

Well Name: BIG BUCKS FED COM	Well Location: T21S / R32E / SEC 12 / NENE / 32.5010389 / -103.6214493	County or Parish/State: LEA / NM
Well Number: 601H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0553706, NMNM92187	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547065	Well Status: Approved Application for Permit to Drill	Operator: MATADOR PRODUCTION COMPANY

Notice of Intent

Sundry ID: 2699445

Type of Submission: Notice of Intent Type of Action: APD Change

Date Sundry Submitted: 10/24/2022 Time Sundry Submitted: 02:21

Date proposed operation will begin: 08/01/2023

Procedure Description: BLM Bond No: NMB001079 Surety Bond No RLB0015172 “Matador respectfully request the option to make the following changes to the Big Bucks Fed Com #601H: - Change the SHL from 25' FNL & 401' FEL to 45' FNL & 401' FEL. SHL remains on previously approved pad site. - Change the BHL from 1266' FNL & 990' FEL to 1206' FNL & 550' FEL. BHL remains in the previously approved unit. - Revise casing program to 16”, 10-3/4”, 8-5/8” by 5.5”, attached is revised drill plan with updated casing depths.”

NOI Attachments

Procedure Description

- Big_Bucks_Fed_Com_601H_Directional_AC_Report_v1_20230427164058.pdf
- Big_Bucks_Fed_Com_601H_Drill_Plan_Sundry_20230427164041.pdf
- Big_Bucks_Fed_Com_601H_Directional_Well_Plan_v1_20230427164031.pdf
- Big_Bucks_Fed_Com_601H_Directional_Wall_Plot_v1_20230427164019.pdf
- 2022101655_MATADOR_BIG_BUCKS_FED_COM_LEA_601H_C_102___FINAL___04_20_23_FINAL_signed_20230424161110.pdf
- Big_Bucks_Fed_Com_601H_Casing_Specs_8.625in_32ppf_P110EC_SPRINT_FJ_20221024142010.pdf
- Big_Bucks_Fed_Com_601H_Casing_Specs_5.5in_20lb_P110EC_VAM_SPRINT_SF_20221024142003.pdf
- Big_Bucks_Fed_Com_601H_4_String_Wellhead_Diagram_with_16in_CRC_20221024141956.pdf

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2022101655_MATADOR_BIG_BUCKS_601H_WELL_SITE_20221024141942.pdf

Conditions of Approval

Additional

BIG_BUCKS_FED_COM_601H_APD_change_COA_20230531140935.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: CASSIE HAHN	Signed on: APR 27, 2023 04:41 PM
Name: MATADOR PRODUCTION COMPANY	
Title: Senior Landman	
Street Address: 5400 LBJ FREEWAY, SUITE 1500	
City: DALLAS	State: TX
Phone: (972) 371-5440	
Email address: CHAHN@MATADORRESOURCES.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: KEITH P IMMATTY	BLM POC Title: ENGINEER
BLM POC Phone: 5759884722	BLM POC Email Address: KIMMATTY@BLM.GOV
Disposition: Approved	Disposition Date: 06/09/2023
Signature: Chris Walls	

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MATADOR PRODUCTION COMPANY
WELL NAME & NO.:	BIG BUCKS FED COM 601H
SURFACE HOLE FOOTAGE:	45'/N & 401'/E
BOTTOM HOLE FOOTAGE:	1206'/N & 550'/E
LOCATION:	Section 12, T.21 S., R.32 E., NMP
COUNTY:	Lea County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☐ None	☐ Secretary	☒ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Wellhead Variance	☐ Diverter		
Other	☒ 4 String	☒ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☒ Contingency Cement Squeeze	☐ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

SEE ORIGINAL COA FOR ALL OTHER REQUIREMENTS.

A. CASING

Primary Casing Design:

- The **16** inch surface casing shall be set at approximately **1,665 feet** (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

SET DEPTH ADJUSTED BASED ON BLM GEOLOGIST COMMENTS. PLEASE REVIEW CEMENT VOLUMES AND REVISE AS NECESSARY.
 BLM GEOLOGIST: *The operator purposes to surface casing at 1630 feet, which will not adequately protect usable water zones. Instead, set casing at 1665 feet, this is an acceptable set point. If salt is encountered, set casing 25 feet above the Salt Formation.*

- 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 psi 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 psi compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **10-3/4 inch 1st** intermediate casing shall be set at approximately **3,800 feet MD. SET DEPTH ADJUSTED BASED ON BLM GEOLOGIST COMMENTS. PLEASE REVIEW CEMENT VOLUMES AND REVISE AS NECESSARY.** BLM GEOLOGIST: *The operator purposes to set intermediate casing at 3600 feet, this will be in the Yates Sandstone. Instead, set casing in the Capitan Reef at 3800 feet.* The minimum required fill of cement behind the **10-3/4 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.

Option 2 (2-stage with DV tool):

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

- ❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.

3. The 8-5/8 inch 2nd intermediate casing shall be set at approximately 5,650 feet MD. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2 (2-stage with DV tool):

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- c. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - d. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
- ❖ In Capitan Reef 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.
 - ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Ensure FW based mud used across the Capitan Reef interval)
 - Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
 - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

Bradenhead cement squeeze option for this intermediate string is approved. In this case, operator must run a CBL or echometer from TD of the 8-5/8" casing to surface. Submit results to BLM.

4. The minimum required fill of cement behind the 5-1/2 inch production casing is:
- Cement should tie-back at least **50 feet** above top of Capitan reef formation. Operator shall provide method of verification.

Excess cement for production casing is below CFO's recommendation of 25%.

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) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - 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 cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 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.

SA 05/31/2023

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Well Number: 601H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0553706, NMNM92187	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547065	Well Status: Approved Application for Permit to Drill	Operator: MATADOR PRODUCTION COMPANY

Notice of Intent

Sundry ID: 2699445

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 10/24/2022	Time Sundry Submitted: 02:21
Date proposed operation will begin: 12/24/2022	

Procedure Description: BLM Bond No: NMB001079 Surety Bond No RLB0015172 “Matador respectfully request the option to make the following changes to the Big Bucks Fed Com #601H: - Change the SHL from 25' FNL & 401' FEL to 45' FSL & 401' FEL. SHL remains on previously approved pad site. - Change the BHL from 1266' FNL & 990' FEL to 1266' FNL & 550' FEL. BHL remains in the previously approved unit. - Revise casing program to 16”, 10-3/4”, 8-5/8” by 5.5”, attached is revised drill plan with updated casing depths.”

NOI Attachments

Procedure Description

- Big_Bucks_601_plat_001_20221024142124.pdf
- Big_Bucks_Fed_Com_601H_Drill_Plan_Sundry_20221024142108.pdf
- Big_Bucks_Fed_Com_601H_Directional_Well_Plan_v1_20221024142100.pdf
- Big_Bucks_Fed_Com_601H_Directional_Wall_Plot_v1_20221024142042.pdf
- Big_Bucks_Fed_Com_601H_Directional_AC_Report_v1_20221024142022.pdf
- Big_Bucks_Fed_Com_601H_Casing_Specs_8.625in_32ppf_P110EC_SPRINT_FJ_20221024142010.pdf
- Big_Bucks_Fed_Com_601H_Casing_Specs_5.5in_20lb_P110EC_VAM_SPRINT_SF_20221024142003.pdf
- Big_Bucks_Fed_Com_601H_4_String_Wellhead_Diagram_with_16in_CRC_20221024141956.pdf

Received by OCD: 6/16/2023 6:28:59 PM

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US Well Number: 3002547065	Well Status: Approved Application for Permit to Drill	Operator: MATADOR PRODUCTION COMPANY

2022101655_MATADOR_BIG_BUCKS_601H_WELL_SITE_20221024141942.pdf

Operator

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Operator Electronic Signature: CASSIE HAHN

Signed on: OCT 24, 2022 02:21 PM

Name: MATADOR PRODUCTION COMPANY

Title: Landman

Street Address: 5400 LBJ Freeway, Suite 1500

City: Dallas

State: TX

Phone: (972) 371-5440

Email address: chahn@matadorresources.com

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

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 30-025	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name BIG BUCKS FED COM	⁶ Well Number 601H
⁷ OGRID No. 228937	⁸ Operator Name MATADOR PRODUCTION COMPANY	⁹ Elevation 3,811'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	12	21 S	32 E		45	NORTH	401	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	13	21 S	32 E		1,266	NORTH	550	EAST	LEA

¹² Dedicated Acres 200	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.

SHL (NAD83 NME)
Y = 546,572.5
X = 760,907.6
LAT. = 32.500573 °N
LONG. = 103.621127 °W

FTP (NAD83 NME)
Y = 546,516.2
X = 760,758.7
LAT. = 32.500421 °N
LONG. = 103.621611 °W

CORNER COORDINATES (NAD83 NME)
A - Y = 546,621.0 N , X = 761,308.2 E
B - Y = 543,978.1 N , X = 761,320.2 E
C - Y = 541,334.3 N , X = 761,338.7 E
D - Y = 540,019.2 N , X = 761,346.9 E
E - Y = 540,007.9 N , X = 760,030.6 E
F - Y = 541,325.6 N , X = 760,022.1 E
G - Y = 543,967.1 N , X = 760,005.4 E
H - Y = 546,609.4 N , X = 759,991.5 E

SHL (NAD27 NME)
Y = 546,511.7
X = 719,726.3
LAT. = 32.500452 °N
LONG. = 103.620637 °W

FTP (NAD27 NME)
Y = 546,455.4
X = 719,577.5
LAT. = 32.500300 °N
LONG. = 103.621120 °W

CORNER COORDINATES (NAD27 NME)
A - Y = 546,560.2 N , X = 720,127.0 E
B - Y = 543,917.3 N , X = 720,138.9 E
C - Y = 541,273.5 N , X = 720,157.3 E
D - Y = 539,958.5 N , X = 720,165.4 E
E - Y = 539,947.2 N , X = 718,849.2 E
F - Y = 541,264.9 N , X = 718,840.7 E
G - Y = 543,906.4 N , X = 718,824.1 E
H - Y = 546,548.6 N , X = 718,810.3 E

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

Cassie Hahn 10/24/22
Signature Date
Cassie Hahn
Printed Name
chahn@matadorresources.com
E-mail Address

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

10-24-2022
Date of Survey
Signature and Seal of Professional Surveyor:
Mark Dillon Harp
MARK DILLON HARP 23786
Certificate Number
AW 2022101655

Big Bucks Fed Com 601H
SHL: 45' FSL & 401' FEL Section 1
BHL: 1266' FNL & 550' FEL Section 13
Township/Range: 21S 32E
Elevation Above Sea Level: 3811

- Matador respectfully requests the option to amend the well design of the Big Bucks Fed Com 601H to make the following changes to the current APD.

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	20	0 - 1630	0 - 1630	16	75	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	13.5	0 - 3600	0 - 3600	10.75	45.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 2	9.875	0 - 5650	0 - 5650	8.625	32	P-110	VAM-Sprint FJ	1.125	1.125	1.8
Production	7.875	0 - 17834	0 - 11570	5.5	20	P-110	VAM Sprint SF	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

String	Type	Sacks	Yield	Cu. Ft.	Weight	Percent Excess	Top of Cement (ft)	Class	Blend
Surface	Lead	920	1.78	1638	13.5	50%	0	C	5% NaCl + LCM
	Tail	1500	1.35	2022	14.8	50%	1304	C	5% NaCl + LCM
Intermediate 1	Lead	1190	1.78	2116	13.5	50%	0	C	5% NaCl + LCM
	Tail	310	1.35	414	14.8	50%	2880	C	5% NaCl + LCM
Intermediate 2	Lead	520	1.78	924	13.5	50%	0	C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	160	1.35	217	14.8	50%	4650	C	5% NaCl + LCM
Production	Lead	400	3.66	1451	10.3	25%	3398	A/C	Fluid Loss + Dispersant + Retarder + LCM
	Tail	1090	1.35	1470	13.2	15%	10505	A/C	Fluid Loss + Dispersant + Retarder + LCM

-Matador requests the option to run a DV tool with annular packer as contingency in the intermediate 1 or 2 section on 10-3/4" or 8-5/8" casing if lost circulation is encountered. If losses occur, the DV tool with packer will be placed at least 100' above the loss zone to give the option to pump cement as either a single stage or two stage.

-Matador would also like to request a variance to perform a bradenhead squeeze on Intermediate 2 if needed.

