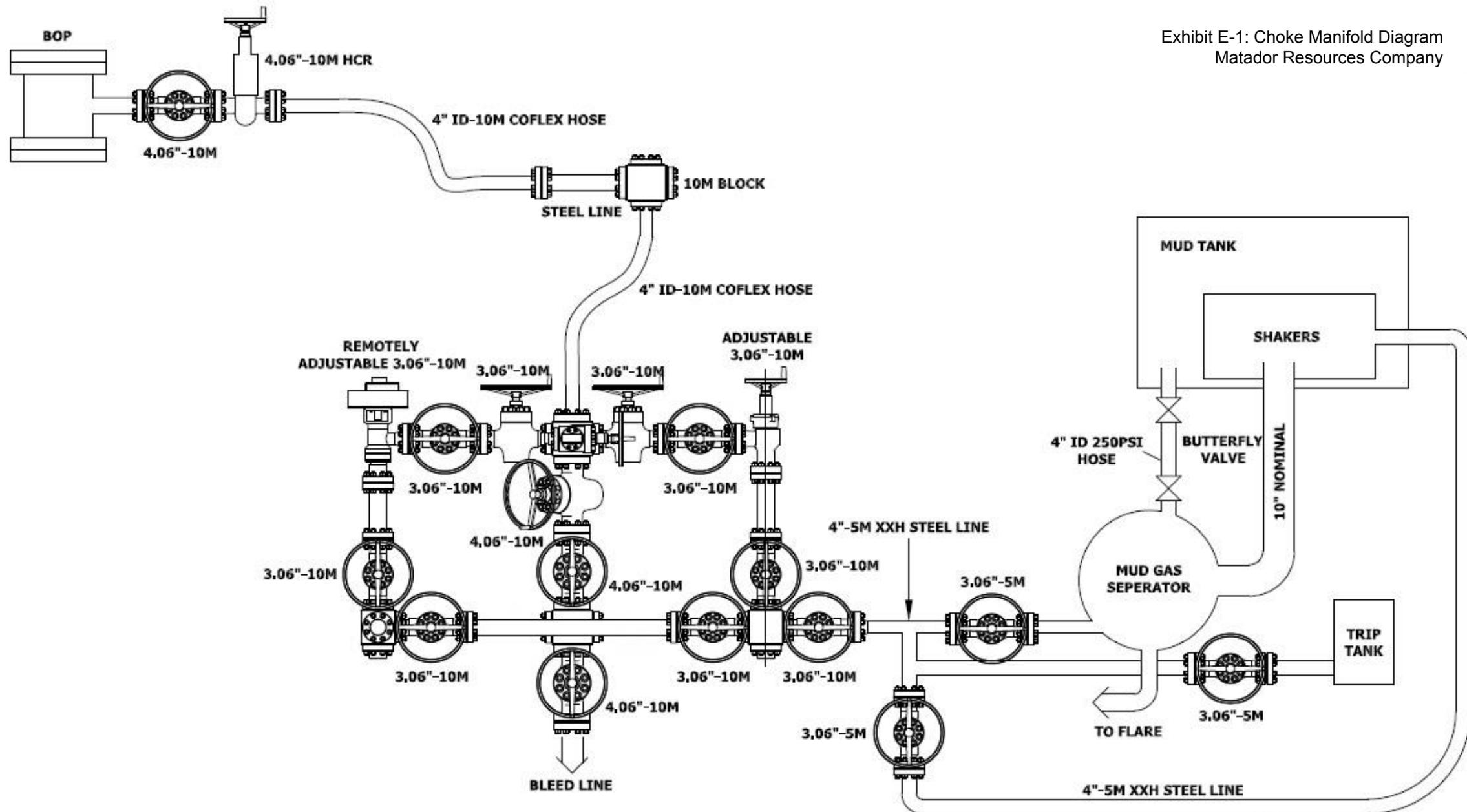
Burst: $DF_b=1.125$

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.
- Injection Down Casing: 9500 psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: $DF_t=1.8$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (9.0 ppg).

Exhibit E-1: Choke Manifold Diagram
Matador Resources Company



WELDING NOTE & TOLERANCES UNLESS OTHERWISE SPECIFIED,

GENERAL WELDING NOTE:
ALL ACCESSIBLE CONTACT SURFACES SHALL BE JOINED WITH CONTINUOUS 45 DEGREE FILLET WELDS, WELD SIZE TO BE 1/16 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 5/16 INCH THICKNESS AND 1/8 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 3/4 INCH THICKNESS
WELDMENT TOLERANCES = ± 1/16

MACHINING TOLERANCES
1 PLACE DECIMAL = ± .1
2 PLACE DECIMAL = ± .03
3 PLACE DECIMAL = ± .015
FRACTIONAL TOLERANCES = 1/64
RHS: MACHINED CORNER RADIUS = .031
CHAMFER OUTSIDE CORNERS .25 X 45 DEG
ANGLE TOLERANCES = ± 1 DEGREE
MACHINED SURFACE FINISH 125 RMS
ALL UNSPECIFIED DIMENSIONS ARE IN INCHES

REV	DATE	DESCRIPTION	DRWN BY	CHK BY	APPRD ENGR.
02	8-3-15	ISSUED FOR INFORMATION		CP	CSL
01	7-8-15	ISSUED FOR INFORMATION		CSL	

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PATTERSON-UTI
DRILLING COMPANY LLC
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CHOKE MANIFOLD

10M CHOKE ARRANGEMENT
RIG 297

DWG NO. **R0297-D.001.LAY.09**

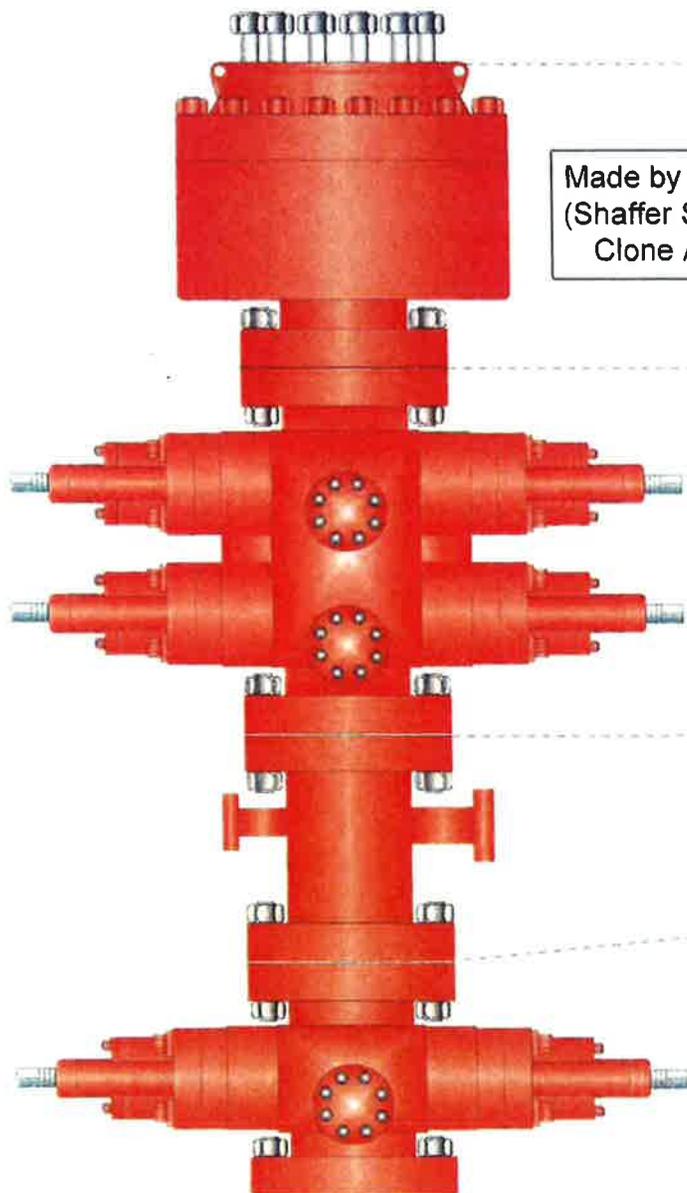
SWT	DP	REV
1	1	02



PATTERSON-UTI

Well Control

RIG: 297



Made by Cameron
(Shaffer Spherical)
Clone Annular

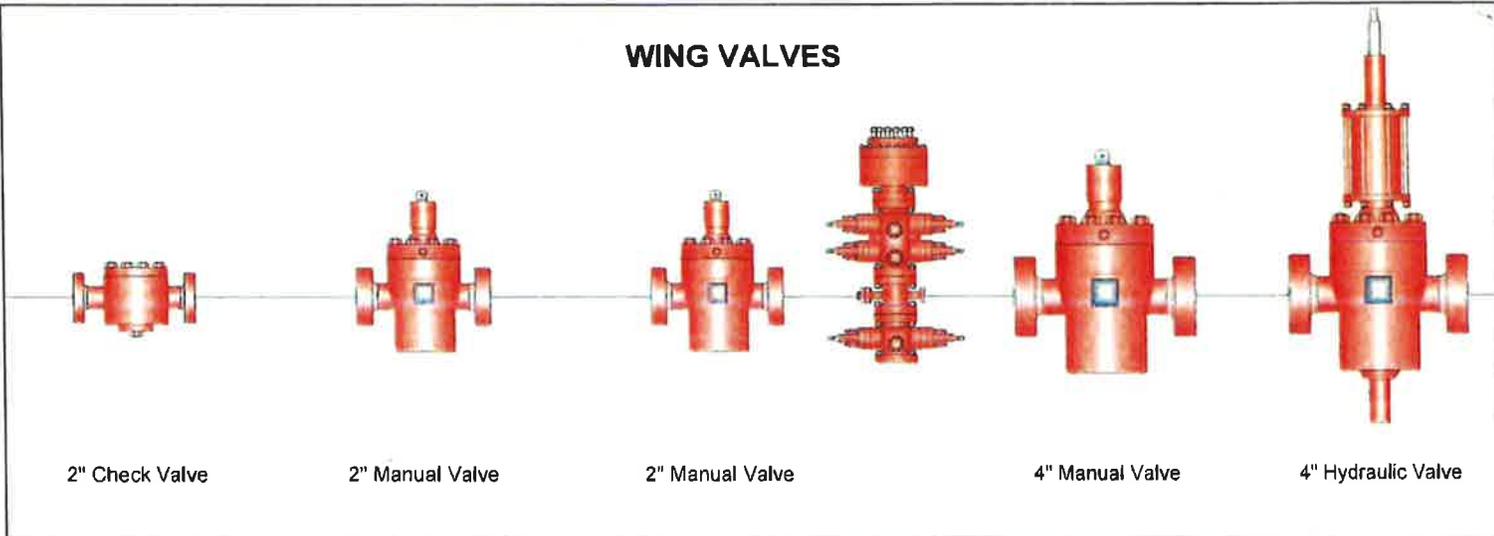
PATTERSON-UTI # PS2-628
STYLE: New Shaffer Spherical
BORE 13 5/8" PRESSURE 5,000
HEIGHT: 48 1/2" WEIGHT: 13,800 lbs

PATTERSON-UTI # PC2-128
STYLE: New Cameron Type U
BORE 13 5/8" PRESSURE 10,000
RAMS: TOP 5" Pipe BTM Blinds
HEIGHT: 66 5/8" WEIGHT: 24,000 lbs

Length 40" Outlets 4" 10M
DSA 4" 10M x 2" 10M

PATTERSON-UTI # PC2-228
STYLE: New Cameron Type U
BORE 13 5/8" PRESSURE 10,000
RAMS: 5" Pipe
HEIGHT: 41 5/8" WEIGHT: 13,000 lbs

WING VALVES



2" Check Valve

2" Manual Valve

2" Manual Valve

4" Manual Valve

4" Hydraulic Valve

December 8, 2014



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Patterson

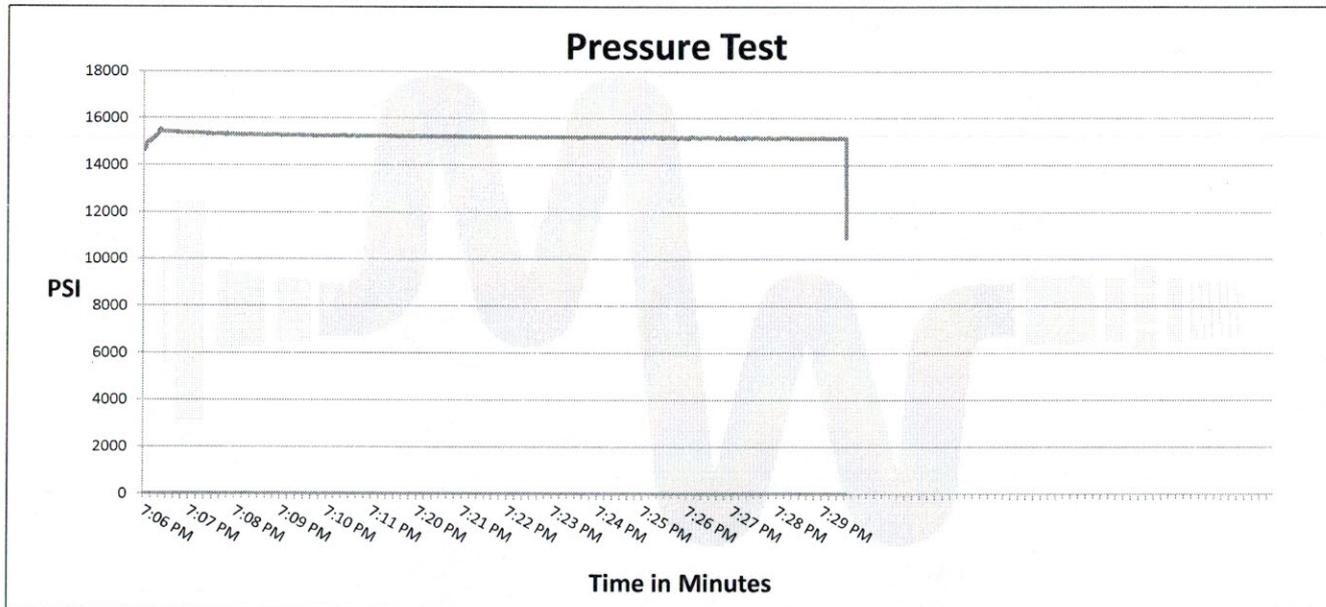
Pick Ticket #: 284918

Hose Specifications

Hose Type	Length
Ck	10'
I.D.	O.D.
3"	4.79"
Working Pressure	Burst Pressure
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4-1/16 10K	Swage
Die Size	Final O.D.
5.37"	5.37"
Hose Serial #	Hose Assembly Serial #
10490	284918-2



Test Pressure
15000 PSI

Time Held at Test Pressure
15 2/4 Minutes

Actual Burst Pressure

Peak Pressure
15732 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

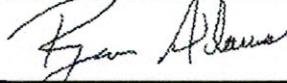
Tested By: Tyler Hill

Approved By: Ryan Adams



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-2	Hose O.D. (Inches)	5.30"
Hose Assembly Length	10'	Aarmor (yes/no)	YES
Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	91996	Stem (Heat #)	91996
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37	Dies Used	5.37
Hydrostatic Test Requirements			
Test Pressure (psi)	15,000	Hose assembly was tested with ambient water temperature.	
Test Pressure Hold Time (minutes)	15 1/2		
Date Tested		Tested By	
12/8/2014			
		Approved By	
			



Midwest Hose
& Specialty, Inc.

Certificate of Conformity

<i>Customer:</i> PATTERSON B&E	<i>Customer P.O.#</i> 260471
<i>Sales Order #</i> 236404	<i>Date Assembled:</i> 12/8/2014

Specifications

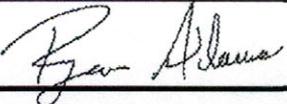
<i>Hose Assembly Type:</i> Choke & Kill	
<i>Assembly Serial #</i> 287918-2	<i>Hose Lot # and Date Code</i> 10490-01/13
<i>Hose Working Pressure (psi)</i> 10000	<i>Test Pressure (psi)</i> 15000

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:

Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	Date
	12/9/2014

December 9, 2014



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Patterson

Pick Ticket #: 284918

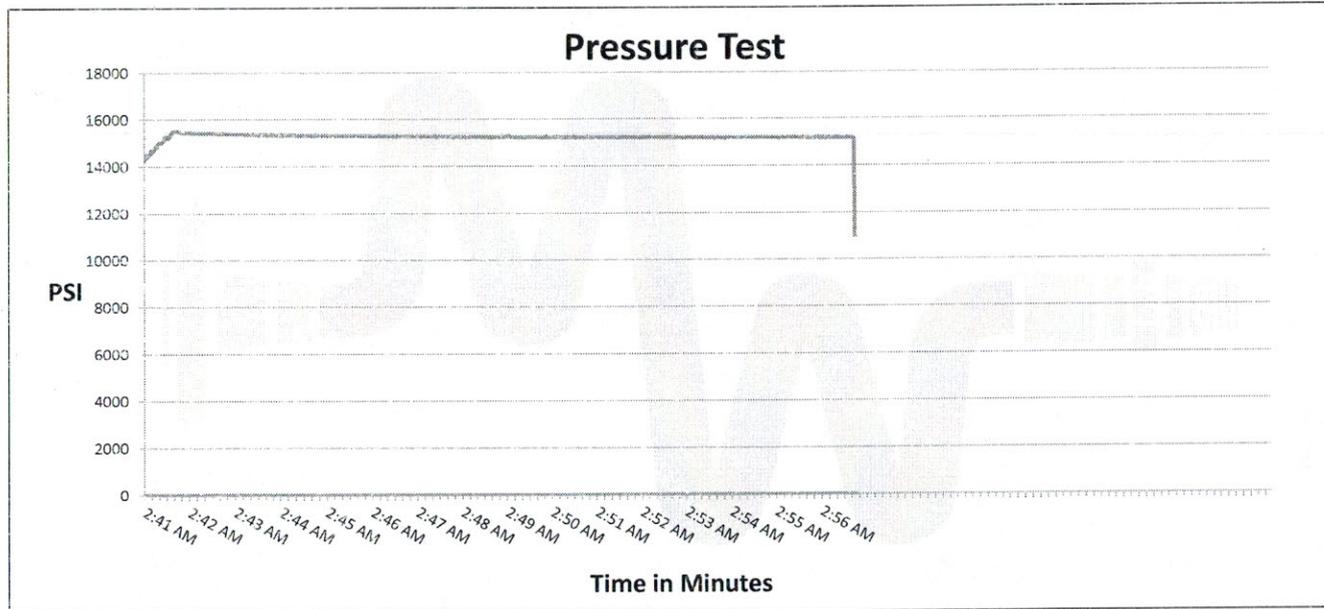
Hose Specifications

<u>Hose Type</u>	<u>Length</u>
Ck	20'
<u>I.D.</u>	<u>O.D.</u>
3"	4.77"
<u>Working Pressure</u>	<u>Burst Pressure</u>
10000 PSI	Standard Safety Multiplier Applies

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
4-1/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
5.37"	5.40"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
10490	284918-1

R297



Test Pressure
15000 PSI

Time Held at Test Pressure
15 1/4 Minutes

Actual Burst Pressure

Peak Pressure
15893 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Tyler Hill

Approved By: Ryan Adams

Tyler Hill

Ryan Adams



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-1	Hose O.D. (Inches)	5.30"
Hose Assembly Length	20'	Armor (yes/no)	YES
Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	A141420	Stem (Heat #)	A141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)	V3579	Connection (Heat #)	V3579
Dies Used	5.37	Dies Used	5.37
Hydrostatic Test Requirements			
Test Pressure (psi)	15,000	Hose assembly was tested with ambient water temperature.	
Test Pressure Hold Time (minutes)	15 1/2		
Date Tested	12/9/2014	Tested By	Approved By



Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**

Customer P.O.# **260471**

Sales Order # **236404**

Date Assembled: **12/8/2014**

Specifications

Hose Assembly Type: **Choke & Kill**

Assembly Serial # **287918-1**

Hose Lot # and Date Code **10490-01/13**

Hose Working Pressure (psi) **10000**

Test Pressure (psi) **15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:

Midwest Hose & Specialty, Inc.

3312 S I-35 Service Rd

Oklahoma City, OK 73129

Comments:

Approved By

Date

12/9/2014



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Patterson

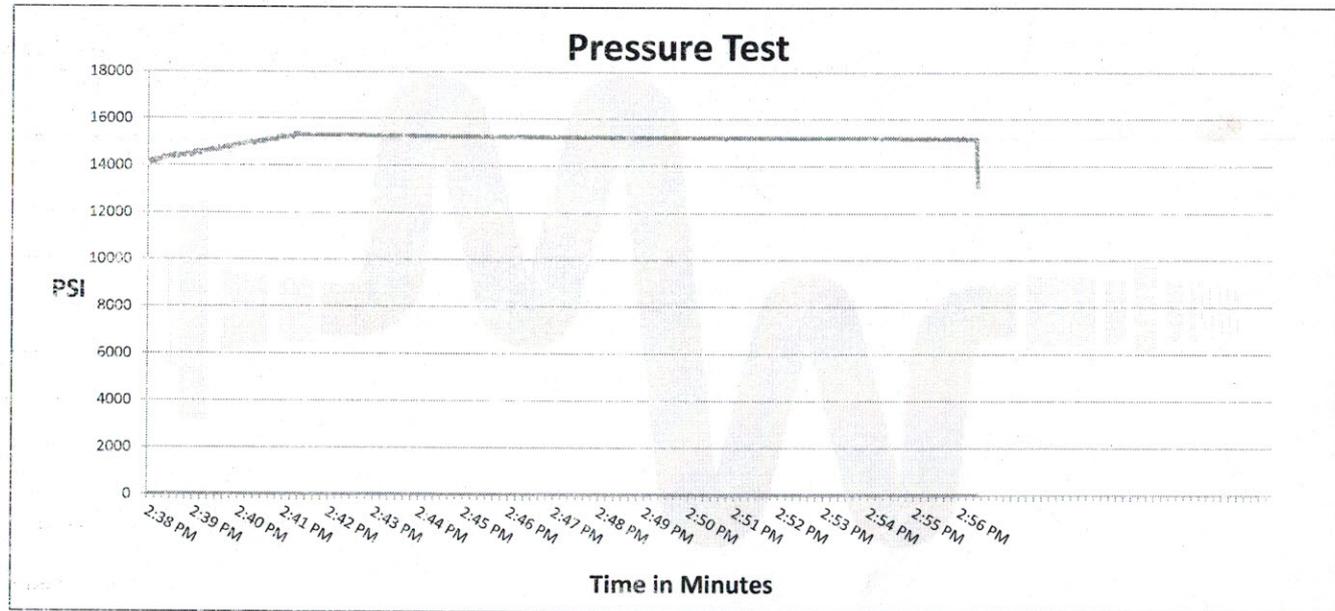
Pick Ticket #: 284918

Hose Specifications

<u>Hose Type</u>	<u>Length</u>
Mud	70'
<u>I.D.</u>	<u>O.D.</u>
3"	4.79"
<u>Working Pressure</u>	<u>Burst Pressure</u>
10000 PSI	Standard Safety Multiplier Applies

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
4 1/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
5.37"	5.37"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
10490	284918-3



Test Pressure
15000 PSI

Time Held at Test Pressure
16 3/4 Minutes

Actual Burst Pressure

Peak Pressure
15410 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Tyler Hill

Approved By: Ryan Adams

x

x



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-3	Hose O.D. (Inches)	5.23"
Hose Assembly Length	70'	Armor (yes/no)	YES
Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	A141420	Stem (Heat #)	A141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37	Dies Used	5.37
Hydrostatic Test Requirements			
Test Pressure (psi)	15,000	Hose assembly was tested with ambient water temperature.	
Test Pressure Hold Time (minutes)	16 3/4		
Date Tested	Tested By	Approved By	
12/9/2014			



Midwest Hose
& Specialty, Inc.

Certificate of Conformity

<i>Customer:</i> PATTERSON B&E	<i>Customer P.O.#</i> 260471
<i>Sales Order #</i> 236404	<i>Date Assembled:</i> 12/8/2014

Specifications

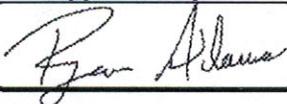
<i>Hose Assembly Type:</i> Choke & Kill		
<i>Assembly Serial #</i> 287918-3	<i>Hose Lot # and Date Code</i>	10490-01/13
<i>Hose Working Pressure (psi)</i> 10000	<i>Test Pressure (psi)</i>	15000

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:

Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	Date
	12/9/2014



TEC-LOCK WEDGE

5.500" 20 LB/FT (.361"Wall) with 5.875" SPECIAL CLEARANCE OD
 BEN P110 CY

Pipe Body Data

Nominal OD:	5.500	in
Nominal Wall:	.361	in
Nominal Weight:	20.00	lb/ft
Plain End Weight:	19.83	lb/ft
Material Grade:	P110 CY	
Mill/Specification:	BEN	
Yield Strength:	125,000	psi
Tensile Strength:	135,000	psi
Nominal ID:	4.778	in
API Drift Diameter:	4.653	in
Special Drift Diameter:	None	in
RBW:	87.5 %	
Body Yield:	729,000	lbf
Burst:	14,360	psi
Collapse:	13,010	psi

Connection Data

Standard OD:	5.875	in
Pin Bored ID:	4.778	in
Critical Section Area:	5.656	in ²
Tensile Efficiency:	97 %	
Compressive Efficiency:	100 %	
Longitudinal Yield Strength:	707,000	lbf
Compressive Limit:	729,000	lbf
Internal Pressure Rating:	14,360	psi
External Pressure Rating:	13,010	psi
Maximum Bend:	101.2	°/100ft

Operational Data

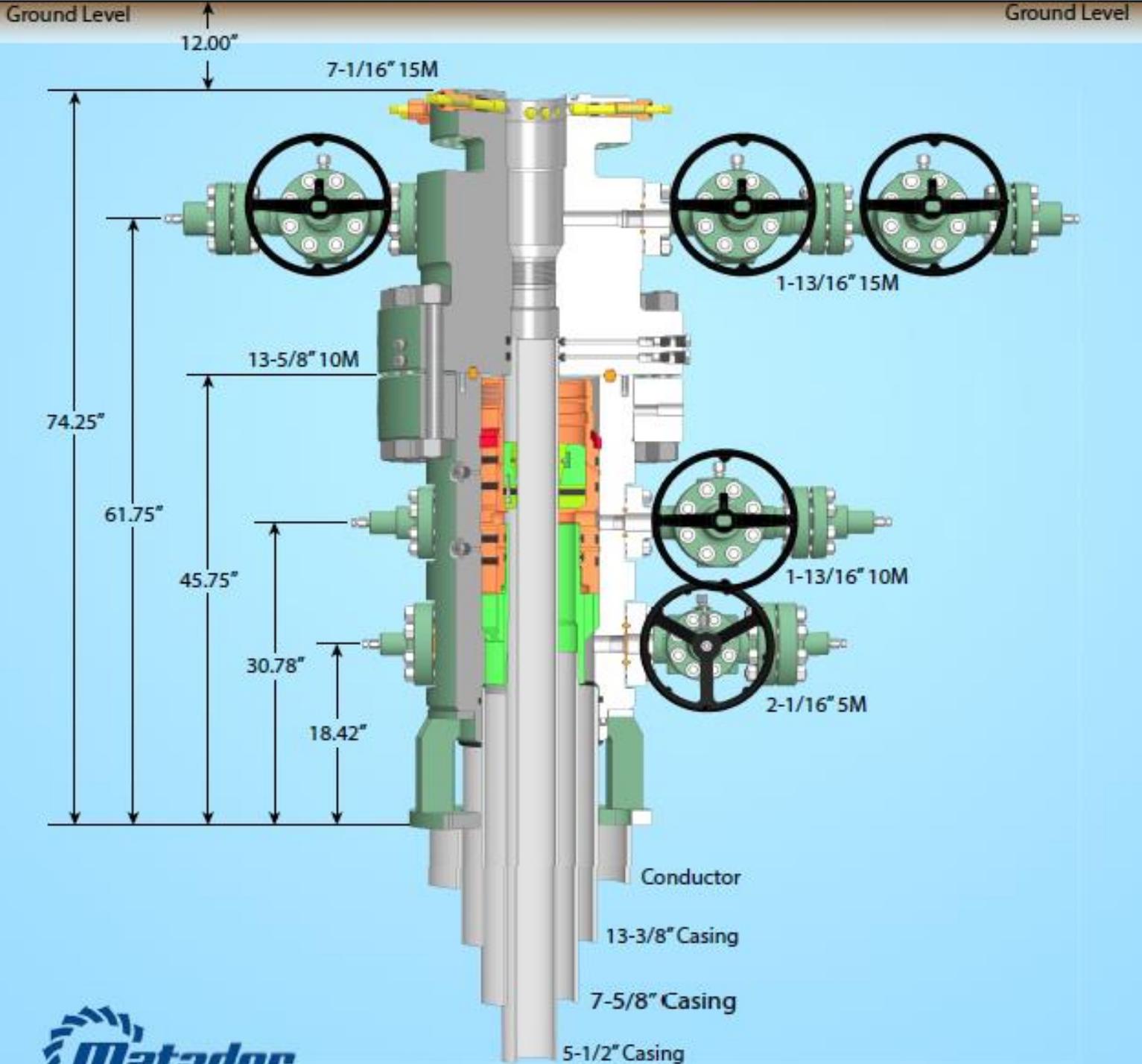
Minimum Makeup Torque:	15,000	ft*lbf
Optimum Makeup Torque:	18,700	ft*lbf
Maximum Makeup Torque:	41,200	ft*lbf
Minimum Yield:	45,800	ft*lbf
Makeup Loss:	5.97	in

Notes Operational Torque is equivalent to the Maximum Make-Up Torque





13-5/8" 10M MN-DS Wellhead



2018-083-01
Rev 01

Matador Production Company

Rustler Breaks

Michael Ryan

Michael Ryan Fed Com #204H

Wellbore #1

Plan: BLM Plan #1

Standard Planning Report

24 September, 2021

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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 #204H					
Well Position	+N/-S	110.0 usft	Northing:	504,610.19 usft	Latitude:	32° 23' 13.458 N
	+E/-W	30.1 usft	Easting:	572,118.14 usft	Longitude:	104° 5' 58.933 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	8/22/2020	6.87	60.09	47,654.24914168

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	9/23/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	18,432.5 BLM Plan #1 (Wellbore #1)	MWD		
			OWSG MWD - Standard		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,300.0	8.00	250.15	3,297.4	-18.9	-52.4	1.00	1.00	0.00	250.15	
4,925.3	8.00	250.15	4,906.9	-95.8	-265.2	0.00	0.00	0.00	0.00	
5,458.6	0.00	0.00	5,438.5	-108.4	-300.2	1.50	-1.50	0.00	180.00	
8,883.6	0.00	0.00	8,863.5	-108.4	-300.2	0.00	0.00	0.00	0.00	VP - Michael Ryan
9,772.2	88.86	89.44	9,436.3	-102.9	261.4	10.00	10.00	0.00	89.44	
18,432.5	88.86	89.44	9,608.6	-18.3	8,919.5	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 #204H
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 #204H	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
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
172.1	0.00	0.00	172.1	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
411.2	0.00	0.00	411.2	0.0	0.0	0.0	0.00	0.00	0.00
Salado									
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
943.4	0.00	0.00	943.4	0.0	0.0	0.0	0.00	0.00	0.00
Castile (T)									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 1.00									
2,514.1	0.14	250.15	2,514.1	0.0	0.0	0.0	1.00	1.00	0.00
G30:CS14-CSB									
2,585.9	0.86	250.15	2,585.9	-0.2	-0.6	-0.6	1.00	1.00	0.00
G26: Bell Cyn.									
2,600.0	1.00	250.15	2,600.0	-0.3	-0.8	-0.8	1.00	1.00	0.00
2,700.0	2.00	250.15	2,700.0	-1.2	-3.3	-3.3	1.00	1.00	0.00
2,800.0	3.00	250.15	2,799.9	-2.7	-7.4	-7.4	1.00	1.00	0.00
2,900.0	4.00	250.15	2,899.7	-4.7	-13.1	-13.2	1.00	1.00	0.00
3,000.0	5.00	250.15	2,999.4	-7.4	-20.5	-20.6	1.00	1.00	0.00
3,100.0	6.00	250.15	3,098.9	-10.7	-29.5	-29.6	1.00	1.00	0.00
3,200.0	7.00	250.15	3,198.3	-14.5	-40.2	-40.3	1.00	1.00	0.00
3,300.0	8.00	250.15	3,297.4	-18.9	-52.4	-52.6	1.00	1.00	0.00
Start 1625.3 hold at 3300.0 MD									
3,396.6	8.00	250.15	3,393.0	-23.5	-65.1	-65.3	0.00	0.00	0.00
G26: Bell Cyn.									
3,400.0	8.00	250.15	3,396.4	-23.7	-65.5	-65.8	0.00	0.00	0.00
3,500.0	8.00	250.15	3,495.5	-28.4	-78.6	-78.9	0.00	0.00	0.00
3,600.0	8.00	250.15	3,594.5	-33.1	-91.7	-92.0	0.00	0.00	0.00
3,700.0	8.00	250.15	3,693.5	-37.8	-104.8	-105.2	0.00	0.00	0.00
3,800.0	8.00	250.15	3,792.5	-42.6	-117.9	-118.3	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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)
3,900.0	8.00	250.15	3,891.6	-47.3	-131.0	-131.4	0.00	0.00	0.00
4,000.0	8.00	250.15	3,990.6	-52.0	-144.1	-144.6	0.00	0.00	0.00
4,100.0	8.00	250.15	4,089.6	-56.8	-157.2	-157.7	0.00	0.00	0.00
4,200.0	8.00	250.15	4,188.6	-61.5	-170.3	-170.9	0.00	0.00	0.00
4,300.0	8.00	250.15	4,287.7	-66.2	-183.3	-184.0	0.00	0.00	0.00
4,400.0	8.00	250.15	4,386.7	-70.9	-196.4	-197.1	0.00	0.00	0.00
4,500.0	8.00	250.15	4,485.7	-75.7	-209.5	-210.3	0.00	0.00	0.00
4,600.0	8.00	250.15	4,584.8	-80.4	-222.6	-223.4	0.00	0.00	0.00
4,605.9	8.00	250.15	4,590.6	-80.7	-223.4	-224.2	0.00	0.00	0.00
G26: Bell Cyn.									
4,700.0	8.00	250.15	4,683.8	-85.1	-235.7	-236.5	0.00	0.00	0.00
4,800.0	8.00	250.15	4,782.8	-89.8	-248.8	-249.7	0.00	0.00	0.00
4,900.0	8.00	250.15	4,881.8	-94.6	-261.9	-262.8	0.00	0.00	0.00
4,925.3	8.00	250.15	4,906.9	-95.8	-265.2	-266.1	0.00	0.00	0.00
Start Drop -1.50									
5,000.0	6.88	250.15	4,981.0	-99.0	-274.3	-275.3	1.50	-1.50	0.00
5,100.0	5.38	250.15	5,080.4	-102.7	-284.3	-285.3	1.50	-1.50	0.00
5,200.0	3.88	250.15	5,180.1	-105.4	-291.9	-293.0	1.50	-1.50	0.00
5,300.0	2.38	250.15	5,279.9	-107.3	-297.1	-298.1	1.50	-1.50	0.00
5,400.0	0.88	250.15	5,379.9	-108.2	-299.7	-300.8	1.50	-1.50	0.00
5,458.6	0.00	0.00	5,438.5	-108.4	-300.2	-301.2	1.50	-1.50	0.00
Start 3425.0 hold at 5458.6 MD									
5,500.0	0.00	0.00	5,479.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,579.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,679.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,779.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,879.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,979.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,001.8	0.00	0.00	5,981.6	-108.4	-300.2	-301.2	0.00	0.00	0.00
G4: BSGL (CS9)									
6,100.0	0.00	0.00	6,079.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,179.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,279.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,364.0	0.00	0.00	6,343.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
L8.2: U. Avalon Shale									
6,400.0	0.00	0.00	6,379.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,475.9	0.00	0.00	6,455.7	-108.4	-300.2	-301.2	0.00	0.00	0.00
L6.3: Avalon Carb									
6,500.0	0.00	0.00	6,479.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,573.6	0.00	0.00	6,553.5	-108.4	-300.2	-301.2	0.00	0.00	0.00
L6.2: L. Avalon Shale									
6,600.0	0.00	0.00	6,579.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,662.3	0.00	0.00	6,642.2	-108.4	-300.2	-301.2	0.00	0.00	0.00
L5.3: FBSC									
6,700.0	0.00	0.00	6,679.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,779.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
6,900.0	0.00	0.00	6,879.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,979.9	-108.4	-300.2	-301.2	0.00	0.00	0.00
7,034.2	0.00	0.00	7,014.1	-108.4	-300.2	-301.2	0.00	0.00	0.00
L5.1: FBSC									
7,090.6	0.00	0.00	7,070.4	-108.4	-300.2	-301.2	0.00	0.00	0.00
M. FBSC									
7,100.0	0.00	0.00	7,079.9	-108.4	-300.2	-301.2	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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)	
7,200.0	0.00	0.00	7,179.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,236.9	0.00	0.00	7,216.8	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L. FBSG										
7,300.0	0.00	0.00	7,279.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,303.0	0.00	0.00	7,282.8	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L4.3: SBSC										
7,400.0	0.00	0.00	7,379.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,479.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,579.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,679.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,767.8	0.00	0.00	7,747.7	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L4.1: SBSG										
7,800.0	0.00	0.00	7,779.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,895.4	0.00	0.00	7,875.3	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L4.1: SBSG B Carb										
7,900.0	0.00	0.00	7,879.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
7,954.5	0.00	0.00	7,934.3	-108.4	-300.2	-301.2	0.00	0.00	0.00	
SBSG B Target										
8,000.0	0.00	0.00	7,979.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,058.7	0.00	0.00	8,038.6	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L4.1: SBSG C										
8,097.2	0.00	0.00	8,077.0	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L3.3: TBSC										
8,100.0	0.00	0.00	8,079.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,179.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,279.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,379.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,479.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,510.9	0.00	0.00	8,490.7	-108.4	-300.2	-301.2	0.00	0.00	0.00	
L3.3.2: Break Sand (T)										
8,600.0	0.00	0.00	8,579.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,679.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,779.9	-108.4	-300.2	-301.2	0.00	0.00	0.00	
8,883.6	0.00	0.00	8,863.5	-108.4	-300.2	-301.2	0.00	0.00	0.00	
Start Build 10.00 - VP - Michael Ryan Fed Com #204H										
8,900.0	1.64	89.44	8,879.9	-108.4	-299.9	-301.0	10.00	10.00	0.00	
9,000.0	11.64	89.44	8,979.1	-108.3	-288.4	-289.4	10.00	10.00	0.00	
9,023.0	13.94	89.44	9,001.5	-108.2	-283.3	-284.3	10.00	10.00	0.00	
L3.1: TBSG										
9,100.0	21.64	89.44	9,074.7	-108.0	-259.8	-260.9	10.00	10.00	0.00	
9,200.0	31.64	89.44	9,164.0	-107.6	-215.0	-216.1	10.00	10.00	0.00	
9,300.0	41.64	89.44	9,244.2	-107.0	-155.4	-156.5	10.00	10.00	0.00	
9,356.0	47.24	89.44	9,284.1	-106.6	-116.2	-117.3	10.00	10.00	0.00	
L. TBSG										
9,400.0	51.64	89.44	9,312.7	-106.3	-82.8	-83.9	10.00	10.00	0.00	
9,418.7	53.51	89.44	9,324.1	-106.1	-68.0	-69.0	10.00	10.00	0.00	
L2: WFMP A										
9,500.0	61.64	89.44	9,367.7	-105.4	0.6	-0.5	10.00	10.00	0.00	
9,508.3	62.46	89.44	9,371.5	-105.4	7.9	6.8	10.00	10.00	0.00	
FTP - Michael Ryan Fed Com #204H										
9,600.0	71.64	89.44	9,407.3	-104.6	92.3	91.2	10.00	10.00	0.00	
9,700.0	81.64	89.44	9,430.4	-103.6	189.4	188.4	10.00	10.00	0.00	