Drill Plan**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	20	Spud Mud	0 - 1630	8.4 - 8.8	28-30	NC
Intermediate 1	13.5	Brine Water	1630 - 3600	9.5 - 10.2	28-32	NC
Intermediate 2	9.875	Fresh Water	3600 - 5650	8.4 - 8.6	28-30	NC
Production	7.875	OBM/Cut Brine	5650 - 17834	8.6 - 9.4	28-30	NC

Matador Production Company

Ranger/Arrowhead

Big Game

Big Bucks Fed Com #601H

Wellbore #1

Plan: BLM Plan #1

Standard Planning Report

21 October, 2022

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Company:	Matador Production Company	TVD Reference:	KB @ 3839.5usft
Project:	Ranger/Arrowhead	MD Reference:	KB @ 3839.5usft
Site:	Big Game	North Reference:	Grid
Well:	Big Bucks Fed Com #601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Project	Ranger/Arrowhead		
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	Big Game				
Site Position:		Northing:	546,545.41 usft	Latitude:	32° 30' 2.084 N
From:	Lat/Long	Easting:	717,880.57 usft	Longitude:	103° 37' 35.839 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	Big Bucks Fed Com #601H, Lea county, NM					
Well Position	+N/-S	-33.9 usft	Northing:	546,511.49 usft	Latitude:	32° 30' 1.627 N
	+E/-W	1,845.6 usft	Easting:	719,726.11 usft	Longitude:	103° 37' 14.293 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,811.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/16/2022	6.42	60.23	47,544.05684906

Design	BLM Plan #1				
Audit Notes:					
Version:	1	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	179.66	

Plan Survey Tool Program	Date	10/17/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	17,834.0	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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,300.0	8.00	267.65	2,297.4	-2.3	-55.7	1.00	1.00	0.00	267.65	
2,701.1	8.00	267.65	2,694.6	-4.6	-111.5	0.00	0.00	0.00	0.00	
3,234.4	0.00	0.00	3,226.2	-6.1	-148.6	1.50	-1.50	0.00	180.00	
11,005.2	0.00	0.00	10,997.0	-6.1	-148.6	0.00	0.00	0.00	0.00	VP - Big Bucks Fed C
11,905.2	90.00	179.80	11,570.0	-579.0	-146.6	10.00	10.00	0.00	179.80	
11,912.4	90.00	179.66	11,570.0	-586.3	-146.6	2.00	-0.01	-2.00	-90.16	
17,834.0	90.00	179.66	11,570.0	-6,507.7	-111.0	0.00	0.00	0.00	0.00	BHL - Big Bucks Fed

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Company:	Matador Production Company	TVD Reference:	KB @ 3839.5usft
Project:	Ranger/Arrowhead	MD Reference:	KB @ 3839.5usft
Site:	Big Game	North Reference:	Grid
Well:	Big Bucks Fed Com #601H	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
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
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
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
Start Build 1.00									
1,600.0	1.00	267.65	1,600.0	0.0	-0.9	0.0	1.00	1.00	0.00
1,700.0	2.00	267.65	1,700.0	-0.1	-3.5	0.1	1.00	1.00	0.00
1,800.0	3.00	267.65	1,799.9	-0.3	-7.8	0.3	1.00	1.00	0.00
1,900.0	4.00	267.65	1,899.7	-0.6	-13.9	0.5	1.00	1.00	0.00
2,000.0	5.00	267.65	1,999.4	-0.9	-21.8	0.8	1.00	1.00	0.00
2,100.0	6.00	267.65	2,098.9	-1.3	-31.4	1.1	1.00	1.00	0.00
2,200.0	7.00	267.65	2,198.3	-1.7	-42.7	1.5	1.00	1.00	0.00
2,300.0	8.00	267.65	2,297.4	-2.3	-55.7	2.0	1.00	1.00	0.00
Start 401.1 hold at 2300.0 MD									
2,400.0	8.00	267.65	2,396.4	-2.9	-69.6	2.4	0.00	0.00	0.00
2,500.0	8.00	267.65	2,495.5	-3.4	-83.5	2.9	0.00	0.00	0.00
2,600.0	8.00	267.65	2,594.5	-4.0	-97.4	3.4	0.00	0.00	0.00
2,700.0	8.00	267.65	2,693.5	-4.6	-111.3	3.9	0.00	0.00	0.00
2,701.1	8.00	267.65	2,694.6	-4.6	-111.5	3.9	0.00	0.00	0.00
Start Drop -1.50									
2,800.0	6.52	267.65	2,792.7	-5.1	-124.0	4.3	1.50	-1.50	0.00
2,900.0	5.02	267.65	2,892.2	-5.5	-134.0	4.7	1.50	-1.50	0.00
3,000.0	3.52	267.65	2,991.9	-5.8	-141.4	5.0	1.50	-1.50	0.00
3,100.0	2.02	267.65	3,091.8	-6.0	-146.3	5.1	1.50	-1.50	0.00
3,200.0	0.52	267.65	3,191.8	-6.1	-148.5	5.2	1.50	-1.50	0.00
3,234.4	0.00	0.00	3,226.2	-6.1	-148.6	5.2	1.50	-1.50	268.12
Start 7770.8 hold at 3234.4 MD									
3,300.0	0.00	0.00	3,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00
3,400.0	0.00	0.00	3,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00
3,500.0	0.00	0.00	3,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00
3,600.0	0.00	0.00	3,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00
3,700.0	0.00	0.00	3,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00
3,800.0	0.00	0.00	3,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00
3,900.0	0.00	0.00	3,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,000.0	0.00	0.00	3,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,100.0	0.00	0.00	4,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,300.0	0.00	0.00	4,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00

Planning Report

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Company:	Matador Production Company	TVD Reference:	KB @ 3839.5usft
Project:	Ranger/Arrowhead	MD Reference:	KB @ 3839.5usft
Site:	Big Game	North Reference:	Grid
Well:	Big Bucks Fed Com #601H	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)	
4,700.0	0.00	0.00	4,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00	

Planning Report

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Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.0	0.00	0.00	10,091.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,200.0	0.00	0.00	10,191.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,300.0	0.00	0.00	10,291.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,400.0	0.00	0.00	10,391.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,500.0	0.00	0.00	10,491.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,600.0	0.00	0.00	10,591.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,700.0	0.00	0.00	10,691.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,800.0	0.00	0.00	10,791.8	-6.1	-148.6	5.2	0.00	0.00	0.00
10,900.0	0.00	0.00	10,891.8	-6.1	-148.6	5.2	0.00	0.00	0.00
11,000.0	0.00	0.00	10,991.8	-6.1	-148.6	5.2	0.00	0.00	0.00
11,005.2	0.00	0.00	10,997.0	-6.1	-148.6	5.2	0.00	0.00	0.00
Start Build 10.00 - VP - Big Bucks Fed Com #601H									
11,100.0	9.48	179.80	11,091.3	-13.9	-148.6	13.0	10.00	10.00	0.00
11,200.0	19.48	179.80	11,188.0	-38.9	-148.5	38.0	10.00	10.00	0.00
11,300.0	29.48	179.80	11,278.9	-80.3	-148.4	79.4	10.00	10.00	0.00
11,400.0	39.48	179.80	11,361.3	-136.8	-148.2	135.9	10.00	10.00	0.00
11,500.0	49.48	179.80	11,432.5	-206.8	-147.9	205.9	10.00	10.00	0.00
11,600.0	59.48	179.80	11,490.6	-288.0	-147.6	287.2	10.00	10.00	0.00
11,700.0	69.48	179.80	11,533.6	-378.2	-147.3	377.3	10.00	10.00	0.00
11,800.0	79.48	179.80	11,560.3	-474.4	-147.0	473.5	10.00	10.00	0.00
11,900.0	89.48	179.80	11,569.9	-573.8	-146.7	572.9	10.00	10.00	0.00
11,905.2	90.00	179.80	11,570.0	-579.0	-146.6	578.2	10.00	10.00	0.00
Start DLS 2.00 TFO -90.16									
11,912.4	90.00	179.66	11,570.0	-586.3	-146.6	585.4	2.00	-0.01	-2.00
Start 5921.6 hold at 11912.4 MD									
12,000.0	90.00	179.66	11,570.0	-673.8	-146.1	672.9	0.00	0.00	0.00
12,100.0	90.00	179.66	11,570.0	-773.8	-145.5	772.9	0.00	0.00	0.00
12,200.0	90.00	179.66	11,570.0	-873.8	-144.9	872.9	0.00	0.00	0.00
12,300.0	90.00	179.66	11,570.0	-973.8	-144.3	972.9	0.00	0.00	0.00
12,400.0	90.00	179.66	11,570.0	-1,073.8	-143.7	1,072.9	0.00	0.00	0.00
12,500.0	90.00	179.66	11,570.0	-1,173.8	-143.1	1,172.9	0.00	0.00	0.00
12,600.0	90.00	179.66	11,570.0	-1,273.8	-142.5	1,272.9	0.00	0.00	0.00
12,700.0	90.00	179.66	11,570.0	-1,373.8	-141.9	1,372.9	0.00	0.00	0.00
12,800.0	90.00	179.66	11,570.0	-1,473.8	-141.3	1,472.9	0.00	0.00	0.00
12,900.0	90.00	179.66	11,570.0	-1,573.8	-140.7	1,572.9	0.00	0.00	0.00
13,000.0	90.00	179.66	11,570.0	-1,673.8	-140.1	1,672.9	0.00	0.00	0.00
13,100.0	90.00	179.66	11,570.0	-1,773.8	-139.5	1,772.9	0.00	0.00	0.00
13,200.0	90.00	179.66	11,570.0	-1,873.8	-138.9	1,872.9	0.00	0.00	0.00
13,300.0	90.00	179.66	11,570.0	-1,973.8	-138.3	1,972.9	0.00	0.00	0.00
13,400.0	90.00	179.66	11,570.0	-2,073.8	-137.7	2,072.9	0.00	0.00	0.00
13,500.0	90.00	179.66	11,570.0	-2,173.8	-137.1	2,172.9	0.00	0.00	0.00
13,600.0	90.00	179.66	11,570.0	-2,273.8	-136.5	2,272.9	0.00	0.00	0.00
13,700.0	90.00	179.66	11,570.0	-2,373.8	-135.9	2,372.9	0.00	0.00	0.00
13,800.0	90.00	179.66	11,570.0	-2,473.8	-135.3	2,472.9	0.00	0.00	0.00
13,900.0	90.00	179.66	11,570.0	-2,573.8	-134.7	2,572.9	0.00	0.00	0.00
14,000.0	90.00	179.66	11,570.0	-2,673.8	-134.1	2,672.9	0.00	0.00	0.00
14,100.0	90.00	179.66	11,570.0	-2,773.8	-133.5	2,772.9	0.00	0.00	0.00
14,200.0	90.00	179.66	11,570.0	-2,873.8	-132.9	2,872.9	0.00	0.00	0.00
14,300.0	90.00	179.66	11,570.0	-2,973.8	-132.3	2,972.9	0.00	0.00	0.00
14,400.0	90.00	179.66	11,570.0	-3,073.8	-131.7	3,072.9	0.00	0.00	0.00
14,500.0	90.00	179.66	11,570.0	-3,173.8	-131.1	3,172.9	0.00	0.00	0.00
14,600.0	90.00	179.66	11,570.0	-3,273.8	-130.5	3,272.9	0.00	0.00	0.00
14,700.0	90.00	179.66	11,570.0	-3,373.8	-129.8	3,372.9	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Company:	Matador Production Company	TVD Reference:	KB @ 3839.5usft
Project:	Ranger/Arrowhead	MD Reference:	KB @ 3839.5usft
Site:	Big Game	North Reference:	Grid
Well:	Big Bucks Fed Com #601H	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)
14,800.0	90.00	179.66	11,570.0	-3,473.8	-129.2	3,472.9	0.00	0.00	0.00
14,900.0	90.00	179.66	11,570.0	-3,573.8	-128.6	3,572.9	0.00	0.00	0.00
15,000.0	90.00	179.66	11,570.0	-3,673.8	-128.0	3,672.9	0.00	0.00	0.00
15,100.0	90.00	179.66	11,570.0	-3,773.8	-127.4	3,772.9	0.00	0.00	0.00
15,200.0	90.00	179.66	11,570.0	-3,873.8	-126.8	3,872.9	0.00	0.00	0.00
15,243.9	90.00	179.66	11,570.0	-3,917.7	-126.6	3,916.9	0.00	0.00	0.00
Exit NMNM 0553706 - Big Bucks Fed Com #601H									
15,300.0	90.00	179.66	11,570.0	-3,973.7	-126.2	3,972.9	0.00	0.00	0.00
15,400.0	90.00	179.66	11,570.0	-4,073.7	-125.6	4,072.9	0.00	0.00	0.00
15,500.0	90.00	179.66	11,570.0	-4,173.7	-125.0	4,172.9	0.00	0.00	0.00
15,600.0	90.00	179.66	11,570.0	-4,273.7	-124.4	4,272.9	0.00	0.00	0.00
15,700.0	90.00	179.66	11,570.0	-4,373.7	-123.8	4,372.9	0.00	0.00	0.00
15,800.0	90.00	179.66	11,570.0	-4,473.7	-123.2	4,472.9	0.00	0.00	0.00
15,900.0	90.00	179.66	11,570.0	-4,573.7	-122.6	4,572.9	0.00	0.00	0.00
16,000.0	90.00	179.66	11,570.0	-4,673.7	-122.0	4,672.9	0.00	0.00	0.00
16,100.0	90.00	179.66	11,570.0	-4,773.7	-121.4	4,772.9	0.00	0.00	0.00
16,200.0	90.00	179.66	11,570.0	-4,873.7	-120.8	4,872.9	0.00	0.00	0.00
16,300.0	90.00	179.66	11,570.0	-4,973.7	-120.2	4,972.9	0.00	0.00	0.00
16,400.0	90.00	179.66	11,570.0	-5,073.7	-119.6	5,072.9	0.00	0.00	0.00
16,500.0	90.00	179.66	11,570.0	-5,173.7	-119.0	5,172.9	0.00	0.00	0.00
16,566.9	90.00	179.66	11,570.0	-5,240.6	-118.6	5,239.8	0.00	0.00	0.00
Exit NMNM 127892 - Big Bucks Fed Com #601H									
16,600.0	90.00	179.66	11,570.0	-5,273.7	-118.4	5,272.9	0.00	0.00	0.00
16,700.0	90.00	179.66	11,570.0	-5,373.7	-117.8	5,372.9	0.00	0.00	0.00
16,800.0	90.00	179.66	11,570.0	-5,473.7	-117.2	5,472.9	0.00	0.00	0.00
16,900.0	90.00	179.66	11,570.0	-5,573.7	-116.6	5,572.9	0.00	0.00	0.00
17,000.0	90.00	179.66	11,570.0	-5,673.7	-116.0	5,672.9	0.00	0.00	0.00
17,100.0	90.00	179.66	11,570.0	-5,773.7	-115.4	5,772.9	0.00	0.00	0.00
17,200.0	90.00	179.66	11,570.0	-5,873.7	-114.8	5,872.9	0.00	0.00	0.00
17,300.0	90.00	179.66	11,570.0	-5,973.7	-114.2	5,972.9	0.00	0.00	0.00
17,400.0	90.00	179.66	11,570.0	-6,073.7	-113.6	6,072.9	0.00	0.00	0.00
17,500.0	90.00	179.66	11,570.0	-6,173.7	-113.0	6,172.9	0.00	0.00	0.00
17,600.0	90.00	179.66	11,570.0	-6,273.7	-112.4	6,272.9	0.00	0.00	0.00
17,700.0	90.00	179.66	11,570.0	-6,373.7	-111.8	6,372.9	0.00	0.00	0.00
17,800.0	90.00	179.66	11,570.0	-6,473.7	-111.2	6,472.9	0.00	0.00	0.00
17,834.0	90.00	179.66	11,570.0	-6,507.7	-111.0	6,506.9	0.00	0.00	0.00
TD at 17834.0 - BHL - Big Bucks Fed Com #601H									

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Company:	Matador Production Company	TVD Reference:	KB @ 3839.5usft
Project:	Ranger/Arrowhead	MD Reference:	KB @ 3839.5usft
Site:	Big Game	North Reference:	Grid
Well:	Big Bucks Fed Com #601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
VP - Big Bucks Fed Corr - plan hits target center - Point	0.00	0.00	10,997.0	-6.1	-148.6	546,505.40	719,577.50	32° 30' 1.577 N	103° 37' 16.029 W
Exit NMNM 0553706 - B - plan misses target center by 0.6usft at 15243.9usft MD (11570.0 TVD, -3917.7 N, -126.6 E) - Point	0.00	0.00	11,570.0	-3,917.7	-125.9	542,594.03	719,600.17	32° 29' 22.872 N	103° 37' 16.069 W
Exit NMNM 127892 - Big - plan misses target center by 0.3usft at 16566.9usft MD (11570.0 TVD, -5240.6 N, -118.6 E) - Point	0.00	0.00	11,570.0	-5,240.6	-118.3	541,271.09	719,607.81	32° 29' 9.780 N	103° 37' 16.083 W
BHL - Big Bucks Fed Co - plan hits target center - Point	0.00	0.00	11,570.0	-6,507.7	-111.0	540,003.95	719,615.09	32° 28' 57.241 N	103° 37' 16.097 W

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment	
1,500.0	1,500.0	0.0	0.0	Start Build 1.00	
2,300.0	2,297.4	-2.3	-55.7	Start 401.1 hold at 2300.0 MD	
2,701.1	2,694.6	-4.6	-111.5	Start Drop -1.50	
3,234.4	3,226.2	-6.1	-148.6	Start 7770.8 hold at 3234.4 MD	
11,005.2	10,997.0	-6.1	-148.6	Start Build 10.00	
11,905.2	11,570.0	-579.0	-146.6	Start DLS 2.00 TFO -90.16	
11,912.4	11,570.0	-586.3	-146.6	Start 5921.6 hold at 11912.4 MD	
17,834.0	11,570.0	-6,507.7	-111.0	TD at 17834.0	



SURVEY PROGRAM

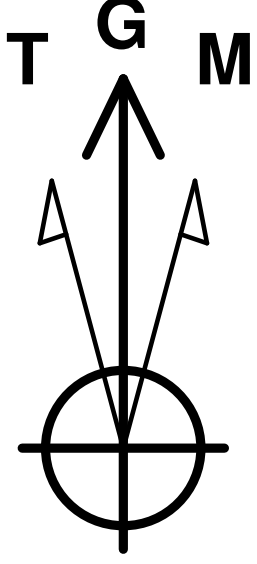
WELL DETAILS: Big Bucks Fed Com #601H

Depth From	Depth To	Survey/Plan	Tool				GL @ 3811.0	KB @ 3839.5usft		
0.0	17834.0	BLM Plan #1 (Wellbore #1)	MWD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
				0.0	0.0	546511.49	719726.11	32° 30' 1.627 N	103° 37' 14.293 W	

Company: Matador Production Company
Well: Big Bucks Fed Com #601H
County: Lea county, NM
Wellbore: Wellbore #1
Plan: BLM Plan #1
Date: 10/16/2022

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 6.03°
To convert a Magnetic Direction to a True Direction, Add 6.42° East
To convert a True Direction to a Grid Direction, Subtract 0.38°



Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.03°

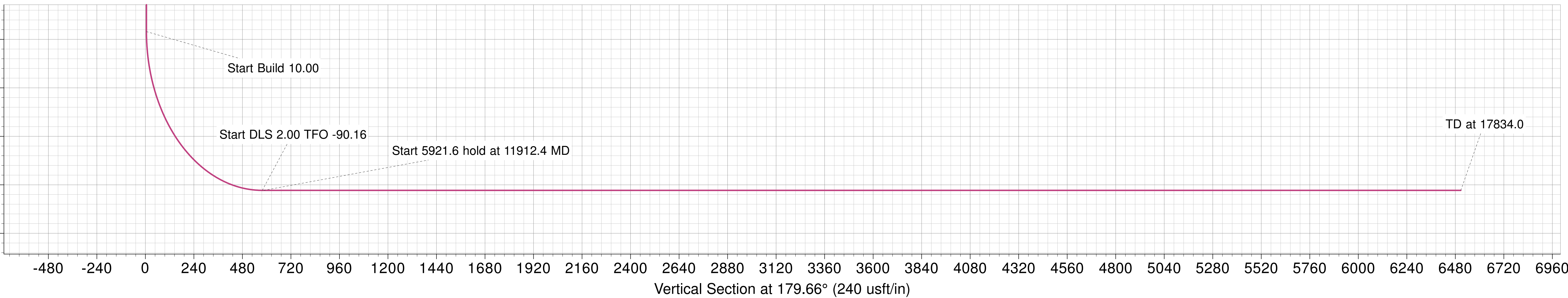
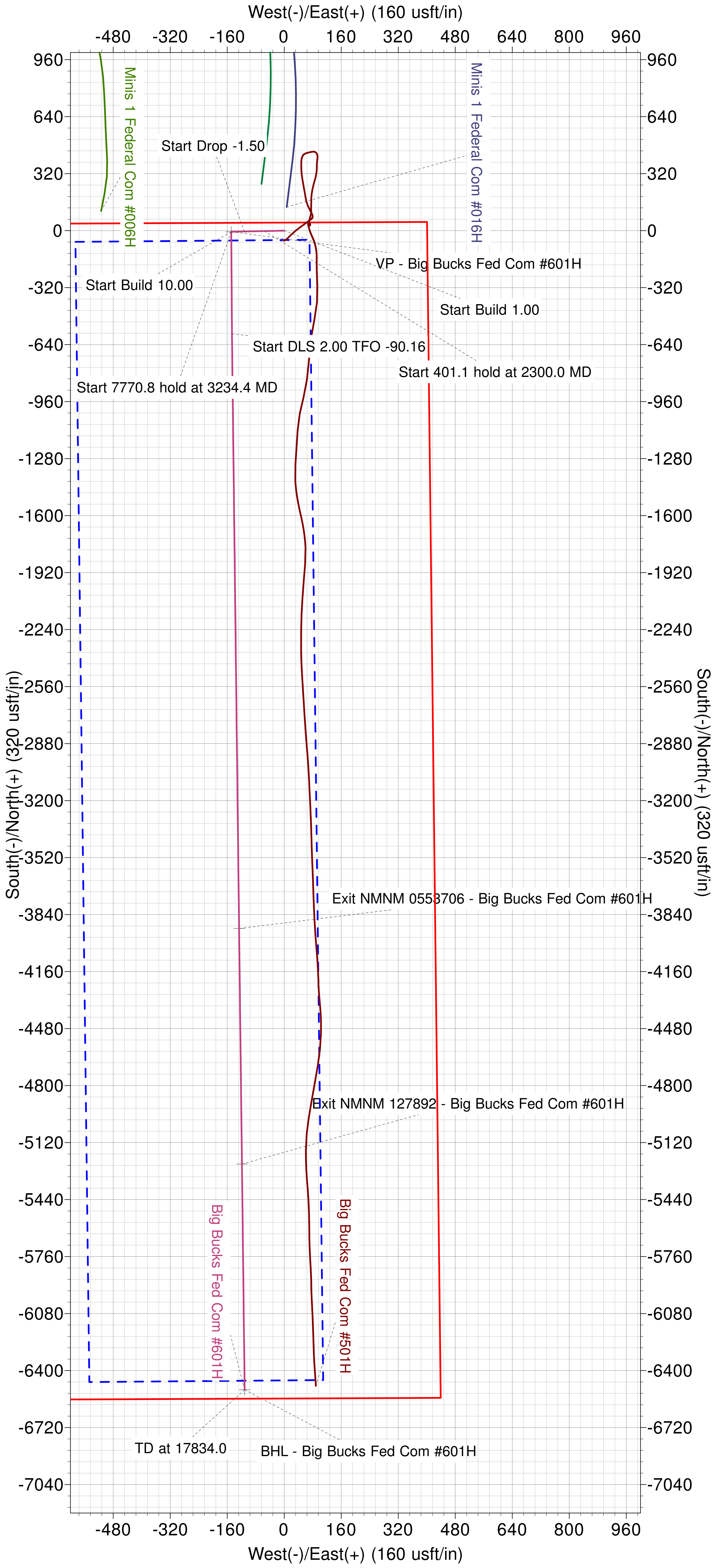
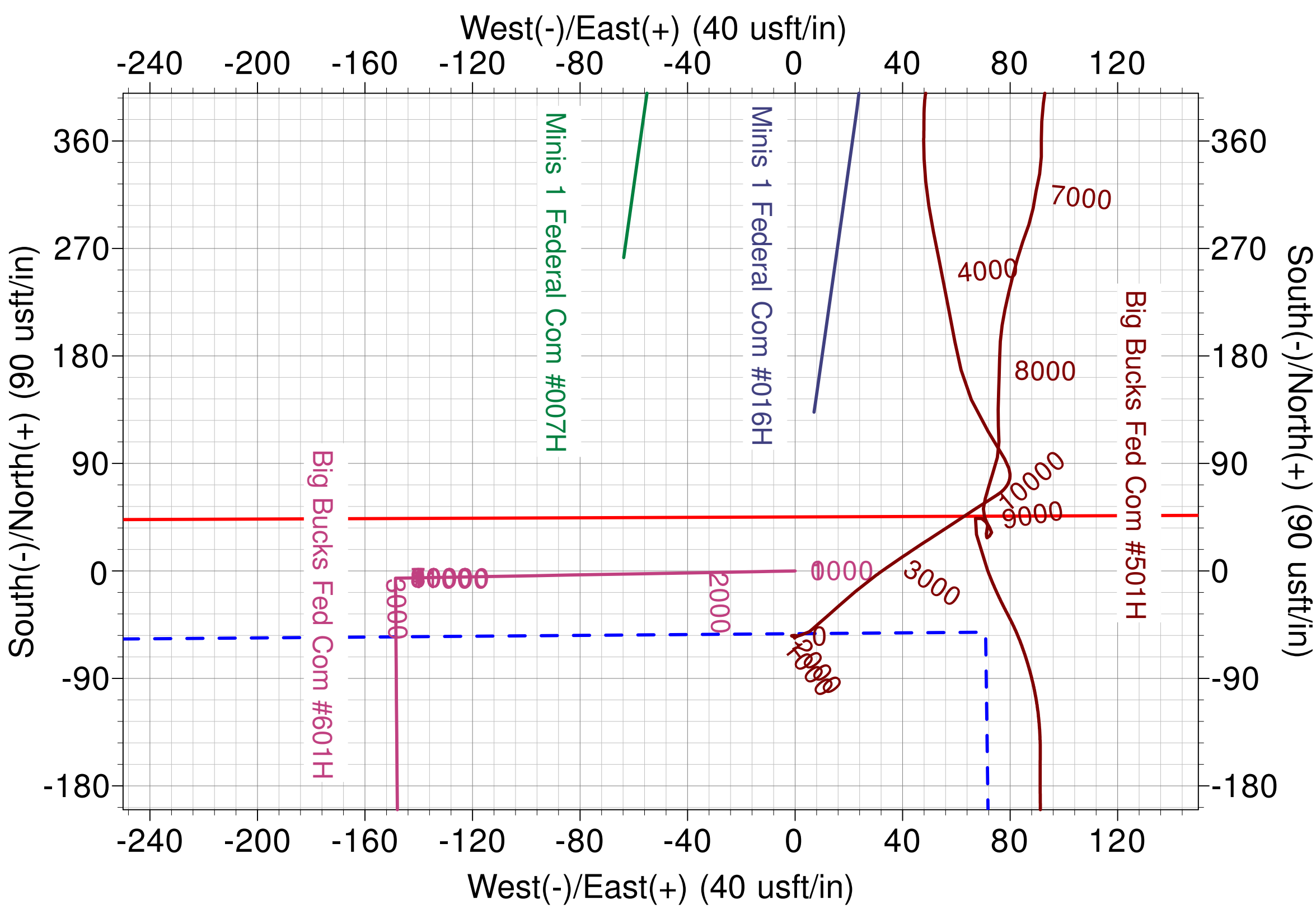
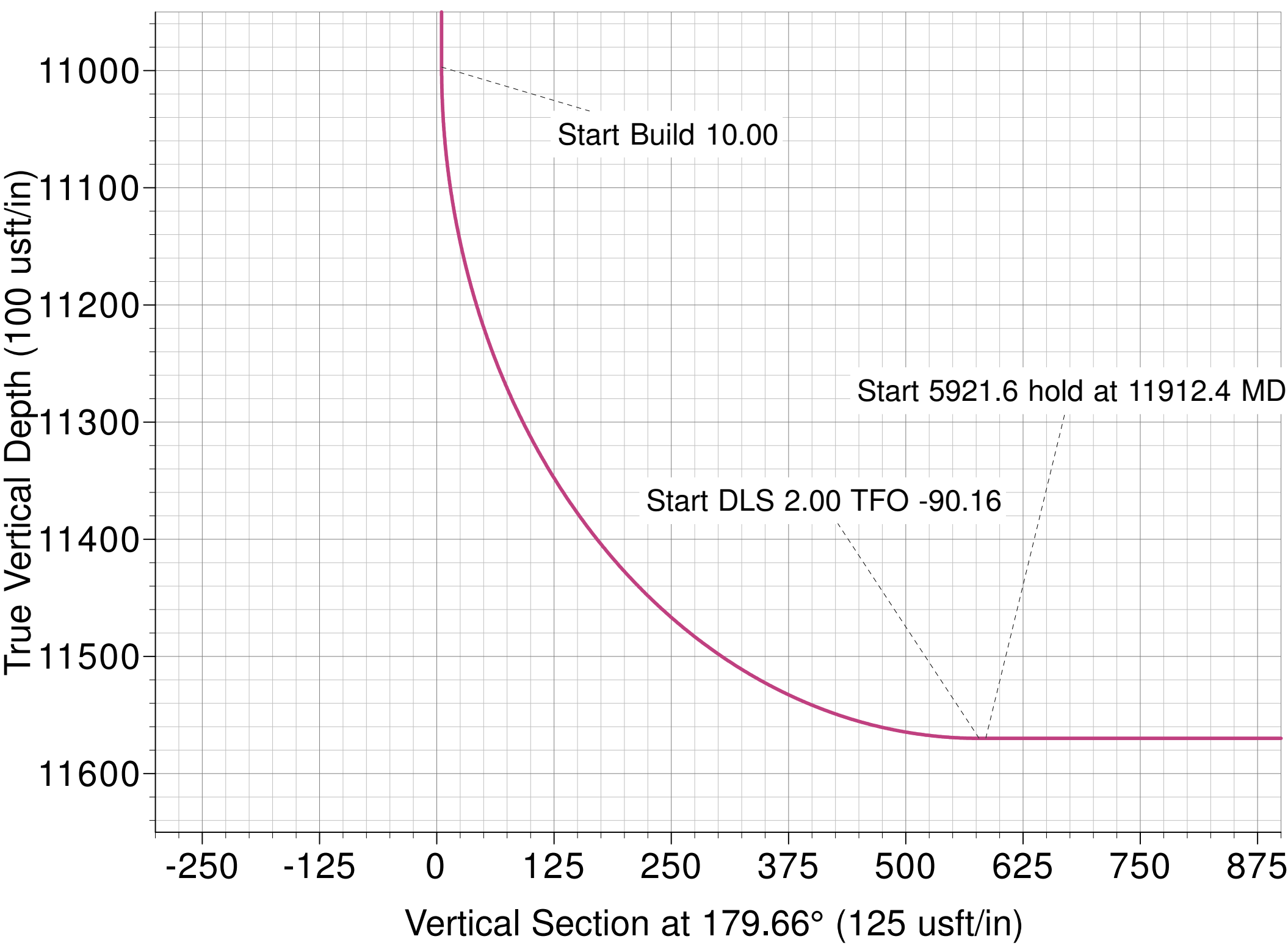
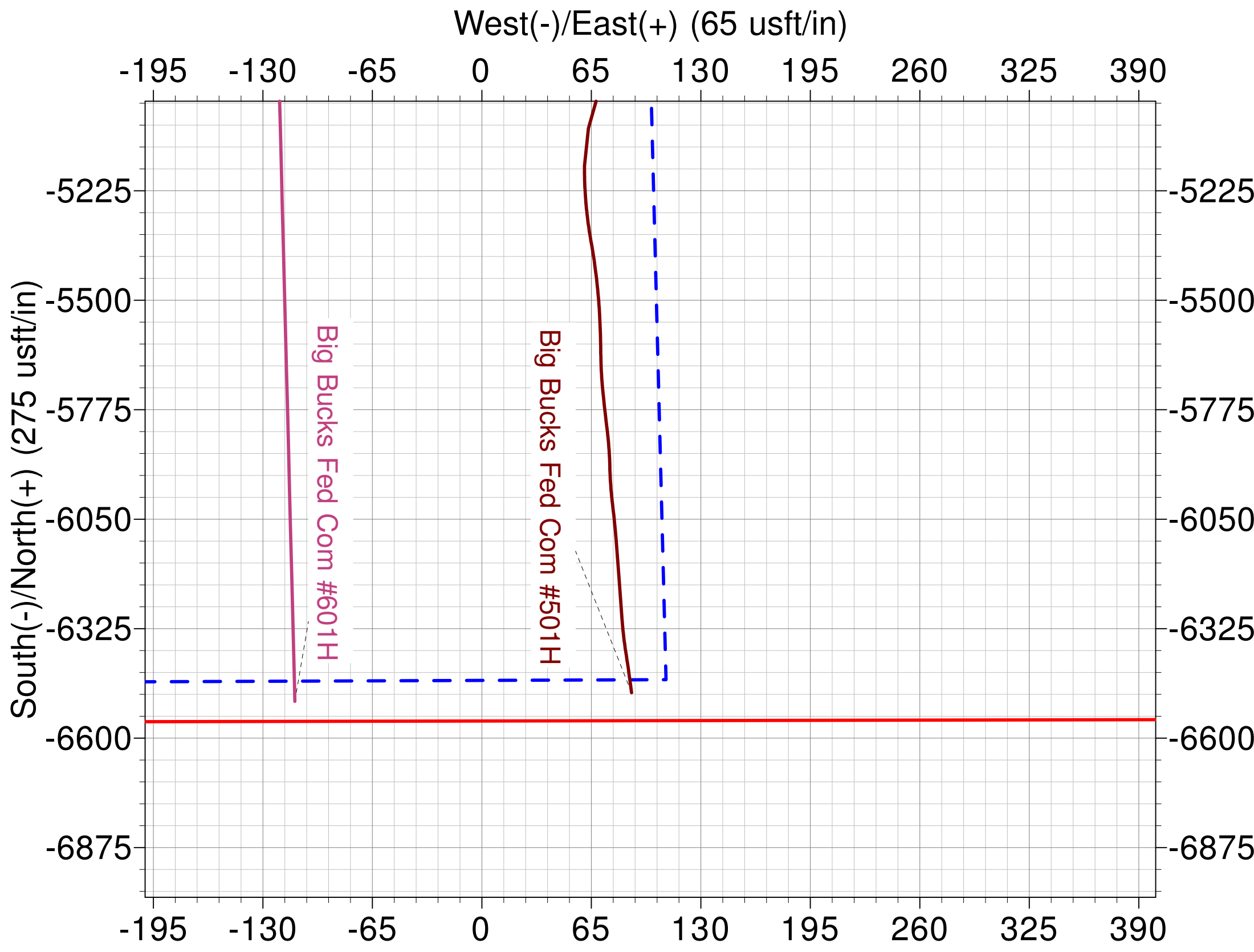
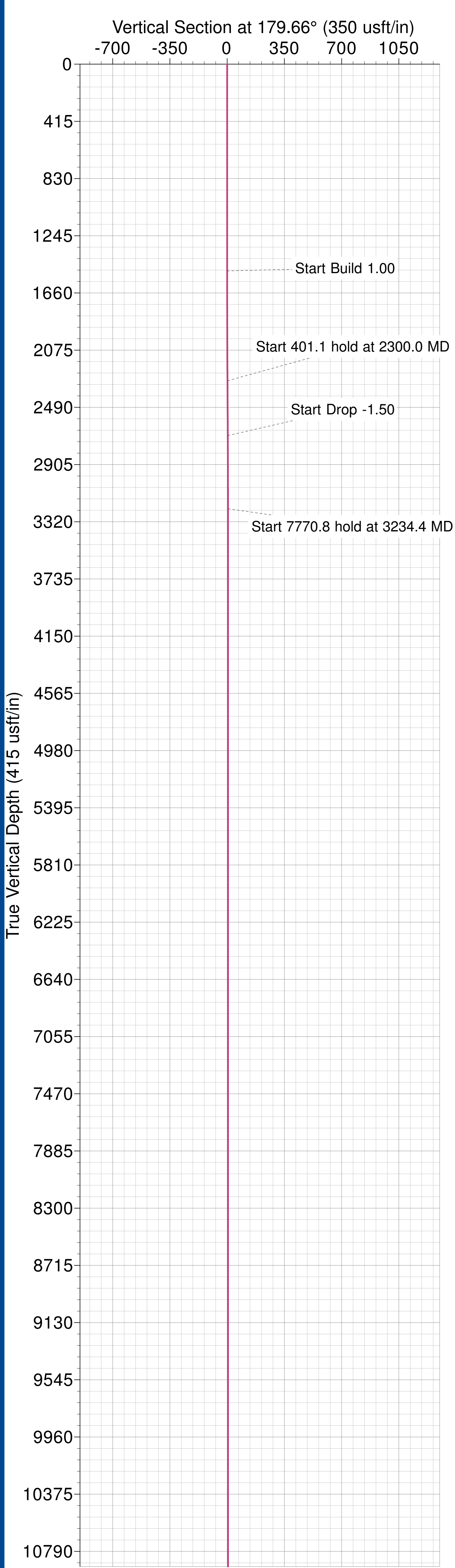
Magnetic Field
Strength: 47544.1snT
Dip Angle: 60.23°
Date: 10/16/2022
Model: IGRF2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
VP - Big Bucks Fed Com #601H	10997.0	-6.1	-148.6	546505.40	719577.50	32° 30' 1.577 N	103° 37' 16.029 W
BHL - Big Bucks Fed Com #601H	11570.0	-6507.7	-111.0	540003.95	719615.10	32° 28' 57.241 N	103° 37' 16.097 W
Exit NMNM 0553706 - Big Bucks Fed Com #601H	11570.0	-3917.7	-125.9	542594.03	719600.17	32° 29' 22.872 N	103° 37' 16.069 W
Exit NMNM 127892 - Big Bucks Fed Com #601H	11570.0	-5240.6	-118.3	541271.09	719607.81	32° 29' 9.780 N	103° 37' 16.083 W

SECTION DETAILS

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	
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	Start Build 1.00
2300.0	8.00	267.65	2297.4	-2.3	-55.7	1.00	267.65	2.0	Start 401.1 hold at 2300.0 MD
2701.1	8.00	267.65	2694.6	-4.6	-111.5	0.00	0.00	3.9	Start Drop -1.50
3234.4	0.00	0.00	3226.2	-6.1	-148.6	1.50	180.00	5.2	Start 7770.8 hold at 3234.4 MD
11005.2	0.00	0.00	10997.0	-6.1	-148.6	0.00	0.00	5.2	Start Build 10.00
11905.2	90.00	179.80	11570.0	-579.0	-146.6	10.00	179.80	578.2	Start DLS 2.00 TFO -90.16
11912.4	90.00	179.66	11570.0	-586.3	-146.6	2.00	-90.16	585.4	Start 5921.6 hold at 11912.4 MD
17834.0	90.00	179.66	11570.0	-6507.7	-111.0	0.00	0.00	6507.0	TD at 17834.0



Matador Production Company

Ranger/Arrowhead

Big Game

Big Bucks Fed Com #601H

Wellbore #1

BLM Plan #1

Anticollision Report

17 October, 2022

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.0 us
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	10/17/2022
From (usft)	To (usft)	Survey (Wellbore)
0.0	17,834.0	BLM Plan #1 (Wellbore #1)
		Tool Name
		MWD
		Description
		OWSG MWD - Standard