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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)	
9,772.2	88.86	89.44	9,436.3	-102.9	261.4	260.3	10.00	10.00	0.00	
Start 8660.2 hold at 9772.2 MD										
9,800.0	88.86	89.44	9,436.9	-102.6	289.1	288.1	0.00	0.00	0.00	
9,900.0	88.86	89.44	9,438.9	-101.6	389.1	388.1	0.00	0.00	0.00	
10,000.0	88.86	89.44	9,440.9	-100.7	489.1	488.0	0.00	0.00	0.00	
10,100.0	88.86	89.44	9,442.9	-99.7	589.0	588.0	0.00	0.00	0.00	
10,200.0	88.86	89.44	9,444.9	-98.7	689.0	688.0	0.00	0.00	0.00	
10,300.0	88.86	89.44	9,446.8	-97.7	789.0	788.0	0.00	0.00	0.00	
10,400.0	88.86	89.44	9,448.8	-96.8	889.0	888.0	0.00	0.00	0.00	
10,500.0	88.86	89.44	9,450.8	-95.8	988.9	987.9	0.00	0.00	0.00	
10,600.0	88.86	89.44	9,452.8	-94.8	1,088.9	1,087.9	0.00	0.00	0.00	
10,700.0	88.86	89.44	9,454.8	-93.8	1,188.9	1,187.9	0.00	0.00	0.00	
10,800.0	88.86	89.44	9,456.8	-92.9	1,288.9	1,287.9	0.00	0.00	0.00	
10,900.0	88.86	89.44	9,458.8	-91.9	1,388.9	1,387.9	0.00	0.00	0.00	
11,000.0	88.86	89.44	9,460.8	-90.9	1,488.8	1,487.8	0.00	0.00	0.00	
11,100.0	88.86	89.44	9,462.8	-89.9	1,588.8	1,587.8	0.00	0.00	0.00	
11,200.0	88.86	89.44	9,464.8	-88.9	1,688.8	1,687.8	0.00	0.00	0.00	
11,300.0	88.86	89.44	9,466.7	-88.0	1,788.8	1,787.8	0.00	0.00	0.00	
11,400.0	88.86	89.44	9,468.7	-87.0	1,888.7	1,887.8	0.00	0.00	0.00	
11,500.0	88.86	89.44	9,470.7	-86.0	1,988.7	1,987.7	0.00	0.00	0.00	
11,600.0	88.86	89.44	9,472.7	-85.0	2,088.7	2,087.7	0.00	0.00	0.00	
11,700.0	88.86	89.44	9,474.7	-84.1	2,188.7	2,187.7	0.00	0.00	0.00	
11,800.0	88.86	89.44	9,476.7	-83.1	2,288.6	2,287.7	0.00	0.00	0.00	
11,900.0	88.86	89.44	9,478.7	-82.1	2,388.6	2,387.7	0.00	0.00	0.00	
12,000.0	88.86	89.44	9,480.7	-81.1	2,488.6	2,487.7	0.00	0.00	0.00	
12,100.0	88.86	89.44	9,482.7	-80.2	2,588.6	2,587.6	0.00	0.00	0.00	
12,200.0	88.86	89.44	9,484.6	-79.2	2,688.5	2,687.6	0.00	0.00	0.00	
12,300.0	88.86	89.44	9,486.6	-78.2	2,788.5	2,787.6	0.00	0.00	0.00	
12,400.0	88.86	89.44	9,488.6	-77.2	2,888.5	2,887.6	0.00	0.00	0.00	
12,500.0	88.86	89.44	9,490.6	-76.2	2,988.5	2,987.6	0.00	0.00	0.00	
12,600.0	88.86	89.44	9,492.6	-75.3	3,088.4	3,087.5	0.00	0.00	0.00	
12,700.0	88.86	89.44	9,494.6	-74.3	3,188.4	3,187.5	0.00	0.00	0.00	
12,800.0	88.86	89.44	9,496.6	-73.3	3,288.4	3,287.5	0.00	0.00	0.00	
12,900.0	88.86	89.44	9,498.6	-72.3	3,388.4	3,387.5	0.00	0.00	0.00	
13,000.0	88.86	89.44	9,500.6	-71.4	3,488.3	3,487.5	0.00	0.00	0.00	
13,100.0	88.86	89.44	9,502.6	-70.4	3,588.3	3,587.4	0.00	0.00	0.00	
13,200.0	88.86	89.44	9,504.5	-69.4	3,688.3	3,687.4	0.00	0.00	0.00	
13,300.0	88.86	89.44	9,506.5	-68.4	3,788.3	3,787.4	0.00	0.00	0.00	
13,400.0	88.86	89.44	9,508.5	-67.4	3,888.2	3,887.4	0.00	0.00	0.00	
13,500.0	88.86	89.44	9,510.5	-66.5	3,988.2	3,987.4	0.00	0.00	0.00	
13,600.0	88.86	89.44	9,512.5	-65.5	4,088.2	4,087.3	0.00	0.00	0.00	
13,700.0	88.86	89.44	9,514.5	-64.5	4,188.2	4,187.3	0.00	0.00	0.00	
13,800.0	88.86	89.44	9,516.5	-63.5	4,288.1	4,287.3	0.00	0.00	0.00	
13,900.0	88.86	89.44	9,518.5	-62.6	4,388.1	4,387.3	0.00	0.00	0.00	
14,000.0	88.86	89.44	9,520.5	-61.6	4,488.1	4,487.3	0.00	0.00	0.00	
14,100.0	88.86	89.44	9,522.4	-60.6	4,588.1	4,587.2	0.00	0.00	0.00	
14,200.0	88.86	89.44	9,524.4	-59.6	4,688.0	4,687.2	0.00	0.00	0.00	
14,300.0	88.86	89.44	9,526.4	-58.7	4,788.0	4,787.2	0.00	0.00	0.00	
14,400.0	88.86	89.44	9,528.4	-57.7	4,888.0	4,887.2	0.00	0.00	0.00	
14,500.0	88.86	89.44	9,530.4	-56.7	4,988.0	4,987.2	0.00	0.00	0.00	
14,600.0	88.86	89.44	9,532.4	-55.7	5,087.9	5,087.1	0.00	0.00	0.00	
14,700.0	88.86	89.44	9,534.4	-54.7	5,187.9	5,187.1	0.00	0.00	0.00	
14,800.0	88.86	89.44	9,536.4	-53.8	5,287.9	5,287.1	0.00	0.00	0.00	
14,900.0	88.86	89.44	9,538.4	-52.8	5,387.9	5,387.1	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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)
15,000.0	88.86	89.44	9,540.4	-51.8	5,487.8	5,487.1	0.00	0.00	0.00
15,100.0	88.86	89.44	9,542.3	-50.8	5,587.8	5,587.0	0.00	0.00	0.00
15,200.0	88.86	89.44	9,544.3	-49.9	5,687.8	5,687.0	0.00	0.00	0.00
15,300.0	88.86	89.44	9,546.3	-48.9	5,787.8	5,787.0	0.00	0.00	0.00
15,400.0	88.86	89.44	9,548.3	-47.9	5,887.7	5,887.0	0.00	0.00	0.00
15,500.0	88.86	89.44	9,550.3	-46.9	5,987.7	5,987.0	0.00	0.00	0.00
15,600.0	88.86	89.44	9,552.3	-46.0	6,087.7	6,086.9	0.00	0.00	0.00
15,700.0	88.86	89.44	9,554.3	-45.0	6,187.7	6,186.9	0.00	0.00	0.00
15,800.0	88.86	89.44	9,556.3	-44.0	6,287.6	6,286.9	0.00	0.00	0.00
15,900.0	88.86	89.44	9,558.3	-43.0	6,387.6	6,386.9	0.00	0.00	0.00
16,000.0	88.86	89.44	9,560.2	-42.0	6,487.6	6,486.9	0.00	0.00	0.00
16,100.0	88.86	89.44	9,562.2	-41.1	6,587.6	6,586.8	0.00	0.00	0.00
16,200.0	88.86	89.44	9,564.2	-40.1	6,687.5	6,686.8	0.00	0.00	0.00
16,300.0	88.86	89.44	9,566.2	-39.1	6,787.5	6,786.8	0.00	0.00	0.00
16,400.0	88.86	89.44	9,568.2	-38.1	6,887.5	6,886.8	0.00	0.00	0.00
16,500.0	88.86	89.44	9,570.2	-37.2	6,987.5	6,986.8	0.00	0.00	0.00
16,600.0	88.86	89.44	9,572.2	-36.2	7,087.5	7,086.7	0.00	0.00	0.00
16,700.0	88.86	89.44	9,574.2	-35.2	7,187.4	7,186.7	0.00	0.00	0.00
16,800.0	88.86	89.44	9,576.2	-34.2	7,287.4	7,286.7	0.00	0.00	0.00
16,900.0	88.86	89.44	9,578.2	-33.2	7,387.4	7,386.7	0.00	0.00	0.00
17,000.0	88.86	89.44	9,580.1	-32.3	7,487.4	7,486.7	0.00	0.00	0.00
17,100.0	88.86	89.44	9,582.1	-31.3	7,587.3	7,586.6	0.00	0.00	0.00
17,159.6	88.86	89.44	9,583.3	-30.7	7,646.9	7,646.2	0.00	0.00	0.00
Enter NMNM 019186 - Michael Ryan Fed Com #204H									
17,200.0	88.86	89.44	9,584.1	-30.3	7,687.3	7,686.6	0.00	0.00	0.00
17,300.0	88.86	89.44	9,586.1	-29.3	7,787.3	7,786.6	0.00	0.00	0.00
17,400.0	88.86	89.44	9,588.1	-28.4	7,887.3	7,886.6	0.00	0.00	0.00
17,500.0	88.86	89.44	9,590.1	-27.4	7,987.2	7,986.6	0.00	0.00	0.00
17,600.0	88.86	89.44	9,592.1	-26.4	8,087.2	8,086.5	0.00	0.00	0.00
17,700.0	88.86	89.44	9,594.1	-25.4	8,187.2	8,186.5	0.00	0.00	0.00
17,800.0	88.86	89.44	9,596.1	-24.5	8,287.2	8,286.5	0.00	0.00	0.00
17,900.0	88.86	89.44	9,598.0	-23.5	8,387.1	8,386.5	0.00	0.00	0.00
18,000.0	88.86	89.44	9,600.0	-22.5	8,487.1	8,486.5	0.00	0.00	0.00
18,100.0	88.86	89.44	9,602.0	-21.5	8,587.1	8,586.4	0.00	0.00	0.00
18,200.0	88.86	89.44	9,604.0	-20.5	8,687.1	8,686.4	0.00	0.00	0.00
18,300.0	88.86	89.44	9,606.0	-19.6	8,787.0	8,786.4	0.00	0.00	0.00
18,400.0	88.86	89.44	9,608.0	-18.6	8,887.0	8,886.4	0.00	0.00	0.00
18,432.5	88.86	89.44	9,608.6	-18.3	8,919.5	8,918.8	0.00	0.00	0.00
TD at 18432.5 - BHL - Michael Ryan Fed Com #204H									

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
VP - Michael Ryan Fe - plan hits target center - Point	0.00	0.00	8,863.5	-108.4	-300.2	504,501.82	571,818.00	32° 23' 12.392 N	104° 6' 2.436 W	
FTP - Michael Ryan F - plan misses target center by 70.8usft at 9508.3usft MD (9371.5 TVD, -105.4 N, 7.9 E) - Point	0.00	0.00	9,436.5	-108.2	-20.1	504,502.00	572,098.00	32° 23' 12.388 N	104° 5' 59.171 W	
Enter NMNM 019186 - plan misses target center by 0.1usft at 17159.6usft MD (9583.3 TVD, -30.7 N, 7646.9 E) - Point	0.00	0.00	9,583.4	-30.7	7,646.9	504,579.51	579,765.30	32° 23' 12.980 N	104° 4' 29.751 W	
BHL - Michael Ryan F - plan misses target center by 2.1usft at 18432.5usft MD (9608.6 TVD, -18.3 N, 8919.5 E) - Point	0.00	0.00	9,608.6	-20.3	8,919.5	504,589.85	581,038.00	32° 23' 13.052 N	104° 4' 14.908 W	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
172.1	172.1	Rustler		1.14	89.43	
411.2	411.2	Salado		1.14	89.43	
943.4	943.4	Castile (T)		1.14	89.43	
2,514.1	2,514.1	G30:CS14-CSB		1.14	89.43	
2,585.9	2,585.9	G26: Bell Cyn.		1.14	89.43	
3,396.6	3,393.0	G26: Bell Cyn.		1.14	89.43	
4,605.9	4,590.6	G26: Bell Cyn.		1.14	89.43	
6,001.8	5,981.6	G4: BSG (CS9)		1.14	89.43	
6,364.0	6,343.9	L8.2: U. Avalon Shale		1.14	89.43	
6,475.9	6,455.7	L6.3: Avalon Carb		1.14	89.43	
6,573.6	6,553.5	L6.2: L. Avalon Shale		1.14	89.43	
6,662.3	6,642.2	L5.3: FBSC		1.14	89.43	
7,034.2	7,014.1	L5.1: FBSG		1.14	89.43	
7,090.6	7,070.4	M. FBSG		1.14	89.43	
7,236.9	7,216.8	L. FBSG		1.14	89.43	
7,303.0	7,282.8	L4.3: SBSC		1.14	89.43	
7,767.8	7,747.7	L4.1: SBSC		1.14	89.43	
7,895.4	7,875.3	L4.1: SBSC B Carb		1.14	89.43	
7,954.5	7,934.3	SBSG B Target		1.14	89.43	
8,058.7	8,038.6	L4.1: SBSC C		1.14	89.43	
8,097.2	8,077.0	L3.3: TBSC		1.14	89.43	
8,510.9	8,490.7	L3.3.2: Break Sand (T)		1.14	89.43	
9,023.0	9,001.5	L3.1: TBSC		1.14	89.43	
9,356.0	9,284.1	L. TBSC		1.14	89.43	
9,418.7	9,324.1	L2: WFMP A		1.14	89.43	

Planning Report

Database:	EDM 5000.14 Server	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,500.0	2,500.0	0.0	0.0	Start Build 1.00	
3,300.0	3,297.4	-18.9	-52.4	Start 1625.3 hold at 3300.0 MD	
4,925.3	4,906.9	-95.8	-265.2	Start Drop -1.50	
5,458.6	5,438.5	-108.4	-300.2	Start 3425.0 hold at 5458.6 MD	
8,883.6	8,863.5	-108.4	-300.2	Start Build 10.00	
9,772.2	9,436.3	-102.9	261.4	Start 8660.2 hold at 9772.2 MD	
18,432.5	9,608.6	-18.3	8,919.5	TD at 18432.5	

Matador Production Company

Rustler Breaks

Michael Ryan

Michael Ryan Fed Com #204H

Wellbore #1

BLM Plan #1

Anticollision Report

23 September, 2021

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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	9/23/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	18,432.5	BLM Plan #1 (Wellbore #1)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offet Well - Wellbore - Design						
Michael Ryan						
Michael Ryan Fed Com #123H - Wellbore #1 - BLM Plan	2,259.4	2,268.6	50.1	34.2	3.151	CC, ES, SF
Michael Ryan Fed Com #124H - Wellbore #1 - BLM Plan	3,817.3	3,813.5	65.8	39.2	2.480	CC
Michael Ryan Fed Com #124H - Wellbore #1 - BLM Plan	3,900.0	3,904.2	66.2	39.1	2.441	ES
Michael Ryan Fed Com #124H - Wellbore #1 - BLM Plan	7,500.0	7,499.1	106.5	52.9	1.989	SF
Michael Ryan Fed Com #137H - Wellbore #1 - BLM Plan	1,727.3	1,728.0	38.1	26.1	3.192	CC, ES
Michael Ryan Fed Com #137H - Wellbore #1 - BLM Plan	18,432.5	18,342.2	888.0	443.7	1.999	SF
Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan	2,843.6	2,842.4	28.3	8.4	1.423	Level 3, CC
Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan	2,900.0	2,901.3	28.5	8.2	1.407	Level 3, ES
Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan	18,432.5	18,331.3	527.7	92.7	1.213	Level 2, SF
Michael Ryan Fed Com #203H - Wellbore #1 - BLM Plan	1,500.0	1,500.0	30.0	19.7	2.915	CC
Michael Ryan Fed Com #203H - Wellbore #1 - BLM Plan	1,600.0	1,599.8	30.3	19.3	2.755	ES
Michael Ryan Fed Com #203H - Wellbore #1 - BLM Plan	1,700.0	1,699.3	31.9	20.1	2.719	SF
Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan	2,781.3	2,789.3	51.3	31.7	2.616	CC, ES
Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan	2,800.0	2,807.5	51.4	31.7	2.607	SF
Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan	8,883.6	8,882.7	89.8	26.7	1.424	Level 3, CC
Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan	8,950.0	8,948.9	89.9	26.4	1.416	Level 3, ES, SF

Offset Design												Offset Site Error:	0.0 usft
Michael Ryan - Michael Ryan Fed Com #123H - Wellbore #1 - BLM Plan #1												Offset Well Error:	0.0 usft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-164.68	-110.0	-30.1	114.1				
100.0	100.0	100.0	100.0	0.1	0.1	-164.68	-110.0	-30.1	114.1	113.8	0.26	445.026	
200.0	200.0	200.0	200.0	0.5	0.5	-164.68	-110.0	-30.1	114.1	113.1	0.97	117.198	
300.0	300.0	300.0	300.0	0.8	0.8	-164.68	-110.0	-30.1	114.1	112.4	1.69	67.485	
400.0	400.0	400.0	400.0	1.2	1.2	-164.68	-110.0	-30.1	114.1	111.7	2.41	47.386	
500.0	500.0	500.0	500.0	1.6	1.6	-164.68	-110.0	-30.1	114.1	110.9	3.12	36.511	
600.0	600.0	600.0	600.0	1.9	1.9	-164.68	-110.0	-30.1	114.1	110.2	3.84	29.696	
700.0	700.0	700.0	700.0	2.3	2.3	-164.68	-110.0	-30.1	114.1	109.5	4.56	25.025	
800.0	800.0	800.0	800.0	2.6	2.6	-164.68	-110.0	-30.1	114.1	108.8	5.27	21.624	
900.0	900.0	900.0	900.0	3.0	3.0	-164.68	-110.0	-30.1	114.1	108.1	5.99	19.036	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-164.68	-110.0	-30.1	114.1	107.4	6.71	17.002	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-164.68	-110.0	-30.1	114.1	106.6	7.43	15.361	