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
Offset Well - Wellbore - Design	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)	Factor	
Big Game						
Big Bucks Fed Com #501H - Wellbore #1 - Actual	669.4	672.4	53.9	50.0	13.811 CC	
Big Bucks Fed Com #501H - Wellbore #1 - Actual	1,900.0	1,902.9	55.9	43.3	4.455 ES	
Big Bucks Fed Com #501H - Wellbore #1 - Actual	10,224.9	10,304.8	218.9	147.3	3.057 SF	
Big Bucks Fed Com #502H - Wellbore #1 - Actual	2,753.7	2,657.8	756.3	738.0	41.176 CC, ES	
Big Bucks Fed Com #502H - Wellbore #1 - Actual	17,834.0	17,190.0	1,715.5	1,500.8	7.990 SF	
Big Bull Fed Com #305H - Wellbore #1 - BLM Plan #1	2,717.6	2,313.3	2,718.1	2,700.8	157.437 CC, ES	
Big Bull Fed Com #305H - Wellbore #1 - BLM Plan #1	17,834.0	17,348.2	3,379.8	3,149.7	14.694 SF	
Big Bull Fed Com #602H - Wellbore #1 - BLM Plan #1	2,747.8	2,369.2	2,684.6	2,667.0	152.786 CC	
Big Bull Fed Com #602H - Wellbore #1 - BLM Plan #1	2,800.0	2,421.3	2,685.0	2,667.0	149.638 ES	
Big Bull Fed Com #602H - Wellbore #1 - BLM Plan #1	17,834.0	17,825.5	2,964.6	2,733.2	12.809 SF	
Big Stag Fed Com #303H - Wellbore #1 - BLM Plan #1	11,912.3	12,503.7	1,106.0	1,021.3	13.066 CC	
Big Stag Fed Com #303H - Wellbore #1 - BLM Plan #1	17,834.0	18,425.4	1,106.3	875.0	4.781 ES, SF	
Big Stag Fed Com #304H - Wellbore #1 - BLM Plan #1	11,912.0	12,381.9	1,759.1	1,674.5	20.791 CC	
Big Stag Fed Com #304H - Wellbore #1 - BLM Plan #1	17,834.0	18,303.9	1,760.1	1,527.9	7.580 ES, SF	
Big Stag Fed Com #503H - Wellbore #1 - Actual	4,075.7	4,051.3	1,654.5	1,626.8	59.574 CC	
Big Stag Fed Com #503H - Wellbore #1 - Actual	10,521.9	10,542.7	1,670.3	1,597.0	22.797 ES	
Big Stag Fed Com #503H - Wellbore #1 - Actual	17,834.0	17,003.0	1,863.7	1,653.2	8.852 SF	
Big Stag Fed Com #504H - Wellbore #1 - Actual	3,500.0	3,479.0	1,633.3	1,609.6	69.117 CC	
Big Stag Fed Com #504H - Wellbore #1 - Actual	3,514.3	3,491.0	1,633.3	1,609.6	68.847 ES	
Big Stag Fed Com #504H - Wellbore #1 - Actual	17,834.0	17,327.0	2,622.7	2,397.5	11.650 SF	
Big Stag Fed Com #703H - Wellbore #1 - Actual	11,270.2	11,583.4	1,142.1	1,062.6	14.352 CC	
Big Stag Fed Com #703H - Wellbore #1 - Actual	17,800.0	18,029.0	1,196.2	970.9	5.309 ES	
Big Stag Fed Com #703H - Wellbore #1 - Actual	17,834.0	18,029.0	1,197.0	971.4	5.305 SF	
Minis 1 Fed Com #011H - Wellbore #1 - Actual	10,826.3	18,273.0	1,624.6	1,454.6	9.558 CC, ES	
Minis 1 Fed Com #011H - Wellbore #1 - Actual	10,900.0	18,273.0	1,626.3	1,456.1	9.554 SF	
Minis 1 Federal Com #004H - Wellbore #1 - Actual	11,413.4	18,931.0	4,335.1	4,160.8	24.881 CC, ES	
Minis 1 Federal Com #004H - Wellbore #1 - Actual	11,650.0	18,931.0	4,345.0	4,169.7	24.789 SF	
Minis 1 Federal Com #005H - Wellbore #1 - Actual	11,405.0	18,876.0	2,936.7	2,764.4	17.045 CC, ES, SF	
Minis 1 Federal Com #006H - Wellbore #1 - Actual	11,424.8	18,949.0	509.8	374.1	3.756 CC, ES, SF	
Minis 1 Federal Com #007H - Wellbore #1 - Actual	11,399.5	19,030.0	523.2	432.8	5.790 CC	
Minis 1 Federal Com #007H - Wellbore #1 - Actual	11,400.0	19,030.0	523.2	432.8	5.790 ES, SF	
Minis 1 Federal Com #010H - Wellbore #1 - Actual	11,455.0	18,850.0	1,032.0	871.7	6.438 CC, ES, SF	
Minis 1 Federal Com #016H - Wellbore #1 - Actual	11,443.0	19,030.0	441.0	337.2	4.250 CC	
Minis 1 Federal Com #016H - Wellbore #1 - Actual	11,450.0	19,030.0	441.1	337.1	4.241 ES, 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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		Big Game - Big Bucks Fed Com #501H - Wellbore #1 - Actual											Offset Site Error:		0.0 usft	
Survey Program: 339-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	3.0	3.0	0.0	0.0	179.30	-54.9	0.7	54.9							
100.0	100.0	103.0	103.0	0.1	0.2	179.29	-54.9	0.7	54.9	54.6	0.30	184.629				
200.0	200.0	203.1	203.1	0.5	0.3	179.28	-54.8	0.7	54.8	54.0	0.82	66.825				
300.0	300.0	303.1	303.1	0.8	0.5	179.26	-54.6	0.7	54.6	53.3	1.34	40.686				
400.0	400.0	403.2	403.2	1.2	0.8	179.35	-54.4	0.6	54.4	52.4	1.99	27.361				
500.0	500.0	503.1	503.1	1.6	1.1	179.73	-54.1	0.3	54.1	51.4	2.70	20.057				
600.0	600.0	603.1	603.1	1.9	1.5	-179.98	-54.0	0.0	54.0	50.6	3.41	15.825				
669.4	669.4	672.4	672.4	2.2	1.7	-179.78	-53.9	-0.2	53.9	50.0	3.91	13.811 CC				
700.0	700.0	703.0	703.0	2.3	1.8	-179.68	-54.0	-0.3	54.0	49.8	4.12	13.086				
800.0	800.0	802.9	802.9	2.6	2.2	-179.25	-54.1	-0.7	54.1	49.3	4.83	11.196				
900.0	900.0	903.0	903.0	3.0	2.5	-178.94	-54.2	-1.0	54.2	48.6	5.54	9.771				
1,000.0	1,000.0	1,002.9	1,002.9	3.4	2.9	-178.68	-54.3	-1.2	54.3	48.0	6.25	8.678				
1,100.0	1,100.0	1,102.9	1,102.9	3.7	3.2	-178.74	-54.4	-1.2	54.4	47.5	6.95	7.826				
1,200.0	1,200.0	1,202.8	1,202.8	4.1	3.6	-179.10	-54.8	-0.9	54.8	47.2	7.65	7.171				
1,300.0	1,300.0	1,302.7	1,302.6	4.4	3.9	-179.77	-55.3	-0.2	55.3	47.0	8.35	6.624				
1,400.0	1,400.0	1,402.8	1,402.8	4.8	4.3	-179.95	-56.0	0.0	56.0	46.9	9.05	6.182				
1,500.0	1,500.0	1,502.9	1,502.9	5.1	4.6	-179.90	-56.2	-0.1	56.2	46.4	9.76	5.756				
1,600.0	1,600.0	1,603.2	1,603.1	5.5	5.0	-88.32	-56.2	-0.2	56.2	45.7	10.46	5.370				
1,700.0	1,700.0	1,703.5	1,703.5	5.8	5.3	-91.27	-55.6	0.0	55.6	44.4	11.16	4.983				
1,798.0	1,797.8	1,801.2	1,801.2	6.2	5.7	-96.22	-54.9	0.5	55.2	43.4	11.83	4.665				
1,800.0	1,799.9	1,803.2	1,803.2	6.2	5.7	-96.34	-54.9	0.5	55.2	43.3	11.85	4.659				
1,900.0	1,899.7	1,902.9	1,902.8	6.5	6.0	-103.48	-54.3	1.3	55.9	43.3	12.54	4.455 ES				
2,000.0	1,999.4	2,002.6	2,002.5	6.9	6.4	-112.20	-53.6	2.3	57.9	44.7	13.24	4.377				
2,100.0	2,098.9	2,102.0	2,102.0	7.2	6.7	-121.31	-52.9	3.2	62.1	48.2	13.94	4.456				
2,200.0	2,198.3	2,201.3	2,201.3	7.6	7.0	-130.11	-52.2	3.8	68.6	54.0	14.64	4.689				
2,300.0	2,297.4	2,300.3	2,300.3	8.0	7.4	-138.21	-51.5	4.7	77.9	62.6	15.34	5.081				
2,400.0	2,396.4	2,399.6	2,399.6	8.4	7.7	-145.48	-49.9	5.9	89.0	73.0	16.04	5.550				
2,500.0	2,495.5	2,498.5	2,498.4	8.7	8.1	-152.35	-46.1	7.7	100.8	84.0	16.74	6.020				
2,600.0	2,594.5	2,596.6	2,596.2	9.1	8.4	-158.73	-40.6	10.6	114.1	96.6	17.43	6.545				
2,701.1	2,694.6	2,694.9	2,694.1	9.5	8.8	-164.97	-32.5	14.7	129.3	111.1	18.12	7.135				
2,800.0	2,792.7	2,789.8	2,788.2	9.9	9.1	-170.96	-21.7	20.2	145.3	126.5	18.77	7.738				
2,900.0	2,892.2	2,884.4	2,881.6	10.3	9.5	-176.55	-8.5	27.3	161.9	142.5	19.41	8.341				
3,000.0	2,991.9	2,977.7	2,973.3	10.6	9.8	178.48	6.2	36.3	179.5	159.4	20.01	8.966				
3,100.0	3,091.8	3,071.9	3,065.4	11.0	10.2	173.88	22.7	47.3	197.8	177.2	20.63	9.591				
3,200.0	3,191.8	3,168.3	3,159.4	11.4	10.6	169.74	40.3	59.2	215.7	194.4	21.28	10.137				
3,234.4	3,226.2	3,201.7	3,192.0	11.5	10.7	76.07	46.5	63.4	221.6	200.1	21.51	10.301				
3,300.0	3,291.8	3,265.3	3,254.0	11.7	11.0	73.70	58.2	71.4	232.8	210.9	21.95	10.607				
3,400.0	3,391.8	3,394.0	3,379.2	12.0	11.5	68.12	85.6	79.6	246.5	223.4	23.10	10.668				
3,500.0	3,491.8	3,496.4	3,477.8	12.4	11.9	61.77	112.9	72.9	252.1	228.2	23.85	10.569				
3,600.0	3,591.8	3,588.8	3,566.2	12.7	12.3	56.08	138.6	66.6	260.9	236.4	24.49	10.654				
3,700.0	3,691.8	3,682.9	3,656.9	13.1	12.7	51.19	163.6	62.4	273.4	248.3	25.13	10.880				
3,800.0	3,791.8	3,778.7	3,749.6	13.4	13.1	47.08	187.8	59.8	288.2	262.4	25.80	11.173				
3,900.0	3,891.8	3,876.0	3,843.8	13.8	13.5	43.43	211.9	57.8	304.5	278.0	26.49	11.495				
4,000.0	3,991.8	3,974.3	3,939.1	14.1	14.0	40.18	235.9	55.7	321.6	294.4	27.20	11.822				
4,100.0	4,091.8	4,071.3	4,033.2	14.5	14.4	37.32	259.3	53.7	339.3	311.4	27.89	12.164				
4,200.0	4,191.8	4,169.1	4,128.1	14.8	14.9	34.73	282.7	51.6	357.7	329.1	28.60	12.508				
4,300.0	4,291.8	4,268.8	4,225.1	15.2	15.3	32.44	306.0	49.8	376.3	347.0	29.34	12.828				
4,400.0	4,391.8	4,372.7	4,326.5	15.5	15.8	30.52	328.4	48.5	394.2	364.1	30.13	13.083				
4,500.0	4,491.8	4,477.3	4,429.0	15.9	16.2	28.98	348.8	47.9	411.0	380.1	30.93	13.287				
4,600.0	4,591.8	4,584.9	4,535.1	16.2	16.7	27.77	367.1	47.9	426.0	394.2	31.75	13.415				
4,700.0	4,691.8	4,690.1	4,639.1	16.6	17.1	26.83	382.6	48.0	439.2	406.6	32.53	13.499				
4,800.0	4,791.8	4,793.1	4,741.2	16.9	17.6	26.07	396.6	48.4	451.5	418.2	33.28	13.564				