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-164.68	-110.0	-30.1	114.1	105.9	8.14	14.008		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-164.68	-110.0	-30.1	114.1	105.2	8.86	12.875		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-164.68	-110.0	-30.1	114.1	104.5	9.58	11.911		
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-164.68	-110.0	-30.1	114.1	103.8	10.29	11.081		
1,600.0	1,600.0	1,603.7	1,603.6	5.5	5.5	-164.26	-108.2	-30.5	112.4	101.4	11.02	10.204		
1,700.0	1,700.0	1,707.1	1,706.9	5.9	5.9	-162.93	-102.7	-31.5	107.6	95.9	11.73	9.172		
1,800.0	1,800.0	1,809.9	1,809.3	6.2	6.3	-160.43	-93.6	-33.2	99.7	87.3	12.44	8.019		
1,900.0	1,900.0	1,912.0	1,910.6	6.6	6.6	-156.24	-81.0	-35.6	89.1	75.9	13.13	6.783		
2,000.0	2,000.0	2,013.0	2,010.3	6.9	7.0	-149.26	-65.0	-38.6	76.3	62.5	13.83	5.517		
2,100.0	2,100.0	2,112.7	2,108.1	7.3	7.4	-137.34	-45.9	-42.3	62.9	48.3	14.57	4.316		
2,200.0	2,200.0	2,211.0	2,203.7	7.7	7.8	-117.09	-23.8	-46.4	52.3	36.9	15.40	3.397		
2,259.4	2,259.4	2,268.6	2,259.4	7.9	8.0	-100.71	-9.3	-49.2	50.1	34.2	15.89	3.151	CC, ES, SF	
2,300.0	2,300.0	2,307.6	2,296.9	8.0	8.2	-88.77	1.1	-51.1	51.3	35.1	16.16	3.171		
2,400.0	2,400.0	2,402.4	2,387.6	8.4	8.6	-63.17	28.5	-56.3	64.3	47.7	16.63	3.868		
2,500.0	2,500.0	2,502.5	2,478.1	8.7	9.1	-47.16	57.3	-61.8	87.0	69.9	17.14	5.078		
2,600.0	2,600.0	2,592.6	2,568.5	9.1	9.5	72.03	86.1	-67.2	113.4	95.7	17.69	6.408		
2,700.0	2,700.0	2,687.6	2,658.9	9.4	10.0	78.38	114.8	-72.6	141.2	122.9	18.30	7.718		
2,800.0	2,799.9	2,782.4	2,749.1	9.8	10.4	83.12	143.5	-78.1	170.1	151.2	18.94	8.983		
2,900.0	2,899.7	2,877.1	2,839.2	10.1	10.9	86.90	172.1	-83.5	199.7	180.2	19.59	10.195		
3,000.0	2,999.4	2,971.6	2,929.0	10.4	11.4	90.05	200.7	-88.9	230.1	209.8	20.26	11.356		
3,100.0	3,098.9	3,065.8	3,018.7	10.8	11.9	92.79	229.2	-94.3	261.1	240.2	20.95	12.466		
3,200.0	3,198.3	3,159.8	3,108.1	11.1	12.4	95.22	257.7	-99.7	292.8	271.2	21.64	13.532		
3,300.0	3,297.4	3,253.5	3,197.2	11.5	12.9	97.41	286.0	-105.0	325.3	302.9	22.35	14.555		
3,400.0	3,396.4	3,347.0	3,286.2	11.9	13.4	99.64	314.3	-110.4	358.3	335.3	23.07	15.535		
3,500.0	3,495.5	3,440.5	3,375.2	12.2	13.9	101.49	342.6	-115.7	391.8	368.0	23.79	16.467		
3,600.0	3,594.5	3,534.0	3,464.2	12.6	14.4	103.05	370.9	-121.1	425.6	401.0	24.53	17.351		
3,700.0	3,693.5	3,627.6	3,553.2	13.0	15.0	104.39	399.2	-126.4	459.6	434.3	25.27	18.189		
3,800.0	3,792.5	3,721.1	3,642.2	13.3	15.5	105.54	427.6	-131.8	493.8	467.8	26.01	18.984		
3,900.0	3,891.6	3,814.6	3,731.1	13.7	16.0	106.54	455.9	-137.1	528.1	501.4	26.76	19.736		
4,000.0	3,990.6	3,908.2	3,820.1	14.1	16.5	107.42	484.2	-142.5	562.6	535.1	27.51	20.450		
4,100.0	4,089.6	4,001.7	3,909.1	14.5	17.1	108.20	512.5	-147.8	597.2	569.0	28.27	21.126		
4,200.0	4,188.6	4,104.8	3,998.1	14.9	17.7	108.90	540.8	-153.2	631.9	602.8	29.07	21.739		
4,300.0	4,287.7	4,188.8	4,087.1	15.3	18.1	109.52	569.1	-158.6	666.7	636.9	29.79	22.378		
4,400.0	4,386.7	4,282.3	4,176.1	15.7	18.7	110.08	597.4	-163.9	701.5	670.9	30.56	22.957		
4,500.0	4,485.7	4,375.8	4,265.1	16.0	19.2	110.59	625.7	-169.3	736.3	705.0	31.32	23.508		
4,600.0	4,584.8	4,469.4	4,354.0	16.4	19.7	111.05	654.0	-174.6	771.3	739.2	32.09	24.033		
4,700.0	4,683.8	4,562.9	4,443.0	16.8	20.3	111.48	682.3	-180.0	806.2	773.3	32.86	24.532		
4,800.0	4,782.8	4,656.4	4,532.0	17.2	20.8	111.86	710.6	-185.3	841.2	807.6	33.64	25.009		
4,900.0	4,881.8	4,750.0	4,621.0	17.6	21.4	112.22	738.9	-190.7	876.2	841.8	34.41	25.463		
4,925.3	4,906.9	4,773.6	4,643.5	17.7	21.5	112.31	746.1	-192.0	885.1	850.5	34.61	25.575		
5,000.0	4,981.0	4,843.6	4,710.1	18.0	21.9	112.89	767.2	-196.0	911.0	875.8	35.18	25.892		
5,100.0	5,080.4	4,937.7	4,799.6	18.4	22.5	113.50	795.7	-201.4	944.9	908.9	35.95	26.285		
5,200.0	5,180.1	5,032.1	4,889.5	18.8	23.0	113.93	824.3	-206.8	977.8	941.1	36.70	26.643		
5,300.0	5,279.9	5,126.9	4,979.6	19.1	23.6	114.21	853.0	-212.2	1,009.7	972.2	37.44	26.969		
5,400.0	5,379.9	5,221.8	5,069.9	19.5	24.1	114.34	881.7	-217.7	1,040.6	1,002.4	38.17	27.264		
5,458.6	5,438.5	5,277.5	5,122.9	19.7	24.4	4.50	898.6	-220.9	1,058.2	1,019.6	38.59	27.424		
5,500.0	5,479.9	5,316.9	5,160.4	19.8	24.7	4.32	910.5	-223.1	1,070.5	1,031.7	38.88	27.533		
5,600.0	5,579.9	5,412.1	5,250.9	20.2	25.2	3.91	939.3	-228.6	1,100.4	1,060.8	39.60	27.790		
5,700.0	5,679.9	5,507.2	5,341.4	20.5	25.8	3.52	968.1	-234.0	1,130.3	1,090.0	40.31	28.038		
5,800.0	5,779.9	5,602.3	5,432.0	20.9	26.3	3.14	996.8	-239.4	1,160.3	1,119.3	41.03	28.277		
5,900.0	5,879.9	5,697.5	5,522.5	21.2	26.9	2.79	1,025.6	-244.9	1,190.3	1,148.5	41.75	28.509		
6,000.0	5,979.9	5,807.4	5,613.0	21.5	27.5	2.45	1,054.4	-250.3	1,220.3	1,177.8	42.53	28.692		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,100.0	6,079.9	5,887.8	5,703.5	21.9	28.0	2.13	1,083.2	-255.8	1,250.4	1,207.2	43.19	28.951		
6,200.0	6,179.9	5,982.9	5,794.0	22.2	28.6	1.83	1,112.0	-261.2	1,280.5	1,236.6	43.91	29.162		
6,300.0	6,279.9	6,078.0	5,884.5	22.6	29.1	1.54	1,140.8	-266.7	1,310.7	1,266.0	44.63	29.366		
6,400.0	6,379.9	6,173.2	5,975.0	22.9	29.7	1.26	1,169.6	-272.1	1,340.9	1,295.5	45.35	29.564		
6,500.0	6,479.9	6,318.8	6,114.2	23.3	30.5	0.87	1,211.8	-280.1	1,370.0	1,323.4	46.58	29.411		
6,600.0	6,579.9	6,503.2	6,293.1	23.6	31.5	0.50	1,255.4	-288.3	1,393.7	1,345.6	48.02	29.020		
6,700.0	6,679.9	6,692.7	6,479.6	24.0	32.3	0.23	1,288.4	-294.6	1,411.1	1,361.8	49.28	28.632		
6,800.0	6,779.9	6,886.0	6,671.7	24.3	33.1	0.06	1,309.5	-298.6	1,422.0	1,371.7	50.32	28.257		
6,900.0	6,879.9	7,081.4	6,866.8	24.6	33.7	0.00	1,317.8	-300.1	1,426.2	1,375.1	51.12	27.899		
7,000.0	6,979.9	7,205.6	6,979.9	25.0	34.0	0.00	1,317.9	-300.2	1,426.3	1,374.5	51.83	27.521		
7,100.0	7,079.9	7,305.6	7,079.9	25.3	34.2	0.00	1,317.9	-300.2	1,426.3	1,373.8	52.50	27.170		
7,200.0	7,179.9	7,405.6	7,179.9	25.7	34.5	0.00	1,317.9	-300.2	1,426.3	1,373.1	53.17	26.827		
7,300.0	7,279.9	7,505.6	7,279.9	26.0	34.8	0.00	1,317.9	-300.2	1,426.3	1,372.5	53.84	26.493		
7,400.0	7,379.9	7,594.4	7,379.9	26.4	35.0	0.00	1,317.9	-300.2	1,426.3	1,371.8	54.47	26.183		
7,500.0	7,479.9	7,687.6	7,472.8	26.7	35.2	0.22	1,318.1	-294.6	1,426.5	1,371.4	55.14	25.871		
7,600.0	7,579.9	7,775.9	7,559.0	27.1	35.4	0.98	1,318.7	-275.8	1,427.4	1,371.6	55.81	25.579		
7,700.0	7,679.9	7,856.8	7,634.5	27.4	35.6	2.13	1,319.6	-247.1	1,429.7	1,373.2	56.47	25.317		
7,800.0	7,779.9	7,928.3	7,697.3	27.8	35.7	3.49	1,320.7	-213.0	1,434.1	1,377.0	57.11	25.109		
7,900.0	7,879.9	7,990.2	7,747.9	28.1	35.8	4.90	1,321.8	-177.4	1,441.5	1,383.8	57.70	24.982		
8,000.0	7,979.9	8,043.1	7,787.9	28.5	35.8	6.27	1,322.9	-142.8	1,452.6	1,394.4	58.19	24.963		
8,100.0	8,079.9	8,088.2	7,819.4	28.8	35.9	7.54	1,323.9	-110.6	1,468.0	1,409.5	58.55	25.075		
8,200.0	8,179.9	8,126.5	7,844.1	29.2	35.9	8.68	1,324.8	-81.3	1,488.2	1,429.4	58.75	25.332		
8,300.0	8,279.9	8,159.3	7,863.6	29.5	35.9	9.70	1,325.6	-54.9	1,513.2	1,454.4	58.78	25.745		
8,400.0	8,379.9	8,187.5	7,879.1	29.9	36.0	10.61	1,326.4	-31.5	1,543.2	1,484.6	58.64	26.317		
8,500.0	8,479.9	8,211.8	7,891.6	30.2	36.0	11.41	1,327.0	-10.6	1,578.1	1,519.7	58.34	27.048		
8,600.0	8,579.9	8,233.0	7,901.7	30.6	36.0	12.11	1,327.6	8.0	1,617.7	1,559.8	57.91	27.937		
8,700.0	8,679.9	8,250.0	7,909.3	30.9	36.0	12.69	1,328.1	23.2	1,661.8	1,604.5	57.33	28.986		
8,800.0	8,779.9	8,267.9	7,916.9	31.3	36.0	13.30	1,328.6	39.4	1,710.3	1,653.6	56.69	30.167		
8,883.6	8,863.5	8,280.1	7,921.7	31.6	36.0	13.72	1,328.9	50.6	1,753.8	1,697.7	56.09	31.269		
8,900.0	8,879.9	8,282.5	7,922.6	31.6	36.0	-74.64	1,329.0	52.8	1,762.6	1,706.7	55.96	31.495		
8,950.0	8,929.7	8,300.0	7,929.1	31.8	36.0	-71.05	1,329.5	69.1	1,789.5	1,733.8	55.68	32.136		
9,000.0	8,979.1	8,300.0	7,929.1	31.9	36.0	-68.13	1,329.5	69.1	1,815.9	1,760.7	55.19	32.903		
9,050.0	9,027.5	8,300.0	7,929.1	32.1	36.0	-65.33	1,329.5	69.1	1,841.9	1,787.2	54.68	33.682		
9,100.0	9,074.7	8,318.5	7,935.4	32.2	36.0	-62.24	1,330.1	86.5	1,867.1	1,812.7	54.39	34.329		
9,150.0	9,120.4	8,329.3	7,938.8	32.3	36.1	-59.57	1,330.4	96.7	1,891.4	1,837.4	54.01	35.017		
9,200.0	9,164.0	8,350.0	7,944.8	32.5	36.1	-56.95	1,331.0	116.5	1,914.7	1,860.9	53.73	35.632		
9,250.0	9,205.4	8,350.0	7,944.8	32.6	36.1	-54.94	1,331.0	116.5	1,936.5	1,883.2	53.27	36.353		
9,300.0	9,244.2	8,350.0	7,944.8	32.7	36.1	-53.11	1,331.0	116.5	1,957.1	1,904.2	52.83	37.043		
9,350.0	9,280.0	8,377.3	7,951.6	32.9	36.1	-51.15	1,331.8	142.9	1,975.7	1,923.0	52.72	37.473		
9,400.0	9,312.7	8,400.0	7,956.3	33.0	36.1	-49.51	1,332.5	165.1	1,992.9	1,940.3	52.60	37.891		
9,450.0	9,342.0	8,400.0	7,956.3	33.2	36.1	-48.31	1,332.5	165.1	2,008.1	1,955.8	52.31	38.391		
9,500.0	9,367.7	8,416.8	7,959.2	33.4	36.1	-47.16	1,333.1	181.7	2,021.4	1,969.1	52.24	38.691		
9,550.0	9,389.5	8,430.4	7,961.2	33.6	36.1	-46.24	1,333.5	195.2	2,032.6	1,980.4	52.22	38.928		
9,600.0	9,407.3	8,450.0	7,963.5	33.8	36.2	-45.49	1,334.1	214.6	2,041.8	1,989.5	52.31	39.034		
9,650.0	9,420.9	8,450.0	7,963.5	34.1	36.2	-44.98	1,334.1	214.6	2,048.9	1,996.6	52.33	39.156		
9,700.0	9,430.4	8,472.0	7,965.3	34.4	36.2	-44.59	1,334.8	236.5	2,053.7	2,001.1	52.60	39.041		
9,750.0	9,435.5	8,491.2	7,966.2	34.7	36.2	-44.40	1,335.4	255.6	2,056.3	2,003.3	52.93	38.848		
9,772.2	9,436.3	8,499.1	7,966.4	34.8	36.2	-44.38	1,335.6	263.5	2,056.7	2,003.6	53.10	38.733		
9,800.0	9,436.9	8,554.8	7,968.1	35.0	36.3	-44.40	1,336.7	319.3	2,056.7	2,003.0	53.64	38.339		
9,900.0	9,438.9	8,653.7	7,971.0	35.8	36.6	-44.42	1,337.7	418.1	2,056.0	2,001.0	55.05	37.351		
10,000.0	9,440.9	8,753.7	7,974.0	36.8	37.1	-44.44	1,338.7	518.1	2,055.3	1,998.7	56.64	36.288		
10,100.0	9,442.9	8,853.7	7,976.9	37.9	37.8	-44.46	1,339.6	618.0	2,054.7	1,996.2	58.41	35.174		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.0	9,444.9	8,953.7	7,979.9	39.1	38.8	-44.48	1,340.6	717.9	2,054.0	1,993.6	60.36	34.031		
10,300.0	9,446.8	9,053.7	7,982.8	40.4	40.0	-44.50	1,341.6	817.9	2,053.3	1,990.9	62.45	32.880		
10,400.0	9,448.8	9,153.7	7,985.8	41.9	41.4	-44.51	1,342.6	917.8	2,052.6	1,988.0	64.68	31.737		
10,500.0	9,450.8	9,253.7	7,988.7	43.4	42.9	-44.53	1,343.6	1,017.8	2,052.0	1,984.9	67.03	30.613		
10,600.0	9,452.8	9,353.7	7,991.6	45.0	44.6	-44.55	1,344.6	1,117.7	2,051.3	1,981.8	69.49	29.518		
10,700.0	9,454.8	9,453.7	7,994.6	46.6	46.3	-44.57	1,345.6	1,217.7	2,050.6	1,978.6	72.06	28.458		
10,800.0	9,456.8	9,553.7	7,997.5	48.4	48.0	-44.59	1,346.6	1,317.6	2,049.9	1,975.2	74.71	27.438		
10,900.0	9,458.8	9,653.7	8,000.5	50.2	49.9	-44.61	1,347.6	1,417.6	2,049.3	1,971.8	77.45	26.461		
11,000.0	9,460.8	9,753.7	8,003.4	52.0	51.8	-44.63	1,348.6	1,517.5	2,048.6	1,968.3	80.25	25.527		
11,100.0	9,462.8	9,853.7	8,006.4	53.9	53.7	-44.65	1,349.6	1,617.5	2,047.9	1,964.8	83.13	24.636		
11,200.0	9,464.8	9,953.7	8,009.3	55.9	55.7	-44.67	1,350.6	1,717.4	2,047.3	1,961.2	86.06	23.789		
11,300.0	9,466.7	10,053.7	8,012.3	57.9	57.7	-44.69	1,351.6	1,817.4	2,046.6	1,957.5	89.05	22.983		
11,400.0	9,468.7	10,153.7	8,015.2	59.9	59.8	-44.71	1,352.6	1,917.3	2,045.9	1,953.8	92.08	22.219		
11,500.0	9,470.7	10,253.7	8,018.2	61.9	61.9	-44.73	1,353.6	2,017.3	2,045.2	1,950.1	95.16	21.492		
11,600.0	9,472.7	10,353.7	8,021.1	64.0	64.0	-44.74	1,354.6	2,117.2	2,044.6	1,946.3	98.28	20.803		
11,700.0	9,474.7	10,453.7	8,024.1	66.1	66.1	-44.76	1,355.5	2,217.1	2,043.9	1,942.5	101.44	20.149		
11,800.0	9,476.7	10,553.6	8,027.0	68.2	68.3	-44.78	1,356.5	2,317.1	2,043.2	1,938.6	104.63	19.528		
11,900.0	9,478.7	10,653.6	8,030.0	70.3	70.4	-44.80	1,357.5	2,417.0	2,042.6	1,934.7	107.85	18.939		
12,000.0	9,480.7	10,753.6	8,032.9	72.5	72.6	-44.82	1,358.5	2,517.0	2,041.9	1,930.8	111.10	18.379		
12,100.0	9,482.7	10,853.6	8,035.8	74.7	74.8	-44.84	1,359.5	2,616.9	2,041.2	1,926.8	114.38	17.846		
12,200.0	9,484.6	10,953.6	8,038.8	76.9	77.1	-44.86	1,360.5	2,716.9	2,040.6	1,922.9	117.68	17.340		
12,300.0	9,486.6	11,053.6	8,041.8	79.1	79.3	-44.88	1,361.5	2,816.8	2,039.9	1,918.9	121.00	16.858		
12,400.0	9,488.6	11,153.6	8,044.7	81.3	81.5	-44.90	1,362.5	2,916.8	2,039.2	1,914.9	124.35	16.400		
12,500.0	9,490.6	11,253.6	8,047.7	83.6	83.8	-44.92	1,363.5	3,016.7	2,038.5	1,910.8	127.71	15.963		
12,600.0	9,492.6	11,353.6	8,050.6	85.8	86.1	-44.94	1,364.5	3,116.7	2,037.9	1,906.8	131.09	15.546		
12,700.0	9,494.6	11,453.6	8,053.6	88.1	88.4	-44.96	1,365.5	3,216.6	2,037.2	1,902.7	134.49	15.148		
12,800.0	9,496.6	11,553.6	8,056.5	90.3	90.6	-44.98	1,366.5	3,316.6	2,036.5	1,898.6	137.90	14.768		
12,900.0	9,498.6	11,653.6	8,059.5	92.6	92.9	-45.00	1,367.5	3,416.5	2,035.9	1,894.5	141.33	14.405		
13,000.0	9,500.6	11,753.6	8,062.4	94.9	95.2	-45.02	1,368.5	3,516.5	2,035.2	1,890.4	144.77	14.058		
13,100.0	9,502.6	11,853.6	8,065.4	97.2	97.5	-45.04	1,369.5	3,616.4	2,034.5	1,886.3	148.23	13.726		
13,200.0	9,504.5	11,953.6	8,068.3	99.5	99.9	-45.05	1,370.5	3,716.4	2,033.9	1,882.2	151.69	13.408		
13,300.0	9,506.5	12,053.6	8,071.3	101.8	102.2	-45.07	1,371.4	3,816.3	2,033.2	1,878.0	155.17	13.103		
13,400.0	9,508.5	12,153.6	8,074.2	104.1	104.5	-45.09	1,372.4	3,916.2	2,032.5	1,873.9	158.66	12.811		
13,500.0	9,510.5	12,253.6	8,077.2	106.4	106.8	-45.11	1,373.4	4,016.2	2,031.9	1,869.7	162.16	12.530		
13,600.0	9,512.5	12,353.6	8,080.1	108.7	109.2	-45.13	1,374.4	4,116.1	2,031.2	1,865.5	165.67	12.260		
13,700.0	9,514.5	12,453.6	8,083.1	111.1	111.5	-45.15	1,375.4	4,216.1	2,030.5	1,861.4	169.19	12.001		
13,800.0	9,516.5	12,553.6	8,086.0	113.4	113.9	-45.17	1,376.4	4,316.0	2,029.9	1,857.2	172.72	11.752		
13,900.0	9,518.5	12,653.6	8,089.0	115.8	116.2	-45.19	1,377.4	4,416.0	2,029.2	1,853.0	176.26	11.513		
14,000.0	9,520.5	12,753.5	8,091.9	118.1	118.6	-45.21	1,378.4	4,515.9	2,028.6	1,848.8	179.80	11.282		
14,100.0	9,522.4	12,853.5	8,094.9	120.4	120.9	-45.23	1,379.4	4,615.9	2,027.9	1,844.5	183.36	11.060		
14,200.0	9,524.4	12,953.5	8,097.8	122.8	123.3	-45.25	1,380.4	4,715.8	2,027.2	1,840.3	186.92	10.846		
14,300.0	9,526.4	13,053.5	8,100.8	125.2	125.6	-45.27	1,381.4	4,815.8	2,026.6	1,836.1	190.48	10.639		
14,400.0	9,528.4	13,153.5	8,103.7	127.5	128.0	-45.29	1,382.4	4,915.7	2,025.9	1,831.8	194.06	10.440		
14,500.0	9,530.4	13,253.5	8,106.7	129.9	130.4	-45.31	1,383.4	5,015.7	2,025.2	1,827.6	197.64	10.247		
14,600.0	9,532.4	13,353.5	8,109.6	132.2	132.8	-45.33	1,384.4	5,115.6	2,024.6	1,823.3	201.23	10.061		
14,700.0	9,534.4	13,453.5	8,112.6	134.6	135.1	-45.35	1,385.4	5,215.6	2,023.9	1,819.1	204.82	9.881		
14,800.0	9,536.4	13,553.5	8,115.5	137.0	137.5	-45.37	1,386.4	5,315.5	2,023.2	1,814.8	208.42	9.708		
14,900.0	9,538.4	13,653.5	8,118.5	139.4	139.9	-45.39	1,387.3	5,415.5	2,022.6	1,810.6	212.03	9.539		
15,000.0	9,540.4	13,753.5	8,121.4	141.7	142.3	-45.41	1,388.3	5,515.4	2,021.9	1,806.3	215.64	9.376		
15,100.0	9,542.3	13,853.5	8,124.4	144.1	144.7	-45.43	1,389.3	5,615.3	2,021.3	1,802.0	219.25	9.219		
15,200.0	9,544.3	13,953.5	8,127.3	146.5	147.0	-45.45	1,390.3	5,715.3	2,020.6	1,797.7	222.88	9.066		
15,300.0	9,546.3	14,053.5	8,130.3	148.9	149.4	-45.47	1,391.3	5,815.2	2,019.9	1,793.4	226.50	8.918		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,400.0	9,548.3	14,153.5	8,133.2	151.3	151.8	-45.49	1,392.3	5,915.2	2,019.3	1,789.1	230.13	8.774		
15,500.0	9,550.3	14,253.5	8,136.2	153.6	154.2	-45.51	1,393.3	6,015.1	2,018.6	1,784.8	233.77	8.635		
15,600.0	9,552.3	14,353.5	8,139.1	156.0	156.6	-45.53	1,394.3	6,115.1	2,017.9	1,780.5	237.41	8.500		
15,700.0	9,554.3	14,453.5	8,142.1	158.4	159.0	-45.55	1,395.3	6,215.0	2,017.3	1,776.2	241.06	8.368		
15,800.0	9,556.3	14,553.5	8,145.0	160.8	161.4	-45.57	1,396.3	6,315.0	2,016.6	1,771.9	244.71	8.241		
15,900.0	9,558.3	14,653.5	8,148.0	163.2	163.8	-45.59	1,397.3	6,414.9	2,016.0	1,767.6	248.36	8.117		
16,000.0	9,560.2	14,753.5	8,150.9	165.6	166.2	-45.61	1,398.3	6,514.9	2,015.3	1,763.3	252.02	7.997		
16,100.0	9,562.2	14,853.4	8,153.9	168.0	168.6	-45.63	1,399.3	6,614.8	2,014.6	1,759.0	255.69	7.879		
16,200.0	9,564.2	14,953.4	8,156.8	170.4	171.0	-45.65	1,400.3	6,714.8	2,014.0	1,754.6	259.35	7.765		
16,300.0	9,566.2	15,053.4	8,159.8	172.8	173.4	-45.67	1,401.3	6,814.7	2,013.3	1,750.3	263.02	7.655		
16,400.0	9,568.2	15,153.4	8,162.7	175.2	175.8	-45.68	1,402.3	6,914.7	2,012.7	1,746.0	266.70	7.547		
16,500.0	9,570.2	15,253.4	8,165.7	177.6	178.2	-45.70	1,403.2	7,014.6	2,012.0	1,741.6	270.38	7.441		
16,600.0	9,572.2	15,353.4	8,168.6	180.0	180.6	-45.72	1,404.2	7,114.5	2,011.4	1,737.3	274.06	7.339		
16,700.0	9,574.2	15,453.4	8,171.6	182.4	183.0	-45.74	1,405.2	7,214.5	2,010.7	1,732.9	277.75	7.239		
16,800.0	9,576.2	15,553.4	8,174.5	184.8	185.4	-45.76	1,406.2	7,314.4	2,010.0	1,728.6	281.44	7.142		
16,900.0	9,578.2	15,653.4	8,177.5	187.2	187.8	-45.78	1,407.2	7,414.4	2,009.4	1,724.2	285.13	7.047		
17,000.0	9,580.1	15,753.4	8,180.4	189.6	190.2	-45.80	1,408.2	7,514.3	2,008.7	1,719.9	288.83	6.955		
17,100.0	9,582.1	15,853.4	8,183.4	192.0	192.7	-45.82	1,409.2	7,614.3	2,008.1	1,715.5	292.53	6.864		
17,200.0	9,584.1	15,953.4	8,186.3	194.4	195.1	-45.84	1,410.2	7,714.2	2,007.4	1,711.2	296.24	6.776		
17,300.0	9,586.1	16,053.4	8,189.3	196.8	197.5	-45.86	1,411.2	7,814.2	2,006.8	1,706.8	299.94	6.690		
17,400.0	9,588.1	16,153.4	8,192.2	199.3	199.9	-45.88	1,412.2	7,914.1	2,006.1	1,702.4	303.65	6.606		
17,500.0	9,590.1	16,253.4	8,195.2	201.7	202.3	-45.90	1,413.2	8,014.1	2,005.4	1,698.1	307.37	6.525		
17,600.0	9,592.1	16,353.4	8,198.1	204.1	204.7	-45.92	1,414.2	8,114.0	2,004.8	1,693.7	311.09	6.444		
17,700.0	9,594.1	16,453.4	8,201.1	206.5	207.1	-45.94	1,415.2	8,214.0	2,004.1	1,689.3	314.81	6.366		
17,800.0	9,596.1	16,553.4	8,204.0	208.9	209.6	-45.96	1,416.2	8,313.9	2,003.5	1,684.9	318.53	6.290		
17,900.0	9,598.0	16,653.4	8,207.0	211.3	212.0	-45.98	1,417.2	8,413.9	2,002.8	1,680.6	322.26	6.215		
18,000.0	9,600.0	16,753.4	8,209.9	213.7	214.4	-46.00	1,418.2	8,513.8	2,002.2	1,676.2	325.99	6.142		
18,100.0	9,602.0	16,853.4	8,212.9	216.2	216.8	-46.03	1,419.1	8,613.8	2,001.5	1,671.8	329.72	6.070		
18,200.0	9,604.0	16,953.4	8,215.8	218.6	219.2	-46.05	1,420.1	8,713.7	2,000.9	1,667.4	333.46	6.000		
18,300.0	9,606.0	17,053.3	8,218.8	221.0	221.6	-46.07	1,421.1	8,813.6	2,000.2	1,663.0	337.20	5.932		
18,400.0	9,608.0	17,153.3	8,221.7	223.4	224.1	-46.09	1,422.1	8,913.6	1,999.5	1,658.6	340.94	5.865		
18,426.3	9,608.5	17,166.6	8,222.1	224.0	224.4	-46.09	1,422.3	8,926.8	1,999.4	1,657.7	341.75	5.850		
18,432.5	9,608.6	17,166.6	8,222.1	224.2	224.4	-46.09	1,422.3	8,926.8	1,999.4	1,657.5	341.89	5.848		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-179.93	-110.0	-0.1	110.0					
100.0	100.0	100.0	100.0	0.1	0.1	-179.93	-110.0	-0.1	110.0	109.7	0.26	429.098		
200.0	200.0	200.0	200.0	0.5	0.5	-179.93	-110.0	-0.1	110.0	109.0	0.97	113.004		
300.0	300.0	300.0	300.0	0.8	0.8	-179.93	-110.0	-0.1	110.0	108.3	1.69	65.070		
400.0	400.0	400.0	400.0	1.2	1.2	-179.93	-110.0	-0.1	110.0	107.6	2.41	45.690		
500.0	500.0	500.0	500.0	1.6	1.6	-179.93	-110.0	-0.1	110.0	106.9	3.12	35.204		
600.0	600.0	600.0	600.0	1.9	1.9	-179.93	-110.0	-0.1	110.0	106.1	3.84	28.633		
700.0	700.0	700.0	700.0	2.3	2.3	-179.93	-110.0	-0.1	110.0	105.4	4.56	24.129		
800.0	800.0	800.0	800.0	2.6	2.6	-179.93	-110.0	-0.1	110.0	104.7	5.27	20.850		
900.0	900.0	900.0	900.0	3.0	3.0	-179.93	-110.0	-0.1	110.0	104.0	5.99	18.355		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-179.93	-110.0	-0.1	110.0	103.3	6.71	16.394		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-179.93	-110.0	-0.1	110.0	102.6	7.43	14.811		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-179.93	-110.0	-0.1	110.0	101.8	8.14	13.507		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-179.93	-110.0	-0.1	110.0	101.1	8.86	12.414		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-179.93	-110.0	-0.1	110.0	100.4	9.58	11.484		
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-179.93	-110.0	-0.1	110.0	99.7	10.29	10.684		
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	-179.93	-110.0	-0.1	110.0	99.0	11.01	9.989		
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	-179.93	-110.0	-0.1	110.0	98.3	11.73	9.378		
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	-179.93	-110.0	-0.1	110.0	97.5	12.44	8.838		
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	-179.93	-110.0	-0.1	110.0	96.8	13.16	8.356		
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	-179.93	-110.0	-0.1	110.0	96.1	13.88	7.925		
2,100.0	2,100.0	2,100.6	2,100.6	7.3	7.3	-179.50	-109.7	-1.0	109.7	95.1	14.59	7.517		
2,200.0	2,200.0	2,201.2	2,201.2	7.7	7.6	-178.18	-108.8	-3.5	108.8	93.5	15.30	7.114		
2,300.0	2,300.0	2,301.7	2,301.5	8.0	8.0	-175.95	-107.3	-7.6	107.6	91.6	16.01	6.720		
2,400.0	2,400.0	2,401.9	2,401.6	8.4	8.3	-172.75	-105.2	-13.4	106.1	89.4	16.72	6.344		
2,500.0	2,500.0	2,502.0	2,501.3	8.7	8.7	-168.53	-102.6	-20.8	104.6	87.2	17.43	6.003		
2,600.0	2,600.0	2,601.8	2,600.6	9.1	9.1	-53.82	-99.3	-29.8	103.2	85.0	18.14	5.688		
2,700.0	2,700.0	2,701.3	2,699.6	9.4	9.4	-48.63	-95.5	-40.5	101.4	82.5	18.83	5.382		
2,800.0	2,799.9	2,800.7	2,798.1	9.8	9.8	-43.02	-91.1	-52.7	99.4	79.8	19.53	5.088		
2,900.0	2,899.7	2,900.2	2,896.6	10.1	10.2	-37.35	-86.4	-65.7	97.2	77.0	20.23	4.804		
3,000.0	2,999.4	3,000.3	2,995.2	10.4	10.5	-32.04	-81.7	-78.8	94.5	73.6	20.94	4.515		
3,100.0	3,098.9	3,099.3	3,093.8	10.8	10.9	-26.94	-77.0	-91.8	91.2	69.5	21.63	4.215		
3,200.0	3,198.3	3,201.1	3,192.5	11.1	11.3	-21.93	-72.4	-104.9	87.0	64.6	22.34	3.894		
3,300.0	3,297.4	3,301.5	3,291.1	11.5	11.7	-16.79	-67.7	-117.9	81.9	58.8	23.03	3.554		
3,400.0	3,396.4	3,401.9	3,389.6	11.9	12.1	-11.13	-63.0	-130.9	76.6	52.9	23.72	3.230		
3,500.0	3,495.5	3,502.4	3,488.2	12.2	12.5	-4.72	-58.3	-144.0	72.2	47.8	24.40	2.961		
3,600.0	3,594.5	3,602.8	3,586.8	12.6	12.9	2.41	-53.6	-157.0	68.9	43.8	25.07	2.747		
3,700.0	3,693.5	3,703.3	3,685.4	13.0	13.3	10.13	-48.9	-170.1	66.7	40.9	25.74	2.590		
3,800.0	3,792.5	3,796.3	3,784.0	13.3	13.6	18.22	-44.2	-183.1	65.8	39.4	26.40	2.492		
3,817.3	3,809.6	3,813.5	3,801.0	13.4	13.7	19.63	-43.4	-185.3	65.8	39.2	26.52	2.480 CC		
3,900.0	3,891.6	3,904.2	3,882.6	13.7	14.1	26.36	-39.6	-196.1	66.2	39.1	27.13	2.441 ES		
4,000.0	3,990.6	4,004.6	3,981.2	14.1	14.5	34.24	-34.9	-209.2	68.0	40.1	27.86	2.440		
4,100.0	4,089.6	4,105.0	4,079.8	14.5	14.9	41.59	-30.2	-222.2	71.0	42.3	28.62	2.479		
4,200.0	4,188.6	4,194.5	4,178.3	14.9	15.2	48.26	-25.5	-235.3	75.0	45.6	29.36	2.554		
4,300.0	4,287.7	4,305.9	4,276.9	15.3	15.7	54.18	-20.8	-248.3	80.0	49.7	30.21	2.647		
4,400.0	4,386.7	4,393.6	4,375.5	15.7	16.0	59.36	-16.1	-261.3	85.7	54.7	30.98	2.765		
4,500.0	4,485.7	4,494.7	4,475.7	16.0	16.4	64.11	-11.6	-274.0	91.4	59.5	31.85	2.870		
4,600.0	4,584.8	4,596.5	4,577.0	16.4	16.8	69.05	-7.9	-284.2	95.4	62.7	32.73	2.916		
4,700.0	4,683.8	4,698.3	4,678.4	16.8	17.2	74.44	-5.1	-292.0	97.9	64.3	33.59	2.915		
4,800.0	4,782.8	4,799.8	4,779.7	17.2	17.6	80.51	-3.3	-297.2	99.2	64.8	34.45	2.880		
4,900.0	4,881.8	4,901.0	4,880.9	17.6	17.9	87.46	-2.3	-299.8	99.7	64.4	35.29	2.826		
4,925.3	4,906.9	4,926.5	4,906.4	17.7	18.0	89.38	-2.2	-300.1	99.8	64.3	35.50	2.812		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,981.0	5,001.1	4,981.0	18.0	18.3	94.86	-2.2	-300.2	100.3	64.1	36.11	2.777		
5,100.0	5,080.4	5,100.5	5,080.4	18.4	18.6	100.85	-2.2	-300.2	101.7	64.8	36.87	2.759		
5,200.0	5,180.1	5,200.2	5,180.1	18.8	19.0	105.26	-2.2	-300.2	103.6	65.9	37.60	2.754		
5,300.0	5,279.9	5,300.0	5,279.9	19.1	19.3	108.15	-2.2	-300.2	105.1	66.8	38.31	2.744		
5,400.0	5,379.9	5,400.0	5,379.9	19.5	19.6	109.62	-2.2	-300.2	106.0	67.0	39.00	2.719		
5,458.6	5,438.5	5,458.6	5,438.5	19.7	19.8	-0.01	-2.2	-300.2	106.2	66.8	39.41	2.695		
5,500.0	5,479.9	5,500.0	5,479.9	19.8	20.0	-0.01	-2.2	-300.2	106.2	66.5	39.69	2.676		
5,600.0	5,579.9	5,600.0	5,579.9	20.2	20.3	-0.01	-2.2	-300.2	106.2	65.8	40.37	2.630		
5,700.0	5,679.9	5,700.0	5,679.9	20.5	20.7	-0.01	-2.2	-300.2	106.2	65.1	41.06	2.586		
5,800.0	5,779.9	5,800.0	5,779.9	20.9	21.0	-0.01	-2.2	-300.2	106.2	64.4	41.75	2.544		
5,900.0	5,879.9	5,900.0	5,879.9	21.2	21.4	-0.01	-2.2	-300.2	106.2	63.8	42.44	2.502		
6,000.0	5,979.9	6,000.0	5,979.9	21.5	21.7	-0.01	-2.2	-300.2	106.2	63.1	43.13	2.462		
6,100.0	6,079.9	6,100.0	6,079.9	21.9	22.0	-0.01	-2.2	-300.2	106.2	62.4	43.82	2.424		
6,200.0	6,179.9	6,200.0	6,179.9	22.2	22.4	-0.01	-2.2	-300.2	106.2	61.7	44.51	2.386		
6,300.0	6,279.9	6,300.0	6,279.9	22.6	22.7	-0.01	-2.2	-300.2	106.2	61.0	45.20	2.349		
6,400.0	6,379.9	6,400.0	6,379.9	22.9	23.1	-0.01	-2.2	-300.2	106.2	60.3	45.89	2.314		
6,500.0	6,479.9	6,500.0	6,479.9	23.3	23.4	-0.01	-2.2	-300.2	106.2	59.6	46.59	2.279		
6,600.0	6,579.9	6,600.0	6,579.9	23.6	23.8	-0.01	-2.2	-300.2	106.2	58.9	47.28	2.246		
6,700.0	6,679.9	6,700.0	6,679.9	24.0	24.1	-0.01	-2.2	-300.2	106.2	58.2	47.98	2.213		
6,800.0	6,779.9	6,800.0	6,779.9	24.3	24.5	-0.01	-2.2	-300.2	106.2	57.5	48.67	2.182		
6,900.0	6,879.9	6,900.0	6,879.9	24.6	24.8	-0.01	-2.2	-300.2	106.2	56.8	49.37	2.151		
7,000.0	6,979.9	7,000.0	6,979.9	25.0	25.2	-0.01	-2.2	-300.2	106.2	56.1	50.07	2.121		
7,100.0	7,079.9	7,100.0	7,079.9	25.3	25.5	-0.01	-2.2	-300.2	106.2	55.4	50.76	2.092		
7,200.0	7,179.9	7,200.0	7,179.9	25.7	25.9	-0.01	-2.2	-300.2	106.2	54.7	51.46	2.064		
7,300.0	7,279.9	7,300.0	7,279.9	26.0	26.2	-0.01	-2.2	-300.2	106.2	54.0	52.16	2.036		
7,400.0	7,379.9	7,400.0	7,379.9	26.4	26.6	-0.01	-2.2	-300.2	106.2	53.3	52.86	2.009		
7,408.1	7,387.9	7,408.0	7,387.9	26.4	26.6	-0.01	-2.2	-300.2	106.2	53.3	52.92	2.007		
7,500.0	7,479.9	7,499.1	7,478.8	26.7	26.9	2.67	-2.0	-295.2	106.5	52.9	53.52	1.989 SF		
7,600.0	7,579.9	7,593.8	7,571.2	27.1	27.2	13.18	-1.4	-275.1	110.2	56.3	53.91	2.044		
7,700.0	7,679.9	7,679.8	7,651.2	27.4	27.4	27.54	-0.4	-243.9	125.1	72.1	53.02	2.359		
7,800.0	7,779.9	7,755.1	7,716.8	27.8	27.6	40.49	0.7	-207.0	156.7	106.5	50.22	3.121		
7,900.0	7,879.9	7,819.4	7,768.5	28.1	27.7	49.95	1.9	-168.9	204.4	157.9	46.50	4.396		
8,000.0	7,979.9	7,873.7	7,808.7	28.5	27.9	56.40	3.1	-132.4	264.3	221.5	42.87	6.166		
8,100.0	8,079.9	7,919.3	7,839.6	28.8	28.0	60.79	4.1	-98.9	333.0	293.3	39.69	8.391		
8,200.0	8,179.9	7,957.8	7,863.6	29.2	28.1	63.87	5.1	-68.8	408.0	371.0	36.99	11.029		
8,300.0	8,279.9	7,990.3	7,882.2	29.5	28.3	66.11	5.9	-42.1	487.6	452.9	34.73	14.039		
8,400.0	8,379.9	8,018.1	7,896.9	29.9	28.4	67.78	6.7	-18.6	570.7	537.9	32.85	17.373		
8,500.0	8,479.9	8,050.0	7,912.4	30.2	28.5	69.46	7.5	9.3	656.7	624.9	31.77	20.671		
8,600.0	8,579.9	8,062.6	7,918.0	30.6	28.6	70.07	7.9	20.6	744.6	714.6	30.00	24.821		
8,700.0	8,679.9	8,080.6	7,925.7	30.9	28.7	70.89	8.4	36.8	834.2	805.3	28.92	28.842		
8,800.0	8,779.9	8,100.0	7,933.4	31.3	28.7	71.70	9.0	54.6	925.3	897.1	28.19	32.826		
8,883.6	8,863.5	8,100.0	7,933.4	31.6	28.7	71.70	9.0	54.6	1,002.4	975.3	27.10	36.985		
8,900.0	8,879.9	8,100.0	7,933.4	31.6	28.7	-16.58	9.0	54.6	1,017.5	990.6	26.91	37.815		
8,950.0	8,929.7	8,118.0	7,940.0	31.8	28.8	-13.37	9.5	71.4	1,062.4	1,035.5	26.92	39.471		
9,000.0	8,979.1	8,126.5	7,942.9	31.9	28.9	-11.34	9.7	79.3	1,105.8	1,079.3	26.49	41.748		
9,050.0	9,027.5	8,150.0	7,950.4	32.1	29.0	-9.71	10.4	101.6	1,147.6	1,121.2	26.49	43.324		
9,100.0	9,074.7	8,150.0	7,950.4	32.2	29.0	-8.69	10.4	101.6	1,187.0	1,161.3	25.67	46.234		
9,150.0	9,120.4	8,150.0	7,950.4	32.3	29.0	-7.88	10.4	101.6	1,224.4	1,199.5	24.86	49.249		
9,200.0	9,164.0	8,167.7	7,955.4	32.5	29.1	-7.15	11.0	118.6	1,259.4	1,234.9	24.54	51.311		
9,250.0	9,205.4	8,179.5	7,958.4	32.6	29.2	-6.59	11.3	130.0	1,292.1	1,268.0	24.04	53.737		
9,300.0	9,244.2	8,200.0	7,963.2	32.7	29.3	-6.13	12.0	149.9	1,322.2	1,298.5	23.75	55.665		
9,350.0	9,280.0	8,200.0	7,963.2	32.9	29.3	-5.79	12.0	149.9	1,349.6	1,326.6	23.00	58.681		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,400.0	9,312.7	8,217.1	7,966.6	33.0	29.5	-5.49	12.5	166.7	1,374.2	1,351.6	22.66	60.643		
9,450.0	9,342.0	8,230.3	7,968.9	33.2	29.5	-5.25	12.9	179.7	1,396.0	1,373.8	22.28	62.669		
9,500.0	9,367.7	8,250.0	7,971.7	33.4	29.7	-5.05	13.5	199.1	1,415.0	1,392.9	22.05	64.177		
9,550.0	9,389.5	8,250.0	7,971.7	33.6	29.7	-4.91	13.5	199.1	1,430.9	1,409.4	21.59	66.268		
9,600.0	9,407.3	8,271.2	7,974.1	33.8	29.8	-4.79	14.2	220.2	1,443.8	1,422.3	21.51	67.110		
9,650.0	9,420.9	8,300.0	7,976.0	34.1	30.1	-4.72	15.1	248.9	1,453.9	1,432.4	21.56	67.429		
9,700.0	9,430.4	8,300.0	7,976.0	34.4	30.1	-4.66	15.1	248.9	1,460.4	1,439.0	21.43	68.135		
9,750.0	9,435.5	8,330.6	7,976.9	34.7	30.3	-4.65	15.9	279.4	1,464.0	1,442.3	21.62	67.723		
9,772.2	9,436.3	8,353.8	7,977.6	34.8	30.5	-4.66	16.4	302.6	1,464.2	1,442.4	21.76	67.298		
9,800.0	9,436.9	8,382.1	7,978.4	35.0	30.8	-4.66	16.7	331.0	1,463.9	1,442.0	21.93	66.748		
9,900.0	9,438.9	8,482.1	7,981.4	35.8	31.8	-4.66	17.7	430.9	1,463.0	1,440.4	22.62	64.669		
10,000.0	9,440.9	8,582.1	7,984.3	36.8	32.9	-4.67	18.7	530.9	1,462.0	1,438.6	23.40	62.477		
10,100.0	9,442.9	8,682.1	7,987.3	37.9	34.2	-4.67	19.7	630.8	1,461.1	1,436.8	24.26	60.221		
10,200.0	9,444.9	8,782.1	7,990.2	39.1	35.6	-4.67	20.7	730.7	1,460.1	1,434.9	25.20	57.949		
10,300.0	9,446.8	8,882.1	7,993.2	40.4	37.2	-4.68	21.7	830.7	1,459.2	1,433.0	26.20	55.700		
10,400.0	9,448.8	8,982.1	7,996.1	41.9	38.8	-4.68	22.7	930.6	1,458.2	1,430.9	27.26	53.501		
10,500.0	9,450.8	9,082.1	7,999.1	43.4	40.5	-4.69	23.7	1,030.6	1,457.3	1,428.9	28.37	51.372		
10,600.0	9,452.8	9,182.1	8,002.0	45.0	42.2	-4.69	24.6	1,130.5	1,456.3	1,426.8	29.52	49.326		
10,700.0	9,454.8	9,282.1	8,005.0	46.6	44.1	-4.69	25.6	1,230.5	1,455.3	1,424.6	30.72	47.371		
10,800.0	9,456.8	9,382.1	8,007.9	48.4	46.0	-4.70	26.6	1,330.4	1,454.4	1,422.4	31.96	45.511		
10,900.0	9,458.8	9,482.1	8,010.9	50.2	47.9	-4.70	27.6	1,430.4	1,453.4	1,420.2	33.22	43.747		
11,000.0	9,460.8	9,582.1	8,013.8	52.0	49.9	-4.70	28.6	1,530.3	1,452.5	1,418.0	34.52	42.076		
11,100.0	9,462.8	9,682.1	8,016.8	53.9	51.9	-4.71	29.6	1,630.3	1,451.5	1,415.7	35.84	40.498		
11,200.0	9,464.8	9,782.1	8,019.7	55.9	54.0	-4.71	30.6	1,730.2	1,450.6	1,413.4	37.19	39.007		
11,300.0	9,466.7	9,882.0	8,022.7	57.9	56.1	-4.72	31.6	1,830.2	1,449.6	1,411.1	38.55	37.600		
11,400.0	9,468.7	9,982.0	8,025.6	59.9	58.2	-4.72	32.6	1,930.1	1,448.7	1,408.7	39.94	36.272		
11,500.0	9,470.7	10,082.0	8,028.6	61.9	60.3	-4.72	33.6	2,030.1	1,447.7	1,406.4	41.34	35.019		
11,600.0	9,472.7	10,182.0	8,031.5	64.0	62.5	-4.73	34.6	2,130.0	1,446.7	1,404.0	42.76	33.836		
11,700.0	9,474.7	10,282.0	8,034.5	66.1	64.7	-4.73	35.6	2,230.0	1,445.8	1,401.6	44.19	32.719		
11,800.0	9,476.7	10,382.0	8,037.4	68.2	66.9	-4.74	36.6	2,329.9	1,444.8	1,399.2	45.63	31.663		
11,900.0	9,478.7	10,482.0	8,040.4	70.3	69.1	-4.74	37.6	2,429.8	1,443.9	1,396.8	47.09	30.664		
12,000.0	9,480.7	10,582.0	8,043.3	72.5	71.4	-4.74	38.6	2,529.8	1,442.9	1,394.4	48.55	29.719		
12,100.0	9,482.7	10,682.0	8,046.3	74.7	73.6	-4.75	39.6	2,629.7	1,442.0	1,391.9	50.03	28.824		
12,200.0	9,484.6	10,782.0	8,049.2	76.9	75.9	-4.75	40.6	2,729.7	1,441.0	1,389.5	51.51	27.975		
12,300.0	9,486.6	10,882.0	8,052.2	79.1	78.1	-4.75	41.6	2,829.6	1,440.1	1,387.1	53.00	27.170		
12,400.0	9,488.6	10,982.0	8,055.1	81.3	80.4	-4.76	42.6	2,929.6	1,439.1	1,384.6	54.50	26.405		
12,500.0	9,490.6	11,082.0	8,058.0	83.6	82.7	-4.76	43.6	3,029.5	1,438.2	1,382.1	56.01	25.678		
12,600.0	9,492.6	11,182.0	8,061.0	85.8	85.0	-4.77	44.6	3,129.5	1,437.2	1,379.7	57.52	24.986		
12,700.0	9,494.6	11,282.0	8,063.9	88.1	87.3	-4.77	45.6	3,229.4	1,436.2	1,377.2	59.04	24.327		
12,800.0	9,496.6	11,382.0	8,066.9	90.3	89.6	-4.77	46.5	3,329.4	1,435.3	1,374.7	60.56	23.700		
12,900.0	9,498.6	11,482.0	8,069.8	92.6	92.0	-4.78	47.5	3,429.3	1,434.3	1,372.2	62.09	23.101		
13,000.0	9,500.6	11,582.0	8,072.8	94.9	94.3	-4.78	48.5	3,529.3	1,433.4	1,369.8	63.62	22.529		
13,100.0	9,502.6	11,682.0	8,075.7	97.2	96.6	-4.79	49.5	3,629.2	1,432.4	1,367.3	65.16	21.983		
13,200.0	9,504.5	11,782.0	8,078.7	99.5	99.0	-4.79	50.5	3,729.2	1,431.5	1,364.8	66.70	21.460		
13,300.0	9,506.5	11,882.0	8,081.6	101.8	101.3	-4.79	51.5	3,829.1	1,430.5	1,362.3	68.25	20.960		
13,400.0	9,508.5	11,982.0	8,084.6	104.1	103.6	-4.80	52.5	3,929.1	1,429.6	1,359.8	69.80	20.481		
13,500.0	9,510.5	12,081.9	8,087.5	106.4	106.0	-4.80	53.5	4,029.0	1,428.6	1,357.3	71.35	20.022		
13,600.0	9,512.5	12,181.9	8,090.5	108.7	108.4	-4.81	54.5	4,128.9	1,427.7	1,354.7	72.91	19.582		
13,700.0	9,514.5	12,281.9	8,093.4	111.1	110.7	-4.81	55.5	4,228.9	1,426.7	1,352.2	74.47	19.159		
13,800.0	9,516.5	12,381.9	8,096.4	113.4	113.1	-4.81	56.5	4,328.8	1,425.7	1,349.7	76.03	18.753		
13,900.0	9,518.5	12,481.9	8,099.3	115.8	115.4	-4.82	57.5	4,428.8	1,424.8	1,347.2	77.59	18.363		
14,000.0	9,520.5	12,581.9	8,102.3	118.1	117.8	-4.82	58.5	4,528.7	1,423.8	1,344.7	79.16	17.987		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.0	9,522.4	12,681.9	8,105.2	120.4	120.2	-4.83	59.5	4,628.7	1,422.9	1,342.2	80.73	17.626		
14,200.0	9,524.4	12,781.9	8,108.2	122.8	122.6	-4.83	60.5	4,728.6	1,421.9	1,339.6	82.30	17.278		
14,300.0	9,526.4	12,881.9	8,111.1	125.2	124.9	-4.83	61.5	4,828.6	1,421.0	1,337.1	83.87	16.942		
14,400.0	9,528.4	12,981.9	8,114.1	127.5	127.3	-4.84	62.5	4,928.5	1,420.0	1,334.6	85.45	16.619		
14,500.0	9,530.4	13,081.9	8,117.0	129.9	129.7	-4.84	63.5	5,028.5	1,419.1	1,332.0	87.02	16.307		
14,600.0	9,532.4	13,181.9	8,120.0	132.2	132.1	-4.85	64.5	5,128.4	1,418.1	1,329.5	88.60	16.005		
14,700.0	9,534.4	13,281.9	8,122.9	134.6	134.5	-4.85	65.5	5,228.4	1,417.2	1,327.0	90.18	15.714		
14,800.0	9,536.4	13,381.9	8,125.9	137.0	136.9	-4.85	66.5	5,328.3	1,416.2	1,324.4	91.77	15.433		
14,900.0	9,538.4	13,481.9	8,128.8	139.4	139.3	-4.86	67.5	5,428.3	1,415.2	1,321.9	93.35	15.160		
15,000.0	9,540.4	13,581.9	8,131.8	141.7	141.7	-4.86	68.5	5,528.2	1,414.3	1,319.4	94.94	14.897		
15,100.0	9,542.3	13,681.9	8,134.7	144.1	144.1	-4.87	69.4	5,628.2	1,413.3	1,316.8	96.52	14.642		
15,200.0	9,544.3	13,781.9	8,137.7	146.5	146.5	-4.87	70.4	5,728.1	1,412.4	1,314.3	98.11	14.396		
15,300.0	9,546.3	13,881.9	8,140.6	148.9	148.9	-4.87	71.4	5,828.0	1,411.4	1,311.7	99.70	14.156		
15,400.0	9,548.3	13,981.9	8,143.6	151.3	151.3	-4.88	72.4	5,928.0	1,410.5	1,309.2	101.29	13.925		
15,500.0	9,550.3	14,081.9	8,146.5	153.6	153.7	-4.88	73.4	6,027.9	1,409.5	1,306.6	102.89	13.700		
15,600.0	9,552.3	14,181.8	8,149.5	156.0	156.1	-4.89	74.4	6,127.9	1,408.6	1,304.1	104.48	13.482		
15,700.0	9,554.3	14,281.8	8,152.4	158.4	158.5	-4.89	75.4	6,227.8	1,407.6	1,301.5	106.07	13.270		
15,800.0	9,556.3	14,381.8	8,155.4	160.8	160.9	-4.89	76.4	6,327.8	1,406.7	1,299.0	107.67	13.065		
15,900.0	9,558.3	14,481.8	8,158.3	163.2	163.3	-4.90	77.4	6,427.7	1,405.7	1,296.4	109.27	12.865		
16,000.0	9,560.2	14,581.8	8,161.3	165.6	165.7	-4.90	78.4	6,527.7	1,404.7	1,293.9	110.86	12.671		
16,100.0	9,562.2	14,681.8	8,164.2	168.0	168.1	-4.91	79.4	6,627.6	1,403.8	1,291.3	112.46	12.482		
16,200.0	9,564.2	14,781.8	8,167.2	170.4	170.5	-4.91	80.4	6,727.6	1,402.8	1,288.8	114.06	12.299		
16,300.0	9,566.2	14,881.8	8,170.1	172.8	172.9	-4.92	81.4	6,827.5	1,401.9	1,286.2	115.66	12.120		
16,400.0	9,568.2	14,981.8	8,173.0	175.2	175.3	-4.92	82.4	6,927.5	1,400.9	1,283.7	117.26	11.947		
16,500.0	9,570.2	15,081.8	8,176.0	177.6	177.7	-4.92	83.4	7,027.4	1,400.0	1,281.1	118.87	11.778		
16,600.0	9,572.2	15,181.8	8,178.9	180.0	180.2	-4.93	84.4	7,127.4	1,399.0	1,278.5	120.47	11.613		
16,700.0	9,574.2	15,281.8	8,181.9	182.4	182.6	-4.93	85.4	7,227.3	1,398.1	1,276.0	122.07	11.453		
16,800.0	9,576.2	15,381.8	8,184.8	184.8	185.0	-4.94	86.4	7,327.2	1,397.1	1,273.4	123.68	11.296		
16,900.0	9,578.2	15,481.8	8,187.8	187.2	187.4	-4.94	87.4	7,427.2	1,396.2	1,270.9	125.29	11.144		
17,000.0	9,580.1	15,581.8	8,190.7	189.6	189.8	-4.94	88.4	7,527.1	1,395.2	1,268.3	126.89	10.995		
17,100.0	9,582.1	15,681.8	8,193.7	192.0	192.2	-4.95	89.4	7,627.1	1,394.2	1,265.7	128.50	10.850		
17,200.0	9,584.1	15,781.8	8,196.6	194.4	194.7	-4.95	90.4	7,727.0	1,393.3	1,263.2	130.11	10.709		
17,300.0	9,586.1	15,881.8	8,199.6	196.8	197.1	-4.96	91.3	7,827.0	1,392.3	1,260.6	131.71	10.571		
17,400.0	9,588.1	15,981.8	8,202.5	199.3	199.5	-4.96	92.3	7,926.9	1,391.4	1,258.1	133.32	10.436		
17,500.0	9,590.1	16,081.8	8,205.5	201.7	201.9	-4.96	93.3	8,026.9	1,390.4	1,255.5	134.93	10.305		
17,600.0	9,592.1	16,181.8	8,208.4	204.1	204.3	-4.97	94.3	8,126.8	1,389.5	1,252.9	136.54	10.176		
17,700.0	9,594.1	16,281.8	8,211.4	206.5	206.8	-4.97	95.3	8,226.8	1,388.5	1,250.4	138.16	10.050		
17,800.0	9,596.1	16,381.7	8,214.3	208.9	209.2	-4.98	96.3	8,326.7	1,387.6	1,247.8	139.77	9.928		
17,900.0	9,598.0	16,481.7	8,217.3	211.3	211.6	-4.98	97.3	8,426.7	1,386.6	1,245.2	141.38	9.808		
18,000.0	9,600.0	16,581.7	8,220.2	213.7	214.0	-4.99	98.3	8,526.6	1,385.7	1,242.7	142.99	9.690		
18,100.0	9,602.0	16,681.7	8,223.2	216.2	216.5	-4.99	99.3	8,626.6	1,384.7	1,240.1	144.61	9.576		
18,200.0	9,604.0	16,781.7	8,226.1	218.6	218.9	-4.99	100.3	8,726.5	1,383.7	1,237.5	146.22	9.463		
18,300.0	9,606.0	16,881.7	8,229.1	221.0	221.3	-5.00	101.3	8,826.5	1,382.8	1,235.0	147.83	9.354		
18,400.0	9,608.0	16,974.2	8,231.8	223.4	223.5	-5.00	102.2	8,918.8	1,381.9	1,232.4	149.41	9.249		
18,405.6	9,608.1	16,974.2	8,231.8	223.5	223.5	-5.00	102.2	8,918.8	1,381.8	1,232.4	149.47	9.245		
18,432.5	9,608.6	16,974.2	8,231.8	224.2	223.5	-5.00	102.2	8,918.8	1,382.1	1,232.4	149.72	9.231		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-134.94	-30.0	-30.0	42.4					
100.0	100.0	100.0	100.0	0.1	0.1	-134.94	-30.0	-30.0	42.4	42.2	0.26	165.544		
200.0	200.0	200.0	200.0	0.5	0.5	-134.94	-30.0	-30.0	42.4	41.5	0.97	43.596		
300.0	300.0	300.0	300.0	0.8	0.8	-134.94	-30.0	-30.0	42.4	40.7	1.69	25.104		
400.0	400.0	400.0	400.0	1.2	1.2	-134.94	-30.0	-30.0	42.4	40.0	2.41	17.627		
500.0	500.0	500.0	500.0	1.6	1.6	-134.94	-30.0	-30.0	42.4	39.3	3.12	13.582		
600.0	600.0	600.0	600.0	1.9	1.9	-134.94	-30.0	-30.0	42.4	38.6	3.84	11.047		
700.0	700.0	700.0	700.0	2.3	2.3	-134.94	-30.0	-30.0	42.4	37.9	4.56	9.309		
800.0	800.0	800.0	800.0	2.6	2.6	-134.94	-30.0	-30.0	42.4	37.2	5.27	8.044		
900.0	900.0	900.0	900.0	3.0	3.0	-134.94	-30.0	-30.0	42.4	36.4	5.99	7.081		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-134.94	-30.0	-30.0	42.4	35.7	6.71	6.325		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-134.94	-30.0	-30.0	42.4	35.0	7.43	5.714		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-134.94	-30.0	-30.0	42.4	34.3	8.14	5.211		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-134.94	-30.0	-30.0	42.4	33.6	8.86	4.789		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-134.94	-30.0	-30.0	42.4	32.9	9.58	4.431		
1,500.0	1,500.0	1,500.6	1,500.6	5.1	5.1	-132.76	-28.3	-30.6	41.7	31.4	10.29	4.049		
1,600.0	1,600.0	1,601.0	1,600.8	5.5	5.5	-125.81	-23.3	-32.3	39.8	28.8	11.01	3.617		
1,700.0	1,700.0	1,700.9	1,700.3	5.9	5.9	-113.17	-15.0	-35.1	38.2	26.4	11.73	3.255		
1,727.3	1,727.3	1,728.0	1,727.3	6.0	6.0	-108.70	-12.2	-36.0	38.1	26.1	11.92	3.192 CC, ES		
1,800.0	1,800.0	1,800.0	1,798.7	6.2	6.2	-95.22	-3.6	-39.0	39.2	26.7	12.44	3.148		
1,900.0	1,900.0	1,898.2	1,895.7	6.6	6.6	-75.98	11.0	-43.9	45.4	32.3	13.11	3.465		
2,000.0	2,000.0	1,995.2	1,991.0	6.9	7.0	-60.31	28.4	-49.8	58.0	44.3	13.74	4.224		
2,100.0	2,100.0	2,108.1	2,085.2	7.3	7.4	-49.42	48.5	-56.6	76.0	61.5	14.42	5.267		
2,200.0	2,200.0	2,189.3	2,180.2	7.7	7.7	-42.59	69.2	-63.6	96.0	81.0	15.04	6.387		
2,300.0	2,300.0	2,286.8	2,275.2	8.0	8.2	-38.15	89.9	-70.6	117.0	101.3	15.73	7.439		
2,400.0	2,400.0	2,384.2	2,370.1	8.4	8.6	-35.06	110.6	-77.6	138.4	122.0	16.43	8.426		
2,500.0	2,500.0	2,481.7	2,465.1	8.7	9.0	-32.80	131.3	-84.7	160.1	143.0	17.13	9.347		
2,600.0	2,600.0	2,579.1	2,560.0	9.1	9.4	78.83	152.1	-91.7	181.8	164.0	17.82	10.201		
2,700.0	2,700.0	2,676.5	2,655.0	9.4	9.9	80.67	172.8	-98.7	203.4	184.9	18.51	10.990		
2,800.0	2,799.9	2,773.8	2,749.8	9.8	10.3	82.57	193.5	-105.7	225.0	205.8	19.20	11.720		
2,900.0	2,899.7	2,871.1	2,844.6	10.1	10.8	84.50	214.1	-112.7	246.7	226.8	19.89	12.401		
3,000.0	2,999.4	2,968.2	2,939.2	10.4	11.2	86.45	234.8	-119.7	268.5	247.9	20.59	13.041		
3,100.0	3,098.9	3,065.2	3,033.7	10.8	11.7	88.42	255.4	-126.6	290.6	269.3	21.30	13.648		
3,200.0	3,198.3	3,161.9	3,128.0	11.1	12.1	90.40	276.0	-133.6	313.1	291.1	22.01	14.227		
3,300.0	3,297.4	3,258.5	3,222.1	11.5	12.6	92.37	296.5	-140.6	336.0	313.3	22.73	14.785		
3,400.0	3,396.4	3,354.9	3,316.1	11.9	13.0	94.44	317.0	-147.5	359.5	336.0	23.46	15.324		
3,500.0	3,495.5	3,451.4	3,410.0	12.2	13.5	96.26	337.5	-154.4	383.3	359.1	24.19	15.843		
3,600.0	3,594.5	3,547.8	3,504.0	12.6	13.9	97.86	358.0	-161.4	407.4	382.5	24.94	16.340		
3,700.0	3,693.5	3,644.2	3,598.0	13.0	14.4	99.29	378.5	-168.3	431.8	406.2	25.68	16.815		
3,800.0	3,792.5	3,740.7	3,692.0	13.3	14.8	100.56	399.0	-175.3	456.5	430.1	26.43	17.269		
3,900.0	3,891.6	3,837.1	3,786.0	13.7	15.3	101.71	419.5	-182.2	481.3	454.1	27.19	17.703		
4,000.0	3,990.6	3,933.5	3,879.9	14.1	15.8	102.74	440.0	-189.2	506.3	478.4	27.95	18.117		
4,100.0	4,089.6	4,030.0	3,973.9	14.5	16.2	103.68	460.5	-196.1	531.5	502.7	28.71	18.512		
4,200.0	4,188.6	4,126.4	4,067.9	14.9	16.7	104.53	481.0	-203.0	556.7	527.2	29.47	18.889		
4,300.0	4,287.7	4,222.9	4,161.9	15.3	17.2	105.31	501.5	-210.0	582.1	551.8	30.24	19.249		
4,400.0	4,386.7	4,319.3	4,255.8	15.7	17.6	106.02	522.0	-216.9	607.5	576.5	31.01	19.592		
4,500.0	4,485.7	4,415.7	4,349.8	16.0	18.1	106.68	542.5	-223.9	633.1	601.3	31.78	19.920		
4,600.0	4,584.8	4,512.2	4,443.8	16.4	18.6	107.28	563.0	-230.8	658.7	626.1	32.55	20.234		
4,700.0	4,683.8	4,608.6	4,537.8	16.8	19.1	107.84	583.5	-237.7	684.4	651.0	33.33	20.534		
4,800.0	4,782.8	4,705.0	4,631.7	17.2	19.5	108.36	604.0	-244.7	710.1	676.0	34.11	20.820		
4,900.0	4,881.8	4,801.5	4,725.7	17.6	20.0	108.85	624.5	-251.6	735.9	701.0	34.88	21.095		
4,925.3	4,906.9	4,825.9	4,749.5	17.7	20.1	108.96	629.7	-253.4	742.4	707.3	35.08	21.163		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,981.0	4,902.0	4,819.8	18.0	20.5	109.52	645.0	-258.6	761.5	725.8	35.68	21.344		
5,100.0	5,080.4	5,005.1	4,914.2	18.4	21.0	110.08	665.6	-265.5	786.3	749.8	36.47	21.562		
5,200.0	5,180.1	5,092.0	5,008.8	18.8	21.4	110.43	686.3	-272.5	810.2	773.0	37.18	21.794		
5,300.0	5,279.9	5,204.0	5,118.1	19.1	22.0	110.56	709.6	-280.4	832.9	794.8	38.06	21.882		
5,400.0	5,379.9	5,340.0	5,251.7	19.5	22.6	110.50	733.1	-288.4	851.2	812.0	39.11	21.761		
5,458.6	5,438.5	5,420.7	5,331.6	19.7	22.9	0.54	744.3	-292.2	859.4	819.7	39.69	21.653		
5,500.0	5,479.9	5,478.1	5,388.6	19.8	23.2	0.38	750.9	-294.4	864.1	824.0	40.07	21.563		
5,600.0	5,579.9	5,617.8	5,527.7	20.2	23.7	0.12	762.4	-298.3	872.4	831.4	40.95	21.305		
5,700.0	5,679.9	5,758.4	5,668.2	20.5	24.1	0.01	767.6	-300.1	876.1	834.3	41.72	20.999		
5,800.0	5,779.9	5,870.0	5,779.9	20.9	24.5	0.00	767.9	-300.2	876.2	833.8	42.41	20.663		
5,900.0	5,879.9	5,970.0	5,879.9	21.2	24.8	0.00	767.9	-300.2	876.2	833.2	43.09	20.337		
6,000.0	5,979.9	6,070.0	5,979.9	21.5	25.1	0.00	767.9	-300.2	876.2	832.5	43.76	20.022		
6,100.0	6,079.9	6,170.0	6,079.9	21.9	25.4	0.00	767.9	-300.2	876.2	831.8	44.44	19.715		
6,200.0	6,179.9	6,270.0	6,179.9	22.2	25.7	0.00	767.9	-300.2	876.2	831.1	45.13	19.418		
6,300.0	6,279.9	6,370.0	6,279.9	22.6	26.0	0.00	767.9	-300.2	876.2	830.4	45.81	19.128		
6,400.0	6,379.9	6,470.0	6,379.9	22.9	26.3	0.00	767.9	-300.2	876.2	829.7	46.49	18.847		
6,500.0	6,479.9	6,570.0	6,479.9	23.3	26.6	0.00	767.9	-300.2	876.2	829.1	47.18	18.573		
6,600.0	6,579.9	6,670.0	6,579.9	23.6	26.9	0.00	767.9	-300.2	876.2	828.4	47.86	18.307		
6,700.0	6,679.9	6,770.0	6,679.9	24.0	27.2	0.00	767.9	-300.2	876.2	827.7	48.55	18.049		
6,800.0	6,779.9	6,870.0	6,779.9	24.3	27.5	0.00	767.9	-300.2	876.2	827.0	49.24	17.797		
6,900.0	6,879.9	6,970.0	6,879.9	24.6	27.8	0.00	767.9	-300.2	876.2	826.3	49.92	17.551		
7,000.0	6,979.9	7,070.0	6,979.9	25.0	28.1	0.00	767.9	-300.2	876.2	825.6	50.61	17.312		
7,100.0	7,079.9	7,170.0	7,079.9	25.3	28.4	0.00	767.9	-300.2	876.2	824.9	51.30	17.080		
7,200.0	7,179.9	7,270.0	7,179.9	25.7	28.8	0.00	767.9	-300.2	876.2	824.2	51.99	16.853		
7,300.0	7,279.9	7,370.0	7,279.9	26.0	29.1	0.00	767.9	-300.2	876.2	823.6	52.69	16.632		
7,400.0	7,379.9	7,470.0	7,379.9	26.4	29.4	0.00	767.9	-300.2	876.2	822.9	53.38	16.416		
7,500.0	7,479.9	7,570.0	7,479.9	26.7	29.7	0.00	767.9	-300.2	876.2	822.2	54.07	16.206		
7,600.0	7,579.9	7,670.0	7,579.9	27.1	30.0	0.00	767.9	-300.2	876.2	821.5	54.76	16.001		
7,700.0	7,679.9	7,770.0	7,679.9	27.4	30.3	0.00	767.9	-300.2	876.2	820.8	55.46	15.801		
7,800.0	7,779.9	7,870.0	7,779.9	27.8	30.7	0.00	767.9	-300.2	876.2	820.1	56.15	15.605		
7,900.0	7,879.9	7,970.0	7,879.9	28.1	31.0	0.00	767.9	-300.2	876.2	819.4	56.85	15.414		
8,000.0	7,979.9	8,070.0	7,979.9	28.5	31.3	0.00	767.9	-300.2	876.2	818.7	57.54	15.228		
8,100.0	8,079.9	8,170.0	8,079.9	28.8	31.6	0.00	767.9	-300.2	876.2	818.0	58.24	15.046		
8,200.0	8,179.9	8,270.0	8,179.9	29.2	32.0	0.00	767.9	-300.2	876.2	817.3	58.93	14.868		
8,300.0	8,279.9	8,370.0	8,279.9	29.5	32.3	0.00	767.9	-300.2	876.2	816.6	59.63	14.695		
8,400.0	8,379.9	8,470.0	8,379.9	29.9	32.6	0.00	767.9	-300.2	876.2	815.9	60.33	14.525		
8,500.0	8,479.9	8,570.0	8,479.9	30.2	32.9	0.00	767.9	-300.2	876.2	815.2	61.03	14.359		
8,600.0	8,579.9	8,670.0	8,579.9	30.6	33.3	0.00	767.9	-300.2	876.2	814.5	61.72	14.196		
8,700.0	8,679.9	8,770.0	8,679.9	30.9	33.6	0.00	767.9	-300.2	876.2	813.8	62.42	14.037		
8,707.3	8,687.2	8,777.4	8,687.2	30.9	33.6	0.00	767.9	-300.2	876.2	813.8	62.47	14.026		
8,800.0	8,779.9	8,868.6	8,778.3	31.3	33.9	0.28	767.9	-295.9	876.3	813.2	63.11	13.886		
8,883.6	8,863.5	8,947.9	8,856.0	31.6	34.1	1.26	768.0	-280.8	876.7	813.0	63.67	13.769		
8,900.0	8,879.9	8,962.9	8,870.5	31.6	34.1	-87.91	768.1	-276.8	876.8	813.0	63.78	13.748		
8,950.0	8,929.7	9,008.2	8,913.3	31.8	34.3	-87.11	768.2	-262.3	877.4	813.3	64.09	13.690		
9,000.0	8,979.1	9,052.6	8,954.2	31.9	34.4	-86.34	768.4	-244.8	878.1	813.7	64.38	13.639		
9,050.0	9,027.5	9,096.4	8,993.0	32.1	34.4	-85.59	768.6	-224.5	879.0	814.3	64.66	13.594		
9,100.0	9,074.7	9,139.5	9,029.6	32.2	34.5	-84.88	768.8	-201.7	879.9	815.0	64.91	13.556		
9,150.0	9,120.4	9,182.0	9,063.9	32.3	34.6	-84.20	769.1	-176.6	880.9	815.8	65.14	13.523		
9,200.0	9,164.0	9,224.0	9,095.8	32.5	34.6	-83.56	769.4	-149.4	882.0	816.6	65.36	13.494		
9,250.0	9,205.4	9,265.5	9,125.4	32.6	34.7	-82.96	769.6	-120.3	883.1	817.5	65.57	13.467		
9,300.0	9,244.2	9,306.6	9,152.5	32.7	34.7	-82.41	770.0	-89.4	884.2	818.4	65.78	13.441		
9,350.0	9,280.0	9,347.4	9,177.1	32.9	34.8	-81.92	770.3	-56.9	885.2	819.2	66.00	13.413		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,400.0	9,312.7	9,387.8	9,199.2	33.0	34.8	-81.47	770.6	-23.1	886.2	820.0	66.24	13.380		
9,450.0	9,342.0	9,427.9	9,218.7	33.2	34.8	-81.07	771.0	12.0	887.1	820.6	66.50	13.341		
9,500.0	9,367.7	9,467.9	9,235.6	33.4	34.8	-80.74	771.3	48.2	887.9	821.1	66.80	13.293		
9,550.0	9,389.5	9,507.6	9,249.9	33.6	34.8	-80.46	771.7	85.2	888.6	821.5	67.14	13.235		
9,600.0	9,407.3	9,547.2	9,261.5	33.8	34.8	-80.24	772.1	123.0	889.2	821.6	67.54	13.166		
9,650.0	9,420.9	9,586.6	9,270.5	34.1	34.9	-80.08	772.4	161.4	889.6	821.6	68.00	13.083		
9,700.0	9,430.4	9,626.0	9,276.9	34.4	35.0	-79.99	772.8	200.3	889.8	821.3	68.51	12.989		
9,750.0	9,435.5	9,665.3	9,280.5	34.7	35.1	-79.95	773.2	239.5	889.9	820.9	69.08	12.883		
9,772.2	9,436.3	9,682.8	9,281.2	34.8	35.2	-79.96	773.4	256.9	889.9	820.6	69.35	12.832		
9,800.0	9,436.9	9,709.8	9,281.8	35.0	35.4	-79.96	773.7	283.9	889.9	820.2	69.75	12.759		
9,900.0	9,438.9	9,809.8	9,284.1	35.8	36.2	-79.98	774.7	383.8	889.9	818.5	71.36	12.470		
10,000.0	9,440.9	9,909.8	9,286.3	36.8	37.2	-80.00	775.7	483.8	889.9	816.6	73.26	12.147		
10,100.0	9,442.9	10,009.8	9,288.6	37.9	38.3	-80.01	776.7	583.8	889.8	814.4	75.42	11.799		
10,200.0	9,444.9	10,109.8	9,290.8	39.1	39.5	-80.03	777.6	683.7	889.8	812.0	77.82	11.434		
10,300.0	9,446.8	10,209.8	9,293.0	40.4	40.8	-80.04	778.6	783.7	889.8	809.4	80.44	11.062		
10,400.0	9,448.8	10,309.8	9,295.3	41.9	42.3	-80.06	779.6	883.7	889.8	806.5	83.26	10.687		
10,500.0	9,450.8	10,409.8	9,297.5	43.4	43.8	-80.07	780.6	983.7	889.7	803.5	86.25	10.316		
10,600.0	9,452.8	10,509.8	9,299.7	45.0	45.4	-80.09	781.6	1,083.6	889.7	800.3	89.40	9.952		
10,700.0	9,454.8	10,609.8	9,302.0	46.6	47.0	-80.11	782.6	1,183.6	889.7	797.0	92.71	9.597		
10,800.0	9,456.8	10,709.8	9,304.2	48.4	48.8	-80.12	783.6	1,283.6	889.7	793.5	96.13	9.254		
10,900.0	9,458.8	10,809.8	9,306.4	50.2	50.6	-80.14	784.6	1,383.5	889.6	790.0	99.69	8.924		
11,000.0	9,460.8	10,909.8	9,308.7	52.0	52.4	-80.15	785.6	1,483.5	889.6	786.3	103.34	8.609		
11,100.0	9,462.8	11,009.8	9,310.9	53.9	54.3	-80.17	786.6	1,583.5	889.6	782.5	107.08	8.307		
11,200.0	9,464.8	11,109.8	9,313.1	55.9	56.2	-80.18	787.6	1,683.4	889.6	778.7	110.91	8.020		
11,300.0	9,466.7	11,209.8	9,315.4	57.9	58.2	-80.20	788.6	1,783.4	889.5	774.7	114.82	7.747		
11,400.0	9,468.7	11,309.8	9,317.6	59.9	60.2	-80.22	789.6	1,883.4	889.5	770.7	118.79	7.488		
11,500.0	9,470.7	11,409.8	9,319.8	61.9	62.3	-80.23	790.6	1,983.4	889.5	766.7	122.83	7.242		
11,600.0	9,472.7	11,509.8	9,322.1	64.0	64.3	-80.25	791.6	2,083.3	889.5	762.5	126.92	7.008		
11,700.0	9,474.7	11,609.8	9,324.3	66.1	66.4	-80.26	792.6	2,183.3	889.4	758.4	131.07	6.786		
11,800.0	9,476.7	11,709.8	9,326.5	68.2	68.5	-80.28	793.6	2,283.3	889.4	754.2	135.26	6.576		
11,900.0	9,478.7	11,809.8	9,328.8	70.3	70.7	-80.29	794.6	2,383.2	889.4	749.9	139.49	6.376		
12,000.0	9,480.7	11,909.8	9,331.0	72.5	72.8	-80.31	795.5	2,483.2	889.4	745.6	143.76	6.187		
12,100.0	9,482.7	12,009.8	9,333.2	74.7	75.0	-80.33	796.5	2,583.2	889.4	741.3	148.06	6.007		
12,200.0	9,484.6	12,109.8	9,335.5	76.9	77.2	-80.34	797.5	2,683.1	889.3	736.9	152.40	5.836		
12,300.0	9,486.6	12,209.8	9,337.7	79.1	79.4	-80.36	798.5	2,783.1	889.3	732.5	156.77	5.673		
12,400.0	9,488.6	12,309.8	9,339.9	81.3	81.6	-80.37	799.5	2,883.1	889.3	728.1	161.16	5.518		
12,500.0	9,490.6	12,409.8	9,342.2	83.6	83.8	-80.39	800.5	2,983.1	889.3	723.7	165.58	5.371		
12,600.0	9,492.6	12,509.8	9,344.4	85.8	86.1	-80.40	801.5	3,083.0	889.2	719.2	170.02	5.230		
12,700.0	9,494.6	12,609.8	9,346.6	88.1	88.3	-80.42	802.5	3,183.0	889.2	714.7	174.48	5.096		
12,800.0	9,496.6	12,709.8	9,348.9	90.3	90.6	-80.44	803.5	3,283.0	889.2	710.2	178.97	4.968		
12,900.0	9,498.6	12,809.8	9,351.1	92.6	92.9	-80.45	804.5	3,382.9	889.2	705.7	183.47	4.846		
13,000.0	9,500.6	12,909.8	9,353.3	94.9	95.1	-80.47	805.5	3,482.9	889.1	701.2	187.99	4.730		
13,100.0	9,502.6	13,009.8	9,355.6	97.2	97.4	-80.48	806.5	3,582.9	889.1	696.6	192.52	4.618		
13,200.0	9,504.5	13,109.8	9,357.8	99.5	99.7	-80.50	807.5	3,682.8	889.1	692.0	197.07	4.512		
13,300.0	9,506.5	13,209.8	9,360.0	101.8	102.0	-80.51	808.5	3,782.8	889.1	687.4	201.64	4.409		
13,400.0	9,508.5	13,309.8	9,362.3	104.1	104.3	-80.53	809.5	3,882.8	889.0	682.8	206.21	4.311		
13,500.0	9,510.5	13,409.8	9,364.5	106.4	106.7	-80.55	810.5	3,982.8	889.0	678.2	210.80	4.217		
13,600.0	9,512.5	13,509.8	9,366.7	108.7	109.0	-80.56	811.5	4,082.7	889.0	673.6	215.40	4.127		
13,700.0	9,514.5	13,609.8	9,369.0	111.1	111.3	-80.58	812.5	4,182.7	889.0	669.0	220.01	4.041		
13,800.0	9,516.5	13,709.8	9,371.2	113.4	113.6	-80.59	813.4	4,282.7	889.0	664.3	224.63	3.957		
13,900.0	9,518.5	13,809.8	9,373.4	115.8	116.0	-80.61	814.4	4,382.6	888.9	659.7	229.26	3.877		
14,000.0	9,520.5	13,909.8	9,375.7	118.1	118.3	-80.62	815.4	4,482.6	888.9	655.0	233.90	3.800		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,100.0	9,522.4	14,009.8	9,377.9	120.4	120.7	-80.64	816.4	4,582.6	888.9	650.3	238.55	3.726	
14,200.0	9,524.4	14,109.8	9,380.1	122.8	123.0	-80.66	817.4	4,682.5	888.9	645.7	243.20	3.655	
14,300.0	9,526.4	14,209.8	9,382.4	125.2	125.4	-80.67	818.4	4,782.5	888.8	641.0	247.87	3.586	
14,400.0	9,528.4	14,309.8	9,384.6	127.5	127.7	-80.69	819.4	4,882.5	888.8	636.3	252.54	3.520	
14,500.0	9,530.4	14,409.8	9,386.8	129.9	130.1	-80.70	820.4	4,982.4	888.8	631.6	257.22	3.455	
14,600.0	9,532.4	14,509.8	9,389.1	132.2	132.4	-80.72	821.4	5,082.4	888.8	626.9	261.90	3.394	
14,700.0	9,534.4	14,609.8	9,391.3	134.6	134.8	-80.73	822.4	5,182.4	888.8	622.2	266.59	3.334	
14,800.0	9,536.4	14,709.8	9,393.5	137.0	137.2	-80.75	823.4	5,282.4	888.7	617.4	271.28	3.276	
14,900.0	9,538.4	14,809.8	9,395.8	139.4	139.5	-80.77	824.4	5,382.3	888.7	612.7	275.99	3.220	
15,000.0	9,540.4	14,909.8	9,398.0	141.7	141.9	-80.78	825.4	5,482.3	888.7	608.0	280.69	3.166	
15,100.0	9,542.3	15,009.8	9,400.2	144.1	144.3	-80.80	826.4	5,582.3	888.7	603.3	285.40	3.114	
15,200.0	9,544.3	15,109.8	9,402.5	146.5	146.7	-80.81	827.4	5,682.2	888.6	598.5	290.12	3.063	
15,300.0	9,546.3	15,209.8	9,404.7	148.9	149.1	-80.83	828.4	5,782.2	888.6	593.8	294.84	3.014	
15,400.0	9,548.3	15,309.8	9,406.9	151.3	151.4	-80.84	829.4	5,882.2	888.6	589.0	299.57	2.966	
15,500.0	9,550.3	15,409.8	9,409.2	153.6	153.8	-80.86	830.4	5,982.1	888.6	584.3	304.30	2.920	
15,600.0	9,552.3	15,509.8	9,411.4	156.0	156.2	-80.88	831.4	6,082.1	888.6	579.5	309.03	2.875	
15,700.0	9,554.3	15,609.8	9,413.6	158.4	158.6	-80.89	832.3	6,182.1	888.5	574.8	313.77	2.832	
15,800.0	9,556.3	15,709.8	9,415.9	160.8	161.0	-80.91	833.3	6,282.1	888.5	570.0	318.51	2.790	
15,900.0	9,558.3	15,809.8	9,418.1	163.2	163.4	-80.92	834.3	6,382.0	888.5	565.2	323.25	2.749	
16,000.0	9,560.2	15,909.8	9,420.3	165.6	165.8	-80.94	835.3	6,482.0	888.5	560.5	328.00	2.709	
16,100.0	9,562.2	16,009.8	9,422.6	168.0	168.2	-80.95	836.3	6,582.0	888.5	555.7	332.75	2.670	
16,200.0	9,564.2	16,109.8	9,424.8	170.4	170.6	-80.97	837.3	6,681.9	888.4	550.9	337.51	2.632	
16,300.0	9,566.2	16,209.8	9,427.0	172.8	173.0	-80.99	838.3	6,781.9	888.4	546.1	342.26	2.596	
16,400.0	9,568.2	16,309.8	9,429.3	175.2	175.4	-81.00	839.3	6,881.9	888.4	541.4	347.02	2.560	
16,500.0	9,570.2	16,409.8	9,431.5	177.6	177.8	-81.02	840.3	6,981.8	888.4	536.6	351.79	2.525	
16,600.0	9,572.2	16,509.8	9,433.7	180.0	180.2	-81.03	841.3	7,081.8	888.3	531.8	356.55	2.491	
16,700.0	9,574.2	16,609.8	9,436.0	182.4	182.6	-81.05	842.3	7,181.8	888.3	527.0	361.32	2.459	
16,800.0	9,576.2	16,709.8	9,438.2	184.8	185.0	-81.06	843.3	7,281.8	888.3	522.2	366.09	2.426	
16,900.0	9,578.2	16,809.8	9,440.5	187.2	187.4	-81.08	844.3	7,381.7	888.3	517.4	370.87	2.395	
17,000.0	9,580.1	16,909.8	9,442.7	189.6	189.8	-81.10	845.3	7,481.7	888.3	512.6	375.64	2.365	
17,100.0	9,582.1	17,009.8	9,444.9	192.0	192.2	-81.11	846.3	7,581.7	888.2	507.8	380.42	2.335	
17,200.0	9,584.1	17,109.8	9,447.2	194.4	194.6	-81.13	847.3	7,681.6	888.2	503.0	385.20	2.306	
17,300.0	9,586.1	17,209.8	9,449.4	196.8	197.0	-81.14	848.3	7,781.6	888.2	498.2	389.98	2.278	
17,400.0	9,588.1	17,309.8	9,451.6	199.3	199.4	-81.16	849.3	7,881.6	888.2	493.4	394.77	2.250	
17,500.0	9,590.1	17,409.8	9,453.9	201.7	201.8	-81.17	850.2	7,981.5	888.2	488.6	399.56	2.223	
17,600.0	9,592.1	17,509.8	9,456.1	204.1	204.2	-81.19	851.2	8,081.5	888.1	483.8	404.34	2.196	
17,700.0	9,594.1	17,609.8	9,458.3	206.5	206.6	-81.21	852.2	8,181.5	888.1	479.0	409.14	2.171	
17,800.0	9,596.1	17,709.8	9,460.6	208.9	209.1	-81.22	853.2	8,281.5	888.1	474.2	413.93	2.146	
17,900.0	9,598.0	17,809.8	9,462.8	211.3	211.5	-81.24	854.2	8,381.4	888.1	469.4	418.72	2.121	
18,000.0	9,600.0	17,909.8	9,465.0	213.7	213.9	-81.25	855.2	8,481.4	888.1	464.5	423.52	2.097	
18,100.0	9,602.0	18,009.8	9,467.3	216.2	216.3	-81.27	856.2	8,581.4	888.0	459.7	428.32	2.073	
18,200.0	9,604.0	18,109.8	9,469.5	218.6	218.7	-81.28	857.2	8,681.3	888.0	454.9	433.12	2.050	
18,300.0	9,606.0	18,209.8	9,471.7	221.0	221.1	-81.30	858.2	8,781.3	888.0	450.1	437.92	2.028	
18,400.0	9,608.0	18,309.8	9,474.0	223.4	223.5	-81.32	859.2	8,881.3	888.0	445.3	442.72	2.006	
18,432.5	9,608.6	18,342.2	9,474.7	224.2	224.3	-81.32	859.5	8,913.7	888.0	443.7	444.28	1.999 SF	

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	1.0	-1.0	0.0	0.0	-179.83	-30.1	-0.1	30.1					
100.0	100.0	101.0	99.0	0.1	0.1	-179.83	-30.1	-0.1	30.1	29.8	0.26	115.770		
200.0	200.0	201.0	199.0	0.5	0.5	-179.83	-30.1	-0.1	30.1	29.1	0.98	30.801		
300.0	300.0	301.0	299.0	0.8	0.8	-179.83	-30.1	-0.1	30.1	28.4	1.69	17.764		
400.0	400.0	401.0	399.0	1.2	1.2	-179.83	-30.1	-0.1	30.1	27.7	2.41	12.481		
500.0	500.0	501.0	499.0	1.6	1.6	-179.83	-30.1	-0.1	30.1	27.0	3.13	9.620		
600.0	600.0	601.0	599.0	1.9	1.9	-179.83	-30.1	-0.1	30.1	26.2	3.84	7.826		
700.0	700.0	701.0	699.0	2.3	2.3	-179.83	-30.1	-0.1	30.1	25.5	4.56	6.596		
800.0	800.0	801.0	799.0	2.6	2.6	-179.83	-30.1	-0.1	30.1	24.8	5.28	5.700		
900.0	900.0	901.0	899.0	3.0	3.0	-179.83	-30.1	-0.1	30.1	24.1	6.00	5.018		
1,000.0	1,000.0	1,001.0	999.0	3.4	3.4	-179.83	-30.1	-0.1	30.1	23.4	6.71	4.482		
1,100.0	1,100.0	1,101.0	1,099.0	3.7	3.7	-179.83	-30.1	-0.1	30.1	22.7	7.43	4.050		
1,200.0	1,200.0	1,201.0	1,199.0	4.1	4.1	-179.83	-30.1	-0.1	30.1	21.9	8.15	3.693		
1,300.0	1,300.0	1,301.0	1,299.0	4.4	4.4	-179.83	-30.1	-0.1	30.1	21.2	8.86	3.395		
1,400.0	1,400.0	1,401.0	1,399.0	4.8	4.8	-179.83	-30.1	-0.1	30.1	20.5	9.58	3.141		
1,500.0	1,500.0	1,501.0	1,499.0	5.1	5.2	-179.83	-30.1	-0.1	30.1	19.8	10.30	2.922		
1,600.0	1,600.0	1,601.0	1,599.0	5.5	5.5	-179.83	-30.1	-0.1	30.1	19.1	11.01	2.732		
1,700.0	1,700.0	1,701.0	1,699.0	5.9	5.9	-179.83	-30.1	-0.1	30.1	18.4	11.73	2.565		
1,800.0	1,800.0	1,801.0	1,799.0	6.2	6.2	-179.83	-30.1	-0.1	30.1	17.6	12.45	2.417		
1,900.0	1,900.0	1,901.0	1,899.0	6.6	6.6	-179.83	-30.1	-0.1	30.1	16.9	13.16	2.285		
2,000.0	2,000.0	2,001.0	1,999.0	6.9	6.9	-179.83	-30.1	-0.1	30.1	16.2	13.88	2.167		
2,100.0	2,100.0	2,101.0	2,099.0	7.3	7.3	-179.83	-30.1	-0.1	30.1	15.5	14.60	2.061		
2,200.0	2,200.0	2,201.0	2,199.0	7.7	7.7	-179.83	-30.1	-0.1	30.1	14.8	15.32	1.964		
2,300.0	2,300.0	2,301.0	2,299.0	8.0	8.0	-179.83	-30.1	-0.1	30.1	14.1	16.03	1.877		
2,400.0	2,400.0	2,401.0	2,399.0	8.4	8.4	-179.83	-30.1	-0.1	30.1	13.3	16.75	1.796		
2,500.0	2,500.0	2,501.0	2,499.0	8.7	8.7	-179.83	-30.1	-0.1	30.1	12.6	17.47	1.723		
2,600.0	2,600.0	2,601.0	2,599.0	9.1	9.1	-71.56	-30.1	-0.1	29.8	11.6	18.17	1.640		
2,700.0	2,700.0	2,701.0	2,699.0	9.4	9.5	-76.46	-30.1	-0.1	29.1	10.2	18.87	1.541		
2,800.0	2,799.9	2,801.1	2,798.9	9.8	9.8	-85.05	-30.1	-0.1	28.4	8.8	19.56	1.450 Level 3		
2,843.6	2,843.4	2,842.4	2,842.4	9.9	10.0	-90.00	-30.1	-0.1	28.3	8.4	19.86	1.423 Level 3, CC		
2,900.0	2,899.7	2,901.3	2,898.7	10.1	10.2	-97.35	-30.1	-0.1	28.5	8.2	20.26	1.407 Level 3, ES		
3,000.0	2,999.4	2,998.4	2,998.4	10.4	10.5	-112.06	-30.1	-0.1	30.5	9.6	20.95	1.457 Level 3		
3,100.0	3,098.9	3,097.8	3,097.8	10.8	10.9	-125.21	-30.8	-0.5	35.4	13.7	21.63	1.635		
3,200.0	3,198.3	3,197.3	3,197.3	11.1	11.2	-134.16	-33.1	-1.6	42.8	20.5	22.30	1.919		
3,300.0	3,297.4	3,296.9	3,296.7	11.5	11.5	-139.68	-36.9	-3.6	52.1	29.1	22.97	2.267		
3,400.0	3,396.4	3,396.5	3,396.1	11.9	11.8	-142.46	-42.3	-6.3	62.1	38.5	23.65	2.626		
3,500.0	3,495.5	3,496.2	3,495.6	12.2	12.2	-143.10	-49.2	-9.8	71.9	47.6	24.33	2.955		
3,600.0	3,594.5	3,595.9	3,594.9	12.6	12.5	-142.39	-57.7	-14.1	81.4	56.4	25.02	3.254		
3,700.0	3,693.5	3,695.7	3,694.0	13.0	12.8	-140.73	-67.7	-19.2	90.7	64.9	25.72	3.526		
3,800.0	3,792.5	3,795.4	3,792.9	13.3	13.2	-138.39	-79.2	-25.1	99.8	73.4	26.42	3.777		
3,900.0	3,891.6	3,905.1	3,891.4	13.7	13.6	-135.95	-91.6	-31.3	109.0	81.9	27.18	4.012		
4,000.0	3,990.6	4,005.6	3,989.9	14.1	13.9	-133.90	-103.9	-37.6	118.4	90.5	27.91	4.244		
4,100.0	4,089.6	4,106.2	4,088.4	14.5	14.3	-132.15	-116.2	-43.9	127.9	99.3	28.64	4.467		
4,200.0	4,188.6	4,206.7	4,186.9	14.9	14.6	-130.64	-128.6	-50.2	137.6	108.2	29.38	4.682		
4,300.0	4,287.7	4,307.2	4,285.4	15.3	15.0	-129.33	-140.9	-56.4	147.3	117.1	30.13	4.889		
4,400.0	4,386.7	4,407.7	4,383.9	15.7	15.4	-128.18	-153.3	-62.7	157.0	126.2	30.88	5.086		
4,500.0	4,485.7	4,508.3	4,482.4	16.0	15.7	-127.17	-165.6	-69.0	166.9	135.2	31.63	5.276		
4,600.0	4,584.8	4,608.8	4,580.9	16.4	16.1	-126.26	-177.9	-75.3	176.7	144.4	32.39	5.457		
4,700.0	4,683.8	4,709.3	4,679.4	16.8	16.5	-125.46	-190.3	-81.5	186.7	153.5	33.15	5.630		
4,800.0	4,782.8	4,809.8	4,777.9	17.2	16.9	-124.74	-202.6	-87.8	196.6	162.7	33.92	5.796		
4,900.0	4,881.8	4,889.6	4,876.4	17.6	17.2	-124.08	-215.0	-94.1	206.6	172.0	34.61	5.969		
4,925.3	4,906.9	4,914.8	4,901.3	17.7	17.3	-123.93	-218.1	-95.7	209.1	174.3	34.80	6.008		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,981.0	4,989.1	4,975.0	18.0	17.6	-123.41	-227.3	-100.4	216.2	180.8	35.38	6.111		
5,100.0	5,080.4	5,088.7	5,073.5	18.4	17.9	-122.28	-239.7	-106.6	224.4	188.3	36.14	6.210		
5,200.0	5,180.1	5,188.2	5,172.1	18.8	18.3	-120.67	-252.0	-112.9	231.5	194.6	36.90	6.273		
5,300.0	5,279.9	5,287.6	5,270.6	19.1	18.7	-118.60	-264.3	-119.2	237.4	199.8	37.65	6.306		
5,400.0	5,379.9	5,386.9	5,368.9	19.5	19.1	-116.09	-276.7	-125.5	242.6	204.2	38.40	6.317		
5,458.6	5,438.5	5,445.0	5,426.4	19.7	19.3	135.73	-283.9	-129.1	245.3	206.5	38.83	6.318		
5,500.0	5,479.9	5,486.0	5,467.0	19.8	19.5	136.99	-288.9	-131.7	247.2	208.1	39.12	6.319		
5,600.0	5,579.9	5,585.0	5,565.0	20.2	19.9	139.93	-301.2	-138.0	252.4	212.5	39.84	6.334		
5,700.0	5,679.9	5,684.0	5,663.1	20.5	20.3	142.76	-313.5	-144.2	258.2	217.6	40.56	6.366		
5,800.0	5,779.9	5,783.0	5,761.2	20.9	20.7	145.45	-325.8	-150.4	264.6	223.3	41.26	6.412		
5,900.0	5,879.9	5,882.1	5,859.2	21.2	21.0	148.01	-338.1	-156.7	271.5	229.6	41.97	6.470		
6,000.0	5,979.9	5,981.1	5,957.3	21.5	21.4	150.45	-350.4	-162.9	279.0	236.4	42.67	6.539		
6,100.0	6,079.9	6,080.1	6,055.3	21.9	21.8	152.75	-362.7	-169.2	287.0	243.6	43.36	6.618		
6,200.0	6,179.9	6,179.2	6,153.4	22.2	22.2	154.92	-374.9	-175.4	295.4	251.3	44.06	6.705		
6,300.0	6,279.9	6,278.2	6,251.5	22.6	22.6	156.98	-387.2	-181.7	304.2	259.5	44.75	6.798		
6,400.0	6,379.9	6,377.2	6,349.5	22.9	23.0	158.92	-399.5	-187.9	313.4	267.9	45.44	6.897		
6,500.0	6,479.9	6,476.2	6,447.6	23.3	23.4	160.75	-411.8	-194.2	322.9	276.8	46.12	7.001		
6,600.0	6,579.9	6,575.3	6,545.7	23.6	23.8	162.47	-424.1	-200.4	332.7	285.9	46.81	7.108		
6,700.0	6,679.9	6,674.3	6,643.7	24.0	24.2	164.09	-436.4	-206.7	342.9	295.4	47.50	7.218		
6,800.0	6,779.9	6,773.3	6,741.8	24.3	24.6	165.62	-448.7	-212.9	353.2	305.0	48.19	7.330		
6,900.0	6,879.9	6,872.3	6,839.8	24.6	25.0	167.06	-460.9	-219.2	363.8	315.0	48.87	7.444		
7,000.0	6,979.9	6,971.4	6,937.9	25.0	25.4	168.42	-473.2	-225.4	374.7	325.1	49.56	7.559		
7,100.0	7,079.9	7,070.4	7,036.0	25.3	25.8	169.70	-485.5	-231.7	385.7	335.4	50.25	7.675		
7,200.0	7,179.9	7,169.4	7,134.0	25.7	26.2	170.92	-497.8	-237.9	396.9	346.0	50.94	7.791		
7,300.0	7,279.9	7,268.5	7,232.1	26.0	26.6	172.06	-510.1	-244.1	408.3	356.6	51.63	7.908		
7,400.0	7,379.9	7,367.5	7,330.2	26.4	27.0	173.15	-522.4	-250.4	419.8	367.5	52.32	8.024		
7,500.0	7,479.9	7,466.5	7,428.2	26.7	27.4	174.17	-534.6	-256.6	431.5	378.4	53.01	8.139		
7,600.0	7,579.9	7,565.5	7,526.3	27.1	27.8	175.14	-546.9	-262.9	443.3	389.6	53.70	8.254		
7,700.0	7,679.9	7,664.6	7,624.4	27.4	28.2	176.06	-559.2	-269.1	455.2	400.8	54.40	8.368		
7,800.0	7,779.9	7,763.6	7,722.4	27.8	28.6	176.94	-571.5	-275.4	467.2	412.1	55.09	8.481		
7,900.0	7,879.9	7,862.6	7,820.5	28.1	29.0	177.77	-583.8	-281.6	479.3	423.5	55.78	8.593		
8,000.0	7,979.9	7,970.9	7,927.8	28.5	29.5	178.58	-596.5	-288.1	490.9	434.3	56.58	8.675		
8,100.0	8,079.9	8,083.2	8,039.5	28.8	29.9	179.21	-606.8	-293.3	500.0	442.6	57.40	8.711		
8,200.0	8,179.9	8,196.2	8,152.2	29.2	30.3	179.66	-614.3	-297.1	506.6	448.4	58.18	8.707		
8,300.0	8,279.9	8,309.5	8,265.4	29.5	30.7	179.91	-618.7	-299.4	510.5	451.6	58.93	8.664		
8,400.0	8,379.9	8,423.0	8,378.9	29.9	31.1	180.00	-620.2	-300.2	511.8	452.2	59.63	8.584		
8,403.3	8,383.1	8,426.7	8,382.6	29.9	31.1	180.00	-620.2	-300.2	511.8	452.2	59.65	8.580		
8,500.0	8,479.9	8,523.0	8,478.9	30.2	31.5	180.00	-620.2	-300.2	511.8	451.5	60.32	8.486		
8,600.0	8,579.9	8,623.0	8,578.9	30.6	31.8	180.00	-620.2	-300.2	511.8	450.8	61.00	8.391		
8,700.0	8,679.9	8,723.0	8,678.9	30.9	32.1	180.00	-620.2	-300.2	511.8	450.2	61.69	8.297		
8,800.0	8,779.9	8,823.3	8,779.1	31.3	32.4	179.88	-620.2	-299.0	511.8	449.5	62.38	8.205		
8,840.9	8,820.7	8,864.1	8,819.7	31.4	32.5	179.43	-620.2	-295.1	511.8	449.2	62.66	8.168		
8,883.6	8,863.5	8,906.0	8,861.0	31.6	32.7	178.64	-620.1	-288.0	511.9	448.9	62.96	8.130		
8,900.0	8,879.9	8,921.7	8,876.4	31.6	32.7	88.83	-620.1	-284.5	511.9	448.9	63.08	8.116		
8,950.0	8,929.7	8,969.4	8,922.2	31.8	32.8	87.72	-620.0	-271.6	512.2	448.8	63.41	8.079		
9,000.0	8,979.1	9,016.3	8,966.2	31.9	32.9	86.64	-619.8	-255.1	512.7	449.0	63.71	8.047		
9,050.0	9,027.5	9,062.5	9,008.0	32.1	33.0	85.58	-619.6	-235.5	513.4	449.4	63.99	8.022		
9,100.0	9,074.7	9,108.1	9,047.5	32.2	33.1	84.57	-619.4	-212.8	514.2	450.0	64.24	8.004		
9,150.0	9,120.4	9,153.1	9,084.7	32.3	33.2	83.60	-619.1	-187.5	515.1	450.6	64.47	7.991		
9,200.0	9,164.0	9,197.6	9,119.3	32.5	33.3	82.68	-618.8	-159.7	516.1	451.5	64.66	7.982		
9,250.0	9,205.4	9,241.5	9,151.4	32.6	33.3	81.81	-618.5	-129.6	517.2	452.4	64.83	7.978		
9,300.0	9,244.2	9,285.0	9,180.7	32.7	33.4	81.00	-618.2	-97.5	518.3	453.3	64.99	7.975		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
9,350.0	9,280.0	9,328.2	9,207.3	32.9	33.4	80.26	-617.9	-63.6	519.4	454.3	65.15	7.973	
9,400.0	9,312.7	9,370.9	9,231.1	33.0	33.4	79.58	-617.5	-28.0	520.5	455.2	65.31	7.969	
9,450.0	9,342.0	9,413.4	9,252.1	33.2	33.4	78.97	-617.2	8.9	521.5	456.0	65.50	7.962	
9,500.0	9,367.7	9,455.6	9,270.1	33.4	33.4	78.44	-616.8	47.1	522.4	456.7	65.72	7.949	
9,550.0	9,389.5	9,497.6	9,285.2	33.6	33.4	77.99	-616.4	86.2	523.3	457.3	65.99	7.930	
9,600.0	9,407.3	9,539.4	9,297.4	33.8	33.4	77.61	-616.0	126.2	524.0	457.7	66.32	7.901	
9,650.0	9,420.9	9,581.0	9,306.6	34.1	33.6	77.31	-615.6	166.8	524.6	457.9	66.73	7.862	
9,700.0	9,430.4	9,622.5	9,312.8	34.4	33.8	77.09	-615.2	207.8	525.0	457.8	67.20	7.813	
9,750.0	9,435.5	9,664.0	9,316.0	34.7	34.1	76.95	-614.8	249.1	525.3	457.6	67.74	7.754	
9,772.2	9,436.3	9,683.5	9,316.5	34.8	34.2	76.92	-614.6	268.6	525.4	457.3	68.02	7.724	
9,800.0	9,436.9	9,711.2	9,317.0	35.0	34.5	76.92	-614.3	296.4	525.4	456.9	68.41	7.679	
9,900.0	9,438.9	9,811.2	9,318.8	35.8	35.3	76.90	-613.3	396.3	525.4	455.4	70.01	7.505	
10,000.0	9,440.9	9,911.2	9,320.6	36.8	36.3	76.88	-612.3	496.3	525.4	453.5	71.89	7.309	
10,100.0	9,442.9	10,011.2	9,322.4	37.9	37.4	76.86	-611.3	596.3	525.4	451.4	74.03	7.098	
10,200.0	9,444.9	10,111.2	9,324.2	39.1	38.6	76.84	-610.3	696.3	525.5	449.0	76.40	6.877	
10,300.0	9,446.8	10,211.2	9,326.1	40.4	40.0	76.82	-609.3	796.3	525.5	446.5	79.00	6.652	
10,400.0	9,448.8	10,311.2	9,327.9	41.9	41.4	76.80	-608.3	896.2	525.5	443.7	81.79	6.425	
10,500.0	9,450.8	10,411.2	9,329.7	43.4	42.9	76.78	-607.3	996.2	525.5	440.8	84.75	6.201	
10,600.0	9,452.8	10,511.2	9,331.5	45.0	44.6	76.76	-606.3	1,096.2	525.5	437.7	87.88	5.980	
10,700.0	9,454.8	10,611.2	9,333.3	46.6	46.2	76.74	-605.3	1,196.2	525.6	434.4	91.14	5.766	
10,800.0	9,456.8	10,711.2	9,335.1	48.4	48.0	76.73	-604.4	1,296.2	525.6	431.1	94.54	5.560	
10,900.0	9,458.8	10,811.2	9,336.9	50.2	49.8	76.71	-603.4	1,396.1	525.6	427.6	98.05	5.361	
11,000.0	9,460.8	10,911.2	9,338.8	52.0	51.7	76.69	-602.4	1,496.1	525.6	424.0	101.66	5.171	
11,100.0	9,462.8	11,011.2	9,340.6	53.9	53.6	76.67	-601.4	1,596.1	525.7	420.3	105.36	4.989	
11,200.0	9,464.8	11,111.2	9,342.4	55.9	55.5	76.65	-600.4	1,696.1	525.7	416.5	109.14	4.816	
11,300.0	9,466.7	11,211.2	9,344.2	57.9	57.5	76.63	-599.4	1,796.0	525.7	412.7	113.00	4.652	
11,400.0	9,468.7	11,311.2	9,346.0	59.9	59.5	76.61	-598.4	1,896.0	525.7	408.8	116.93	4.496	
11,500.0	9,470.7	11,411.2	9,347.8	61.9	61.6	76.59	-597.4	1,996.0	525.8	404.8	120.91	4.348	
11,600.0	9,472.7	11,511.2	9,349.7	64.0	63.7	76.57	-596.4	2,096.0	525.8	400.8	124.95	4.208	
11,700.0	9,474.7	11,611.2	9,351.5	66.1	65.8	76.56	-595.4	2,196.0	525.8	396.8	129.04	4.075	
11,800.0	9,476.7	11,711.2	9,353.3	68.2	67.9	76.54	-594.4	2,295.9	525.8	392.7	133.17	3.949	
11,900.0	9,478.7	11,811.2	9,355.1	70.3	70.0	76.52	-593.4	2,395.9	525.8	388.5	137.34	3.829	
12,000.0	9,480.7	11,911.2	9,356.9	72.5	72.2	76.50	-592.4	2,495.9	525.9	384.3	141.55	3.715	
12,100.0	9,482.7	12,011.2	9,358.7	74.7	74.4	76.48	-591.4	2,595.9	525.9	380.1	145.79	3.607	
12,200.0	9,484.6	12,111.2	9,360.5	76.9	76.6	76.46	-590.4	2,695.9	525.9	375.9	150.06	3.505	
12,300.0	9,486.6	12,211.2	9,362.4	79.1	78.8	76.44	-589.4	2,795.8	525.9	371.6	154.36	3.407	
12,400.0	9,488.6	12,311.2	9,364.2	81.3	81.0	76.42	-588.4	2,895.8	526.0	367.3	158.69	3.315	
12,500.0	9,490.6	12,411.2	9,366.0	83.6	83.3	76.40	-587.4	2,995.8	526.0	363.0	163.03	3.226	
12,600.0	9,492.6	12,511.2	9,367.8	85.8	85.5	76.38	-586.5	3,095.8	526.0	358.6	167.40	3.142	
12,700.0	9,494.6	12,611.2	9,369.6	88.1	87.8	76.37	-585.5	3,195.7	526.0	354.2	171.80	3.062	
12,800.0	9,496.6	12,711.2	9,371.4	90.3	90.0	76.35	-584.5	3,295.7	526.1	349.9	176.20	2.986	
12,900.0	9,498.6	12,811.2	9,373.2	92.6	92.3	76.33	-583.5	3,395.7	526.1	345.5	180.63	2.913	
13,000.0	9,500.6	12,911.2	9,375.1	94.9	94.6	76.31	-582.5	3,495.7	526.1	341.0	185.07	2.843	
13,100.0	9,502.6	13,011.2	9,376.9	97.2	96.9	76.29	-581.5	3,595.7	526.1	336.6	189.53	2.776	
13,200.0	9,504.5	13,111.2	9,378.7	99.5	99.2	76.27	-580.5	3,695.6	526.2	332.2	194.00	2.712	
13,300.0	9,506.5	13,211.2	9,380.5	101.8	101.5	76.25	-579.5	3,795.6	526.2	327.7	198.48	2.651	
13,400.0	9,508.5	13,311.2	9,382.3	104.1	103.8	76.23	-578.5	3,895.6	526.2	323.2	202.97	2.593	
13,500.0	9,510.5	13,411.2	9,384.1	106.4	106.2	76.21	-577.5	3,995.6	526.2	318.8	207.47	2.536	
13,600.0	9,512.5	13,511.2	9,386.0	108.7	108.5	76.20	-576.5	4,095.6	526.3	314.3	211.99	2.482	
13,700.0	9,514.5	13,611.2	9,387.8	111.1	110.8	76.18	-575.5	4,195.5	526.3	309.8	216.51	2.431	
13,800.0	9,516.5	13,711.2	9,389.6	113.4	113.2	76.16	-574.5	4,295.5	526.3	305.3	221.04	2.381	
13,900.0	9,518.5	13,811.2	9,391.4	115.8	115.5	76.14	-573.5	4,395.5	526.3	300.7	225.58	2.333	