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 339-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		
4,900.0	4,891.8	4,899.1	4,846.4	17.3	18.0	25.52	409.2	49.7	462.7	428.7	34.06	13.587		
5,000.0	4,991.8	5,008.9	4,955.6	17.7	18.4	25.22	419.6	51.9	472.1	437.3	34.84	13.550		
5,100.0	5,091.8	5,116.2	5,062.7	18.0	18.8	25.14	427.1	54.7	479.6	444.0	35.60	13.472		
5,200.0	5,191.8	5,225.4	5,171.7	18.4	19.2	25.28	432.2	58.4	485.3	448.9	36.35	13.351		
5,300.0	5,291.8	5,330.4	5,276.6	18.7	19.5	25.54	435.2	62.3	489.4	452.3	37.07	13.202		
5,400.0	5,391.8	5,431.0	5,377.1	19.1	19.9	25.84	437.4	66.1	493.0	455.2	37.77	13.052		
5,500.0	5,491.8	5,532.2	5,478.2	19.4	20.2	26.15	439.4	70.1	496.5	458.0	38.48	12.904		
5,600.0	5,591.8	5,634.5	5,580.4	19.8	20.6	26.45	441.1	73.8	499.6	460.5	39.19	12.751		
5,700.0	5,691.8	5,734.9	5,680.8	20.1	20.9	26.73	442.5	77.3	502.4	462.5	39.89	12.595		
5,800.0	5,791.8	5,836.5	5,782.3	20.5	21.2	27.04	443.6	80.9	505.1	464.5	40.59	12.442		
5,900.0	5,891.8	5,951.7	5,897.4	20.8	21.6	27.52	442.8	85.3	506.2	464.9	41.31	12.255		
6,000.0	5,991.8	6,065.2	6,010.7	21.2	22.0	28.18	438.1	89.3	504.2	462.2	41.98	12.010		
6,100.0	6,091.8	6,172.2	6,117.5	21.5	22.3	28.73	432.3	91.6	500.4	457.8	42.64	11.736		
6,200.0	6,191.8	6,277.5	6,222.6	21.9	22.6	29.23	425.3	92.8	495.2	451.9	43.30	11.436		
6,300.0	6,291.8	6,385.2	6,329.9	22.3	22.9	29.78	417.2	93.6	489.0	445.1	43.94	11.130		
6,400.0	6,391.8	6,500.2	6,444.4	22.6	23.2	30.42	405.9	93.3	480.3	435.8	44.50	10.795		
6,500.0	6,491.8	6,620.8	6,563.8	23.0	23.5	31.37	389.0	92.2	467.8	422.9	44.93	10.412		
6,600.0	6,591.8	6,716.6	6,658.3	23.3	23.8	32.35	373.4	91.7	453.7	408.0	45.65	9.939		
6,700.0	6,691.8	6,811.7	6,752.2	23.7	24.1	33.40	358.2	91.6	440.2	393.8	46.37	9.492		
6,800.0	6,791.8	6,909.2	6,848.6	24.0	24.3	34.50	343.4	91.6	427.5	380.4	47.08	9.082		
6,900.0	6,891.8	7,012.0	6,950.2	24.4	24.6	35.62	327.8	90.6	414.4	366.7	47.71	8.686		
7,000.0	6,991.8	7,109.3	7,046.3	24.7	24.9	36.72	312.8	89.2	401.2	352.7	48.42	8.285		
7,100.0	7,091.8	7,207.2	7,143.2	25.1	25.2	37.86	298.5	88.1	388.8	339.7	49.12	7.915		
7,200.0	7,191.8	7,309.8	7,244.6	25.5	25.5	39.02	283.3	85.9	375.8	326.0	49.76	7.552		
7,300.0	7,291.8	7,408.8	7,342.4	25.8	25.8	40.26	268.2	83.7	362.6	312.1	50.45	7.186		
7,400.0	7,391.8	7,505.6	7,438.1	26.2	26.1	41.60	253.4	81.7	349.7	298.5	51.19	6.832		
7,500.0	7,491.8	7,604.2	7,535.5	26.5	26.4	43.04	238.9	80.1	337.7	285.8	51.90	6.507		
7,600.0	7,591.8	7,702.7	7,633.0	26.9	26.7	44.64	224.0	78.6	325.6	273.0	52.61	6.189		
7,700.0	7,691.8	7,798.5	7,727.7	27.2	27.0	46.28	210.1	77.4	314.5	261.1	53.38	5.891		
7,800.0	7,791.8	7,897.7	7,825.9	27.6	27.3	48.05	196.3	76.5	304.3	250.2	54.09	5.626		
7,900.0	7,891.8	7,998.0	7,925.1	28.0	27.6	50.23	181.0	76.2	294.0	239.2	54.80	5.365		
8,000.0	7,991.8	8,095.3	8,021.2	28.3	27.9	52.56	165.9	76.0	284.1	228.6	55.56	5.114		
8,100.0	8,091.8	8,194.0	8,118.8	28.7	28.3	54.96	151.3	75.8	275.2	218.9	56.30	4.888		
8,200.0	8,191.8	8,292.7	8,216.4	29.0	28.6	57.50	136.7	75.6	266.7	209.7	57.04	4.676		
8,300.0	8,291.8	8,390.3	8,313.0	29.4	28.9	60.16	122.5	75.6	259.2	201.3	57.80	4.483		
8,400.0	8,391.8	8,488.9	8,410.6	29.7	29.2	62.96	108.5	75.8	252.5	194.0	58.55	4.313		
8,500.0	8,491.8	8,591.7	8,512.4	30.1	29.6	65.87	94.2	75.2	245.8	186.6	59.25	4.149		
8,600.0	8,591.8	8,690.4	8,610.2	30.4	29.9	68.55	81.2	73.4	239.1	179.1	60.00	3.985		
8,700.0	8,691.8	8,787.3	8,706.4	30.8	30.3	71.04	69.7	71.9	233.5	172.8	60.75	3.843		
8,800.0	8,791.8	8,885.6	8,804.1	31.2	30.6	73.47	59.0	70.6	228.8	167.3	61.49	3.721		
8,900.0	8,891.8	8,980.5	8,898.6	31.5	30.9	75.41	50.8	70.1	226.0	163.8	62.23	3.632		
9,000.0	8,991.8	9,077.8	8,995.7	31.9	31.3	77.02	44.4	70.6	225.0	162.1	62.94	3.575		
9,074.3	9,066.1	9,151.3	9,069.1	32.1	31.5	78.06	40.4	71.4	224.9	161.4	63.47	3.543		
9,100.0	9,091.8	9,176.7	9,094.5	32.2	31.6	78.39	39.2	71.6	224.9	161.2	63.65	3.533		
9,200.0	9,191.8	9,276.9	9,194.6	32.6	32.0	79.58	34.6	72.8	225.1	160.8	64.37	3.498		
9,300.0	9,291.8	9,380.2	9,297.8	32.9	32.3	80.65	30.4	73.0	224.7	159.6	65.09	3.452		
9,400.0	9,391.8	9,479.7	9,397.3	33.3	32.7	81.11	28.4	71.6	222.9	157.1	65.79	3.388		
9,483.2	9,475.0	9,560.6	9,478.1	33.6	32.9	81.31	27.5	71.4	222.6	156.2	66.37	3.353		
9,500.0	9,491.8	9,577.2	9,494.7	33.7	33.0	81.27	27.7	71.4	222.6	156.1	66.49	3.348		
9,600.0	9,591.8	9,676.3	9,593.8	34.0	33.3	80.60	30.3	71.2	222.8	155.6	67.18	3.316		
9,700.0	9,691.8	9,775.1	9,692.5	34.4	33.7	79.84	33.3	71.3	223.5	155.6	67.88	3.292		
9,800.0	9,791.8	9,875.4	9,792.8	34.7	34.0	78.84	37.4	71.7	224.5	156.0	68.58	3.274		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 339-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		
9,900.0	9,891.8	9,979.1	9,896.4	35.1	34.4	78.09	40.3	71.3	224.7	155.4	69.29	3.243		
10,000.0	9,991.8	10,081.2	9,998.4	35.4	34.7	76.90	44.6	69.0	223.5	153.5	69.99	3.193		
10,100.0	10,091.8	10,183.3	10,100.5	35.8	35.1	77.03	43.6	67.0	221.4	150.7	70.69	3.132		
10,200.0	10,191.8	10,281.8	10,197.5	36.2	35.4	81.09	27.9	67.8	219.1	147.7	71.43	3.067		
10,224.9	10,216.6	10,304.8	10,219.6	36.2	35.5	82.73	21.6	68.5	218.9	147.3	71.61	3.057 SF		
10,300.0	10,291.8	10,371.0	10,281.8	36.5	35.7	88.57	-0.6	71.8	220.9	148.9	72.00	3.068		
10,400.0	10,391.8	10,450.1	10,353.3	36.9	36.0	96.96	-33.8	78.5	232.5	160.8	71.70	3.243		
10,500.0	10,491.8	10,529.3	10,420.4	37.2	36.3	106.38	-75.1	86.2	255.8	185.3	70.52	3.628		
10,600.0	10,591.8	10,602.5	10,476.3	37.6	36.6	115.85	-122.0	90.6	291.0	222.7	68.26	4.263		
10,700.0	10,691.8	10,663.0	10,518.8	37.9	36.8	123.52	-165.0	91.2	337.2	272.3	64.87	5.198		
10,800.0	10,791.8	10,704.6	10,545.5	38.3	36.9	128.50	-196.9	91.3	395.1	334.7	60.42	6.539		
10,900.0	10,891.8	10,742.0	10,567.3	38.7	37.1	132.65	-227.3	91.5	462.4	405.9	56.52	8.182		
11,005.2	10,997.0	10,767.4	10,580.8	39.0	37.2	135.27	-248.8	91.8	540.8	488.4	52.42	10.316		
11,050.0	11,041.7	10,778.3	10,586.2	39.2	37.2	-39.93	-258.3	91.9	575.2	524.3	50.93	11.294		
11,100.0	11,091.3	10,791.1	10,592.2	39.4	37.3	-35.54	-269.6	92.1	612.7	563.4	49.32	12.423		
11,150.0	11,140.2	10,804.3	10,598.1	39.5	37.3	-31.86	-281.4	92.3	649.1	601.3	47.78	13.586		
11,200.0	11,188.0	10,837.0	10,611.1	39.7	37.5	-28.05	-311.4	92.7	684.7	637.3	47.36	14.457		
11,250.0	11,234.4	10,837.0	10,611.1	39.8	37.5	-26.07	-311.4	92.7	717.5	672.4	45.12	15.904		
11,300.0	11,278.9	10,837.0	10,611.1	39.9	37.5	-24.31	-311.4	92.7	749.4	706.4	43.02	17.419		
11,350.0	11,321.3	10,869.9	10,622.3	40.1	37.6	-22.09	-342.4	93.0	778.8	736.3	42.58	18.293		
11,400.0	11,361.3	10,890.5	10,628.6	40.2	37.7	-20.51	-362.0	92.9	806.3	764.7	41.55	19.406		
11,450.0	11,398.4	10,911.5	10,634.3	40.3	37.8	-19.19	-382.1	92.6	831.4	790.8	40.57	20.493		
11,500.0	11,432.5	10,932.0	10,639.4	40.5	37.9	-18.10	-402.0	92.2	854.2	814.5	39.62	21.557		
11,550.0	11,463.3	10,932.0	10,639.4	40.6	37.9	-17.40	-402.0	92.2	875.0	836.9	38.12	22.955		
11,600.0	11,490.6	10,970.8	10,647.0	40.8	38.0	-16.40	-440.0	90.3	892.4	854.6	37.85	23.576		
11,650.0	11,514.0	10,989.9	10,649.6	40.9	38.1	-15.73	-458.9	88.9	907.9	870.8	37.10	24.473		
11,700.0	11,533.6	11,026.0	10,652.8	41.1	38.3	-14.95	-494.6	85.1	921.3	884.6	36.74	25.077		
11,750.0	11,549.1	11,026.0	10,652.8	41.3	38.3	-14.69	-494.6	85.1	931.4	895.5	35.92	25.929		
11,800.0	11,560.3	11,063.0	10,654.4	41.4	38.4	-14.15	-531.3	81.1	938.8	903.1	35.73	26.276		
11,850.0	11,567.3	11,096.6	10,655.5	41.6	38.6	-13.82	-564.8	78.3	943.0	907.4	35.60	26.486		
11,900.0	11,569.9	11,136.0	10,656.3	41.8	38.8	-13.63	-604.1	75.8	943.7	908.1	35.62	26.492		
11,905.2	11,570.0	11,141.4	10,656.4	41.8	38.8	-13.62	-609.6	75.5	943.6	907.9	35.64	26.475		
11,912.4	11,570.0	11,148.9	10,656.6	41.8	38.8	-13.59	-617.0	75.1	943.3	907.7	35.66	26.451		
12,000.0	11,570.0	11,233.1	10,658.3	42.2	39.3	-13.33	-701.0	70.8	940.4	904.5	35.93	26.172		
12,100.0	11,570.0	11,328.0	10,659.7	42.6	39.9	-13.03	-795.8	66.1	937.7	901.4	36.29	25.837		
12,200.0	11,570.0	11,450.7	10,661.4	43.1	40.6	-12.44	-918.2	56.5	934.6	897.8	36.84	25.373		
12,300.0	11,570.0	11,542.2	10,663.3	43.7	41.3	-11.77	-1,008.9	45.5	929.9	892.9	37.07	25.089		
12,400.0	11,570.0	11,622.0	10,664.2	44.3	41.9	-11.37	-1,088.5	39.2	927.1	889.7	37.42	24.773		
12,500.0	11,570.0	11,714.2	10,664.3	45.0	42.6	-11.13	-1,180.6	35.8	926.1	888.1	38.05	24.336		
12,600.0	11,570.0	11,816.9	10,664.6	45.7	43.5	-10.90	-1,283.2	32.6	925.1	886.3	38.83	23.827		
12,668.9	11,570.0	11,875.3	10,664.7	46.2	44.0	-10.77	-1,341.7	30.7	924.6	885.3	39.32	23.516		
12,700.0	11,570.0	11,898.3	10,664.5	46.5	44.2	-10.75	-1,364.6	30.5	924.7	885.2	39.55	23.381		
12,800.0	11,570.0	11,978.4	10,663.1	47.3	44.9	-10.85	-1,444.7	32.9	926.8	886.4	40.49	22.890		
12,900.0	11,570.0	12,096.6	10,661.3	48.2	46.1	-11.37	-1,562.4	42.6	929.9	888.1	41.88	22.203		
13,000.0	11,570.0	12,256.8	10,668.8	49.1	47.7	-12.31	-1,721.8	57.5	926.7	882.7	44.04	21.042		
13,100.0	11,570.0	12,335.7	10,672.4	50.0	48.6	-12.48	-1,800.5	60.0	922.8	877.7	45.04	20.487		
13,200.0	11,570.0	12,445.0	10,675.7	51.0	49.8	-12.31	-1,909.6	57.2	919.1	872.9	46.17	19.906		
13,300.0	11,570.0	12,541.8	10,678.8	52.0	50.8	-12.08	-2,006.4	53.4	915.1	867.9	47.17	19.401		
13,400.0	11,570.0	12,635.1	10,681.0	53.0	51.9	-11.88	-2,099.6	50.1	911.9	863.7	48.18	18.928		
13,500.0	11,570.0	12,718.8	10,682.7	54.1	52.9	-11.75	-2,183.2	48.1	909.4	860.2	49.18	18.491		
13,528.0	11,570.0	12,736.3	10,682.8	54.4	53.1	-11.73	-2,200.7	47.9	909.2	859.8	49.44	18.391		
13,600.0	11,570.0	12,787.0	10,681.8	55.2	53.7	-11.68	-2,251.4	47.6	910.3	860.1	50.18	18.140		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Big Bucks Fed Com #501H - Wellbore #1 - Actual													Offset Site Error:	0.0 usft
Survey Program: 339-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		
13,700.0	11,570.0	12,872.2	10,678.5	56.3	54.7	-11.61	-2,336.6	47.6	913.9	862.5	51.34	17.802		
13,800.0	11,570.0	12,964.3	10,674.4	57.5	55.9	-11.57	-2,428.5	48.4	918.2	865.7	52.57	17.466		
13,900.0	11,570.0	13,084.3	10,670.2	58.7	57.4	-11.67	-2,548.5	51.7	922.1	868.1	54.04	17.063		
14,000.0	11,570.0	13,195.0	10,668.4	59.9	58.8	-11.82	-2,659.0	55.2	924.3	868.7	55.55	16.640		
14,100.0	11,570.0	13,308.1	10,668.1	61.1	60.3	-11.99	-2,772.1	58.8	925.1	867.9	57.11	16.196		
14,194.8	11,570.0	13,403.4	10,669.0	62.3	61.5	-12.18	-2,867.4	62.2	924.8	866.2	58.56	15.791		
14,200.0	11,570.0	13,408.2	10,669.0	62.3	61.6	-12.19	-2,872.1	62.4	924.8	866.2	58.64	15.771		
14,300.0	11,570.0	13,505.7	10,669.4	63.6	62.9	-12.39	-2,969.5	66.3	925.2	865.0	60.18	15.374		
14,400.0	11,570.0	13,607.4	10,669.7	64.9	64.3	-12.55	-3,071.2	69.4	925.4	863.7	61.73	14.991		
14,500.0	11,570.0	13,711.1	10,670.1	66.2	65.7	-12.66	-3,174.9	71.8	925.4	862.1	63.28	14.624		
14,600.0	11,570.0	13,812.8	10,670.9	67.5	67.1	-12.79	-3,276.5	74.3	925.0	860.2	64.83	14.267		
14,668.7	11,570.0	13,877.5	10,671.3	68.4	68.0	-12.84	-3,341.3	75.5	924.8	859.0	65.85	14.044		
14,700.0	11,570.0	13,906.5	10,671.3	68.8	68.4	-12.86	-3,370.2	75.9	924.9	858.6	66.31	13.948		
14,800.0	11,570.0	14,013.6	10,671.5	70.1	69.9	-12.91	-3,477.3	77.5	924.9	857.0	67.88	13.625		
14,856.1	11,570.0	14,064.9	10,671.8	70.9	70.6	-12.95	-3,528.6	78.4	924.7	856.0	68.71	13.458		
14,900.0	11,570.0	14,104.9	10,671.8	71.5	71.2	-12.99	-3,568.6	79.1	924.8	855.4	69.36	13.333		
15,000.0	11,570.0	14,210.8	10,672.0	72.9	72.7	-13.07	-3,674.5	81.2	925.0	854.0	70.97	13.033		
15,100.0	11,570.0	14,325.2	10,674.0	74.2	74.3	-13.18	-3,788.9	83.2	923.4	850.7	72.68	12.705		
15,200.0	11,570.0	14,409.6	10,675.1	75.6	75.5	-13.29	-3,873.2	85.2	922.6	848.4	74.18	12.437		
15,277.5	11,570.0	14,486.4	10,675.5	76.7	76.7	-13.41	-3,950.0	87.6	922.6	847.1	75.48	12.223		
15,300.0	11,570.0	14,507.7	10,675.7	77.0	77.0	-13.45	-3,971.2	88.3	922.6	846.8	75.85	12.163		
15,400.0	11,570.0	14,601.9	10,676.0	78.4	78.4	-13.64	-4,065.4	91.9	923.0	845.5	77.53	11.905		
15,500.0	11,570.0	14,697.9	10,675.5	79.9	79.8	-13.78	-4,161.3	95.0	924.1	844.9	79.19	11.669		
15,600.0	11,570.0	14,796.6	10,674.8	81.3	81.2	-13.85	-4,260.0	97.0	925.2	844.4	80.81	11.449		
15,700.0	11,570.0	14,915.1	10,674.3	82.7	83.0	-14.09	-4,378.4	101.7	926.6	843.8	82.75	11.197		
15,800.0	11,570.0	15,070.1	10,680.7	84.2	85.3	-14.19	-4,533.2	102.7	922.3	837.5	84.79	10.878		
15,900.0	11,570.0	15,173.4	10,686.9	85.6	86.8	-13.96	-4,636.2	98.0	915.3	829.2	86.14	10.626		
16,000.0	11,570.0	15,257.6	10,690.7	87.1	88.1	-13.60	-4,720.1	91.6	908.9	821.7	87.21	10.422		
16,100.0	11,570.0	15,331.6	10,691.9	88.6	89.2	-13.19	-4,793.8	85.2	905.2	817.0	88.18	10.266		
16,200.0	11,570.0	15,418.0	10,691.4	90.0	90.5	-12.67	-4,879.8	77.4	903.6	814.5	89.10	10.142		
16,300.0	11,570.0	15,527.6	10,690.9	91.5	92.1	-12.05	-4,989.1	68.2	902.1	812.1	90.07	10.016		
16,400.0	11,570.0	15,616.8	10,690.7	93.0	93.4	-11.68	-5,078.1	62.7	900.9	809.8	91.17	9.882		
16,500.0	11,570.0	15,712.1	10,690.5	94.5	94.9	-11.52	-5,173.3	60.9	900.7	808.1	92.54	9.733		
16,600.0	11,570.0	15,813.7	10,691.0	96.0	96.4	-11.57	-5,275.0	62.2	900.3	806.1	94.17	9.560		
16,616.0	11,570.0	15,827.4	10,691.1	96.2	96.6	-11.59	-5,288.6	62.6	900.3	805.9	94.42	9.534		
16,700.0	11,570.0	15,902.0	10,691.0	97.5	97.8	-11.73	-5,363.2	65.2	900.9	805.0	95.83	9.401		
16,800.0	11,570.0	16,013.2	10,691.3	99.0	99.5	-11.91	-5,474.4	68.8	901.1	803.4	97.69	9.224		
16,900.0	11,570.0	16,113.7	10,691.7	100.5	101.0	-11.97	-5,574.8	70.3	900.9	801.6	99.34	9.069		
17,000.0	11,570.0	16,214.8	10,692.0	102.0	102.6	-11.98	-5,675.9	70.9	900.6	799.6	100.94	8.922		
17,100.0	11,570.0	16,313.8	10,692.7	103.6	104.1	-12.08	-5,774.9	72.9	900.2	797.6	102.64	8.770		
17,200.0	11,570.0	16,415.5	10,693.3	105.1	105.7	-12.21	-5,876.6	75.5	900.0	795.6	104.41	8.620		
17,298.1	11,570.0	16,509.6	10,693.9	106.6	107.2	-12.25	-5,970.6	76.6	899.6	793.6	106.00	8.487		
17,300.0	11,570.0	16,511.3	10,693.9	106.6	107.2	-12.25	-5,972.4	76.6	899.6	793.5	106.03	8.484		
17,400.0	11,570.0	16,605.4	10,693.8	108.2	108.7	-12.35	-6,066.4	78.9	900.0	792.3	107.73	8.355		
17,500.0	11,570.0	16,709.9	10,693.5	109.7	110.3	-12.44	-6,170.9	80.9	900.6	791.1	109.47	8.227		
17,600.0	11,570.0	16,810.7	10,693.7	111.2	111.9	-12.51	-6,271.6	82.7	900.6	789.5	111.18	8.100		
17,700.0	11,570.0	16,901.1	10,693.6	112.8	113.3	-12.60	-6,362.1	84.7	901.2	788.3	112.85	7.986		
17,800.0	11,570.0	17,010.3	10,693.3	114.3	115.0	-12.78	-6,471.2	88.4	902.1	787.3	114.78	7.859		
17,834.0	11,570.0	17,025.0	10,693.4	114.8	115.2	-12.81	-6,485.9	88.8	902.3	787.1	115.22	7.831		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 241-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	3.0	3.0	0.0	0.0	-92.38	-35.5	-852.9	853.7				
100.0	100.0	103.8	103.8	0.1	0.2	-92.37	-35.3	-852.9	853.6	853.3	0.29	2,919.931	
200.0	200.0	204.6	204.6	0.5	0.3	-92.33	-34.6	-852.8	853.5	852.7	0.81	1,053.546	
300.0	300.0	304.9	304.9	0.8	0.6	-92.25	-33.5	-852.6	853.3	851.8	1.46	586.383	
400.0	400.0	406.9	406.9	1.2	1.0	-92.14	-31.9	-852.4	853.0	850.8	2.18	391.288	
500.0	500.0	505.6	505.5	1.6	1.3	-92.02	-30.0	-852.0	852.6	849.7	2.89	294.749	
565.6	565.6	568.6	568.6	1.8	1.6	-91.93	-28.7	-852.0	852.5	849.1	3.35	254.181	
600.0	600.0	601.8	601.7	1.9	1.7	-91.88	-27.9	-852.0	852.5	848.9	3.60	237.037	
700.0	700.0	704.1	704.0	2.3	2.0	-91.68	-25.0	-852.1	852.5	848.2	4.32	197.193	
800.0	800.0	803.3	803.1	2.6	2.4	-91.42	-21.1	-852.1	852.4	847.3	5.04	169.137	
802.6	802.6	805.8	805.6	2.6	2.4	-91.41	-21.0	-852.1	852.4	847.3	5.06	168.511	
900.0	900.0	903.7	903.4	3.0	2.8	-91.13	-16.8	-852.4	852.5	846.8	5.76	147.976	
1,000.0	1,000.0	1,015.7	1,015.4	3.4	3.2	-90.91	-13.5	-851.6	851.8	845.2	6.52	130.584	
1,100.0	1,100.0	1,126.1	1,125.7	3.7	3.6	-90.73	-10.9	-849.3	849.7	842.4	7.28	116.791	
1,200.0	1,200.0	1,229.2	1,228.8	4.1	3.9	-90.50	-7.3	-846.3	846.8	838.8	8.00	105.800	
1,300.0	1,300.0	1,328.7	1,328.1	4.4	4.3	-90.24	-3.5	-843.4	843.7	835.0	8.72	96.760	
1,400.0	1,400.0	1,421.8	1,421.1	4.8	4.6	-90.03	-0.4	-841.1	841.3	831.9	9.41	89.365	
1,500.0	1,500.0	1,525.7	1,524.9	5.1	5.0	-89.80	2.9	-838.6	838.9	828.7	10.15	82.680	
1,600.0	1,600.0	1,626.6	1,625.7	5.5	5.4	2.82	6.9	-835.8	835.3	824.4	10.86	76.913	
1,700.0	1,700.0	1,725.8	1,724.8	5.8	5.7	3.10	10.7	-833.2	830.0	818.5	11.56	71.800	
1,800.0	1,799.9	1,821.8	1,820.7	6.2	6.1	3.36	14.1	-830.6	823.1	810.8	12.25	67.184	
1,900.0	1,899.7	1,911.3	1,910.1	6.5	6.4	3.58	16.8	-829.2	815.5	802.6	12.92	63.122	