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.0	9,520.5	13,911.2	9,393.2	118.1	117.8	76.12	-572.5	4,495.5	526.4	296.2	230.13	2.287		
14,100.0	9,522.4	14,011.2	9,395.0	120.4	120.2	76.10	-571.5	4,595.4	526.4	291.7	234.69	2.243		
14,200.0	9,524.4	14,111.2	9,396.8	122.8	122.5	76.08	-570.5	4,695.4	526.4	287.2	239.25	2.200		
14,300.0	9,526.4	14,211.2	9,398.7	125.2	124.9	76.06	-569.5	4,795.4	526.4	282.6	243.82	2.159		
14,400.0	9,528.4	14,311.2	9,400.5	127.5	127.3	76.04	-568.5	4,895.4	526.5	278.1	248.39	2.119		
14,500.0	9,530.4	14,411.2	9,402.3	129.9	129.6	76.03	-567.6	4,995.4	526.5	273.5	252.97	2.081		
14,600.0	9,532.4	14,511.2	9,404.1	132.2	132.0	76.01	-566.6	5,095.3	526.5	269.0	257.56	2.044		
14,700.0	9,534.4	14,611.2	9,405.9	134.6	134.4	75.99	-565.6	5,195.3	526.5	264.4	262.15	2.009		
14,800.0	9,536.4	14,711.2	9,407.7	137.0	136.7	75.97	-564.6	5,295.3	526.6	259.8	266.74	1.974		
14,900.0	9,538.4	14,811.2	9,409.5	139.4	139.1	75.95	-563.6	5,395.3	526.6	255.2	271.34	1.941		
15,000.0	9,540.4	14,911.2	9,411.4	141.7	141.5	75.93	-562.6	5,495.2	526.6	250.7	275.94	1.908		
15,100.0	9,542.3	15,011.2	9,413.2	144.1	143.9	75.91	-561.6	5,595.2	526.6	246.1	280.55	1.877		
15,200.0	9,544.3	15,111.2	9,415.0	146.5	146.2	75.89	-560.6	5,695.2	526.7	241.5	285.16	1.847		
15,300.0	9,546.3	15,211.2	9,416.8	148.9	148.6	75.87	-559.6	5,795.2	526.7	236.9	289.77	1.818		
15,400.0	9,548.3	15,311.2	9,418.6	151.3	151.0	75.86	-558.6	5,895.2	526.7	232.3	294.39	1.789		
15,500.0	9,550.3	15,411.2	9,420.4	153.6	153.4	75.84	-557.6	5,995.1	526.7	227.7	299.01	1.762		
15,600.0	9,552.3	15,511.2	9,422.3	156.0	155.8	75.82	-556.6	6,095.1	526.8	223.1	303.63	1.735		
15,700.0	9,554.3	15,611.2	9,424.1	158.4	158.2	75.80	-555.6	6,195.1	526.8	218.5	308.26	1.709		
15,800.0	9,556.3	15,711.2	9,425.9	160.8	160.6	75.78	-554.6	6,295.1	526.8	213.9	312.89	1.684		
15,900.0	9,558.3	15,811.2	9,427.7	163.2	163.0	75.76	-553.6	6,395.1	526.8	209.3	317.52	1.659		
16,000.0	9,560.2	15,911.2	9,429.5	165.6	165.4	75.74	-552.6	6,495.0	526.9	204.7	322.15	1.635		
16,100.0	9,562.2	16,011.2	9,431.3	168.0	167.8	75.72	-551.6	6,595.0	526.9	200.1	326.78	1.612		
16,200.0	9,564.2	16,111.2	9,433.1	170.4	170.2	75.70	-550.6	6,695.0	526.9	195.5	331.42	1.590		
16,300.0	9,566.2	16,211.2	9,435.0	172.8	172.6	75.69	-549.6	6,795.0	526.9	190.9	336.06	1.568		
16,400.0	9,568.2	16,311.2	9,436.8	175.2	175.0	75.67	-548.7	6,894.9	527.0	186.3	340.70	1.547		
16,500.0	9,570.2	16,411.2	9,438.6	177.6	177.4	75.65	-547.7	6,994.9	527.0	181.7	345.34	1.526		
16,600.0	9,572.2	16,511.2	9,440.4	180.0	179.8	75.63	-546.7	7,094.9	527.0	177.0	349.98	1.506		
16,700.0	9,574.2	16,611.2	9,442.2	182.4	182.2	75.61	-545.7	7,194.9	527.1	172.4	354.63	1.486 Level 3		
16,800.0	9,576.2	16,711.2	9,444.0	184.8	184.6	75.59	-544.7	7,294.9	527.1	167.8	359.28	1.467 Level 3		
16,900.0	9,578.2	16,811.2	9,445.8	187.2	187.0	75.57	-543.7	7,394.8	527.1	163.2	363.92	1.448 Level 3		
17,000.0	9,580.1	16,911.2	9,447.7	189.6	189.4	75.55	-542.7	7,494.8	527.1	158.6	368.57	1.430 Level 3		
17,100.0	9,582.1	17,011.2	9,449.5	192.0	191.8	75.53	-541.7	7,594.8	527.2	153.9	373.22	1.412 Level 3		
17,200.0	9,584.1	17,111.2	9,451.3	194.4	194.2	75.52	-540.7	7,694.8	527.2	149.3	377.87	1.395 Level 3		
17,300.0	9,586.1	17,211.2	9,453.1	196.8	196.6	75.50	-539.7	7,794.8	527.2	144.7	382.53	1.378 Level 3		
17,400.0	9,588.1	17,311.2	9,454.9	199.3	199.0	75.48	-538.7	7,894.7	527.2	140.1	387.18	1.362 Level 3		
17,500.0	9,590.1	17,411.2	9,456.7	201.7	201.4	75.46	-537.7	7,994.7	527.3	135.4	391.83	1.346 Level 3		
17,600.0	9,592.1	17,511.2	9,458.6	204.1	203.9	75.44	-536.7	8,094.7	527.3	130.8	396.49	1.330 Level 3		
17,700.0	9,594.1	17,611.2	9,460.4	206.5	206.3	75.42	-535.7	8,194.7	527.3	126.2	401.14	1.315 Level 3		
17,800.0	9,596.1	17,711.2	9,462.2	208.9	208.7	75.40	-534.7	8,294.6	527.3	121.5	405.80	1.300 Level 3		
17,900.0	9,598.0	17,811.2	9,464.0	211.3	211.1	75.38	-533.7	8,394.6	527.4	116.9	410.46	1.285 Level 3		
18,000.0	9,600.0	17,911.2	9,465.8	213.7	213.5	75.37	-532.7	8,494.6	527.4	112.3	415.12	1.270 Level 3		
18,100.0	9,602.0	18,011.2	9,467.6	216.2	215.9	75.35	-531.7	8,594.6	527.4	107.7	419.77	1.256 Level 3		
18,200.0	9,604.0	18,111.2	9,469.4	218.6	218.4	75.33	-530.7	8,694.6	527.5	103.0	424.43	1.243 Level 2		
18,300.0	9,606.0	18,211.2	9,471.3	221.0	220.8	75.31	-529.8	8,794.5	527.5	98.4	429.09	1.229 Level 2		
18,400.0	9,608.0	18,311.2	9,473.1	223.4	223.2	75.29	-528.8	8,894.5	527.5	93.8	433.75	1.216 Level 2		
18,400.1	9,608.0	18,311.3	9,473.1	223.4	223.2	75.29	-528.8	8,894.6	527.5	93.8	433.76	1.216 Level 2		
18,432.5	9,608.6	18,331.3	9,473.4	224.2	223.7	75.29	-528.6	8,914.6	527.7	92.7	434.99	1.213 Level 2, SF		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference				Offset			Semi Major Axis			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.13	-0.1	-30.0	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	-90.13	-0.1	-30.0	30.0	29.8	0.26	117.074		
200.0	200.0	200.0	200.0	0.5	0.5	-90.13	-0.1	-30.0	30.0	29.0	0.97	30.832		
300.0	300.0	300.0	300.0	0.8	0.8	-90.13	-0.1	-30.0	30.0	28.3	1.69	17.754		
400.0	400.0	400.0	400.0	1.2	1.2	-90.13	-0.1	-30.0	30.0	27.6	2.41	12.466		
500.0	500.0	500.0	500.0	1.6	1.6	-90.13	-0.1	-30.0	30.0	26.9	3.12	9.605		
600.0	600.0	600.0	600.0	1.9	1.9	-90.13	-0.1	-30.0	30.0	26.2	3.84	7.812		
700.0	700.0	700.0	700.0	2.3	2.3	-90.13	-0.1	-30.0	30.0	25.4	4.56	6.583		
800.0	800.0	800.0	800.0	2.6	2.6	-90.13	-0.1	-30.0	30.0	24.7	5.27	5.689		
900.0	900.0	900.0	900.0	3.0	3.0	-90.13	-0.1	-30.0	30.0	24.0	5.99	5.008		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-90.13	-0.1	-30.0	30.0	23.3	6.71	4.473		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-90.13	-0.1	-30.0	30.0	22.6	7.43	4.041		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-90.13	-0.1	-30.0	30.0	21.9	8.14	3.685		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-90.13	-0.1	-30.0	30.0	21.1	8.86	3.387		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-90.13	-0.1	-30.0	30.0	20.4	9.58	3.133		
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-90.13	-0.1	-30.0	30.0	19.7	10.29	2.915 CC		
1,600.0	1,600.0	1,599.8	1,599.8	5.5	5.5	-86.88	1.6	-30.3	30.3	19.3	11.01	2.755 ES		
1,700.0	1,700.0	1,699.3	1,699.2	5.9	5.9	-77.72	6.8	-31.1	31.9	20.1	11.72	2.719 SF		
1,800.0	1,800.0	1,798.4	1,797.9	6.2	6.2	-64.86	15.3	-32.5	36.0	23.6	12.42	2.897		
1,900.0	1,900.0	1,896.8	1,895.5	6.6	6.6	-51.89	27.0	-34.4	44.0	30.9	13.09	3.360		
2,000.0	2,000.0	1,994.2	1,991.8	6.9	6.9	-41.35	41.9	-36.9	56.4	42.7	13.74	4.107		
2,100.0	2,100.0	2,090.5	2,086.3	7.3	7.3	-33.65	59.8	-39.8	73.1	58.8	14.36	5.093		
2,200.0	2,200.0	2,185.4	2,178.9	7.7	7.7	-28.21	80.5	-43.2	93.7	78.8	14.95	6.270		
2,300.0	2,300.0	2,278.9	2,269.3	8.0	8.1	-24.36	103.8	-47.0	118.0	102.5	15.52	7.602		
2,400.0	2,400.0	2,370.7	2,357.3	8.4	8.5	-21.57	129.5	-51.2	145.6	129.6	16.07	9.064		
2,500.0	2,500.0	2,460.6	2,442.7	8.7	8.9	-19.51	157.4	-55.8	176.5	159.9	16.59	10.638		
2,600.0	2,600.0	2,548.6	2,525.4	9.1	9.3	91.78	187.2	-60.6	210.5	193.4	17.08	12.321		
2,700.0	2,700.0	2,639.7	2,610.1	9.4	9.8	93.24	220.0	-66.0	246.8	229.2	17.69	13.956		
2,800.0	2,799.9	2,732.3	2,696.4	9.8	10.3	94.63	253.5	-71.5	283.6	265.3	18.35	15.455		
2,900.0	2,899.7	2,824.8	2,782.4	10.1	10.8	95.93	286.9	-76.9	320.7	301.7	19.02	16.860		
3,000.0	2,999.4	2,917.1	2,868.3	10.4	11.3	97.18	320.2	-82.4	358.3	338.5	19.70	18.184		
3,100.0	3,098.9	3,009.1	2,953.9	10.8	11.8	98.37	353.4	-87.8	396.2	375.8	20.39	19.434		
3,200.0	3,198.3	3,100.8	3,039.2	11.1	12.3	99.52	386.6	-93.2	434.7	413.6	21.08	20.618		
3,300.0	3,297.4	3,192.1	3,124.3	11.5	12.9	100.63	419.6	-98.6	473.7	451.9	21.79	21.742		
3,400.0	3,396.4	3,283.4	3,209.2	11.9	13.4	102.03	452.5	-104.0	513.1	490.6	22.50	22.805		
3,500.0	3,495.5	3,374.6	3,294.1	12.2	14.0	103.23	485.5	-109.4	552.8	529.5	23.22	23.806		
3,600.0	3,594.5	3,465.8	3,379.0	12.6	14.5	104.28	518.4	-114.8	592.6	568.7	23.95	24.747		
3,700.0	3,693.5	3,557.0	3,463.9	13.0	15.1	105.19	551.4	-120.2	632.6	607.9	24.68	25.633		
3,800.0	3,792.5	3,648.3	3,548.7	13.3	15.6	105.99	584.3	-125.6	672.7	647.2	25.41	26.467		
3,900.0	3,891.6	3,739.5	3,633.6	13.7	16.2	106.71	617.3	-131.0	712.9	686.7	26.16	27.253		
4,000.0	3,990.6	3,830.7	3,718.5	14.1	16.8	107.35	650.2	-136.3	753.1	726.2	26.90	27.995		
4,100.0	4,089.6	3,921.9	3,803.4	14.5	17.4	107.92	683.2	-141.7	793.5	765.8	27.65	28.694		
4,200.0	4,188.6	4,013.1	3,888.3	14.9	17.9	108.44	716.1	-147.1	833.9	805.5	28.41	29.356		
4,300.0	4,287.7	4,104.4	3,973.2	15.3	18.5	108.91	749.1	-152.5	874.3	845.2	29.16	29.981		
4,400.0	4,386.7	4,204.4	4,058.1	15.7	19.2	109.34	782.0	-157.9	914.9	884.9	29.96	30.535		
4,500.0	4,485.7	4,286.8	4,143.0	16.0	19.7	109.74	814.9	-163.3	955.4	924.7	30.69	31.135		
4,600.0	4,584.8	4,378.0	4,227.9	16.4	20.3	110.10	847.9	-168.7	996.0	964.5	31.45	31.668		
4,700.0	4,683.8	4,469.3	4,312.8	16.8	20.9	110.43	880.8	-174.1	1,036.6	1,004.4	32.22	32.174		
4,800.0	4,782.8	4,560.5	4,397.7	17.2	21.5	110.74	913.8	-179.5	1,077.2	1,044.2	32.99	32.655		
4,900.0	4,881.8	4,651.7	4,482.6	17.6	22.1	111.03	946.7	-184.8	1,117.9	1,084.1	33.76	33.112		
4,925.3	4,906.9	4,674.8	4,504.0	17.7	22.2	111.10	955.1	-186.2	1,128.2	1,094.2	33.96	33.224		
5,000.0	4,981.0	4,743.1	4,567.6	18.0	22.6	111.72	979.7	-190.2	1,158.3	1,123.8	34.53	33.544		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.0	5,080.4	4,834.9	4,653.0	18.4	23.2	112.41	1,012.9	-195.7	1,197.9	1,162.6	35.29	33.942		
5,200.0	5,180.1	4,927.1	4,738.9	18.8	23.8	112.95	1,046.2	-201.1	1,236.6	1,200.5	36.04	34.307		
5,300.0	5,279.9	5,019.6	4,825.0	19.1	24.5	113.36	1,079.6	-206.6	1,274.3	1,237.5	36.79	34.642		
5,400.0	5,379.9	5,112.5	4,911.4	19.5	25.1	113.65	1,113.2	-212.1	1,311.1	1,273.6	37.52	34.948		
5,458.6	5,438.5	5,167.0	4,962.1	19.7	25.4	3.91	1,132.9	-215.3	1,332.2	1,294.3	37.94	35.116		
5,500.0	5,479.9	5,205.5	4,998.0	19.8	25.7	3.77	1,146.8	-217.6	1,347.0	1,308.8	38.24	35.230		
5,600.0	5,579.9	5,301.4	5,084.6	20.2	26.3	3.42	1,180.4	-223.0	1,382.8	1,343.9	38.97	35.486		
5,700.0	5,679.9	5,391.6	5,171.2	20.5	26.9	3.10	1,214.0	-228.5	1,418.7	1,379.0	39.68	35.756		
5,800.0	5,779.9	5,484.7	5,257.8	20.9	27.5	2.79	1,247.6	-234.0	1,454.5	1,414.1	40.40	36.005		
5,900.0	5,879.9	5,577.8	5,344.4	21.2	28.1	2.50	1,281.2	-239.5	1,490.4	1,449.3	41.12	36.245		
6,000.0	5,979.9	5,670.8	5,431.0	21.5	28.7	2.22	1,314.8	-245.0	1,526.4	1,484.5	41.85	36.477		
6,100.0	6,079.9	5,763.9	5,517.6	21.9	29.4	1.95	1,348.4	-250.5	1,562.4	1,519.8	42.57	36.701		
6,200.0	6,179.9	5,856.9	5,604.2	22.2	30.0	1.70	1,382.1	-256.0	1,598.4	1,555.1	43.30	36.918		
6,300.0	6,279.9	6,001.0	5,739.0	22.6	30.9	1.34	1,432.3	-264.2	1,633.3	1,588.8	44.54	36.667		
6,400.0	6,379.9	6,166.1	5,895.6	22.9	31.9	0.99	1,483.8	-272.7	1,664.4	1,618.5	45.92	36.248		
6,500.0	6,479.9	6,335.7	6,058.7	23.3	32.9	0.70	1,529.7	-280.2	1,691.4	1,644.2	47.22	35.817		
6,600.0	6,579.9	6,509.4	6,227.6	23.6	33.7	0.46	1,569.2	-286.6	1,714.2	1,665.7	48.45	35.381		
6,700.0	6,679.9	6,686.4	6,401.6	24.0	34.5	0.28	1,601.6	-291.9	1,732.5	1,682.9	49.57	34.947		
6,800.0	6,779.9	6,866.2	6,579.6	24.3	35.2	0.14	1,626.3	-296.0	1,746.3	1,695.7	50.59	34.518		
6,900.0	6,879.9	7,048.0	6,760.7	24.6	35.9	0.05	1,649.2	-298.7	1,755.4	1,703.9	51.48	34.097		
7,000.0	6,979.9	7,231.1	6,943.5	25.0	36.4	0.00	1,651.1	-300.0	1,759.8	1,707.6	52.24	33.684		
7,100.0	7,079.9	7,367.5	7,079.9	25.3	36.7	0.00	1,651.9	-300.2	1,760.3	1,707.4	52.91	33.270		
7,200.0	7,179.9	7,467.5	7,179.9	25.7	37.0	0.00	1,651.9	-300.2	1,760.3	1,706.7	53.57	32.858		
7,300.0	7,279.9	7,567.5	7,279.9	26.0	37.2	0.00	1,651.9	-300.2	1,760.3	1,706.0	54.24	32.456		
7,400.0	7,379.9	7,667.5	7,379.9	26.4	37.5	0.00	1,651.9	-300.2	1,760.3	1,705.4	54.90	32.063		
7,500.0	7,479.9	7,767.5	7,479.9	26.7	37.7	0.00	1,651.9	-300.2	1,760.3	1,704.7	55.57	31.678		
7,600.0	7,579.9	7,867.5	7,579.9	27.1	38.0	0.00	1,651.9	-300.2	1,760.3	1,704.0	56.23	31.302		
7,700.0	7,679.9	7,967.5	7,679.9	27.4	38.2	0.00	1,651.9	-300.2	1,760.3	1,703.4	56.90	30.934		
7,800.0	7,779.9	8,067.5	7,779.9	27.8	38.5	0.00	1,651.9	-300.2	1,760.3	1,702.7	57.57	30.574		
7,900.0	7,879.9	8,167.5	7,879.9	28.1	38.7	0.00	1,651.9	-300.2	1,760.3	1,702.0	58.24	30.222		
8,000.0	7,979.9	8,267.5	7,979.9	28.5	39.0	0.00	1,651.9	-300.2	1,760.3	1,701.4	58.92	29.877		
8,100.0	8,079.9	8,367.5	8,079.9	28.8	39.2	0.00	1,651.9	-300.2	1,760.3	1,700.7	59.59	29.540		
8,200.0	8,179.9	8,467.5	8,179.9	29.2	39.5	0.00	1,651.9	-300.2	1,760.3	1,700.0	60.26	29.210		
8,300.0	8,279.9	8,567.5	8,279.9	29.5	39.8	0.00	1,651.9	-300.2	1,760.3	1,699.3	60.94	28.886		
8,400.0	8,379.9	8,667.5	8,379.9	29.9	40.0	0.00	1,651.9	-300.2	1,760.3	1,698.7	61.61	28.569		
8,500.0	8,479.9	8,767.5	8,479.9	30.2	40.3	0.00	1,651.9	-300.2	1,760.3	1,698.0	62.29	28.259		
8,600.0	8,579.9	8,867.5	8,579.9	30.6	40.5	0.00	1,651.9	-300.2	1,760.3	1,697.3	62.97	27.955		
8,700.0	8,679.9	8,967.5	8,679.9	30.9	40.8	0.00	1,651.9	-300.2	1,760.3	1,696.6	63.65	27.657		
8,800.0	8,779.9	9,067.5	8,779.9	31.3	41.1	0.00	1,651.9	-300.2	1,760.3	1,695.9	64.33	27.365		
8,806.8	8,786.6	9,074.2	8,786.6	31.3	41.1	0.00	1,651.9	-300.2	1,760.3	1,695.9	64.37	27.345		
8,883.6	8,863.5	9,149.9	8,862.2	31.6	41.3	0.04	1,651.9	-298.8	1,760.3	1,695.4	64.89	27.126		
8,900.0	8,879.9	9,165.7	8,878.0	31.6	41.3	-89.36	1,651.9	-297.6	1,760.3	1,695.3	65.00	27.082		
8,950.0	8,929.7	9,213.8	8,925.6	31.8	41.4	-89.26	1,652.0	-291.0	1,760.3	1,695.0	65.31	26.954		
9,000.0	8,979.1	9,261.6	8,972.3	31.9	41.6	-89.16	1,652.1	-280.5	1,760.4	1,694.8	65.61	26.832		
9,050.0	9,027.5	9,309.3	9,017.7	32.1	41.7	-89.06	1,652.2	-266.2	1,760.4	1,694.5	65.89	26.716		
9,100.0	9,074.7	9,356.7	9,061.6	32.2	41.7	-88.98	1,652.4	-248.3	1,760.5	1,694.3	66.17	26.607		
9,150.0	9,120.4	9,403.9	9,103.8	32.3	41.8	-88.90	1,652.6	-226.9	1,760.5	1,694.1	66.43	26.502		
9,200.0	9,164.0	9,451.0	9,143.8	32.5	41.9	-88.82	1,652.8	-202.3	1,760.6	1,693.9	66.69	26.401		
9,250.0	9,205.4	9,497.9	9,181.6	32.6	42.0	-88.76	1,653.1	-174.5	1,760.6	1,693.7	66.94	26.300		
9,300.0	9,244.2	9,544.7	9,216.9	32.7	42.0	-88.71	1,653.4	-143.8	1,760.6	1,693.4	67.20	26.198		
9,350.0	9,280.0	9,591.4	9,249.5	32.9	42.1	-88.66	1,653.7	-110.4	1,760.7	1,693.2	67.48	26.091		
9,400.0	9,312.7	9,638.0	9,279.2	33.0	42.1	-88.63	1,654.1	-74.5	1,760.7	1,692.9	67.78	25.977		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference				Offset			Semi Major Axis			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,450.0	9,342.0	9,684.5	9,305.9	33.2	42.1	-88.60	1,654.5	-36.4	1,760.7	1,692.6	68.11	25.852		
9,500.0	9,367.7	9,731.0	9,329.4	33.4	42.2	-88.59	1,654.9	3.8	1,760.7	1,692.2	68.47	25.714		
9,550.0	9,389.5	9,777.5	9,349.5	33.6	42.2	-88.58	1,655.3	45.6	1,760.7	1,691.8	68.88	25.561		
9,600.0	9,407.3	9,824.0	9,366.2	33.8	42.2	-88.59	1,655.7	89.0	1,760.7	1,691.4	69.34	25.392		
9,650.0	9,420.9	9,870.5	9,379.3	34.1	42.2	-88.60	1,656.1	133.6	1,760.7	1,690.9	69.85	25.206		
9,700.0	9,430.4	9,917.0	9,388.8	34.4	42.2	-88.63	1,656.6	179.1	1,760.7	1,690.3	70.42	25.004		
9,750.0	9,435.5	9,963.6	9,394.5	34.7	42.3	-88.66	1,657.0	225.3	1,760.7	1,689.6	71.03	24.788		
9,772.2	9,436.3	9,984.4	9,395.8	34.8	42.3	-88.68	1,657.2	246.1	1,760.7	1,689.3	71.32	24.688		
9,800.0	9,436.9	10,011.2	9,396.6	35.0	42.3	-88.69	1,657.5	272.9	1,760.6	1,688.9	71.70	24.555		
9,900.0	9,438.9	10,111.2	9,399.1	35.8	42.4	-88.70	1,658.5	372.9	1,760.6	1,687.4	73.29	24.024		
10,000.0	9,440.9	10,211.2	9,401.5	36.8	42.7	-88.72	1,659.4	472.8	1,760.6	1,685.5	75.16	23.426		
10,100.0	9,442.9	10,311.2	9,403.9	37.9	43.1	-88.73	1,660.4	572.8	1,760.6	1,683.3	77.29	22.779		
10,200.0	9,444.9	10,411.2	9,406.3	39.1	43.6	-88.75	1,661.4	672.8	1,760.6	1,680.9	79.67	22.099		
10,300.0	9,446.8	10,511.2	9,408.8	40.4	44.4	-88.76	1,662.4	772.7	1,760.6	1,678.3	82.27	21.400		
10,400.0	9,448.8	10,611.2	9,411.2	41.9	45.5	-88.77	1,663.3	872.7	1,760.6	1,675.5	85.07	20.695		
10,500.0	9,450.8	10,711.2	9,413.6	43.4	46.7	-88.79	1,664.3	972.6	1,760.6	1,672.5	88.06	19.993		
10,600.0	9,452.8	10,811.2	9,416.0	45.0	48.0	-88.80	1,665.3	1,072.6	1,760.6	1,669.4	91.21	19.303		
10,700.0	9,454.8	10,911.2	9,418.5	46.6	49.5	-88.82	1,666.3	1,172.6	1,760.6	1,666.1	94.51	18.629		
10,800.0	9,456.8	11,011.2	9,420.9	48.4	51.1	-88.83	1,667.3	1,272.5	1,760.6	1,662.6	97.94	17.976		
10,900.0	9,458.8	11,111.2	9,423.3	50.2	52.7	-88.85	1,668.2	1,372.5	1,760.5	1,659.1	101.49	17.347		
11,000.0	9,460.8	11,211.2	9,425.7	52.0	54.5	-88.86	1,669.2	1,472.5	1,760.5	1,655.4	105.15	16.744		
11,100.0	9,462.8	11,311.2	9,428.2	53.9	56.3	-88.87	1,670.2	1,572.4	1,760.5	1,651.6	108.90	16.166		
11,200.0	9,464.8	11,411.2	9,430.6	55.9	58.1	-88.89	1,671.2	1,672.4	1,760.5	1,647.8	112.74	15.615		
11,300.0	9,466.7	11,511.2	9,433.0	57.9	60.0	-88.90	1,672.1	1,772.4	1,760.5	1,643.8	116.66	15.090		
11,400.0	9,468.7	11,611.2	9,435.4	59.9	61.9	-88.92	1,673.1	1,872.3	1,760.5	1,639.8	120.66	14.591		
11,500.0	9,470.7	11,711.2	9,437.9	61.9	63.9	-88.93	1,674.1	1,972.3	1,760.5	1,635.8	124.71	14.117		
11,600.0	9,472.7	11,811.2	9,440.3	64.0	65.9	-88.94	1,675.1	2,072.3	1,760.5	1,631.7	128.83	13.666		
11,700.0	9,474.7	11,911.2	9,442.7	66.1	67.9	-88.96	1,676.0	2,172.2	1,760.5	1,627.5	132.99	13.238		
11,800.0	9,476.7	12,011.2	9,445.1	68.2	70.0	-88.97	1,677.0	2,272.2	1,760.5	1,623.3	137.21	12.831		
11,900.0	9,478.7	12,111.2	9,447.6	70.3	72.1	-88.99	1,678.0	2,372.2	1,760.5	1,619.0	141.46	12.445		
12,000.0	9,480.7	12,211.2	9,450.0	72.5	74.2	-89.00	1,679.0	2,472.1	1,760.5	1,614.7	145.76	12.078		
12,100.0	9,482.7	12,311.2	9,452.4	74.7	76.3	-89.02	1,680.0	2,572.1	1,760.4	1,610.4	150.09	11.729		
12,200.0	9,484.6	12,411.2	9,454.8	76.9	78.4	-89.03	1,680.9	2,672.1	1,760.4	1,606.0	154.46	11.397		
12,300.0	9,486.6	12,511.2	9,457.3	79.1	80.6	-89.04	1,681.9	2,772.0	1,760.4	1,601.6	158.86	11.082		
12,400.0	9,488.6	12,611.2	9,459.7	81.3	82.8	-89.06	1,682.9	2,872.0	1,760.4	1,597.1	163.28	10.781		
12,500.0	9,490.6	12,711.2	9,462.1	83.6	85.0	-89.07	1,683.9	2,971.9	1,760.4	1,592.7	167.74	10.495		
12,600.0	9,492.6	12,811.2	9,464.6	85.8	87.2	-89.09	1,684.8	3,071.9	1,760.4	1,588.2	172.21	10.222		
12,700.0	9,494.6	12,911.2	9,467.0	88.1	89.4	-89.10	1,685.8	3,171.9	1,760.4	1,583.7	176.71	9.962		
12,800.0	9,496.6	13,011.2	9,469.4	90.3	91.6	-89.12	1,686.8	3,271.8	1,760.4	1,579.2	181.23	9.714		
12,900.0	9,498.6	13,111.2	9,471.8	92.6	93.9	-89.13	1,687.8	3,371.8	1,760.4	1,574.6	185.76	9.477		
13,000.0	9,500.6	13,211.2	9,474.3	94.9	96.1	-89.14	1,688.8	3,471.8	1,760.4	1,570.1	190.32	9.250		
13,100.0	9,502.6	13,311.2	9,476.7	97.2	98.4	-89.16	1,689.7	3,571.7	1,760.4	1,565.5	194.89	9.033		
13,200.0	9,504.5	13,411.2	9,479.1	99.5	100.7	-89.17	1,690.7	3,671.7	1,760.4	1,560.9	199.47	8.825		
13,300.0	9,506.5	13,511.2	9,481.5	101.8	103.0	-89.19	1,691.7	3,771.7	1,760.4	1,556.3	204.07	8.626		
13,400.0	9,508.5	13,611.2	9,484.0	104.1	105.2	-89.20	1,692.7	3,871.6	1,760.4	1,551.7	208.69	8.435		
13,500.0	9,510.5	13,711.2	9,486.4	106.4	107.5	-89.21	1,693.6	3,971.6	1,760.4	1,547.0	213.31	8.253		
13,600.0	9,512.5	13,811.2	9,488.8	108.7	109.8	-89.23	1,694.6	4,071.6	1,760.3	1,542.4	217.95	8.077		
13,700.0	9,514.5	13,911.2	9,491.2	111.1	112.1	-89.24	1,695.6	4,171.5	1,760.3	1,537.7	222.60	7.908		
13,800.0	9,516.5	14,011.2	9,493.7	113.4	114.4	-89.26	1,696.6	4,271.5	1,760.3	1,533.1	227.25	7.746		
13,900.0	9,518.5	14,111.2	9,496.1	115.8	116.8	-89.27	1,697.5	4,371.5	1,760.3	1,528.4	231.92	7.590		
14,000.0	9,520.5	14,211.2	9,498.5	118.1	119.1	-89.29	1,698.5	4,471.4	1,760.3	1,523.7	236.60	7.440		
14,100.0	9,522.4	14,311.2	9,500.9	120.4	121.4	-89.30	1,699.5	4,571.4	1,760.3	1,519.0	241.28	7.296		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.0	9,524.4	14,411.2	9,503.4	122.8	123.7	-89.31	1,700.5	4,671.3	1,760.3	1,514.3	245.98	7.156		
14,300.0	9,526.4	14,511.2	9,505.8	125.2	126.1	-89.33	1,701.5	4,771.3	1,760.3	1,509.6	250.68	7.022		
14,400.0	9,528.4	14,611.2	9,508.2	127.5	128.4	-89.34	1,702.4	4,871.3	1,760.3	1,504.9	255.39	6.893		
14,500.0	9,530.4	14,711.2	9,510.6	129.9	130.8	-89.36	1,703.4	4,971.2	1,760.3	1,500.2	260.10	6.768		
14,600.0	9,532.4	14,811.2	9,513.1	132.2	133.1	-89.37	1,704.4	5,071.2	1,760.3	1,495.5	264.82	6.647		
14,700.0	9,534.4	14,911.2	9,515.5	134.6	135.5	-89.38	1,705.4	5,171.2	1,760.3	1,490.7	269.55	6.530		
14,800.0	9,536.4	15,011.2	9,517.9	137.0	137.8	-89.40	1,706.3	5,271.1	1,760.3	1,486.0	274.28	6.418		
14,900.0	9,538.4	15,111.2	9,520.3	139.4	140.2	-89.41	1,707.3	5,371.1	1,760.3	1,481.3	279.02	6.309		
15,000.0	9,540.4	15,211.2	9,522.8	141.7	142.5	-89.43	1,708.3	5,471.1	1,760.3	1,476.5	283.76	6.203		
15,100.0	9,542.3	15,311.2	9,525.2	144.1	144.9	-89.44	1,709.3	5,571.0	1,760.3	1,471.8	288.51	6.101		
15,200.0	9,544.3	15,411.2	9,527.6	146.5	147.3	-89.46	1,710.2	5,671.0	1,760.3	1,467.0	293.27	6.002		
15,300.0	9,546.3	15,511.2	9,530.0	148.9	149.6	-89.47	1,711.2	5,771.0	1,760.3	1,462.2	298.02	5.906		
15,400.0	9,548.3	15,611.2	9,532.5	151.3	152.0	-89.48	1,712.2	5,870.9	1,760.3	1,457.5	302.79	5.814		
15,500.0	9,550.3	15,711.2	9,534.9	153.6	154.4	-89.50	1,713.2	5,970.9	1,760.3	1,452.7	307.55	5.723		
15,600.0	9,552.3	15,811.2	9,537.3	156.0	156.8	-89.51	1,714.2	6,070.9	1,760.3	1,447.9	312.32	5.636		
15,700.0	9,554.3	15,911.2	9,539.7	158.4	159.1	-89.53	1,715.1	6,170.8	1,760.2	1,443.2	317.10	5.551		
15,800.0	9,556.3	16,011.2	9,542.2	160.8	161.5	-89.54	1,716.1	6,270.8	1,760.2	1,438.4	321.87	5.469		
15,900.0	9,558.3	16,111.2	9,544.6	163.2	163.9	-89.56	1,717.1	6,370.8	1,760.2	1,433.6	326.65	5.389		
16,000.0	9,560.2	16,211.2	9,547.0	165.6	166.3	-89.57	1,718.1	6,470.7	1,760.2	1,428.8	331.44	5.311		
16,100.0	9,562.2	16,311.2	9,549.5	168.0	168.7	-89.58	1,719.0	6,570.7	1,760.2	1,424.0	336.22	5.235		
16,200.0	9,564.2	16,411.2	9,551.9	170.4	171.0	-89.60	1,720.0	6,670.6	1,760.2	1,419.2	341.01	5.162		
16,300.0	9,566.2	16,511.2	9,554.3	172.8	173.4	-89.61	1,721.0	6,770.6	1,760.2	1,414.4	345.81	5.090		
16,400.0	9,568.2	16,611.2	9,556.7	175.2	175.8	-89.63	1,722.0	6,870.6	1,760.2	1,409.6	350.60	5.021		
16,500.0	9,570.2	16,711.2	9,559.2	177.6	178.2	-89.64	1,722.9	6,970.5	1,760.2	1,404.8	355.40	4.953		
16,600.0	9,572.2	16,811.2	9,561.6	180.0	180.6	-89.65	1,723.9	7,070.5	1,760.2	1,400.0	360.20	4.887		
16,700.0	9,574.2	16,911.2	9,564.0	182.4	183.0	-89.67	1,724.9	7,170.5	1,760.2	1,395.2	365.00	4.822		
16,800.0	9,576.2	17,011.2	9,566.4	184.8	185.4	-89.68	1,725.9	7,270.4	1,760.2	1,390.4	369.81	4.760		
16,900.0	9,578.2	17,111.2	9,568.9	187.2	187.8	-89.70	1,726.9	7,370.4	1,760.2	1,385.6	374.61	4.699		
17,000.0	9,580.1	17,211.1	9,571.3	189.6	190.2	-89.71	1,727.8	7,470.4	1,760.2	1,380.8	379.42	4.639		
17,100.0	9,582.1	17,311.1	9,573.7	192.0	192.6	-89.73	1,728.8	7,570.3	1,760.2	1,376.0	384.23	4.581		
17,200.0	9,584.1	17,411.1	9,576.1	194.4	195.0	-89.74	1,729.8	7,670.3	1,760.2	1,371.2	389.05	4.524		
17,300.0	9,586.1	17,511.1	9,578.6	196.8	197.4	-89.75	1,730.8	7,770.3	1,760.2	1,366.3	393.86	4.469		
17,400.0	9,588.1	17,611.1	9,581.0	199.3	199.8	-89.77	1,731.7	7,870.2	1,760.2	1,361.5	398.68	4.415		
17,500.0	9,590.1	17,711.1	9,583.4	201.7	202.2	-89.78	1,732.7	7,970.2	1,760.2	1,356.7	403.50	4.362		
17,600.0	9,592.1	17,811.1	9,585.8	204.1	204.6	-89.80	1,733.7	8,070.2	1,760.2	1,351.9	408.32	4.311		
17,700.0	9,594.1	17,911.1	9,588.3	206.5	207.0	-89.81	1,734.7	8,170.1	1,760.2	1,347.1	413.14	4.261		
17,800.0	9,596.1	18,011.1	9,590.7	208.9	209.4	-89.83	1,735.7	8,270.1	1,760.2	1,342.2	417.97	4.211		
17,900.0	9,598.0	18,111.1	9,593.1	211.3	211.8	-89.84	1,736.6	8,370.0	1,760.2	1,337.4	422.79	4.163		
18,000.0	9,600.0	18,211.1	9,595.5	213.7	214.2	-89.85	1,737.6	8,470.0	1,760.2	1,332.6	427.62	4.116		
18,100.0	9,602.0	18,311.1	9,598.0	216.2	216.6	-89.87	1,738.6	8,570.0	1,760.2	1,327.7	432.45	4.070		
18,200.0	9,604.0	18,411.1	9,600.4	218.6	219.1	-89.88	1,739.6	8,669.9	1,760.2	1,322.9	437.28	4.025		
18,300.0	9,606.0	18,511.1	9,602.8	221.0	221.5	-89.90	1,740.5	8,769.9	1,760.2	1,318.1	442.11	3.981		
18,400.0	9,608.0	18,611.1	9,605.2	223.4	223.9	-89.91	1,741.5	8,869.9	1,760.2	1,313.3	446.94	3.938		
18,432.5	9,608.6	18,643.6	9,606.0	224.2	224.7	-89.91	1,741.8	8,902.3	1,760.2	1,311.7	448.51	3.925		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference				Offset			Semi Major Axis			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-167.88	-140.1	-30.1	143.3					
100.0	100.0	100.0	100.0	0.1	0.1	-167.88	-140.1	-30.1	143.3	143.0	0.26	558.909		
200.0	200.0	200.0	200.0	0.5	0.5	-167.88	-140.1	-30.1	143.3	142.3	0.97	147.190		
300.0	300.0	300.0	300.0	0.8	0.8	-167.88	-140.1	-30.1	143.3	141.6	1.69	84.755		
400.0	400.0	400.0	400.0	1.2	1.2	-167.88	-140.1	-30.1	143.3	140.8	2.41	59.512		
500.0	500.0	500.0	500.0	1.6	1.6	-167.88	-140.1	-30.1	143.3	140.1	3.12	45.854		
600.0	600.0	600.0	600.0	1.9	1.9	-167.88	-140.1	-30.1	143.3	139.4	3.84	37.295		
700.0	700.0	700.0	700.0	2.3	2.3	-167.88	-140.1	-30.1	143.3	138.7	4.56	31.429		
800.0	800.0	800.0	800.0	2.6	2.6	-167.88	-140.1	-30.1	143.3	138.0	5.27	27.157		
900.0	900.0	900.0	900.0	3.0	3.0	-167.88	-140.1	-30.1	143.3	137.3	5.99	23.908		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-167.88	-140.1	-30.1	143.3	136.5	6.71	21.353		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-167.88	-140.1	-30.1	143.3	135.8	7.43	19.291		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-167.88	-140.1	-30.1	143.3	135.1	8.14	17.593		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-167.88	-140.1	-30.1	143.3	134.4	8.86	16.169		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-167.88	-140.1	-30.1	143.3	133.7	9.58	14.959		
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-167.88	-140.1	-30.1	143.3	133.0	10.29	13.917		
1,600.0	1,600.0	1,602.3	1,602.3	5.5	5.5	-167.74	-139.2	-30.2	142.4	131.4	11.02	12.928		
1,700.0	1,700.0	1,704.6	1,704.6	5.9	5.9	-167.29	-136.5	-30.8	140.0	128.2	11.74	11.925		
1,800.0	1,800.0	1,806.8	1,806.6	6.2	6.2	-166.51	-132.0	-31.7	135.9	123.5	12.46	10.911		
1,900.0	1,900.0	1,908.7	1,908.4	6.6	6.6	-165.34	-125.8	-32.9	130.3	117.1	13.17	9.891		
2,000.0	2,000.0	2,010.4	2,009.7	6.9	7.0	-163.68	-117.8	-34.5	123.1	109.2	13.88	8.869		
2,100.0	2,100.0	2,111.8	2,110.6	7.3	7.3	-161.37	-108.1	-36.4	114.5	99.9	14.59	7.850		
2,200.0	2,200.0	2,212.7	2,210.9	7.7	7.7	-158.18	-96.6	-38.7	104.7	89.4	15.30	6.842		
2,300.0	2,300.0	2,313.3	2,310.6	8.0	8.1	-153.70	-83.5	-41.3	93.8	77.8	16.01	5.858		
2,400.0	2,400.0	2,413.3	2,409.5	8.4	8.5	-147.28	-68.8	-44.2	82.3	65.6	16.73	4.920		
2,500.0	2,500.0	2,512.8	2,507.5	8.7	8.9	-137.89	-52.5	-47.4	71.1	53.7	17.49	4.069		
2,600.0	2,600.0	2,611.7	2,604.7	9.1	9.2	-14.54	-34.6	-51.0	61.0	42.7	18.27	3.337		
2,700.0	2,700.0	2,709.7	2,700.8	9.4	9.6	3.97	-15.8	-54.7	53.5	34.4	19.05	2.807		
2,781.3	2,781.2	2,789.3	2,778.9	9.7	10.0	21.83	-0.6	-57.7	51.3	31.7	19.62	2.616 CC, ES		
2,800.0	2,799.9	2,807.5	2,796.8	9.8	10.0	26.08	2.9	-58.4	51.4	31.7	19.74	2.607 SF		
2,900.0	2,899.7	2,905.2	2,892.6	10.1	10.4	47.88	21.7	-62.1	56.1	35.8	20.30	2.765		
3,000.0	2,999.4	3,002.8	2,988.3	10.4	10.8	65.68	40.4	-65.9	66.8	46.0	20.86	3.204		
3,100.0	3,098.9	3,100.1	3,083.7	10.8	11.3	78.94	59.1	-69.6	81.8	60.4	21.46	3.813		
3,200.0	3,198.3	3,202.8	3,178.9	11.1	11.7	88.74	77.7	-73.3	99.9	77.7	22.14	4.510		
3,300.0	3,297.4	3,294.0	3,273.9	11.5	12.1	96.20	96.3	-76.9	120.1	97.3	22.82	5.264		
3,400.0	3,396.4	3,409.2	3,368.7	11.9	12.6	101.96	114.9	-80.6	142.1	118.5	23.61	6.018		
3,500.0	3,495.5	3,487.5	3,463.6	12.2	12.9	106.17	133.4	-84.3	165.0	140.7	24.27	6.799		
3,600.0	3,594.5	3,584.2	3,558.4	12.6	13.3	109.36	152.0	-88.0	188.6	163.6	25.01	7.542		
3,700.0	3,693.5	3,680.9	3,653.3	13.0	13.8	111.83	170.5	-91.7	212.6	186.9	25.75	8.258		
3,800.0	3,792.5	3,777.6	3,748.1	13.3	14.2	113.80	189.1	-95.3	236.9	210.5	26.49	8.945		
3,900.0	3,891.6	3,874.3	3,842.9	13.7	14.6	115.41	207.6	-99.0	261.5	234.2	27.24	9.601		
4,000.0	3,990.6	3,971.0	3,937.8	14.1	15.1	116.74	226.2	-102.7	286.2	258.2	27.98	10.227		
4,100.0	4,089.6	4,067.7	4,032.6	14.5	15.5	117.86	244.7	-106.4	311.0	282.3	28.73	10.824		
4,200.0	4,188.6	4,164.4	4,127.4	14.9	15.9	118.81	263.3	-110.1	335.9	306.4	29.49	11.393		
4,300.0	4,287.7	4,261.1	4,222.3	15.3	16.3	119.64	281.8	-113.7	360.9	330.7	30.24	11.936		
4,400.0	4,386.7	4,357.8	4,317.1	15.7	16.8	120.35	300.4	-117.4	386.0	355.0	30.99	12.453		
4,500.0	4,485.7	4,454.5	4,411.9	16.0	17.2	120.98	319.0	-121.1	411.1	379.3	31.75	12.948		
4,600.0	4,584.8	4,551.2	4,506.8	16.4	17.7	121.54	337.5	-124.8	436.2	403.7	32.51	13.419		
4,700.0	4,683.8	4,647.9	4,601.6	16.8	18.1	122.03	356.1	-128.5	461.4	428.1	33.27	13.870		
4,800.0	4,782.8	4,744.6	4,696.5	17.2	18.5	122.48	374.6	-132.1	486.6	452.6	34.03	14.301		
4,900.0	4,881.8	4,841.3	4,791.3	17.6	19.0	122.88	393.2	-135.8	511.8	477.1	34.79	14.714		
4,925.3	4,906.9	4,865.8	4,815.3	17.7	19.1	122.97	397.9	-136.7	518.2	483.2	34.98	14.815		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,981.0	4,938.1	4,886.2	18.0	19.4	123.41	411.8	-139.5	536.7	501.2	35.55	15.099		
5,100.0	5,080.4	5,035.3	4,981.6	18.4	19.8	123.76	430.4	-143.2	560.2	523.9	36.30	15.435		
5,200.0	5,180.1	5,132.8	5,077.2	18.8	20.3	123.87	449.1	-146.9	582.3	545.3	37.04	15.722		
5,300.0	5,279.9	5,230.6	5,173.1	19.1	20.7	123.76	467.9	-150.6	603.0	565.3	37.77	15.965		
5,400.0	5,379.9	5,328.5	5,269.1	19.5	21.2	123.45	486.7	-154.4	622.3	583.8	38.49	16.168		
5,458.6	5,438.5	5,386.0	5,325.5	19.7	21.4	13.33	497.7	-156.5	633.0	594.1	38.91	16.269		
5,500.0	5,479.9	5,426.6	5,365.3	19.8	21.6	13.03	505.5	-158.1	640.4	601.2	39.20	16.336		
5,600.0	5,579.9	5,524.7	5,461.4	20.2	22.1	12.33	524.3	-161.8	658.4	618.4	39.91	16.494		
5,700.0	5,679.9	5,622.7	5,557.6	20.5	22.5	11.67	543.1	-165.5	676.4	635.8	40.63	16.650		
5,800.0	5,779.9	5,720.8	5,653.8	20.9	23.0	11.05	561.9	-169.3	694.5	653.2	41.34	16.801		
5,900.0	5,879.9	5,818.9	5,750.0	21.2	23.4	10.45	580.7	-173.0	712.7	670.6	42.05	16.950		
6,000.0	5,979.9	5,916.9	5,846.1	21.5	23.9	9.89	599.6	-176.7	731.0	688.2	42.76	17.094		
6,100.0	6,079.9	6,015.0	5,942.3	21.9	24.3	9.35	618.4	-180.5	749.3	705.8	43.47	17.236		
6,200.0	6,179.9	6,113.1	6,038.5	22.2	24.8	8.84	637.2	-184.2	767.7	723.5	44.18	17.374		
6,300.0	6,279.9	6,211.1	6,134.7	22.6	25.2	8.35	656.0	-187.9	786.1	741.2	44.90	17.509		
6,400.0	6,379.9	6,309.2	6,230.8	22.9	25.7	7.89	674.8	-191.7	804.6	759.0	45.61	17.641		
6,500.0	6,479.9	6,407.3	6,327.0	23.3	26.1	7.44	693.6	-195.4	823.2	776.8	46.32	17.769		
6,600.0	6,579.9	6,505.4	6,423.2	23.6	26.6	7.02	712.5	-199.1	841.7	794.7	47.04	17.895		
6,700.0	6,679.9	6,603.4	6,519.4	24.0	27.0	6.61	731.3	-202.9	860.4	812.6	47.75	18.018		
6,800.0	6,779.9	6,701.5	6,615.5	24.3	27.5	6.22	750.1	-206.6	879.1	830.6	48.47	18.137		
6,900.0	6,879.9	6,800.4	6,711.7	24.6	28.0	5.85	768.9	-210.3	897.8	848.6	49.19	18.253		
7,000.0	6,979.9	6,897.6	6,807.9	25.0	28.4	5.49	787.7	-214.1	916.5	866.6	49.90	18.368		
7,100.0	7,079.9	7,004.3	6,904.0	25.3	28.9	5.14	806.5	-217.8	935.3	884.6	50.65	18.467		
7,200.0	7,179.9	7,106.2	7,000.2	25.7	29.4	4.81	825.4	-221.5	954.1	902.7	51.38	18.570		
7,300.0	7,279.9	7,208.2	7,096.4	26.0	29.8	4.50	844.2	-225.3	972.9	920.8	52.11	18.671		
7,400.0	7,379.9	7,289.9	7,192.6	26.4	30.2	4.19	863.0	-229.0	991.8	939.1	52.76	18.798		
7,500.0	7,479.9	7,388.0	7,288.7	26.7	30.7	3.90	881.8	-232.7	1,010.7	957.2	53.48	18.899		
7,600.0	7,579.9	7,486.0	7,384.9	27.1	31.1	3.61	900.6	-236.4	1,029.6	975.4	54.20	18.998		
7,700.0	7,679.9	7,584.1	7,481.1	27.4	31.6	3.34	919.4	-240.2	1,048.6	993.7	54.91	19.095		
7,800.0	7,779.9	7,682.2	7,577.3	27.8	32.0	3.08	938.2	-243.9	1,067.5	1,011.9	55.63	19.189		
7,900.0	7,879.9	7,780.2	7,673.4	28.1	32.5	2.82	957.1	-247.6	1,086.5	1,030.2	56.35	19.282		
8,000.0	7,979.9	7,878.3	7,769.6	28.5	32.9	2.58	975.9	-251.4	1,105.5	1,048.5	57.07	19.372		
8,100.0	8,079.9	7,976.4	7,865.8	28.8	33.4	2.34	994.7	-255.1	1,124.6	1,066.8	57.79	19.460		
8,200.0	8,179.9	8,074.4	7,962.0	29.2	33.9	2.11	1,013.5	-258.8	1,143.6	1,085.1	58.51	19.547		
8,300.0	8,279.9	8,172.5	8,058.1	29.5	34.3	1.89	1,032.3	-262.6	1,162.7	1,103.4	59.23	19.631		
8,400.0	8,379.9	8,270.6	8,154.3	29.9	34.8	1.67	1,051.1	-266.3	1,181.8	1,121.8	59.95	19.714		
8,500.0	8,479.9	8,368.6	8,250.5	30.2	35.2	1.46	1,070.0	-270.0	1,200.8	1,140.2	60.67	19.794		
8,600.0	8,579.9	8,466.7	8,346.7	30.6	35.7	1.26	1,088.8	-273.8	1,220.0	1,158.6	61.39	19.873		
8,700.0	8,679.9	8,564.8	8,442.8	30.9	36.1	1.07	1,107.6	-277.5	1,239.1	1,177.0	62.11	19.951		
8,800.0	8,779.9	8,662.9	8,539.0	31.3	36.6	0.88	1,126.4	-281.2	1,258.2	1,195.4	62.83	20.026		
8,883.6	8,863.5	8,744.9	8,619.4	31.6	37.0	0.72	1,142.2	-284.3	1,274.2	1,210.8	63.43	20.089		
8,900.0	8,879.9	8,760.9	8,635.2	31.6	37.0	-88.44	1,145.2	-285.0	1,277.4	1,213.8	63.55	20.101		
8,950.0	8,929.7	8,822.8	8,695.9	31.8	37.3	-87.81	1,156.9	-287.3	1,286.7	1,222.7	64.01	20.103		
9,000.0	8,979.1	8,895.1	8,767.1	31.9	37.7	-87.60	1,169.4	-289.7	1,295.1	1,230.6	64.53	20.770		
9,050.0	9,027.5	8,966.4	8,837.5	32.1	38.0	-87.72	1,180.4	-291.9	1,302.6	1,237.6	65.02	20.035		
9,100.0	9,074.7	9,036.3	8,906.7	32.2	38.3	-88.14	1,190.0	-293.8	1,309.2	1,243.8	65.46	19.999		
9,150.0	9,120.4	9,104.1	8,974.0	32.3	38.5	-88.82	1,198.0	-295.4	1,315.2	1,249.3	65.87	19.966		
9,200.0	9,164.0	9,169.4	9,038.9	32.5	38.8	-89.70	1,204.7	-296.7	1,320.7	1,254.5	66.24	19.937		
9,250.0	9,205.4	9,231.5	9,100.8	32.6	39.0	-90.70	1,210.0	-297.8	1,326.1	1,259.5	66.59	19.916		
9,300.0	9,244.2	9,290.0	9,159.1	32.7	39.2	-91.77	1,214.1	-298.6	1,331.6	1,264.7	66.90	19.904		
9,350.0	9,280.0	9,344.4	9,213.4	32.9	39.4	-92.82	1,217.2	-299.2	1,337.5	1,270.3	67.19	19.905		
9,400.0	9,312.7	9,394.2	9,263.2	33.0	39.6	-93.78	1,219.3	-299.6	1,344.1	1,276.6	67.48	19.919		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,450.0	9,342.0	9,439.1	9,308.1	33.2	39.7	-94.57	1,220.7	-299.9	1,351.7	1,284.0	67.75	19.951		
9,500.0	9,367.7	9,478.6	9,347.6	33.4	39.8	-95.11	1,221.4	-300.1	1,360.7	1,292.6	68.03	20.000		
9,550.0	9,389.5	9,512.4	9,381.4	33.6	39.9	-95.35	1,221.8	-300.1	1,371.1	1,302.8	68.32	20.070		
9,600.0	9,407.3	9,540.1	9,409.1	33.8	40.0	-95.21	1,221.8	-300.1	1,383.2	1,314.6	68.61	20.161		
9,650.0	9,420.9	9,563.5	9,432.5	34.1	40.1	-94.72	1,222.0	-299.4	1,397.1	1,328.2	68.91	20.275		
9,700.0	9,430.4	9,586.6	9,455.5	34.4	40.2	-94.04	1,222.2	-297.9	1,412.7	1,343.5	69.21	20.411		
9,750.0	9,435.5	9,608.9	9,477.7	34.7	40.2	-93.13	1,222.6	-295.4	1,430.0	1,360.5	69.52	20.571		
9,772.2	9,436.3	9,618.4	9,487.1	34.8	40.2	-92.65	1,222.8	-294.2	1,438.3	1,368.6	69.65	20.650		
9,800.0	9,436.9	9,631.6	9,500.2	35.0	40.3	-93.20	1,223.1	-292.1	1,448.9	1,379.1	69.81	20.754		
9,900.0	9,438.9	9,738.0	9,602.8	35.8	40.6	-97.54	1,227.3	-265.0	1,490.2	1,419.9	70.27	21.206		
10,000.0	9,440.9	10,430.4	9,977.1	36.8	42.0	-110.95	1,308.8	261.5	1,525.1	1,455.7	69.40	21.976		
10,100.0	9,442.9	10,629.3	9,982.6	37.9	42.9	-110.72	1,331.6	459.0	1,535.2	1,463.4	71.77	21.389		
10,200.0	9,444.9	10,830.1	9,988.2	39.1	44.4	-110.68	1,340.6	659.5	1,538.7	1,464.2	74.55	20.640		
10,300.0	9,446.8	10,930.2	9,990.9	40.4	45.4	-110.71	1,341.6	759.5	1,539.0	1,462.1	76.92	20.009		
10,400.0	9,448.8	11,030.2	9,993.7	41.9	46.5	-110.74	1,342.6	859.4	1,539.3	1,459.9	79.47	19.370		
10,500.0	9,450.8	11,130.2	9,996.5	43.4	47.8	-110.76	1,343.6	959.4	1,539.6	1,457.4	82.20	18.730		
10,600.0	9,452.8	11,230.2	9,999.2	45.0	49.2	-110.79	1,344.6	1,059.4	1,539.9	1,454.9	85.09	18.098		
10,700.0	9,454.8	11,330.2	10,002.0	46.6	50.6	-110.82	1,345.6	1,159.3	1,540.2	1,452.1	88.12	17.478		
10,800.0	9,456.8	11,430.2	10,004.8	48.4	52.2	-110.85	1,346.6	1,259.3	1,540.5	1,449.3	91.29	16.876		
10,900.0	9,458.8	11,530.2	10,007.6	50.2	53.8	-110.87	1,347.6	1,359.2	1,540.8	1,446.3	94.56	16.294		
11,000.0	9,460.8	11,630.2	10,010.3	52.0	55.5	-110.90	1,348.6	1,459.2	1,541.2	1,443.2	97.95	15.735		
11,100.0	9,462.8	11,730.2	10,013.1	53.9	57.2	-110.93	1,349.6	1,559.1	1,541.5	1,440.0	101.42	15.198		
11,200.0	9,464.8	11,830.2	10,015.9	55.9	59.0	-110.95	1,350.6	1,659.1	1,541.8	1,436.8	104.98	14.686		
11,300.0	9,466.7	11,930.2	10,018.6	57.9	60.8	-110.98	1,351.6	1,759.0	1,542.1	1,433.4	108.62	14.197		
11,400.0	9,468.7	12,030.2	10,021.4	59.9	62.7	-111.01	1,352.6	1,859.0	1,542.4	1,430.0	112.32	13.732		
11,500.0	9,470.7	12,130.2	10,024.2	61.9	64.7	-111.03	1,353.6	1,958.9	1,542.7	1,426.6	116.09	13.289		
11,600.0	9,472.7	12,230.1	10,027.0	64.0	66.6	-111.06	1,354.6	2,058.9	1,543.0	1,423.1	119.91	12.868		
11,700.0	9,474.7	12,330.1	10,029.7	66.1	68.6	-111.09	1,355.6	2,158.8	1,543.3	1,419.5	123.78	12.468		
11,800.0	9,476.7	12,430.1	10,032.5	68.2	70.6	-111.11	1,356.6	2,258.8	1,543.6	1,415.9	127.70	12.088		
11,900.0	9,478.7	12,530.1	10,035.3	70.3	72.7	-111.14	1,357.6	2,358.7	1,543.9	1,412.2	131.66	11.727		
12,000.0	9,480.7	12,630.1	10,038.1	72.5	74.7	-111.17	1,358.6	2,458.7	1,544.2	1,408.5	135.65	11.384		
12,100.0	9,482.7	12,730.1	10,040.8	74.7	76.8	-111.19	1,359.6	2,558.7	1,544.5	1,404.8	139.68	11.057		
12,200.0	9,484.6	12,830.1	10,043.6	76.9	78.9	-111.22	1,360.6	2,658.6	1,544.8	1,401.1	143.74	10.747		
12,300.0	9,486.6	12,930.1	10,046.4	79.1	81.1	-111.25	1,361.6	2,758.6	1,545.1	1,397.3	147.83	10.452		
12,400.0	9,488.6	13,030.1	10,049.1	81.3	83.2	-111.27	1,362.6	2,858.5	1,545.4	1,393.5	151.95	10.171		
12,500.0	9,490.6	13,130.1	10,051.9	83.6	85.4	-111.30	1,363.6	2,958.5	1,545.7	1,389.6	156.09	9.903		
12,600.0	9,492.6	13,230.1	10,054.7	85.8	87.6	-111.33	1,364.6	3,058.4	1,546.0	1,385.8	160.25	9.648		
12,700.0	9,494.6	13,330.1	10,057.5	88.1	89.8	-111.35	1,365.6	3,158.4	1,546.3	1,381.9	164.43	9.404		
12,800.0	9,496.6	13,430.1	10,060.2	90.3	92.0	-111.38	1,366.7	3,258.3	1,546.6	1,378.0	168.63	9.172		
12,900.0	9,498.6	13,530.1	10,063.0	92.6	94.2	-111.41	1,367.7	3,358.3	1,546.9	1,374.1	172.84	8.950		
13,000.0	9,500.6	13,630.1	10,065.8	94.9	96.4	-111.43	1,368.7	3,458.2	1,547.3	1,370.2	177.07	8.738		
13,100.0	9,502.6	13,730.1	10,068.5	97.2	98.6	-111.46	1,369.7	3,558.2	1,547.6	1,366.2	181.32	8.535		
13,200.0	9,504.5	13,830.1	10,071.3	99.5	100.9	-111.49	1,370.7	3,658.1	1,547.9	1,362.3	185.58	8.341		
13,300.0	9,506.5	13,930.1	10,074.1	101.8	103.1	-111.51	1,371.7	3,758.1	1,548.2	1,358.3	189.85	8.155		
13,400.0	9,508.5	14,030.1	10,076.9	104.1	105.4	-111.54	1,372.7	3,858.1	1,548.5	1,354.4	194.14	7.976		
13,500.0	9,510.5	14,130.1	10,079.6	106.4	107.7	-111.57	1,373.7	3,958.0	1,548.8	1,350.4	198.43	7.805		
13,600.0	9,512.5	14,230.1	10,082.4	108.7	110.0	-111.59	1,374.7	4,058.0	1,549.1	1,346.4	202.73	7.641		
13,700.0	9,514.5	14,330.1	10,085.2	111.1	112.3	-111.62	1,375.7	4,157.9	1,549.4	1,342.4	207.05	7.483		
13,800.0	9,516.5	14,430.1	10,087.9	113.4	114.6	-111.65	1,376.7	4,257.9	1,549.7	1,338.4	211.37	7.332		
13,900.0	9,518.5	14,530.1	10,090.7	115.8	116.9	-111.67	1,377.7	4,357.8	1,550.0	1,334.3	215.70	7.186		
14,000.0	9,520.5	14,630.1	10,093.5	118.1	119.2	-111.70	1,378.7	4,457.8	1,550.4	1,330.3	220.03	7.046		
14,100.0	9,522.4	14,730.1	10,096.3	120.4	121.5	-111.73	1,379.7	4,557.7	1,550.7	1,326.3	224.38	6.911		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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												Offset Site Error:	0.0 usft	
Survey Program: 0-MWD												Offset Well Error:		0.0 usft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.0	9,524.4	14,830.1	10,099.0	122.8	123.8	-111.75	1,380.7	4,657.7	1,551.0	1,322.3	228.73	6.781		
14,300.0	9,526.4	14,930.1	10,101.8	125.2	126.1	-111.78	1,381.7	4,757.6	1,551.3	1,318.2	233.08	6.656		
14,400.0	9,528.4	15,030.1	10,104.6	127.5	128.4	-111.81	1,382.7	4,857.6	1,551.6	1,314.2	237.44	6.535		
14,500.0	9,530.4	15,130.1	10,107.4	129.9	130.8	-111.83	1,383.7	4,957.5	1,551.9	1,310.1	241.81	6.418		
14,600.0	9,532.4	15,230.1	10,110.1	132.2	133.1	-111.86	1,384.7	5,057.5	1,552.2	1,306.1	246.18	6.305		
14,700.0	9,534.4	15,330.1	10,112.9	134.6	135.4	-111.89	1,385.7	5,157.4	1,552.5	1,302.0	250.55	6.197		
14,800.0	9,536.4	15,430.1	10,115.7	137.0	137.8	-111.91	1,386.7	5,257.4	1,552.9	1,297.9	254.93	6.091		
14,900.0	9,538.4	15,530.0	10,118.4	139.4	140.1	-111.94	1,387.7	5,357.4	1,553.2	1,293.9	259.31	5.990		
15,000.0	9,540.4	15,630.0	10,121.2	141.7	142.5	-111.97	1,388.7	5,457.3	1,553.5	1,289.8	263.70	5.891		
15,100.0	9,542.3	15,730.0	10,124.0	144.1	144.8	-111.99	1,389.7	5,557.3	1,553.8	1,285.7	268.09	5.796		
15,200.0	9,544.3	15,830.0	10,126.8	146.5	147.2	-112.02	1,390.7	5,657.2	1,554.1	1,281.6	272.48	5.704		
15,300.0	9,546.3	15,930.0	10,129.5	148.9	149.5	-112.04	1,391.7	5,757.2	1,554.4	1,277.6	276.87	5.614		
15,400.0	9,548.3	16,030.0	10,132.3	151.3	151.9	-112.07	1,392.7	5,857.1	1,554.8	1,273.5	281.27	5.528		
15,500.0	9,550.3	16,130.0	10,135.1	153.6	154.3	-112.10	1,393.7	5,957.1	1,555.1	1,269.4	285.67	5.444		
15,600.0	9,552.3	16,230.0	10,137.8	156.0	156.6	-112.12	1,394.7	6,057.0	1,555.4	1,265.3	290.07	5.362		
15,700.0	9,554.3	16,330.0	10,140.6	158.4	159.0	-112.15	1,395.7	6,157.0	1,555.7	1,261.2	294.48	5.283		
15,800.0	9,556.3	16,430.0	10,143.4	160.8	161.4	-112.18	1,396.7	6,256.9	1,556.0	1,257.1	298.88	5.206		
15,900.0	9,558.3	16,530.0	10,146.2	163.2	163.7	-112.20	1,397.7	6,356.9	1,556.3	1,253.1	303.29	5.132		
16,000.0	9,560.2	16,630.0	10,148.9	165.6	166.1	-112.23	1,398.7	6,456.8	1,556.7	1,249.0	307.70	5.059		
16,100.0	9,562.2	16,730.0	10,151.7	168.0	168.5	-112.26	1,399.7	6,556.8	1,557.0	1,244.9	312.11	4.989		
16,200.0	9,564.2	16,830.0	10,154.5	170.4	170.9	-112.28	1,400.7	6,656.7	1,557.3	1,240.8	316.52	4.920		
16,300.0	9,566.2	16,930.0	10,157.2	172.8	173.3	-112.31	1,401.7	6,756.7	1,557.6	1,236.7	320.93	4.853		
16,400.0	9,568.2	17,030.0	10,160.0	175.2	175.6	-112.33	1,402.7	6,856.7	1,557.9	1,232.6	325.35	4.789		
16,500.0	9,570.2	17,130.0	10,162.8	177.6	178.0	-112.36	1,403.7	6,956.6	1,558.3	1,228.5	329.76	4.725		
16,600.0	9,572.2	17,230.0	10,165.6	180.0	180.4	-112.39	1,404.7	7,056.6	1,558.6	1,224.4	334.18	4.664		
16,700.0	9,574.2	17,330.0	10,168.3	182.4	182.8	-112.41	1,405.7	7,156.5	1,558.9	1,220.3	338.60	4.604		
16,800.0	9,576.2	17,430.0	10,171.1	184.8	185.2	-112.44	1,406.7	7,256.5	1,559.2	1,216.2	343.01	4.546		
16,900.0	9,578.2	17,530.0	10,173.9	187.2	187.6	-112.47	1,407.7	7,356.4	1,559.5	1,212.1	347.43	4.489		
17,000.0	9,580.1	17,630.0	10,176.7	189.6	190.0	-112.49	1,408.7	7,456.4	1,559.9	1,208.0	351.85	4.433		
17,100.0	9,582.1	17,730.0	10,179.4	192.0	192.4	-112.52	1,409.7	7,556.3	1,560.2	1,203.9	356.27	4.379		
17,200.0	9,584.1	17,830.0	10,182.2	194.4	194.8	-112.54	1,410.7	7,656.3	1,560.5	1,199.8	360.69	4.326		
17,300.0	9,586.1	17,930.0	10,185.0	196.8	197.2	-112.57	1,411.7	7,756.2	1,560.8	1,195.7	365.11	4.275		
17,400.0	9,588.1	18,030.0	10,187.7	199.3	199.5	-112.60	1,412.7	7,856.2	1,561.2	1,191.6	369.53	4.225		
17,500.0	9,590.1	18,130.0	10,190.5	201.7	201.9	-112.62	1,413.7	7,956.1	1,561.5	1,187.5	373.95	4.176		
17,600.0	9,592.1	18,230.0	10,193.3	204.1	204.3	-112.65	1,414.7	8,056.1	1,561.8	1,183.4	378.37	4.128		
17,700.0	9,594.1	18,330.0	10,196.1	206.5	206.7	-112.68	1,415.7	8,156.1	1,562.1	1,179.3	382.79	4.081		
17,800.0	9,596.1	18,430.0	10,198.8	208.9	209.1	-112.70	1,416.7	8,256.0	1,562.4	1,175.2	387.21	4.035		
17,900.0	9,598.0	18,530.0	10,201.6	211.3	211.6	-112.73	1,417.7	8,356.0	1,562.8	1,171.1	391.63	3.990		
18,000.0	9,600.0	18,630.0	10,204.4	213.7	214.0	-112.75	1,418.7	8,455.9	1,563.1	1,167.1	396.05	3.947		
18,100.0	9,602.0	18,729.9	10,207.1	216.2	216.4	-112.78	1,419.7	8,555.9	1,563.4	1,163.0	400.47	3.904		
18,200.0	9,604.0	18,829.9	10,209.9	218.6	218.8	-112.81	1,420.7	8,655.8	1,563.7	1,158.9	404.88	3.862		
18,300.0	9,606.0	18,919.9	10,212.4	221.0	220.9	-112.83	1,421.6	8,745.7	1,564.1	1,155.0	409.15	3.823		
18,400.0	9,608.0	18,919.9	10,212.4	223.4	220.9	-112.83	1,421.6	8,745.7	1,568.3	1,157.1	411.13	3.815		
18,432.5	9,608.6	18,919.9	10,212.4	224.2	220.9	-112.83	1,421.6	8,745.7	1,571.0	1,159.6	411.43	3.818		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference				Offset			Semi Major Axis			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-179.96	-140.0	-0.1	140.0					
100.0	100.0	100.0	100.0	0.1	0.1	-179.96	-140.0	-0.1	140.0	139.8	0.26	546.343		
200.0	200.0	200.0	200.0	0.5	0.5	-179.96	-140.0	-0.1	140.0	139.1	0.97	143.880		
300.0	300.0	300.0	300.0	0.8	0.8	-179.96	-140.0	-0.1	140.0	138.3	1.69	82.850		
400.0	400.0	400.0	400.0	1.2	1.2	-179.96	-140.0	-0.1	140.0	137.6	2.41	58.174		
500.0	500.0	500.0	500.0	1.6	1.6	-179.96	-140.0	-0.1	140.0	136.9	3.12	44.823		
600.0	600.0	600.0	600.0	1.9	1.9	-179.96	-140.0	-0.1	140.0	136.2	3.84	36.457		
700.0	700.0	700.0	700.0	2.3	2.3	-179.96	-140.0	-0.1	140.0	135.5	4.56	30.722		
800.0	800.0	800.0	800.0	2.6	2.6	-179.96	-140.0	-0.1	140.0	134.8	5.27	26.547		
900.0	900.0	900.0	900.0	3.0	3.0	-179.96	-140.0	-0.1	140.0	134.0	5.99	23.370		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-179.96	-140.0	-0.1	140.0	133.3	6.71	20.873		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-179.96	-140.0	-0.1	140.0	132.6	7.43	18.858		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-179.96	-140.0	-0.1	140.0	131.9	8.14	17.197		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-179.96	-140.0	-0.1	140.0	131.2	8.86	15.806		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-179.96	-140.0	-0.1	140.0	130.5	9.58	14.622		
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-179.96	-140.0	-0.1	140.0	129.7	10.29	13.604		
1,600.0	1,600.0	1,599.5	1,599.5	5.5	5.5	-179.61	-140.2	-0.9	140.2	129.2	11.00	12.747		
1,700.0	1,700.0	1,699.0	1,699.0	5.9	5.8	-178.58	-140.7	-3.5	140.7	129.0	11.69	12.034		
1,800.0	1,800.0	1,798.3	1,798.2	6.2	6.2	-176.88	-141.5	-7.7	141.7	129.3	12.39	11.436		
1,900.0	1,900.0	1,897.5	1,897.2	6.6	6.5	-174.54	-142.7	-13.6	143.3	130.2	13.09	10.947		
2,000.0	2,000.0	1,996.4	1,995.8	6.9	6.9	-171.63	-144.1	-21.2	145.7	131.9	13.80	10.564		
2,100.0	2,100.0	2,095.1	2,094.0	7.3	7.2	-168.23	-145.9	-30.4	149.2	134.7	14.50	10.289		
2,200.0	2,200.0	2,193.3	2,191.7	7.7	7.6	-164.43	-148.0	-41.2	153.9	138.7	15.20	10.124		
2,300.0	2,300.0	2,308.9	2,288.6	8.0	8.0	-160.38	-150.4	-53.6	160.1	144.1	15.96	10.030		
2,400.0	2,400.0	2,409.9	2,386.6	8.4	8.4	-156.31	-153.0	-67.1	167.6	151.0	16.68	10.053		
2,500.0	2,500.0	2,489.1	2,484.7	8.7	8.7	-152.60	-155.7	-80.7	176.0	158.7	17.31	10.165		
2,600.0	2,600.0	2,588.3	2,582.9	9.1	9.1	-39.50	-158.3	-94.2	184.3	166.3	18.01	10.234		
2,700.0	2,700.0	2,687.6	2,681.3	9.4	9.4	-36.85	-160.9	-107.8	191.8	173.1	18.70	10.256		
2,800.0	2,799.9	2,787.2	2,779.8	9.8	9.8	-34.69	-163.6	-121.4	198.2	178.8	19.40	10.219		
2,900.0	2,899.7	2,886.8	2,878.5	10.1	10.2	-32.93	-166.2	-135.0	203.4	183.3	20.10	10.122		
3,000.0	2,999.4	2,986.6	2,977.4	10.4	10.6	-31.52	-168.8	-148.7	207.3	186.5	20.80	9.966		
3,100.0	3,098.9	3,086.5	3,076.3	10.8	11.0	-30.41	-171.5	-162.3	209.8	188.3	21.51	9.753		
3,200.0	3,198.3	3,186.5	3,175.3	11.1	11.4	-29.56	-174.1	-176.0	210.8	188.6	22.22	9.488		
3,300.0	3,297.4	3,286.5	3,274.3	11.5	11.8	-28.96	-176.8	-189.6	210.4	187.5	22.94	9.172		
3,400.0	3,396.4	3,386.4	3,373.3	11.9	12.2	-28.47	-179.4	-203.3	209.2	185.6	23.66	8.843		
3,500.0	3,495.5	3,486.4	3,472.3	12.2	12.6	-27.97	-182.1	-216.9	208.1	183.7	24.38	8.534		
3,600.0	3,594.5	3,586.4	3,571.3	12.6	13.0	-27.47	-184.7	-230.6	206.9	181.8	25.10	8.242		
3,700.0	3,693.5	3,686.4	3,670.3	13.0	13.4	-26.96	-187.4	-244.3	205.8	179.9	25.83	7.967		
3,800.0	3,792.5	3,786.3	3,769.3	13.3	13.8	-26.44	-190.0	-257.9	204.7	178.1	26.56	7.707		
3,900.0	3,891.6	3,889.0	3,871.0	13.7	14.2	-25.98	-192.6	-271.5	203.2	175.9	27.31	7.439		
4,000.0	3,990.6	3,993.4	3,974.8	14.1	14.7	-25.93	-194.8	-282.7	199.7	171.6	28.09	7.109		
4,100.0	4,089.6	4,097.7	4,078.7	14.5	15.0	-26.36	-196.5	-291.2	193.9	165.1	28.85	6.723		
4,200.0	4,188.6	4,201.5	4,182.3	14.9	15.4	-27.32	-197.6	-296.9	186.0	156.4	29.59	6.285		
4,300.0	4,287.7	4,304.8	4,285.6	15.3	15.8	-28.92	-198.1	-299.7	175.9	145.6	30.33	5.801		
4,400.0	4,386.7	4,405.9	4,386.7	15.7	16.1	-31.22	-198.2	-300.2	164.2	133.1	31.06	5.286		
4,500.0	4,485.7	4,504.9	4,485.7	16.0	16.5	-33.92	-198.2	-300.2	152.4	120.6	31.81	4.791		
4,600.0	4,584.8	4,604.0	4,584.8	16.4	16.8	-37.07	-198.2	-300.2	141.0	108.5	32.58	4.329		
4,700.0	4,683.8	4,703.0	4,683.8	16.8	17.1	-40.75	-198.2	-300.2	130.2	96.8	33.36	3.902		
4,800.0	4,782.8	4,802.0	4,782.8	17.2	17.5	-45.07	-198.2	-300.2	119.9	85.8	34.16	3.510		
4,900.0	4,881.8	4,901.0	4,881.8	17.6	17.8	-50.16	-198.2	-300.2	110.5	75.5	34.98	3.158		
4,925.3	4,906.9	4,926.1	4,906.9	17.7	17.9	-51.58	-198.2	-300.2	108.2	73.1	35.19	3.076		
5,000.0	4,981.0	5,000.2	4,981.0	18.0	18.1	-55.72	-198.2	-300.2	102.5	66.7	35.81	2.861		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.0	5,080.4	5,100.4	5,080.4	18.4	18.5	-60.85	-198.2	-300.2	96.8	60.2	36.63	2.644		
5,200.0	5,180.1	5,200.7	5,180.1	18.8	18.8	-65.13	-198.2	-300.2	93.2	55.7	37.41	2.490		
5,300.0	5,279.9	5,300.9	5,279.9	19.1	19.1	-68.21	-198.2	-300.2	91.0	52.8	38.16	2.385		
5,400.0	5,379.9	5,400.9	5,379.9	19.5	19.5	-69.88	-198.2	-300.2	90.0	51.1	38.87	2.315		
5,458.6	5,438.5	5,457.7	5,438.5	19.7	19.7	180.00	-198.2	-300.2	89.8	50.6	39.27	2.287		
5,500.0	5,479.9	5,500.9	5,479.9	19.8	19.8	180.00	-198.2	-300.2	89.8	50.3	39.56	2.271		
5,600.0	5,579.9	5,600.9	5,579.9	20.2	20.2	180.00	-198.2	-300.2	89.8	49.6	40.24	2.232		
5,700.0	5,679.9	5,700.9	5,679.9	20.5	20.5	180.00	-198.2	-300.2	89.8	48.9	40.93	2.195		
5,800.0	5,779.9	5,800.9	5,779.9	20.9	20.9	180.00	-198.2	-300.2	89.8	48.2	41.61	2.159		
5,900.0	5,879.9	5,900.9	5,879.9	21.2	21.2	180.00	-198.2	-300.2	89.8	47.5	42.30	2.123		
6,000.0	5,979.9	6,000.9	5,979.9	21.5	21.5	180.00	-198.2	-300.2	89.8	46.8	42.99	2.090		
6,100.0	6,079.9	6,100.9	6,079.9	21.9	21.9	180.00	-198.2	-300.2	89.8	46.1	43.68	2.057		
6,200.0	6,179.9	6,200.9	6,179.9	22.2	22.2	180.00	-198.2	-300.2	89.8	45.5	44.37	2.025		
6,300.0	6,279.9	6,300.9	6,279.9	22.6	22.6	180.00	-198.2	-300.2	89.8	44.8	45.06	1.994		
6,400.0	6,379.9	6,400.9	6,379.9	22.9	22.9	180.00	-198.2	-300.2	89.8	44.1	45.75	1.963		
6,500.0	6,479.9	6,500.9	6,479.9	23.3	23.3	180.00	-198.2	-300.2	89.8	43.4	46.44	1.934		
6,600.0	6,579.9	6,600.9	6,579.9	23.6	23.6	180.00	-198.2	-300.2	89.8	42.7	47.13	1.906		
6,700.0	6,679.9	6,700.9	6,679.9	24.0	24.0	180.00	-198.2	-300.2	89.8	42.0	47.83	1.878		
6,800.0	6,779.9	6,800.9	6,779.9	24.3	24.3	180.00	-198.2	-300.2	89.8	41.3	48.52	1.851		
6,900.0	6,879.9	6,900.9	6,879.9	24.6	24.7	180.00	-198.2	-300.2	89.8	40.6	49.21	1.825		
7,000.0	6,979.9	7,000.9	6,979.9	25.0	25.0	180.00	-198.2	-300.2	89.8	39.9	49.91	1.800		
7,100.0	7,079.9	7,100.9	7,079.9	25.3	25.4	180.00	-198.2	-300.2	89.8	39.2	50.61	1.775		
7,200.0	7,179.9	7,200.9	7,179.9	25.7	25.7	180.00	-198.2	-300.2	89.8	38.5	51.30	1.751		
7,300.0	7,279.9	7,300.9	7,279.9	26.0	26.0	180.00	-198.2	-300.2	89.8	37.8	52.00	1.727		
7,400.0	7,379.9	7,400.9	7,379.9	26.4	26.4	180.00	-198.2	-300.2	89.8	37.1	52.70	1.704		
7,500.0	7,479.9	7,500.9	7,479.9	26.7	26.7	180.00	-198.2	-300.2	89.8	36.4	53.40	1.682		
7,600.0	7,579.9	7,600.9	7,579.9	27.1	27.1	180.00	-198.2	-300.2	89.8	35.7	54.09	1.660		
7,700.0	7,679.9	7,700.9	7,679.9	27.4	27.4	180.00	-198.2	-300.2	89.8	35.0	54.79	1.639		
7,800.0	7,779.9	7,800.9	7,779.9	27.8	27.8	180.00	-198.2	-300.2	89.8	34.3	55.49	1.619		
7,900.0	7,879.9	7,900.9	7,879.9	28.1	28.1	180.00	-198.2	-300.2	89.8	33.6	56.19	1.598		
8,000.0	7,979.9	8,000.9	7,979.9	28.5	28.5	180.00	-198.2	-300.2	89.8	32.9	56.89	1.579		
8,100.0	8,079.9	8,100.9	8,079.9	28.8	28.8	180.00	-198.2	-300.2	89.8	32.2	57.59	1.560		
8,200.0	8,179.9	8,200.9	8,179.9	29.2	29.2	180.00	-198.2	-300.2	89.8	31.5	58.30	1.541		
8,300.0	8,279.9	8,300.9	8,279.9	29.5	29.5	180.00	-198.2	-300.2	89.8	30.8	59.00	1.522		
8,400.0	8,379.9	8,400.9	8,379.9	29.9	29.9	180.00	-198.2	-300.2	89.8	30.1	59.70	1.505		
8,500.0	8,479.9	8,500.9	8,479.9	30.2	30.3	180.00	-198.2	-300.2	89.8	29.4	60.40	1.487	Level 3	
8,600.0	8,579.9	8,600.9	8,579.9	30.6	30.6	180.00	-198.2	-300.2	89.8	28.7	61.10	1.470	Level 3	
8,700.0	8,679.9	8,700.9	8,679.9	30.9	31.0	180.00	-198.2	-300.2	89.8	28.0	61.81	1.453	Level 3	
8,800.0	8,779.9	8,800.9	8,779.9	31.3	31.3	180.00	-198.2	-300.2	89.8	27.3	62.51	1.437	Level 3	
8,883.6	8,863.5	8,882.7	8,863.5	31.6	31.6	180.00	-198.2	-300.2	89.8	26.7	63.09	1.424	Level 3, CC	
8,900.0	8,879.9	8,900.9	8,879.9	31.6	31.7	90.71	-198.2	-300.2	89.8	26.6	63.21	1.421	Level 3	
8,950.0	8,929.7	8,948.9	8,929.7	31.8	31.8	92.98	-198.2	-300.2	89.9	26.4	63.52	1.416	Level 3, ES, SF	
9,000.0	8,979.1	9,001.7	8,979.1	31.9	32.0	97.85	-198.2	-300.2	90.7	26.9	63.81	1.421	Level 3	
9,050.0	9,027.5	9,046.7	9,027.5	32.1	32.2	104.85	-198.2	-300.2	93.2	29.2	64.03	1.455	Level 3	
9,100.0	9,074.7	9,106.0	9,074.7	32.2	32.4	113.11	-198.2	-300.2	98.8	34.6	64.26	1.538		
9,150.0	9,120.4	9,139.6	9,120.4	32.3	32.5	121.54	-198.2	-300.2	109.0	44.6	64.37	1.693		
9,200.0	9,164.0	9,183.2	9,164.0	32.5	32.7	129.19	-198.2	-300.2	124.4	59.8	64.52	1.927		
9,250.0	9,205.4	9,224.6	9,205.4	32.6	32.8	135.54	-198.2	-300.2	145.2	80.5	64.69	2.244		
9,300.0	9,244.2	9,263.4	9,244.2	32.7	32.9	140.47	-198.2	-300.2	171.1	106.2	64.88	2.637		
9,350.0	9,280.0	9,300.8	9,280.0	32.9	33.1	144.06	-198.2	-300.2	201.5	136.5	65.07	3.097		
9,400.0	9,312.7	9,331.9	9,312.7	33.0	33.2	146.45	-198.2	-300.2	236.0	170.7	65.24	3.617		
9,450.0	9,342.0	9,361.2	9,342.0	33.2	33.3	147.74	-198.2	-300.2	273.9	208.5	65.40	4.188		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference				Offset			Semi Major Axis			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,500.0	9,367.7	9,386.9	9,367.7	33.4	33.4	147.92	-198.2	-300.2	314.7	249.2	65.54	4.802		
9,550.0	9,389.5	9,408.7	9,389.5	33.6	33.4	146.84	-198.2	-300.2	358.1	292.4	65.66	5.453		
9,600.0	9,407.3	9,426.5	9,407.3	33.8	33.5	144.06	-198.2	-300.2	403.4	337.7	65.75	6.136		
9,650.0	9,420.9	9,440.1	9,420.9	34.1	33.6	138.64	-198.2	-300.2	450.4	384.6	65.82	6.843		
9,700.0	9,430.4	9,458.6	9,439.4	34.4	33.6	131.80	-198.2	-300.1	498.6	432.8	65.87	7.570		
9,750.0	9,435.5	9,600.0	9,579.0	34.7	34.1	153.91	-193.3	-280.8	546.9	482.9	64.00	8.544		
9,772.2	9,436.3	10,000.0	9,899.4	34.8	35.2	176.07	-138.3	-61.8	565.7	522.8	42.95	13.171		
9,800.0	9,436.9	10,354.1	10,002.4	35.0	36.9	-175.39	-57.3	261.2	568.0	541.6	26.36	21.543		
9,900.0	9,438.9	10,453.9	10,005.3	35.8	37.6	-173.31	-35.4	358.6	571.1	543.5	27.57	20.716		
10,000.0	9,440.9	10,555.1	10,008.2	36.8	38.5	-171.56	-16.7	458.0	574.4	545.4	28.92	19.861		
10,100.0	9,442.9	10,657.5	10,011.2	37.9	39.5	-170.17	-1.4	559.2	577.5	547.2	30.33	19.039		
10,200.0	9,444.9	10,760.8	10,014.2	39.1	40.6	-169.14	10.3	661.8	580.4	548.6	31.74	18.283		
10,300.0	9,446.8	10,864.7	10,017.3	40.4	41.9	-168.47	18.4	765.3	582.6	549.5	33.09	17.609		
10,400.0	9,448.8	10,969.0	10,020.3	41.9	43.3	-168.17	22.8	869.5	584.2	549.8	34.31	17.025		
10,500.0	9,450.8	11,070.7	10,023.3	43.4	44.7	-168.16	24.1	971.1	585.1	549.7	35.42	16.522		
10,600.0	9,452.8	11,170.7	10,026.2	45.0	46.2	-168.18	25.1	1,071.1	586.0	549.5	36.56	16.030		
10,700.0	9,454.8	11,270.7	10,029.1	46.6	47.8	-168.20	26.1	1,171.0	586.9	549.2	37.75	15.547		
10,800.0	9,456.8	11,370.7	10,032.0	48.4	49.5	-168.21	27.0	1,271.0	587.8	548.8	38.99	15.075		
10,900.0	9,458.8	11,470.7	10,034.9	50.2	51.2	-168.23	28.0	1,370.9	588.7	548.4	40.28	14.617		
11,000.0	9,460.8	11,570.6	10,037.8	52.0	53.0	-168.25	29.0	1,470.8	589.6	548.0	41.60	14.173		
11,100.0	9,462.8	11,670.6	10,040.7	53.9	54.8	-168.26	30.0	1,570.8	590.5	547.6	42.96	13.746		
11,200.0	9,464.8	11,770.6	10,043.6	55.9	56.7	-168.28	31.0	1,670.7	591.4	547.1	44.35	13.336		
11,300.0	9,466.7	11,870.6	10,046.5	57.9	58.6	-168.29	32.0	1,770.7	592.3	546.6	45.77	12.942		
11,400.0	9,468.7	11,970.6	10,049.4	59.9	60.6	-168.31	33.0	1,870.6	593.2	546.0	47.21	12.565		
11,500.0	9,470.7	12,070.6	10,052.3	61.9	62.5	-168.32	34.0	1,970.6	594.1	545.5	48.68	12.204		
11,600.0	9,472.7	12,170.6	10,055.2	64.0	64.6	-168.34	35.0	2,070.5	595.0	544.9	50.17	11.860		
11,700.0	9,474.7	12,270.6	10,058.1	66.1	66.6	-168.36	36.0	2,170.5	595.9	544.3	51.68	11.531		
11,800.0	9,476.7	12,370.6	10,061.0	68.2	68.7	-168.37	37.0	2,270.4	596.8	543.6	53.21	11.217		
11,900.0	9,478.7	12,470.6	10,063.9	70.3	70.8	-168.39	38.0	2,370.4	597.7	543.0	54.75	10.918		
12,000.0	9,480.7	12,570.6	10,066.8	72.5	72.9	-168.40	39.0	2,470.3	598.7	542.3	56.31	10.632		
12,100.0	9,482.7	12,670.6	10,069.8	74.7	75.1	-168.42	40.0	2,570.3	599.6	541.7	57.88	10.359		
12,200.0	9,484.6	12,770.6	10,072.7	76.9	77.2	-168.43	41.0	2,670.2	600.5	541.0	59.46	10.098		
12,300.0	9,486.6	12,870.6	10,075.6	79.1	79.4	-168.45	42.0	2,770.2	601.4	540.3	61.06	9.849		
12,400.0	9,488.6	12,970.6	10,078.5	81.3	81.6	-168.47	43.0	2,870.1	602.3	539.6	62.66	9.612		
12,500.0	9,490.6	13,070.6	10,081.4	83.6	83.8	-168.48	44.0	2,970.1	603.2	538.9	64.27	9.384		
12,600.0	9,492.6	13,170.6	10,084.3	85.8	86.0	-168.50	45.0	3,070.0	604.1	538.2	65.89	9.167		
12,700.0	9,494.6	13,270.6	10,087.2	88.1	88.2	-168.51	46.0	3,170.0	605.0	537.4	67.52	8.959		
12,800.0	9,496.6	13,370.6	10,090.1	90.3	90.5	-168.53	47.0	3,269.9	605.9	536.7	69.16	8.760		
12,900.0	9,498.6	13,470.6	10,093.0	92.6	92.7	-168.54	48.0	3,369.9	606.8	536.0	70.81	8.570		
13,000.0	9,500.6	13,570.6	10,095.9	94.9	95.0	-168.56	49.0	3,469.8	607.7	535.2	72.46	8.387		
13,100.0	9,502.6	13,670.6	10,098.8	97.2	97.2	-168.57	50.0	3,569.8	608.6	534.5	74.11	8.212		
13,200.0	9,504.5	13,770.6	10,101.7	99.5	99.5	-168.59	51.0	3,669.7	609.5	533.7	75.77	8.044		
13,300.0	9,506.5	13,870.6	10,104.6	101.8	101.8	-168.60	52.0	3,769.7	610.4	533.0	77.44	7.882		
13,400.0	9,508.5	13,970.6	10,107.5	104.1	104.1	-168.62	53.0	3,869.6	611.3	532.2	79.11	7.728		
13,500.0	9,510.5	14,070.6	10,110.4	106.4	106.4	-168.63	54.0	3,969.6	612.2	531.4	80.78	7.579		
13,600.0	9,512.5	14,170.6	10,113.3	108.7	108.7	-168.65	55.0	4,069.5	613.1	530.6	82.46	7.435		
13,700.0	9,514.5	14,270.6	10,116.3	111.1	111.0	-168.66	56.0	4,169.5	614.0	529.9	84.14	7.298		
13,800.0	9,516.5	14,370.6	10,119.2	113.4	113.3	-168.68	57.0	4,269.4	614.9	529.1	85.82	7.165		
13,900.0	9,518.5	14,470.6	10,122.1	115.8	115.7	-168.69	58.0	4,369.4	615.8	528.3	87.51	7.037		
14,000.0	9,520.5	14,570.6	10,125.0	118.1	118.0	-168.71	59.0	4,469.3	616.7	527.5	89.20	6.914		
14,100.0	9,522.4	14,670.6	10,127.9	120.4	120.3	-168.72	60.0	4,569.3	617.6	526.7	90.89	6.795		
14,200.0	9,524.4	14,770.6	10,130.8	122.8	122.7	-168.73	61.0	4,669.2	618.5	525.9	92.59	6.680		

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

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,300.0	9,526.4	14,870.5	10,133.7	125.2	125.0	-168.75	62.0	4,769.2	619.4	525.1	94.28	6.570		
14,400.0	9,528.4	14,970.5	10,136.6	127.5	127.3	-168.76	63.0	4,869.1	620.3	524.3	95.98	6.463		
14,500.0	9,530.4	15,070.5	10,139.5	129.9	129.7	-168.78	64.0	4,969.0	621.2	523.5	97.68	6.360		
14,600.0	9,532.4	15,170.5	10,142.4	132.2	132.0	-168.79	65.0	5,069.0	622.1	522.8	99.38	6.260		
14,700.0	9,534.4	15,270.5	10,145.3	134.6	134.4	-168.81	66.0	5,168.9	623.0	522.0	101.09	6.163		
14,800.0	9,536.4	15,370.5	10,148.2	137.0	136.8	-168.82	67.0	5,268.9	623.9	521.1	102.79	6.070		
14,900.0	9,538.4	15,470.5	10,151.1	139.4	139.1	-168.84	68.0	5,368.8	624.8	520.3	104.50	5.979		
15,000.0	9,540.4	15,570.5	10,154.0	141.7	141.5	-168.85	69.0	5,468.8	625.8	519.5	106.21	5.892		
15,100.0	9,542.3	15,670.5	10,156.9	144.1	143.9	-168.86	70.0	5,568.7	626.7	518.7	107.92	5.807		
15,200.0	9,544.3	15,770.5	10,159.8	146.5	146.2	-168.88	71.0	5,668.7	627.6	517.9	109.63	5.724		
15,300.0	9,546.3	15,870.5	10,162.8	148.9	148.6	-168.89	72.0	5,768.6	628.5	517.1	111.34	5.645		
15,400.0	9,548.3	15,970.5	10,165.7	151.3	151.0	-168.91	73.0	5,868.6	629.4	516.3	113.05	5.567		
15,500.0	9,550.3	16,070.5	10,168.6	153.6	153.3	-168.92	74.0	5,968.5	630.3	515.5	114.76	5.492		
15,600.0	9,552.3	16,170.5	10,171.5	156.0	155.7	-168.93	75.0	6,068.5	631.2	514.7	116.48	5.419		
15,700.0	9,554.3	16,270.5	10,174.4	158.4	158.1	-168.95	76.0	6,168.4	632.1	513.9	118.19	5.348		
15,800.0	9,556.3	16,370.4	10,177.3	160.8	160.5	-168.96	77.0	6,268.4	633.0	513.1	119.90	5.279		
15,900.0	9,558.3	16,470.4	10,180.2	163.2	162.9	-168.98	78.0	6,368.3	633.9	512.3	121.62	5.212		
16,000.0	9,560.2	16,570.4	10,183.1	165.6	165.3	-168.99	79.0	6,468.3	634.8	511.5	123.33	5.147		
16,100.0	9,562.2	16,670.4	10,186.0	168.0	167.6	-169.00	80.0	6,568.2	635.7	510.6	125.05	5.084		
16,200.0	9,564.2	16,770.4	10,188.9	170.4	170.0	-169.02	81.0	6,668.2	636.6	509.8	126.77	5.022		
16,300.0	9,566.2	16,870.4	10,191.8	172.8	172.4	-169.03	82.0	6,768.1	637.5	509.0	128.48	4.962		
16,400.0	9,568.2	16,970.4	10,194.7	175.2	174.8	-169.05	83.0	6,868.1	638.4	508.2	130.20	4.903		
16,500.0	9,570.2	17,070.4	10,197.6	177.6	177.2	-169.06	84.0	6,968.0	639.3	507.4	131.91	4.846		
16,600.0	9,572.2	17,170.4	10,200.5	180.0	179.6	-169.07	85.0	7,068.0	640.2	506.6	133.63	4.791		
16,700.0	9,574.2	17,270.4	10,203.4	182.4	182.0	-169.09	86.0	7,167.9	641.1	505.8	135.35	4.737		
16,800.0	9,576.2	17,370.4	10,206.3	184.8	184.4	-169.10	87.0	7,267.9	642.0	505.0	137.07	4.684		
16,900.0	9,578.2	17,470.4	10,209.3	187.2	186.8	-169.11	88.0	7,367.8	642.9	504.1	138.78	4.633		
17,000.0	9,580.1	17,570.4	10,212.2	189.6	189.2	-169.13	89.0	7,467.8	643.8	503.3	140.50	4.582		
17,100.0	9,582.1	17,670.4	10,215.1	192.0	191.6	-169.14	90.0	7,567.7	644.7	502.5	142.22	4.533		
17,200.0	9,584.1	17,770.4	10,218.0	194.4	194.0	-169.15	91.0	7,667.7	645.6	501.7	143.93	4.486		
17,300.0	9,586.1	17,870.4	10,220.9	196.8	196.4	-169.17	92.0	7,767.6	646.6	500.9	145.65	4.439		
17,400.0	9,588.1	17,970.4	10,223.8	199.3	198.8	-169.18	93.0	7,867.6	647.5	500.1	147.37	4.393		
17,500.0	9,590.1	18,070.4	10,226.7	201.7	201.2	-169.19	94.0	7,967.5	648.4	499.3	149.09	4.349		
17,600.0	9,592.1	18,170.4	10,229.6	204.1	203.6	-169.21	95.0	8,067.5	649.3	498.5	150.80	4.305		
17,700.0	9,594.1	18,270.4	10,232.5	206.5	206.0	-169.22	96.0	8,167.4	650.2	497.7	152.52	4.263		
17,800.0	9,596.1	18,370.4	10,235.4	208.9	208.4	-169.23	97.0	8,267.4	651.1	496.8	154.24	4.221		
17,900.0	9,598.0	18,470.4	10,238.3	211.3	210.9	-169.25	98.0	8,367.3	652.0	496.0	155.95	4.181		
18,000.0	9,600.0	18,570.4	10,241.2	213.7	213.3	-169.26	99.0	8,467.2	652.9	495.2	157.67	4.141		
18,100.0	9,602.0	18,670.4	10,244.1	216.2	215.7	-169.27	100.0	8,567.2	653.8	494.4	159.38	4.102		
18,200.0	9,604.0	18,770.3	10,247.0	218.6	218.1	-169.29	101.0	8,667.1	654.7	493.6	161.10	4.064		
18,300.0	9,606.0	18,841.6	10,249.1	221.0	219.5	-169.30	101.7	8,738.3	656.2	494.0	162.22	4.045		
18,400.0	9,608.0	18,841.6	10,249.1	223.4	219.5	-169.30	101.7	8,738.3	669.0	508.4	160.64	4.165		
18,432.5	9,608.6	18,841.6	10,249.1	224.2	219.5	-169.30	101.7	8,738.3	676.3	516.7	159.58	4.238		

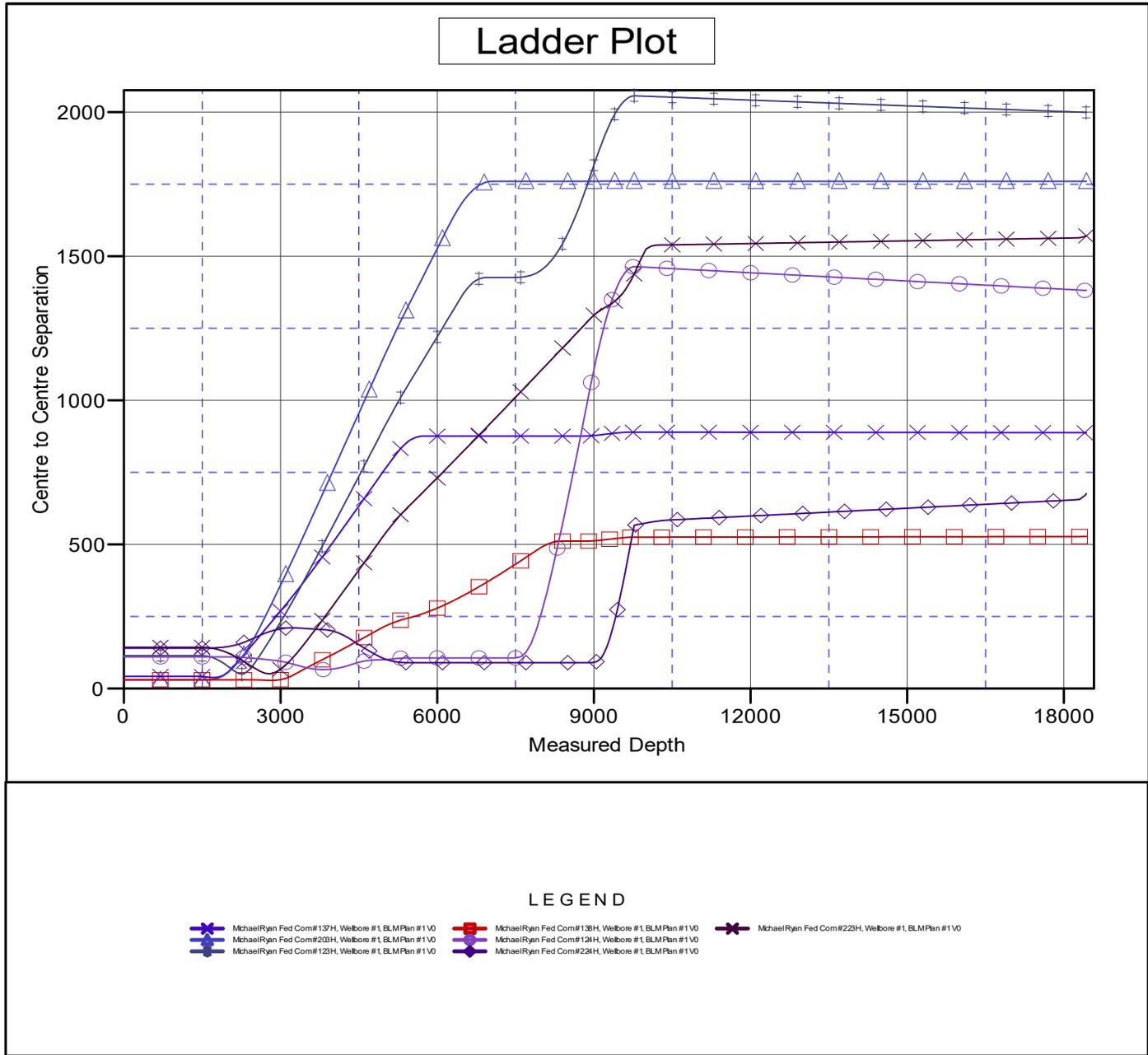
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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 #204H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.13°



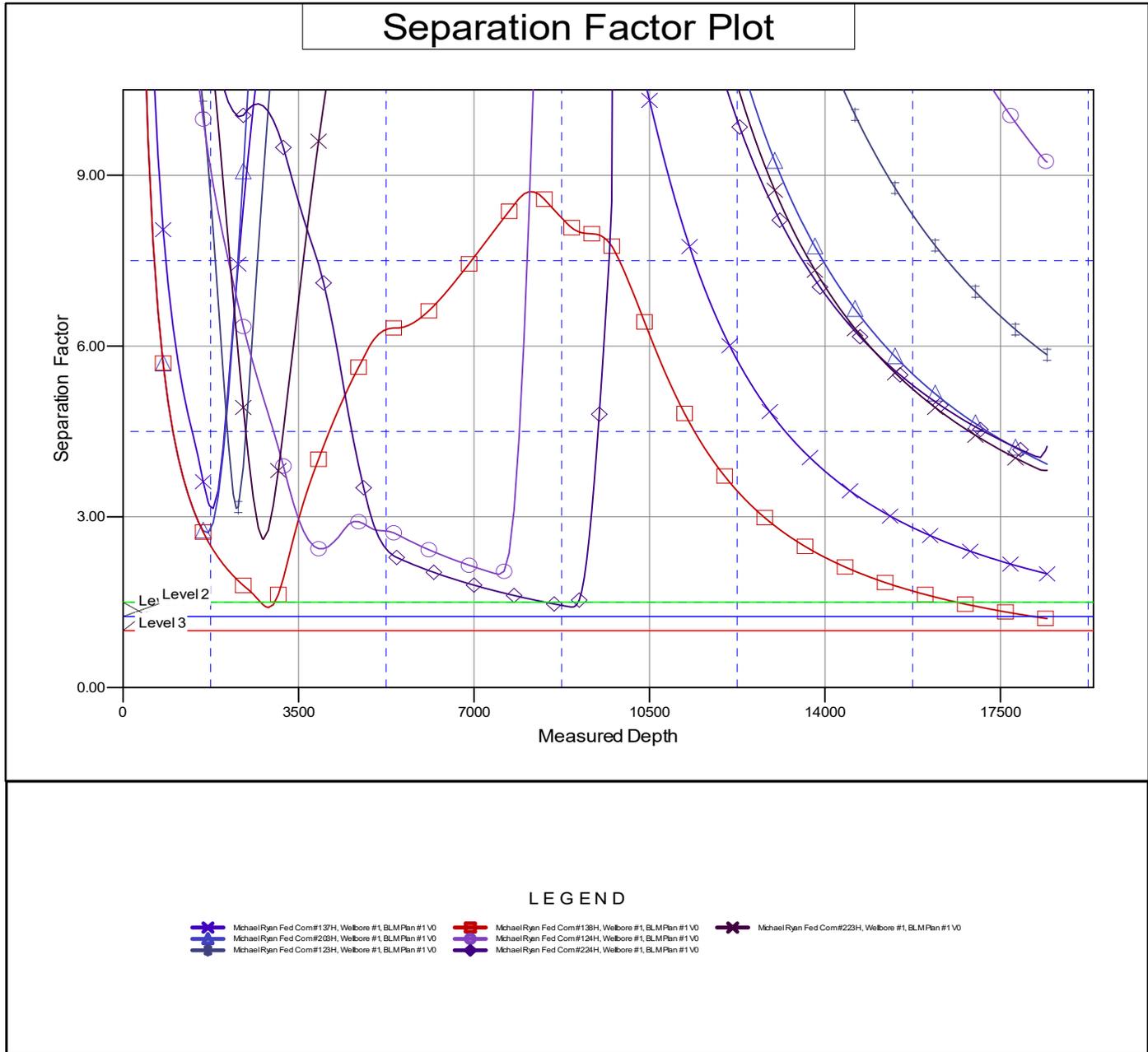
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Michael Ryan Fed Com #204H
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 #204H	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 #204H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.13°



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



SURVEY PROGRAM

WELL DETAILS: Michael Ryan Fed Com #204H

Depth From	Depth To	Survey/Plan	Tool	+N/-S	+E/-W	GL @ 3078.0	KB @ 3106.5usft	Slot
0.0	18432.5	BLM Plan #1 (Wellbore #1)	MWD	0.0	0.0	Northing 504610.19	Easting 572118.14	Latitude 32° 23' 13.458 N
								Longitude 104° 5' 58.933 W

Company: Matador Production Company
Well: Michael Ryan Fed Com #204H
County: Eddy county, NM
Wellbore: Wellbore #1
Plan: BLM Plan #1
Date: 9/24/2021

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

To convert a Magnetic Direction to a Grid Direction, Add 6.62°
 To convert a Magnetic Direction to a True Direction, Add 6.75° East
 To convert a True Direction to a Grid Direction, Subtract 0.13°

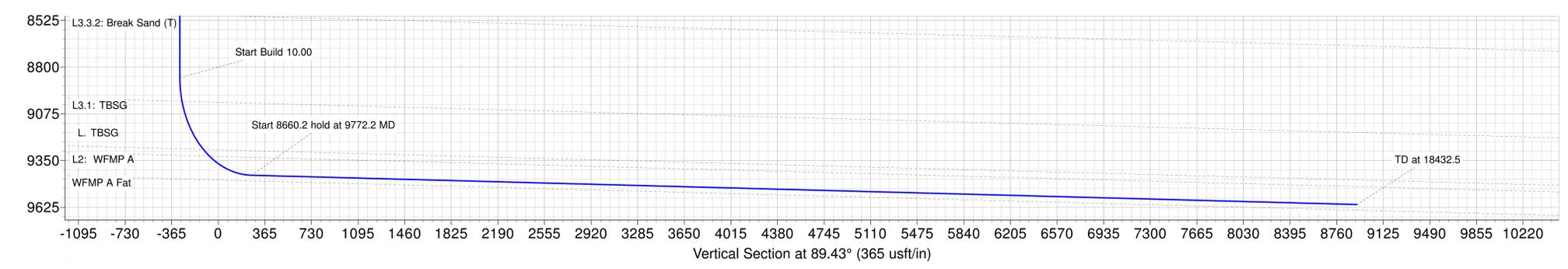
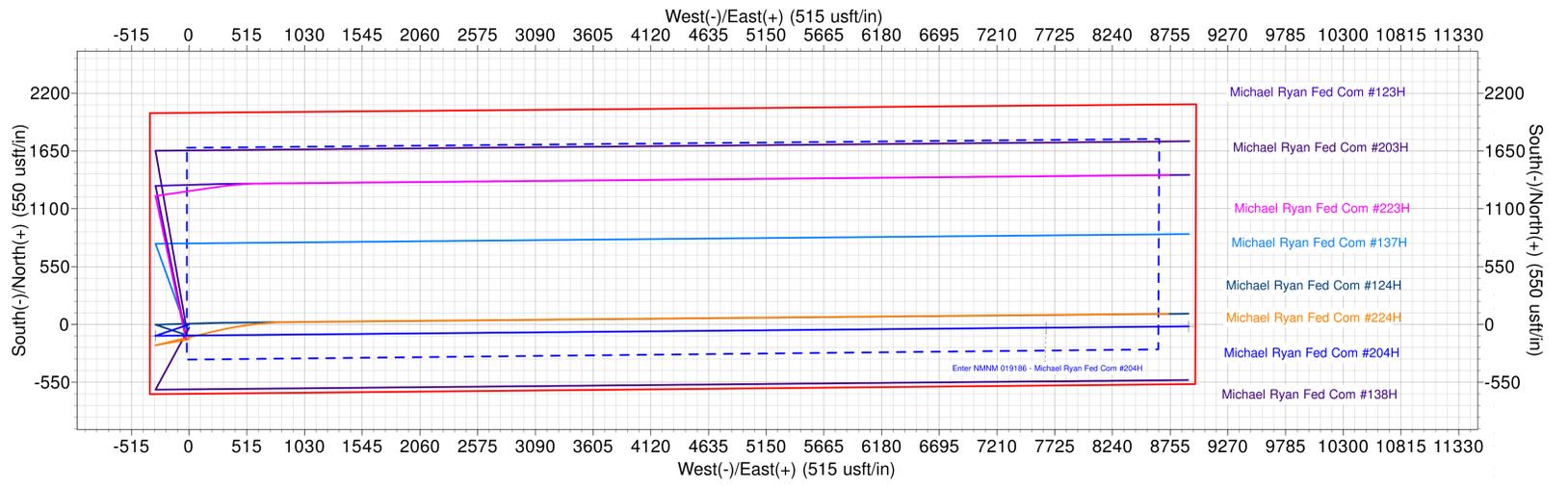
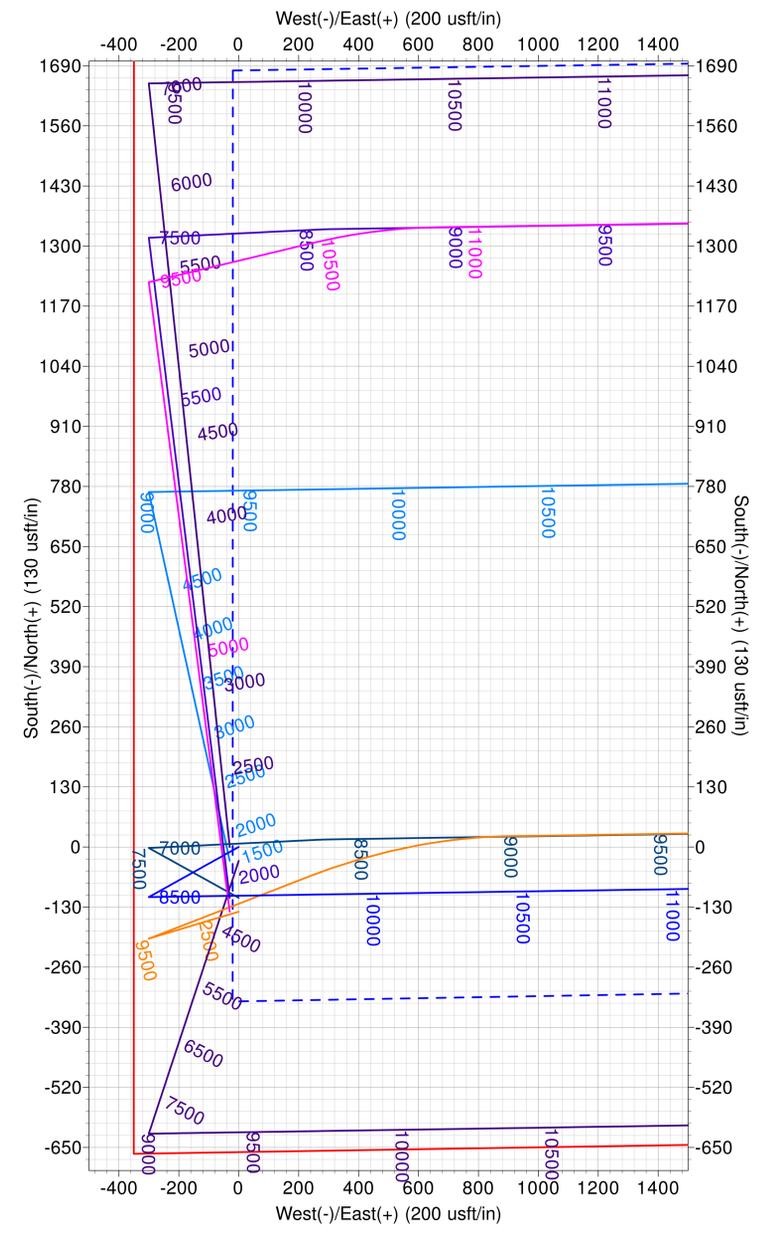
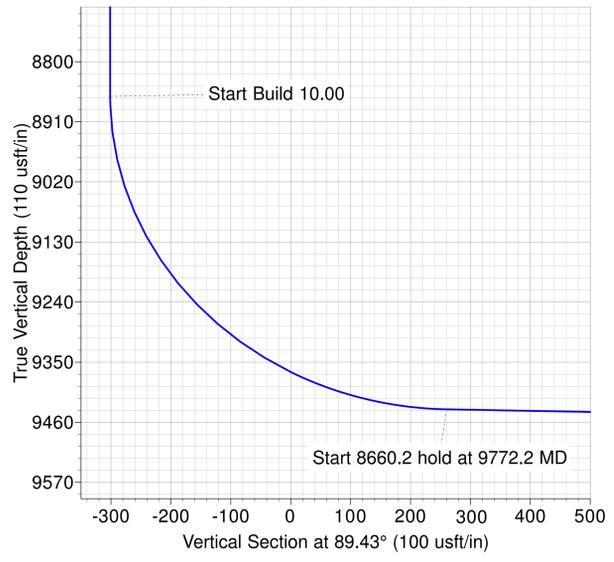
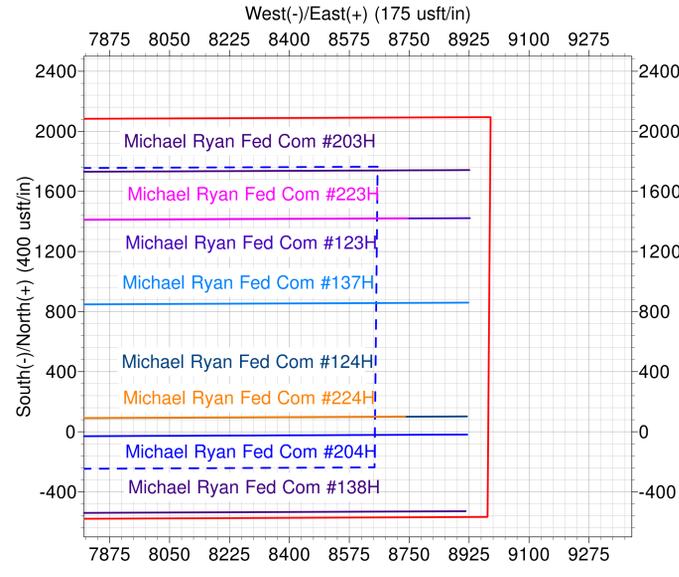
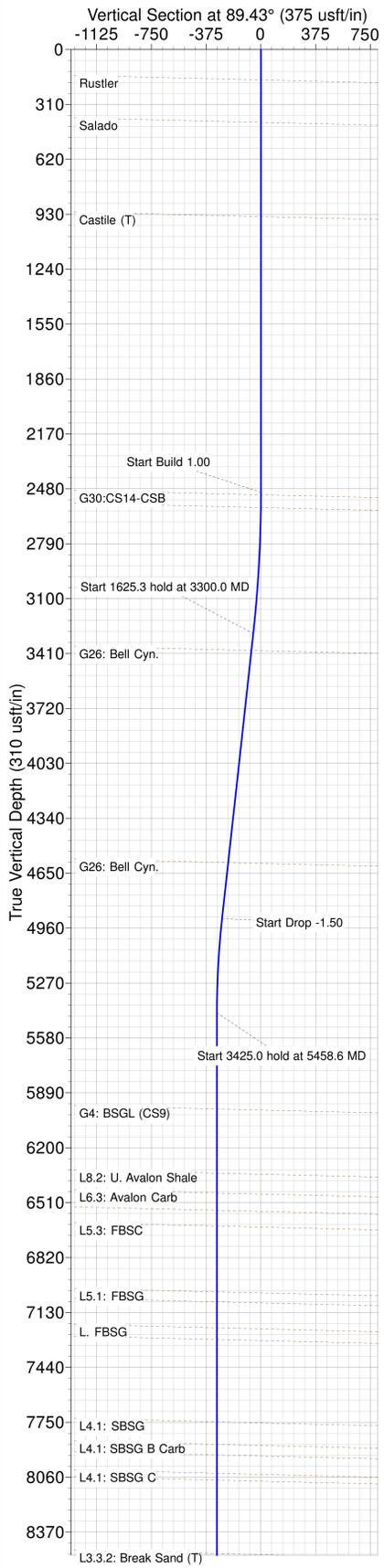


Azimuths to Grid North
 True North: -0.12°
 Magnetic North: 6.62°
 Magnetic Field
 Strength: 47542.6snT
 Dip Angle: 60.07°
 Date: 9/24/2021
 Model: IGRF2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
VP - Michael Ryan Fed Com #204H	8863.5	-108.4	-300.2	504501.81	571818.00	32° 23' 12.392 N	104° 6' 2.436 W
BHL - Michael Ryan Fed Com #204H	9608.6	-20.3	8919.5	504589.85	581038.00	32° 23' 13.052 N	104° 4' 14.908 W
Enter NMNM 019186 - Michael Ryan Fed Com #204H	9583.4	-30.7	7646.9	504579.51	579765.30	32° 23' 12.980 N	104° 4' 29.751 W
FTP - Michael Ryan Fed Com #204H	9436.5	-108.2	-20.1	504502.00	572098.00	32° 23' 12.388 N	104° 5' 59.171 W

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 1.00
3300.0	8.00	250.15	3297.4	-18.9	-52.4	1.00	250.15	-52.6	Start 1625.3 hold at 3300.0 MD
4925.3	8.00	250.15	4906.9	-95.8	-265.2	0.00	0.00	-266.1	Start Drop -1.50
5458.6	0.00	0.00	5438.5	-108.4	-300.2	1.50	180.00	-301.2	Start 3425.0 hold at 5458.6 MD
8883.6	0.00	0.00	8863.5	-108.4	-300.2	0.00	0.00	-301.2	Start Build 10.00
9772.2	88.86	89.44	9436.3	-102.9	261.4	10.00	89.44	260.3	Start 8660.2 hold at 9772.2 MD
18432.5	88.86	89.44	9608.6	-18.3	8919.5	0.00	0.00	8918.8	TD at 18432.5



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MATADOR PRODUCTION COMPANY
LEASE NO.:	NMNM019186
WELL NAME & NO.:	MICHAEL RYAN FED COM 204H
SURFACE HOLE FOOTAGE:	658'/S & 350'/W
BOTTOM HOLE FOOTAGE:	661'/S & 240'/E
LOCATION:	Section 16, T.22 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Primary Casing Design/Alternate Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **360 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after

- completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **7-5/8** inch intermediate casing shall be set at **8783 feet**. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. **BOP REQUIREMENTS**

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi**.

- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3000 (3M) psi.**

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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Hydrogen Sulfide Drilling
Operations Plan
Matador Resources

1 H2S safety instructions to the following:

- Characteristics of H2S
- Physical effects and hazards
- Principal and operation of H2S detectors, warning system and briefing areas
- Evacuation procedures, routes and first aid
- Proper use of safety equipment & life support systems
- Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30min pressure demand air packs

2 H2S Detection and Alarm Systems:

- H2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure / cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
- An audio alarm system will be installed on the derrick floor and in the doghouse

3 Windsocks and / Wind Streamers:

- Windsocks at mud pit area should be high enough to be visible
- Windsock on the rig floor and / top of doghouse should be high enough to be visible

4 Condition Flags and Signs:

- Warning sign on access road to location
- Flags to be displayed on sign at entrance to location
 - Green Flag – Normal Safe Operation Condition
 - Yellow Flag – Potential Pressure and Danger
 - Red Flag – Danger (H2S present in dangerous concentrations) Only H2S trained personnel admitted on location

5 Well Control Equipment:

- See Exhibit E-1

6 Communication:

- While working under masks chalkboards will be used for communications
- Hand signals will be used where chalk board is inappropriate
- Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drilling Stem Testing:

- No DST cores are planned at this time

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8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubulars good and other mechanical equipment

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

11 Emergency Contacts

- See exhibit E-6

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**HYDROGEN SULFIDE CONTINGENCY PLAN
Drilling, Testing, & Completion**

MRC ENERGY CO.

Reviewers

----- Operations Manager
 ----- Operations Supt.
 ----- Staff RES
 ----- Field Supt.
 Blake Hermes---Engineering

H2S Contingency Plan # 0165 Revision# 0

This H2S Contingency Plan is subject to updating

Effective date: July 8, 2015

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INTRODUCTION

The H2S equipment will be rigged up 2 days prior to reaching a potential H2S containing zone. Drilling into any potential H2S zone shall not commence until the on-site MRC Drilling Supervisor has confirmed this plan in place.

The onsite Drilling Foreman will give Total Safety one week (7 days) notice to prepare for rig up of H2S equipment)

To be effective, the plan requires the cooperation and effort of each person participating in the drilling of an H₂S well. Each person must know his/her responsibilities and all emergency and safety procedures. He/she should thoroughly understand and be able to use with accuracy, all safety equipment while performing his/her normal duties, if the circumstance should arise. He/she should therefore familiarize himself/herself with the location of all safety equipment and check to see that it is properly stored, easily accessible at all times, and routinely maintained.

It is the intention of MRC ENERGY CO. and the Drilling Contractor to make every effort to provide adequate safeguards against harm to persons on the rig and in the immediate vicinity from the effects of hydrogen sulfide, which may be released into the atmosphere under emergency conditions. However, the initiative rests with the individual in utilizing the safeguards provided. The ideas and suggestions of the individuals involved in the drilling of this well are highly welcomed and act as a fundamental tool for providing the safest working conditions possible.

The drilling representative is required to enforce these procedures. They are set up for your safety and the safety of all others.

II. PURPOSE

It is MRC Energy Co.'s intent to provide a safe working place, not only for its employees, but also for other contractors who are aiding in the drilling of this well. The safety of the general public is of utmost concern. All precautions will be taken to keep a safe working environment and protect the public.

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There is a possibility of encountering toxic hydrogen sulfide gas. Safety procedures must be adhered to in order to protect all personnel connected with the operations as well as people living within the area.

The MRC Energy Co. representative will enforce all aspects of the H2S Contingency Plan. This job will become easier by a careful study of the following pages and training and informing all personnel that will be working on the well, their duties and responsibilities.

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A. OPERATING PROCEDURES

DEFINITIONS:

For purpose of this plan, on-site personnel shall be referred to as “In Scope Personnel” or “Out of Scope Personnel”, per the following definitions:

In Scope Personnel – Personnel who will be working or otherwise present in potential H₂S release areas, including the rig floor, cellar, pits, and shaker areas.

Out of Scope Personnel – Personnel who will not be working or Otherwise present in potential H₂S areas. Such personnel include rig Site visitor, delivery and camp services personnel.

GENERAL:

Before this H₂S contingency plan becomes operational, all regularly assigned In Scope Personnel (primarily the MRC, drilling contractor, and certain service personnel,) shall be thoroughly trained in the use of breathing equipment, emergency procedures, and responsibilities. Total Safety Technician or a designee assigned by the MRC Drilling Foreman shall keep a list of all personnel who have been through the on-site H₂S training program at the drill site.

All In Scope Personnel shall be given H₂S training and the steps to be taken during H₂S conditions under which the well may be drilled. General information will be explained about toxic gases, as well as the physiological effects of H₂S and the various classified operating conditions. In addition, the reader will be informed his/her general responsibility concerning safety equipment and emergency procedures.

The Total Safety H₂S Safety Technician or MRC on-site RSE Technician shall make available the H₂S Contingency Plan for all personnel to review.

Without exception, all personnel that arrive on location must proceed directly to and sign-in with the on-site MRC RSE Technician. In Scope Personnel will be required to complete an on-site H₂S training and respirator fit testing before starting work, or produce evidence that they have received equivalent training. Out of Scope Personnel will be required to complete a site H₂S awareness and general safety briefing. This briefing will consist of a H₂S hazard overview, alarm review and required response to alarms.

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B. PROCEDURES TO BE INITIATED PRIOR TO H2S CONTINGENCY PLAN COMPLIANCE:

A list of emergency phone numbers and contacts will be on location and posted at the following locations:

1. MRC ENERGY CO.'S Representative's Office
2. Drilling Contractor's, Toolpusher Office
3. Living Quarters Area

All safety equipment and H₂S related hardware must be set up as required by MRC Energy Co. with regard to location of briefing areas, breathing equipment, etc. All safety equipment must be inspected periodically (at least weekly) with particular attention to resuscitators and breathing equipment.

In Scope Personnel working in the well site area will be assigned breathing apparatus. Operator and drilling contractor personnel required to work in the following areas will be provided with Self Contained Breathing Apparatus:

1. Rig Floor
2. Mud Pits
3. Derrick
4. Shale Shaker
5. Cellar

The Total Safety H₂S Safety Technician will be responsible for rigging up all H₂S continuous monitoring-type detectors. The Total Safety Technician will monitor and bump test the detector units periodically (at least at least once a week to test alarm function during drilling conditions. In the event H₂S is detected, or when drilling in a zone confirmed to contain H₂S, the units shall be bump tested at least once every 24 hours. A bump test/calibration log will be kept on location. All results will be reported to the MRC on-site Drilling Foreman.

All Total Safety H₂S equipment will be maintained and inspected by a Total Safety Technician on at least a Weekly basis.

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C. DRILLING BELOW CONTINGENCY PLAN DEPTH

H2S response drills will be held at least once per week if possible or as often as necessary to acquaint the crews and service company personnel of their responsibilities and the proper procedures to shut-in a well. Initial drills will be performed until crews demonstrate competency donning and working under mask. After the MRC Energy Co.'s representative is satisfied with initial blowout drill procedures, a drill will be conducted weekly with each crew, as necessary. The H2S Safety Technician or designee will conduct safety talks and maintain the safety equipment, consult and carry out the instructions of the drilling supervisor. All personnel allowed in the well work area during drilling or testing operations will be instructed in the use of breathing equipment until supervisory personnel are satisfied that they are capable of using it.

After familiarization, each person must perform a drill with breathing equipment. The drill should include getting the breathing equipment, donning the breathing apparatus, and performing expected duties for a short period. A record shall be kept of all personnel drilled and the date of the drill. H2S training records will be kept on location for all personnel.

Rig crews and service company personnel shall be made aware of the location of spare air bottles, resuscitation equipment, portable fire extinguishers, H₂S monitors and detectors. Knowledge of the location of the H₂S monitors and detectors are vital in determining as our gas location and the severity of the emergency conditions.

After any device has initially detected H₂S, all areas of poor ventilation shall be inspected periodically by means of a portable H₂S detector instrument. The buddy system will be utilized. (When an alarm sounds, personnel will don an SCBA, shut the well in, and proceed to SBA for roll call. The H₂S Technician or designee will mask up, with a buddy and will verify source of H₂S and report back to the on-site MRC Foreman.)

D. PROCEDURES PROGRAM

1. Drill Site
 - a. The drilling rig will be located to allow prevailing winds to blow across the reserve pit.
 - b. A Safe Briefing Area will be provided with a breathing air cascade trailer and or 30-minute SCBA's at the Primary Area. Personnel will assemble at the most up-wind station under alarm conditions, or when so ordered by the MRC Energy Co. representative, the Contractor representative, or

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the Total Safety H₂S Safety Technician. Windssocks or streamers will be anchored to various strategic places on a pole about 10 feet high, so it is in easy view from the rig floor at all times.

- c. Warning signs will be posted on the perimeters. "No Smoking" signs will be posted by MRC Energy Co.as well.
- d. One multi-channel automatic H₂S monitor will be provided by Total Safety and the detector heads will be at the shale shaker, bell nipple, mud pits, rig floor, and quarter's area. The monitor will be located inside HSE or Company man trailer. Should the alarm be shut off to silence the sirens, the blinker light must continue to warn of H₂S presence. The Total Safety H₂S Safety Technician or designee will continuously monitor the detectors and will reactivate the alarm if H₂S concentrations increase to a dangerous level.
- e. A method of escape will be open at all times.
- f. If available, land line telephone service will be provided or cell phones provided. (Primary communications provided)
- g. A rig communication system will be provided, as needed.
- h. A gas trap, choke manifold, and degasser will be installed.
- i. A kill line, securely anchored and of ample strength, will be laid to the well-head from a safe location. This line is to be used only in an emergency.

General

- a. The MRC Energy Co. representative and/or the Contractor's Toolpusher will be available at all times. The drilling supervisor, while on duty, will have complete charge of the rig and location operations and will take whatever action is deemed necessary to insure personnel safety, to protect the well, and to prevent damage.
- b. A Mud Engineer will be on location at all times when drilling takes place at the depth H₂S may be expected. The mud engineer will be able to verify the presence or absence of H₂S.

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III. CONDITIONS AND EMERGENCY PROCEDURES
A. DEFINITION OF OPERATIONAL “CONDITIONS”

CONDITION I	“POSSIBLE DANGER”
Warning Flags	Green
Alarms	No Alarm. Less than 10 ppm
Characterized By:	Drilling operations in zones that may contain hydrogen sulfide. This condition remains in effect unless H ₂ S is detected and it becomes necessary to go to Condition II.
General Action:	<ul style="list-style-type: none"> a. Be alert for a condition change b. Check all safety equipment for availability and proper functioning. c. Perform all drills for familiarization and proficiency.
CONDITION II	“MODERATE DANGER”
Warning Flags	Yellow
Alarms:	Actuates at 10 ppm. Continuous flashing light.
Characterized By:	Drilling operations in zones containing hydrogen sulfide. This condition will remain in effect until adding chemicals to the mud system neutralizes the hydrogen sulfide or it becomes necessary to go to Condition III.
General Action:	<ul style="list-style-type: none"> a. Be alert for a condition change b. WHEN DRILLING AHEAD - Driller and designated crewmember will don 30 min SCBA, shut-in the well and immediately proceed to the Safe Briefing Area. <p>WHEN TRIPPING – Driller and two designated crewmembers will don 30 min SCBA, shut in the well and immediately proceed to the Safe Briefing Area. The Derrickman will</p>

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don a 5-minute escape pack, descend to the rig floor, don a 30-min SCBA (if necessary) and immediately proceed to the Safe Briefing Area.

- c. All In Scope Personnel will proceed directly to the appropriate Safe Briefing Area.
- d. Remain in safe briefing area, take roll call and wait for instructions
- e. Contact the Total H2S Technician if not on location.
- f. Personnel shall ensure that their breathing apparatus is properly fitted and operational before entering an H₂S contaminated area to provide assistance to anyone who may be injured or overcome by toxic gases.
- g. All Out of Scope Personnel will report to the appropriate Safe Briefing Area.

CONDITION III “EXTREME DANGER”

Warning Flags Red

Alarms Actuate at 15 ppm. Continuous Sirens and Flashing Lights

Characterized by: Critical well operations which pose an immediate threat of H₂S exposure to on-site personnel and a potential threat to the public.

General Action: a. WHEN DRILLING AHEAD - Driller and designated crewmember will don 30 min SCBA, shut-in the well and immediately proceed to the Safe Briefing Area.

WHEN TRIPPING – Driller and two designated crewmembers will don 30

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min SCBA, shut in the well and immediately proceed to the Safe Briefing Area. The Derrickman will don a 5-minute escape pack, descend to the rig floor, don a 30-min SCBA (if necessary) and immediately proceed to the Safe Briefing Area.

- b. All In Scope Personnel should don SCBA if nearby and immediately proceed to Safe Briefing Area. If SCBA is not nearby at time of alarm, DO NOT GO TOWARDS RIG AREA, but proceed directly to the Safe Briefing Area
- c. All out of Scope Personnel shall evacuate the location.
- d. Remain in the Safe Briefing Area, take roll call and wait for instructions.
- e. Contact the Total H2S Technician if not on location.
- f. Personnel shall ensure that their breathing apparatus is properly fitted and operational before entering an H₂S contaminated area to provide assistance to anyone who may be injured or overcome by toxic gases. Use the buddy system.
- g. Remain in safe briefing area, take roll call and wait for instructions.
- h. A cascade breathing air systems shall be mobilized and utilized to conduct any additional on rig work required to correct the H₂S release condition.
- i. If well is ignited do not assume area is safe. SO₂ is hazardous and not all H₂S will burn.

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H₂S EMERGENCY PROCEDURES; IN SCOPE PERSONNEL

A. Day To Day Drilling Operations

1. Upon discovering a release of H₂S gas in the ambient air by warning alarms or in any other way **Do Not Panic**.
2. Hold your breath donning the nearest Self Contained Breathing Apparatus and rapidly move up or across-wind away from the areas where H₂S sensing devices are in place, to the closest available safe briefing area. Continue to use breathing apparatus until it has been determined that the exposure of H₂S gas in the ambient air no longer exists. **Do Not Panic!**
3. Utilize the “Buddy System”, i.e.; select and pair up each person participating in the drilling of an H₂S well prior to an emergency situation.
4. Help anyone who is overcome or affected by the H₂S gas by taking him/her up-wind out of the contaminated area. (This should be done utilizing an SCBA and with a buddy.)
5. Take necessary steps to confirm the release of the H₂S gas into the ambient air.
 - When an H₂S alarm activates, two designated personnel using the buddy system, while wearing their self contained breathing apparatus, will determine by the read-out on the fixed monitor which sensing device has detected the release of the H₂S gas.
 - They will utilize the hand-held sniffer type device at the particular sensing point disclosed on the fixed monitor to corroborate the fact that H₂S gas has actually been released. This will rule out the possibility of a false alarm. This will be done with a buddy and under mask after reporting to the Safe Briefing Area for roll call and instructions by on-site MRC Foreman.
6. Refer to the Emergency Phone Numbers and call emergency personnel.
7. Take the necessary steps to suppress the release of H₂S gas into the ambient air. Comply with the MRC Energy Co. Representative to physically suppress the release of H₂S gas at the actual release point.

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8. Check all of MRC Energy Co.'s monitoring devices and increase gas-monitoring activities with the portable hand-operated H₂S and gas detector units.

Do Not Panic!

The MRC Energy Co. representative will assess the situation and with assistance of the Contractor's Representative and Total Safety's H₂S Safety Technician or on site designee, will assign duties to each person to bring the situation under control.

B. RESPONSIBILITIES OF WELL-SITE PERSONNEL

In the event of a release of potentially hazardous amounts of H₂S, all personnel will immediately don their protective breathing apparatus, the well will be shut in and personnel will proceed upwind to the nearest designated safe briefing area for roll call and instructions by MRC Foreman. Consideration will be given to evacuating Out of Scope Personnel, as situation warrants.

1. MRC ENERGY CO.'S Well-site Representatives

- a. If MRC Energy Co.'s well-site representative is incapacitated or not on location, this responsibility will fall to the Toolpusher/Driller.
- b. Immediately upon assessing the situation, set this plan into Action by initiating the proper procedures to contain the gas and notify the appropriate people and agencies.
- c. Ensure that the alarm area indicated by the fixed H₂S Monitor is checked and verified with a portable H₂S detector. (Safety Technician if on location or MRC assigned designee with a buddy utilizing SCBA's)
- d. Consult Pusher/driller of remedial actions as needed.
- e. Ensure that non-essential personnel proceed to the safe briefing area.
- f. Ensure location entrance barricades are positioned. Keep the number of persons on location to a minimum during hazardous operations.

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- g. Consult each contractor, Service Company and all others allowed to enter the site, that H₂S gas may be encountered and the potential hazards that may exist.
- h. Authorize the evacuation of local residents if H₂S threatens Their safety.
- i. Non essential personnel should be evacuated from location if Situation warrants.

2. Toolpusher

- a. Toolpusher/Driller will assume responsibilities of MRC Energy Co.'s well-site representative if that person is incapacitated or not on location.
- b. Ensure that the alarm area indicated by the fixed H₂S monitor is checked and verified with a portable H₂S gas detector. (Alarm area indicated by the monitor will be Checked by the H₂S Technician and a buddy, under mask.) This will be done after checking in and roll call at the Upwind Safe Briefing Area.
- c. Confer with MRC Energy Co.'s well-site representative or superintendent and direct remedial action to suppress the H₂S and control the well.
- d. Ensure that personnel at the safe briefing area are instructed on emergency actions required.
- e. Ensure that personnel at the drill floor area are instructed on emergency actions required.
- f. Ensure that all personnel observe the appropriate safety and emergency procedures.
- g. Ensure that all persons are accounted for and provided emergency assistance as necessary.

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3. Mud Engineer

- a. Run a sulfide check on the flowline mud.
- b. Take steps to determine the source of the H₂S and suppress it. Lime and H₂S scavenger shall be added to the mud as necessary.

4. Total H₂S Safety Technician, if on location, or MRC Designee

- a. H₂S Safety Technician or designee don nearest SCBA and report to Safe Briefing Area for roll call, take a buddy masked up and check monitor and verify with a portable H₂S detector the alarm area indicated by the fixed H₂S monitor. Advise the Toolpusher/Driller and MRC Energy Co.'s well-site representative of findings. Record all findings.
- b. If H₂S is flared, check for sulfur dioxide (SO₂) near the flare as necessary. Take hourly readings at different perimeters, log readings and record on location.
- c. Ensure that personnel at the safe briefing area are instructed on emergency actions required.
- d. Ensure that the appropriate warning flags are displayed.
- e. Ensure that all personnel are in S.C.B.A. as necessary.
- f. Ensure that all persons are accounted for and provide emergency assistance as necessary.
- g. Be prepared to evacuate rig if order is issued.

5. General Personnel & Visitors

- a. All In Scope Personnel, if not specifically designated to shut the well in or control the well, shall proceed to the (upwind) safe briefing area. All Out of Scope Personnel shall immediately proceed to the appropriate (upwind) safe briefing area or evacuate the site as conditions warrant.

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- b. During any emergency, use the “buddy” system to prevent anyone from entering or being left in a gas area alone, even wearing breathing apparatus.
- c. Provide assistance to anyone who may be injured or overcome by toxic gases. Personnel shall ensure that their breathing apparatus is properly fitted and operational before entering a potentially H₂S contaminated area.
- d. Remain in safe briefing area and wait for instructions.

C. INSTRUCTIONS FOR IGNITING THE WELL

- 1. The Toolpusher/Driller will confer with MRC Energy Co.’s well-site representative who will secure the approval of the “Texas Wells Delivery Manager, prior to igniting the well, if at all possible.

The Toolpusher/Driller will be responsible for igniting the well in the event of severe well control problems. This decision should be made only as a last resort in situations where it is clear that:

- a. Human life and property are endangered, or
 - b. There is no hope of controlling the well under current conditions.
- 2. Once the decision has been made, the following procedures should be followed:
 - a. Two people wearing self-contained breathing apparatus will be needed for the actual lighting of the well. They must first establish the flammable perimeter by using an explosimeter. This should be established at 30% to 40% of the lower flammable limits.
 - b. After the flammable perimeter has been established and everyone removed from the area, the ignition team should select a site upwind of the well from which to ignite the well. This site should offer the maximum protection and have a clear path for retreat from the area.

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- c. The ignition team should have safety belts and lifeline attached and manned before attempting ignition. If the leak is not ignited on the first attempt, move in 20 to 30 feet and fire again. Continue to monitor with the explosimeter and NEVER fire from an area with over 75% of the Lower Explosive Limit (LEL). If having trouble igniting the well, try firing 40 degrees to 90 degrees on either side of the well.
- d. If ignition is not possible due to the makeup of the gas, the toxic perimeter must be established and evacuation continued until the well is contained.
- e. All personnel must act only as directed by the person in charge of the operations.

NOTE: After the well is ignited, burning hydrogen sulfide (H₂S) will convert to sulfur dioxide (SO₂), which is also a highly toxic gas.

DO NOT ASSUME THE AREA IS SAFE AFTER THE WELL IS IGNITED

D. CORING PROCEDURES

Only essential personnel shall be on the rig floor. Ten (10) stands prior to retrieving core barrel; all personnel on drill floor and in derrick shall confirm self-Contained breathing apparatus available and ready for use.

A Total H₂S Technician will don a SCBA with a buddy assigned from the rig crew, and continuously monitor for H₂S at each connection. Any levels detected will require operations to be shut down and all involved personnel to don SCBAs. Precautions will remain in place until barrel is laid down.

All involved personnel will don SCBAs when removing the inner barrel from the outer barrel. SCBAs can be removed once the absence of H₂S is confirmed by the Total H₂S Technician.

Cores will be appropriately marked and sealed for transportation.

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Normal Operations

1. Responsibilities of well-site personnel

a. Well-site Representative

1. Notify H₂S Technician of expected date to reach Contingency Plan implementation depth (Two (2) days prior to reaching suspected H₂S bearing zone) or prior to starting well work.
2. Ensure H₂S Safety Technician completes rig-up procedures prior to reaching Contingency Plan effective depth.
3. Restrict the number of personnel at the drilling rig or well site to a minimum while drilling, starting well work, testing or coring.
4. Ensure weekly H₂S drills/training are performed, if possible.

B. Toolpusher

1. Ensure that necessary H₂S safety equipment is provided on the rig, and that it is properly inspected and maintained.
2. Ensure that all personnel that work in the well area, are thoroughly trained in the use of H₂S safety equipment and periodic drills are held to maintain an adequate level of proficiency.

C. In Scope Personnel

1. Remain clean-shaven. Beards and long sideburns do not allow a proper facepiece seal.
2. Receive H₂S safety training on location, or confirm prior training by certification that is one year within date.
3. Familiarize yourself with the rig's Contingency Plan.
4. Inspect and practice putting on your breathing apparatus.

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5. Know the location of the “safe briefing areas”.
6. Keep yourself “wind conscious”. Be prepared to quickly move upwind and away in the event of any emergency involving release of H₂S.

D. Total Safety H₂S Safety Technician or MRC Designee

1. Conduct training as necessary to ensure all personnel working in well area are familiar with the contingency procedures and the operation of emergency equipment.
2. Check all H₂S safety equipment to ensure that it is ready for emergency use:
 - Check pressure weekly for each shift on breathing apparatus (both 30-minute and hip-packs) to make sure they are charged to full volume.
 - Check pressure on cascade air bottles, if on location, to see that they are capable of recharging breathing apparatus.
 - Check oxygen resuscitator, if on location, to ensure that it is charged to full volume.
 - Check H₂S detectors weekly for each shift (fixed and portable), and explosimeter, to ensure they are working properly.
3. Provide a weekly report to MRC Energy Co.'s well-site representative documenting:
 - Calibrations performed on H₂S detectors.
 - Proper location and working order of H₂S safety equipment.
 - Attendance of all personnel, trained or retrained, and their company.
 - Weekly drills, if held and a list of personnel participating and summary of actions.

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OUT OF SCOPE PERSONNEL

MRC Energy Co. policy will not require Out of Scope Personnel to be clean shaven, have processed medical questionnaires, fit testing, or have certified H2S Training.

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SAFETY EQUIPMENT

All respirators will be designed, selected, used and maintained in conformance with ANSI Z88.2, American National Standard for respiratory protection.

Personal protective equipment must be provided and used. Those who are expected to use respiratory equipment in case of an emergency will be carefully instructed in the proper use and told why the equipment is being used. Careful attention will be given to the minute details in order to avoid possible misuse of the equipment during periods of extreme stress.

Self-contained breathing apparatus provides complete respiratory and eye protection in any concentration of toxic gases and under any condition of oxygen deficiency. The wearer is independent of the surrounding atmosphere because he/she is breathing with a system admitting no outside air. It consists of a full face mask, breathing tube, pressure demand regulator, air supply cylinder, and harness. Pure breathing air from the supply cylinder flows to the mask automatically through the pressure demand regulator which reduces the pressure to a breathing level. Upon inhalation, air flows into the mask at a rate precisely regulated to the user's demand. Upon exhalation, the flow to the mask stops and the exhaled breath passes through a valve in the face piece to the surrounding atmosphere. The apparatus includes an alarm & gauge which warns the wearer to leave the contaminated area for a new cylinder of air or cylinder refill.

The derrickman is provided with a full face piece unit attached to a 5– minute escape cylinder. He will also have his own self-contained 30-minute unit breathing apparatus located on the drilling floor. He will use the 5-minute unit to exit the derrick to the floor, donning the 30-minute unit located on the floor, if needed.

All respiratory protective equipment, when not in use, should be stored in a clean, cool, dry place, and out of direct sunlight to retard the deterioration of rubber parts. After each use, the mask assembly will be scrubbed with soap and water, rinsed thoroughly, and dried. Air cylinders can be recharged to a full condition from a cascade system.

Personnel in each crew will be trained in the proper techniques of bottle filling.

The primary piece of equipment to be utilized, should anyone be overcome by hydrogen sulfide, is the oxygen resuscitator, if on location.

When asphyxiation occurs, the victim must be moved to fresh air and immediately given artificial respiration. In order to assure readiness, the bottles of oxygen will be checked at regular intervals and an extra tank kept on hand.

Hand-operated pump-type detectors incorporating detector tubes will give more accurate readings of hydrogen sulfide. The pump-type draws air to be tested through the detector tube containing lead acetate-silica gel granules. Presence of hydrogen sulfide in the air sample is shown by the development of a dark brown stain on the granules, which is the

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scale reading of the concentration of hydrogen sulfide. By changing the type of detector tube used, this detector may also be used for sulfur dioxide (SO₂) detection when hydrogen sulfide (H₂S) is being burned in the flare area.

Provisions must be made for the storage of all safety equipment as is evident from the foregoing discussion. All equipment must be stored in an available location so that anyone engaged in normal work situations is no more than "one breath away" from a mask.

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V – TOXICITY OF VARIOUS GASES

Lethal Common Name ppm⁴	Chemical Formula	Specific Gravity¹	PEL (OSHA)²	STEL³
Hydrogen Cyanide 300	HCN	0.94	10	150
Hydrogen Sulfide 600	H ₂ S	1.18	20	Peak- 50ppm
Note: The ACGIH(7) recommends a TWA(6) value of 10ppm as the TLV(5) for H ₂ S and an STEL of 15ppm.				
Sulfur Dioxide 1000	SO ₂	2.21	2	5 ppm
Chlorine	CL ₂	2.45	1	
Carbon Monoxide 1000	CO	0.97	35	200/1 Hour
Carbon Dioxide 10%	CO ₂	1.52	5000	5%
Methane	CH ₄	0.55	90000	

¹ **Air = 1.0**² **Permissible** - Concentration at which is believed that all workers may repeatedly be exposed, day after day, without adverse effect.³ **STEL** - Short Term Exposure Limit. A 15-minute time weighted average.⁴ **Lethal** - Concentration that will cause death with short-term exposure.**TLV** – Threshold Limit Value; a concentration recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)**TWA** – Time Weighted Average; the average concentration of contaminant one can be exposed to over a given eight-hour period.**ACGIH** – (American Conference of Governmental Industrial Hygienists) is an organization comprised of Occupational Health Professionals believed by many to be the top experts in the field of Industrial Hygiene. They are recognized as an expert resource by OSHA. The ACGIH releases a bi-annual publication “Threshold Limit Values and Biological Indices” that many safety professionals consider to be the authoritative document on airborne contaminants.

Reference: API RP-49, September 1974 - Reissued August 1978

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VI. PROPERTIES OF GASES**A. CARBON DIOXIDE**

1. Carbon Dioxide (CO₂) is usually considered inert and is commonly used to extinguish fires. It is 1.52 times heavier than air and will concentrate in low areas of still air. Humans cannot breathe air containing more than 10% CO₂ without losing conscience or becoming disorientation in a few minutes. Continued exposure to CO₂ after being affected will cause convulsions, coma, and respiratory failure.

2. The threshold limit of CO₂ is 5000 ppm. Short-term exposure to 50,000 ppm (5%) is reasonable. This gas is colorless, odorless, and can be tolerated in relatively high concentrations.

B. HYDROGEN SULFIDE

1. Hydrogen Sulfide (H₂S) is a colorless, transparent, flammable gas. It is heavier than air and, hence, may accumulate in low places.

2. Although the slightest presence of H₂S in the air is normally detectable by its characteristic "rotten egg" odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost, allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of H₂S.

CONCENTRATION			EFFECTS
% H ₂ S	PPM	GR/100 SCF ¹	
0.001	10	.65	Safe for 8 hours without respirator. Obvious and unpleasant odor.
0.0015	15	0.975	Safe for 15 minutes of exposure without respirator.
0.01	100	6.48	Kills smell in 3-15 minutes; may sting eyes and throat.
0.02	200	12.96	Kills smell quickly; stings eyes and throat.
0.05	500	32.96	Dizziness; breathing ceases in a few minutes; need prompt artificial respiration.
0.07	700	45.92	Rapid Unconsciousness; death will result if not rescued promptly.
0.1	1000	64.80	Instant unconsciousness, followed by death within minutes.

¹ Grains per 100 Cubic Feet

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VII. Treatment Procedures for Hydrogen Sulfide Poisoning

- A. Remove the victim to fresh air.
- B. If breathing has ceased or is labored, begin resuscitation immediately.
Note: This is the quickest and preferred method of clearing victim's lungs of contaminated air; however, under disaster conditions, it may not be practical to move the victim to fresh air. In such instances, where those rendering first aid must continue to wear masks, a resuscitator should be used.
- C. Apply resuscitator to help purge H₂S from the blood stream.
- D. Keep the victim at rest and prevent chilling.
- E. Get victim under physician's care as soon as possible.

C. SULPHUR DIOXIDE

1. Sulfur Dioxide (SO₂) is a colorless, non-flammable, transparent gas.
2. SO₂ is produced during the burning of H₂S. Although SO₂ is heavier than air, it can be picked up by a breeze and carried downwind at elevated temperatures. Since SO₂ is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect. The following table indicates the toxic nature of SO₂:

CONCENTRATION		EFFECTS
% SO ₂	PPM	
0.0005	3 to 5	Pungent odor, normally a person can detect SO ₂ in this range.
0.0012	12	Throat irritation, coughing, constriction of the chest, tearing and smarting of eyes.
0.015	150	So irritating that it can only be endured for a few minutes.
.05	500	Causes a sense of suffocation, event with the first breath.

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VIII. BREATHING AIR EQUIPMENT DRILLS FOR ON & OFF DUTY PERSONNEL

An H₂S Drill and Training Session must be given once a week to ALL on-duty personnel with off duty personnel. On-duty and Off-duty personnel will reverse roles on alternate drills.

An H₂S drill and training session must be given once a week to all off-duty personnel in coincidence with on-duty personnel reversing roles on alternate drills.

The purpose of this drill is to instruct the crews in the operation and use of breathing air and H₂S related emergency equipment and to allow the personnel to become acquainted with using the equipment under working conditions. The crews should be trained to put on the breathing air equipment within one minute when required or requested to do so.

The following procedure should be used for weekly drills. The MRC supervisor must be satisfied that the crews are proficient with the equipment.

1. All personnel should be informed that a drill will be held.
2. The Total H₂S Safety Technician or a designee assigned by the MRC Drilling Foreman should initiate the drill by signaling as he/she would if H₂S was detected.
3. Personnel should don their breathing apparatus.
4. Once the breathing air equipment is on, the H₂S Technician should check all personnel to insure proper operation.

A training and information session will be conducted after each drill to answer any H₂S related questions and to cover any gaps identified from one of the following topics:

- Condition II, and III alerts and steps to be taken by all personnel.
- The importance of wind direction when dealing with H₂S.
- Proper use and storage of all types of breathing equipment.
- Proper use and storage of oxygen resuscitators.
- Proper use and storage of H₂S detectors (Mini Checks or equivalent).
- The "buddy system" and the procedure for rescuing a person overcome by H₂S.
- Responsibilities and duties.
- Location of H₂S safety equipment.
- Other parts of the "H₂S Contingency Plan" that should be reviewed.

NOTE: A record of attendance must be kept for weekly drills and training sessions.

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IX. HYDROGEN SULFIDE TRAINING CURRICULUM

(FOR EMPLOYERS, VISITORS, AND CONTRACTORS)

EACH PERSON WILL BE INFORMED ON THE RESTRICTIONS OF HAVING BEARDS AND CONTACT LENS. THEY WILL ALSO BE INFORMED OF THE AVAILABILITY OF SPECTACLE KITS.

AFTER THE H2S EQUIPMENT IS RIGGED UP, ALL IN SCOPE PERSONNEL WILL BE H2S TRAINED AND PUT THROUGH A DRILL. ANY DEFICIENCIES WILL BE CORRECTED.

Training Completion cards are good for one year and will indicate date of completion or expiration. Personnel previously trained on another facility and visiting, must attend a "supplemental briefing" on H2S equipment and procedures before beginning duty. Visitors who remain on the location more than 24 hours must receive full H2S training given all crew members. A "supplemental briefing" will include but not be limited to: Location of respirators, familiarization with safe briefing areas, alarms with instruction on responsibilities in the event of a release and hazards of H2S and (SO2, if applicable). A training and drill log will be kept.

Topics for full H2S training shall include the following equipment if on location, but not be limited to the following:

1. **Brief Introduction on H2S**
 - A. Slide or Computer presentation (If Available)
 - B. H2S material will be distributed
 - C. Re-emphasize the properties, toxicity, and hazards of H2S
 - D. Source of SO2 (if applicable)

2. **H2S Detection**
 - A. Description of H2S sensors
 - B. Description of warning system (how it works & it's location)
 - C. Actual location of H2S sensors
 - D. Instruction on use of pump type detector (Gastec)
 - E. Use of card detectors, ampoules, or dosimeters
 - F. Use of combustible gas detector
 - G. Other personnel detectors used
 - H. Alarm conditions I & II,
 - I. SO2 alarms (if applicable)

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3. **H2S Protection**
 - A. Types of breathing apparatus provided (30-minute SCBA & 5-minute SCBA (with voice diaphragms for communication if supplied)
 - B. Principle of how breathing apparatus works
 - C. Demonstration on how to use breathing apparatus
 - D. Location of breathing apparatus

4. **Cascade System**
 - A. Description of cascade system
 - B. How system works
 - C. Cascade location of rig with reference to briefing areas
 - D. How to use cascade system (with 5-minute hose work line units & refill, if supplied)
 - E. Importance of wind direction and actual location of Windsocks
 - F. Purpose of compressor/function (if one is on site)

5. **H2S Rescue and First Aid**
 - A. Importance of wind direction
 - B. Safe briefing area
 - C. Buddy system
 - D. H2S symptoms
 - E. Methods of rescue

6. **Hands on Training**
 - A. Donning/familiarization of SCBA 30-minute unit
 - B. Donning/familiarization of SKADA 5- MIN. Packs
 - C. Familiarization of cascades
 - D. Use of O2 resuscitator
 - E. Alarm conditions - upwind briefing areas, etc...
 - F. Duties and responsibilities of all personnel
 - G. Procedures for evacuation
 - H. Search and Rescue teams

7. **Certification**
 - A. Testing on material covered

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TOTAL SAFETY US INC., FIT TEST

X. EMPLOYEE INFORMATION

Employee Name: _____ Date: _____

Date of Employee Medical Evaluation: _____

Medical Status (circle): Unrestricted Limitations on Use Use Not
Authorized

RESPIRATOR INFORMATION

Respirator Type (Dustmask, SCBA, etc): _____

Brand: _____

Size: (circle): XS S M L XL

FIT TEST INFORMATION

Type of Fit Test Performed:

Quantitative

Porta Count

Fit Factor: _____

Fittester 3000

Fit Factor: _____

Qualitative

Irritant Smoke

Passed / Failed

Isoamyl Acetate (Banana Oil)

Passed / Failed

Saccharin

Passed / Failed

Bitrex

Passed / Failed

I hereby certify that this fittest was conducted in accordance with the OSHA Fit Testing Protocols found in Appendix A of 1910.134.

Fit Tester Name (Print): _____

Signature: _____ Date: _____

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XI. H₂S SAFETY SERVICES

HYDROGEN SULFIDE SAFETY PACKAGE – Contained on location in Total Safety H₂S Equipment Trailer, unless otherwise noted:

RESPIRATORY SAFETY SYSTEMS**QTY DESCRIPTION**

- 12 30-Minute Pressure Demand SCBA
(4-Primary Safe Briefing Area, 4-Secondary Safe Briefing Area, 4-floor with one of these for derrick man)
- 9 Hose Line 5-minute Work Unit w/Escapes Cylinder (1 in derrick, 6 on drill floor, 1 in mud pit wt area, 1 in shaker area)

The following shall be part of the package if requested by the MRC Foremen (at least one trailer with cascade system is required to be located in the MRC Magnolia asset for use as needed)

- 1 Breathing air cascade of 10 bottles w/regulator
- 2 Refill lines to refill 30-minute units on location
- 1 6-Man manifold that can be rigged up to work area on floor, if needed
- 6 25 foot hose lines
- 2 50 foot hose lines
- 100 Feet of hose line to rig cascade up to 12 man manifold on floor
- 12 30-minute Self Contained Breathing apparatus

DETECTION AND ALARM SAFETY SYSTEM

- 1 H₂S Fixed Monitor w/8Channels (Loc determined at rig up) suggested.
(Mud pit area, shaker area, bell nipple area, floor/driller area, & outside quarters)
- 5 H₂S Sensors
- 3 Explosion Proof Alarms (Light and Siren)
(1 on floor, 1 in work area, 1 in trailer area where quarters are located)
- 2 Personal H₂S monitors
- 1 Portable Tri-Gas Hand Held Meter (O₂, LEL, H₂S)
- 1 Sensidyne/Gastech Manual Pump Type Detector
- 8 Boxes H₂S Tubes Various Ranges
- 2 Boxes SO₂ Tubes Various Ranges
- 1 Calibration Gas
- 1 Set Paper Work for Records: Training, Cal, Inspection, other

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ADDITIONAL SAFETY RELATED EQUIPMENT

QTY DESCRIPTION

- 2 Windsocks with Pole and Bracket
- 1 Set Well Condition Sign w/Green, Yellow, Red Flags
- 1 Primary Safe Briefing Area Sign
- 1 Secondary Safe Briefing Area Sign
- 6 Operating Condition Signs for Work Areas & Living Quarters

**TRAILER WITH BREATHING AIR CASCADE WILL
ALSO INCLUDE THE FOLLOWING:**

This equipment will be part of the H2S equipment stored in the trailer, when on location

- 1 First aid kit
- 1 Fire Blanket
- 1 Eye wash station
- 2 Safety Harness w/150' safety line

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XII. EMERGENCY PHONE NUMBERS (Updated March 18, 2009)

EMERGENCY PHONE NUMBERS

MRC Energy Co. Emergency Phone #
 MRC Energy Co. Permian Operations Phone-----
MRC Energy Co. Production
 113 Daw Rd
 Mansfield LA 71052

Title	Names	Phone	Cell
Operations Manager			
Operation Supt.			
Operations Supervisor			
Operations Supervisor			
Office Supervisor			
HSE			
Scheduler Planner			

Hydrogen Sulfide Safety Consultants

Total Safety W. Bender Blvd. Hobbs, NM	575-392-2973	After Hours 24 Hour Call Center Through Office Number
Tommy Throckmorton Operations Manager	575-392-2973	940-268-9614
Rodney Jourdan Sales Contact	575-392-2973	432-349-3928

MRC ENERGY CO.'S

MRC Energy Co. MEDICAL RESPONSE PLAN AND IT'S MEDICAL PROTOCOLS WILL BE FOLLOWED

MEDICAL COORDINATOR # -----

[Emergency Numbers & Directions](#)

Hospitals (911)

Artesia General Hospital 702 N. 13th St. Artesia, NM 88210	Main Phone Number	575-748-3333
Nor-Lea General Hospital 1600 N. Main Ave. Lovington, NM 88260	Main Phone Number	575-396-6611
Lea Regional Medical Center 5419 N. Lovington Hwy Hobbs, NM 88240	Main Phone Number	575-492-5260
Carlsbad General Hospital 2430 W. Pierce St. Carlsbad, NM	Main Phone Number	575-887-4100
Lovelace Regional Hospital 117 E. 19th St Roswell, NM 88201	Main Phone Number	575-627-7000
Winkler Co. Memorial Hospital 821 Jeffee Dr. Kermit, Texas 79745	Main Phone Number	432-586-8299
Reeves County Hospital 2323 Texas St. Pecos, Texas 79772	Main Phone Number	432-447-3551

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State Police (911)

Texas DPS Loving co. 225 N.Pecos Mentone, Texas 79754	Office Number	432-377-2411
Texas DPS Winkler Co. 100 E Winkler Kermit, Texas 79745	Office Number	432-586-3465
Texas DPS Pecos Co. 148 N I-20 Frontage RD Pecos, Texas 79772	Office Number	432-447-3532
New Mexico State Police 3300 W. Main St Artesia, NM	Office Number	575-748-9718
New Mexico State Police 304 N. Canyon St Carlsbad, NM 88220	Office Number	575-885-3137
New Mexico State Police 5100 Jack Gomez Blvd. Hobbs, NM 88240	Office Number	575-392-5588

Local Law Enforcement (911) (Sheriff)

Reeves Co. Sheriff 500 N. Oak ST Pecos, Texas 79722	Office Number	432-445-4901
Winkler Co. Sheriff 1300 Bellaire St. Kermit, Texas 79745	Office Number	432-586-3461
Loving Co. Sheriff Courthouse Mentone, Texas	Office Number	432-377-2411
Lea Co. Sheriff 1417 S. Commercial St. Lovington, NM 88260	Office Number	
Eddy Co. Sheriff 305 N 7th St. Artesia, NM 88210	Office Number	575-766-9888
Eddy Co. Sheriff 305 N 7th St. Carlsbad, NM 88220	Office Number	575-746-9888

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Federal & State Agencies

OSHA Lubbock Area Office 1205 Texas Av. Room 806 Lubbock, Texas 79401	Main Number	806-472-7681 EXT 7685
New Mexico Environment Department 400 N Pennsylvania Roswell, NM 88201	Joe Fresquez	575-623-3935
Texas Railroad Commission Midland, Texas	Main Number	844-773-0305
BLM Carlsbad, NM Field Office 620 E. Green ST Carlsbad, NM 88220	Main Number	575-234-5972
BLM Hobbs Field Station 414 W. Taylor Rd. Hobbs, NM 88240	Main Number	575-393-3612
BLM Roswell District Office 2909 W. Second St. Roswell, NM 88201	Main Number	575-627-0272
TECQ Texas Commission on Environmental Quality	Main Number	800-832-8224
New Mexico OCD		
U.S. Environmental Protection Agency Region 6 Texas/New Mexico	Main Number	214-655-2222
National Response Center Toxic Chemicals & Oil Spills	Main Number	800-424-8802

Rig Company

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XIII. EVACUATION OF THE GENERAL PUBLIC

The procedure to be used in alerting nearby persons in the event of any occurrence that could pose a threat to life or property will be arranged and completed with public officials in detail, prior to drilling into the hydrogen sulfide formations.

In the event of an actual emergency, the following steps will be immediately taken:

1. The MRC Energy Co.'s representative will dispatch sufficient personnel to immediately warn each resident and transients down-wind within radius of exposure from the well site. Then warn all residence in the radius of exposure. Additional evacuation zones may be necessary as the situation warrants.
2. The MRC Energy Co.'s representative will immediately notify proper authorities, including the Sheriff's Office, Highway Patrol, and any other public officials as described above and will enlist their assistance in warning residents and transients in the calculated radius of exposure.
3. The MRC Energy Co.'s representative will dispatch sufficient personnel to divert traffic in the vicinity away from the potentially dangerous area. A guard to the entrance of the well site will be posted to monitor essential and non essential traffic.
4. General:
 - A. The area included within the radius of exposure is considered to be the zone of maximum potential hazard from a hydrogen sulfide gas escape. Immediate evacuation of public areas, in accordance with the provisions of this contingency plan, is imperative. When it is determined that conditions exist which create an additional area (beyond the initial zone of maximum potential hazard) vulnerable to possible hazard, public areas in the additional hazardous area will be evacuated in accordance with the contingency plan.
 - B. In the event of a disaster, after the public areas have been evacuated and traffic stopped, it is expected that local civil authorities will have arrived and within a few hours will have assumed direction of and control of the public, including all public areas. MRC Energy Co. will cooperate with these authorities to the fullest extent and will exert every effort by careful advice to such authorities to prevent panic or rumors.
 - C. MRC Energy Co. will dispatch appropriate management personnel at the disaster site as soon as possible. The company's personnel

MRC ENERGY CO.'S

will cooperate with and provide such information to civil authorities as they might require.

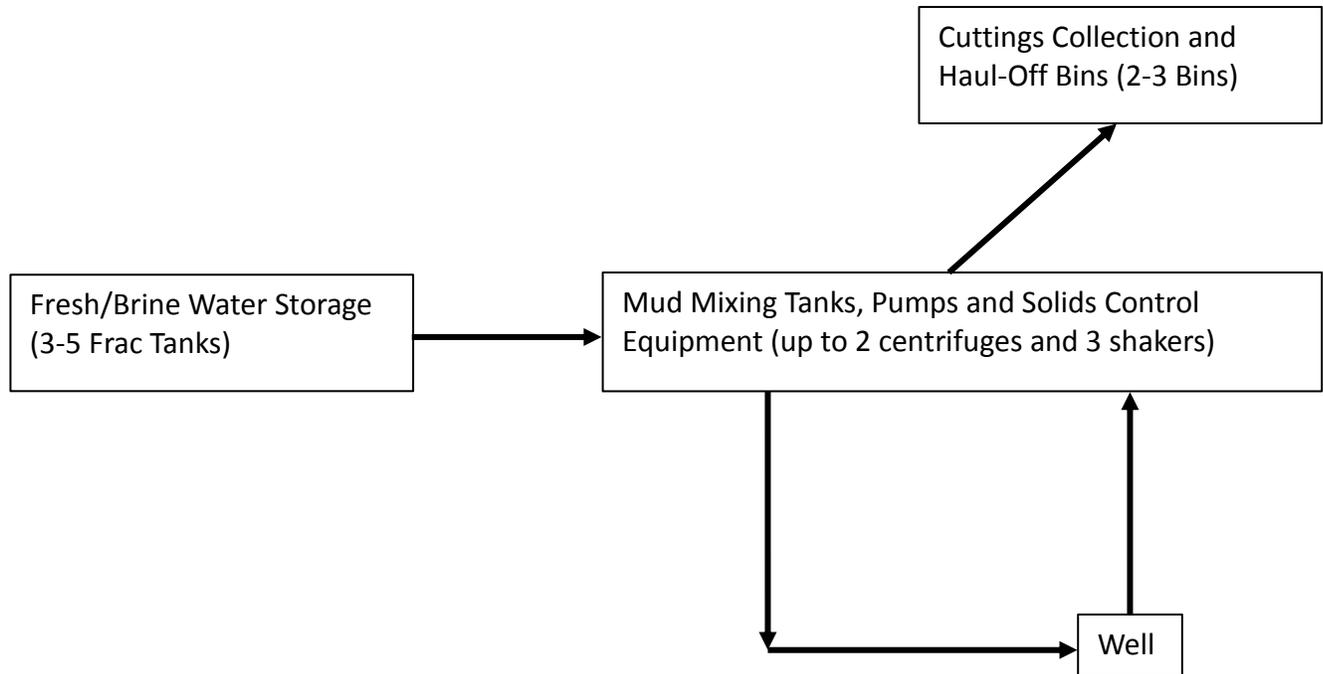
- D. One of the products of the combustion of hydrogen sulfide is sulfur dioxide (SO₂). Under certain conditions this gas may be equally as dangerous as H₂S. A pump type detector device, which determines the percent of SO₂ in air through concentrations in ppm, will be available. Although normal air movement is sufficient to dissipate this material to safe levels, the SO₂ detector should be utilized to check concentrations in the proximity of the well once every hour, or as necessary and the situation warrants. Also, if any low areas are suspected of having high concentrations, personnel should be made aware of these areas, and steps should be taken to determine whether or not these low areas are hazardous.

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Exhibit E-6: H2S Contingency Plan Emergency Contacts
Matador Resources Company

Company Office			
Matador Resources Company		(972)-371-5200	
Key Personnel			
Name	Title	Office	Mobile
Billy Goodwin	Vice President Drilling	972-371-5210	817-522-2928
Gary Martin	Drilling Superintendent		601-669-1774
Dee Smith	Drilling Superintendent	972-371-5447	972-822-1010
Blake Hermes	Drilling Engineer	972-371-5485	713-876-8558
	Construction Superintendent		
	Construction Superintendent		
Artesia			
Ambulance			911
State Police		575-746-2703	
City Police		575-746-2703	
Sheriff's Office		575-746-9888	
Fire Department		575-746-2701	
Local Emergency Planning Committee		575-746-2122	
New Mexico Oil Conservation Division		575-748-1283	
Carlsbad			
Ambulance			911
State Police		575-885-3137	
City Police		575-885-2111	
Sheriff's Office		575-887-7551	
Fire Department		575-887-3798	
Local Emergency Planning Committee		575-887-6544	
New Mexico Oil Conservation Division		575-887-6544	
Santa Fe			
New Mexico Emergency Response Commission (Santa Fe)		505-476-9600	
New Mexico Emergency Response Commission (Santa Fe) 24 hrs		505-827-9126	
New Mexico State Emergency Operations Center		505-476-9635	
National			
National Emergency Response Center (Washington, D.C.)		800-424-8802	
Medical			
Flight for Life- 4000 24th St.; Lubbock, TX		806-743-9911	
Aerocare- R3, Box 49F; Lubbock, TX		806-747-8923	
Med Flight Air Amb- 2301 Yale Blvd S.E., D3; Albuquerque, NM		505-842-4433	
SB Air Med Service- 2505 Clark Carr Loop S.E.; Albuquerque, NM		505-842-4949	
Other			
Boots & Coots IWC		800-256-9688	or 281-931-8884
Cudd Pressure Control		432-699-0139	or 432-563-3356
Haliburton		575-746-2757	
B.J. Services		575-746-3569	

Closed-Loop System



Operating and Maintenance Plan:

During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluids and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

Closure Plan:

During drilling operations, third party service companies will haul off drill solids and fluids to an approved disposal facility. At the end of the well, all closed loop equipment will be removed from the location.

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

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

CONDITIONS

Action 143309

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 143309
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Will require a administrative order for non-standard location prior to placing the well on production	9/14/2022
kpickford	Will require administrative order for non-standard spacing unit	9/14/2022
kpickford	Notify OCD 24 hours prior to casing & cement	9/14/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/14/2022
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	9/14/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	9/14/2022
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	9/14/2022