2,000.0	1,999.4	2,003.4	2,002.3	6.9	6.7	3.77	19.0	-828.7	807.2	793.6	13.60	59.370	
2,100.0	2,098.9	2,092.2	2,091.0	7.2	7.0	3.90	20.2	-829.3	798.3	784.0	14.25	56.007	
2,200.0	2,198.3	2,177.5	2,176.3	7.6	7.3	3.96	20.3	-831.2	789.2	774.3	14.89	53.018	
2,300.0	2,297.4	2,263.8	2,262.5	8.0	7.6	3.96	19.5	-834.7	780.2	764.7	15.51	50.289	
2,400.0	2,396.4	2,348.8	2,347.3	8.4	7.9	3.95	18.7	-839.6	772.1	755.9	16.14	47.849	
2,500.0	2,495.5	2,440.2	2,438.6	8.7	8.2	3.97	18.3	-846.3	765.5	748.7	16.79	45.598	
2,600.0	2,594.5	2,526.0	2,524.0	9.1	8.5	4.01	18.2	-853.8	760.3	742.9	17.41	43.660	
2,701.1	2,694.6	2,612.4	2,609.9	9.5	8.8	4.05	18.1	-863.0	756.9	738.9	18.04	41.957	
2,753.7	2,746.7	2,657.8	2,655.0	9.7	8.9	4.06	18.1	-868.5	756.3	738.0	18.37	41.176 CC, ES	
2,800.0	2,792.7	2,698.3	2,695.2	9.9	9.1	4.07	18.0	-873.7	756.8	738.1	18.66	40.563	
2,900.0	2,892.2	2,782.3	2,778.3	10.3	9.4	4.05	17.5	-885.7	761.1	741.8	19.26	39.517	
3,000.0	2,991.9	2,862.6	2,857.5	10.6	9.7	4.02	16.9	-899.0	770.2	750.4	19.83	38.848	
3,100.0	3,091.8	2,941.5	2,934.9	11.0	10.0	4.03	17.0	-914.1	784.7	764.3	20.37	38.513	
3,200.0	3,191.8	3,023.4	3,014.8	11.4	10.3	4.04	17.2	-931.7	804.0	783.0	20.93	38.406	
3,234.4	3,226.2	3,057.2	3,047.8	11.5	10.4	-88.31	17.2	-939.3	811.5	790.4	21.17	38.330	
3,300.0	3,291.8	3,122.1	3,111.1	11.7	10.7	-88.32	17.5	-953.8	826.2	804.5	21.63	38.197	
3,400.0	3,391.8	3,221.2	3,207.7	12.0	11.1	-88.34	17.9	-975.6	848.2	825.8	22.33	37.986	
3,500.0	3,491.8	3,312.7	3,297.0	12.4	11.5	-88.36	18.1	-996.1	870.6	847.6	22.97	37.904	
3,600.0	3,591.8	3,409.2	3,390.9	12.7	11.9	-88.42	17.8	-1,018.1	893.4	869.7	23.65	37.774	
3,700.0	3,691.8	3,506.7	3,485.8	13.1	12.3	-88.51	17.2	-1,040.3	916.2	891.8	24.34	37.634	
3,800.0	3,791.8	3,601.7	3,578.3	13.4	12.7	-88.60	16.3	-1,062.2	939.1	914.1	25.02	37.536	
3,900.0	3,891.8	3,697.7	3,671.7	13.8	13.1	-88.70	15.2	-1,084.3	962.2	936.5	25.70	37.433	
4,000.0	3,991.8	3,788.9	3,760.3	14.1	13.5	-88.81	13.7	-1,105.8	985.7	959.3	26.35	37.406	
4,100.0	4,091.8	3,879.0	3,847.7	14.5	14.0	-88.95	11.8	-1,127.6	1,009.8	982.8	26.99	37.415	
4,200.0	4,191.8	3,969.1	3,935.0	14.8	14.4	-89.11	9.5	-1,149.9	1,034.6	1,007.0	27.63	37.448	
4,300.0	4,291.8	4,061.4	4,024.1	15.2	14.8	-89.27	6.9	-1,173.4	1,059.9	1,031.7	28.29	37.472	
4,400.0	4,391.8	4,166.1	4,125.4	15.5	15.3	-89.41	4.7	-1,199.9	1,085.2	1,056.2	29.06	37.346	
4,500.0	4,491.8	4,286.2	4,242.1	15.9	15.9	-89.47	3.8	-1,228.4	1,109.0	1,079.1	29.96	37.015	
4,600.0	4,591.8	4,420.6	4,373.4	16.2	16.5	-89.48	4.0	-1,257.1	1,130.5	1,099.5	30.96	36.518	
4,700.0	4,691.8	4,527.9	4,478.7	16.6	17.0	-89.45	4.8	-1,277.6	1,149.6	1,117.8	31.74	36.222	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 241-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	
4,800.0	4,791.8	4,630.7	4,579.7	16.9	17.5	-89.41	5.8	-1,296.8	1,168.2	1,135.7	32.48	35.962	
4,900.0	4,891.8	4,732.7	4,679.9	17.3	17.9	-89.29	8.4	-1,315.3	1,186.4	1,153.2	33.22	35.709	
5,000.0	4,991.8	4,830.4	4,776.0	17.7	18.4	-89.13	11.9	-1,332.9	1,204.5	1,170.5	33.94	35.491	
5,100.0	5,091.8	4,925.9	4,869.8	18.0	18.8	-88.98	15.3	-1,350.4	1,222.8	1,188.2	34.63	35.306	
5,200.0	5,191.8	5,027.8	4,969.9	18.4	19.2	-88.83	18.8	-1,368.9	1,241.1	1,205.7	35.38	35.081	
5,300.0	5,291.8	5,128.1	5,068.6	18.7	19.7	-88.70	22.1	-1,386.9	1,259.1	1,223.0	36.11	34.869	
5,400.0	5,391.8	5,229.7	5,168.5	19.1	20.2	-88.58	25.1	-1,405.0	1,277.0	1,240.1	36.85	34.654	
5,500.0	5,491.8	5,337.8	5,274.9	19.4	20.6	-88.47	28.0	-1,423.7	1,294.4	1,256.7	37.63	34.395	
5,600.0	5,591.8	5,436.0	5,371.7	19.8	21.1	-88.38	30.5	-1,440.2	1,311.2	1,272.9	38.35	34.191	
5,700.0	5,691.8	5,530.9	5,465.2	20.1	21.5	-88.30	32.8	-1,456.5	1,328.4	1,289.4	39.05	34.022	
5,800.0	5,791.8	5,633.2	5,565.9	20.5	21.9	-88.23	34.8	-1,474.0	1,345.6	1,305.8	39.79	33.818	
5,900.0	5,891.8	5,739.0	5,670.2	20.8	22.4	-88.17	36.7	-1,491.7	1,362.4	1,321.8	40.56	33.592	
6,000.0	5,991.8	5,842.1	5,772.0	21.2	22.9	-88.12	38.6	-1,508.4	1,378.6	1,337.3	41.31	33.377	
6,100.0	6,091.8	5,944.2	5,872.7	21.5	23.3	-88.05	40.7	-1,524.8	1,394.7	1,352.7	42.05	33.171	
6,200.0	6,191.8	6,051.6	5,978.8	21.9	23.8	-87.98	43.0	-1,541.4	1,410.3	1,367.4	42.82	32.934	
6,300.0	6,291.8	6,149.1	6,075.1	22.3	24.2	-87.92	45.0	-1,556.3	1,425.6	1,382.1	43.53	32.748	
6,400.0	6,391.8	6,245.7	6,170.5	22.6	24.6	-87.86	47.1	-1,571.2	1,441.1	1,396.9	44.24	32.575	
6,500.0	6,491.8	6,347.5	6,271.1	23.0	25.1	-87.79	49.4	-1,586.9	1,456.6	1,411.6	44.98	32.384	
6,600.0	6,591.8	6,453.6	6,376.0	23.3	25.5	-87.72	51.9	-1,602.9	1,471.8	1,426.0	45.74	32.173	
6,700.0	6,691.8	6,561.6	6,482.8	23.7	26.0	-87.65	54.3	-1,618.5	1,486.3	1,439.8	46.52	31.951	
6,800.0	6,791.8	6,685.0	6,605.0	24.0	26.5	-87.56	57.2	-1,635.2	1,499.9	1,452.5	47.37	31.661	
6,900.0	6,891.8	6,864.9	6,783.8	24.4	27.2	-87.28	65.3	-1,653.4	1,510.6	1,462.1	48.46	31.175	
7,000.0	6,991.8	7,052.9	6,971.4	24.7	27.9	-86.96	74.2	-1,661.6	1,515.3	1,465.9	49.40	30.672	
7,100.0	7,091.8	7,176.7	7,095.2	25.1	28.2	-86.94	74.8	-1,662.3	1,515.9	1,465.7	50.13	30.236	
7,102.3	7,094.1	7,179.5	7,097.9	25.1	28.2	-86.94	74.8	-1,662.3	1,515.9	1,465.7	50.15	30.226	
7,200.0	7,191.8	7,275.5	7,194.0	25.5	28.5	-86.97	74.2	-1,662.5	1,516.0	1,465.2	50.82	29.831	
7,300.0	7,291.8	7,378.1	7,296.6	25.8	28.8	-87.00	73.2	-1,662.5	1,515.9	1,464.4	51.51	29.431	
7,400.0	7,391.8	7,480.1	7,398.6	26.2	29.1	-87.04	72.2	-1,662.4	1,515.8	1,463.6	52.19	29.041	
7,500.0	7,491.8	7,584.1	7,502.6	26.5	29.4	-87.08	71.0	-1,662.1	1,515.4	1,462.5	52.88	28.657	
7,600.0	7,591.8	7,685.5	7,604.0	26.9	29.7	-87.12	70.0	-1,661.5	1,514.8	1,461.2	53.57	28.279	
7,700.0	7,691.8	7,789.1	7,707.5	27.2	30.0	-87.14	69.3	-1,660.8	1,514.1	1,459.9	54.25	27.911	
7,800.0	7,791.8	7,893.4	7,811.8	27.6	30.3	-87.17	68.7	-1,659.8	1,513.1	1,458.2	54.93	27.544	
7,900.0	7,891.8	7,997.8	7,916.2	28.0	30.6	-87.19	68.0	-1,658.5	1,511.9	1,456.2	55.62	27.183	
8,000.0	7,991.8	8,093.7	8,012.1	28.3	30.9	-87.22	67.3	-1,657.3	1,510.5	1,454.2	56.30	26.831	
8,100.0	8,091.8	8,193.6	8,112.0	28.7	31.2	-87.26	66.1	-1,656.2	1,509.4	1,452.4	56.98	26.490	
8,200.0	8,191.8	8,290.0	8,208.4	29.0	31.5	-87.31	64.6	-1,655.3	1,508.4	1,450.7	57.66	26.158	
8,300.0	8,291.8	8,390.5	8,308.8	29.4	31.8	-87.38	62.8	-1,654.5	1,507.5	1,449.1	58.35	25.834	
8,400.0	8,391.8	8,484.9	8,403.2	29.7	32.1	-87.45	61.0	-1,653.9	1,506.7	1,447.7	59.04	25.522	
8,500.0	8,491.8	8,576.0	8,494.3	30.1	32.4	-87.53	59.0	-1,653.4	1,506.1	1,446.4	59.72	25.221	
8,522.0	8,513.7	8,598.4	8,516.7	30.2	32.4	-87.55	58.3	-1,653.3	1,506.1	1,446.2	59.87	25.156	
8,600.0	8,591.8	8,651.8	8,570.1	30.4	32.6	-87.63	56.1	-1,653.9	1,506.7	1,446.3	60.37	24.956	
8,700.0	8,691.8	8,736.7	8,654.8	30.8	32.9	-87.81	51.6	-1,656.0	1,509.0	1,448.0	61.04	24.720	
8,800.0	8,791.8	8,823.0	8,741.0	31.2	33.2	-87.97	47.5	-1,658.8	1,512.1	1,450.3	61.71	24.502	
8,900.0	8,891.8	8,909.3	8,827.1	31.5	33.5	-88.09	44.3	-1,662.4	1,516.1	1,453.7	62.38	24.304	
9,000.0	8,991.8	9,009.4	8,927.1	31.9	33.8	-88.23	40.9	-1,667.2	1,520.8	1,457.7	63.09	24.105	
9,100.0	9,091.8	9,118.1	9,035.6	32.2	34.2	-88.34	38.0	-1,671.7	1,524.9	1,461.1	63.82	23.892	
9,200.0	9,191.8	9,221.6	9,139.0	32.6	34.5	-88.37	37.3	-1,675.6	1,528.6	1,464.1	64.54	23.683	
9,300.0	9,291.8	9,331.0	9,248.3	32.9	34.9	-88.26	40.3	-1,679.2	1,532.0	1,466.7	65.28	23.468	
9,400.0	9,391.8	9,444.6	9,361.8	33.3	35.3	-88.13	44.1	-1,681.9	1,534.4	1,468.4	66.02	23.242	
9,500.0	9,491.8	9,534.6	9,451.8	33.7	35.6	-88.05	46.3	-1,684.0	1,536.9	1,470.2	66.70	23.041	
9,600.0	9,591.8	9,630.5	9,547.6	34.0	35.9	-88.03	46.7	-1,686.8	1,539.8	1,472.4	67.40	22.845	
9,700.0	9,691.8	9,720.4	9,637.5	34.4	36.3	-88.10	45.0	-1,689.9	1,543.2	1,475.1	68.09	22.665	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 241-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	
9,800.0	9,791.8	9,809.5	9,726.5	34.7	36.6	-88.19	42.8	-1,693.6	1,547.2	1,478.5	68.76	22.502	
9,900.0	9,891.8	9,903.0	9,819.9	35.1	36.9	-88.28	40.4	-1,698.0	1,551.9	1,482.5	69.45	22.345	
10,000.0	9,991.8	10,028.7	9,945.3	35.4	37.3	-88.40	37.4	-1,703.4	1,556.1	1,485.9	70.24	22.155	
10,100.0	10,091.8	10,157.1	10,073.7	35.8	37.8	-88.53	34.0	-1,706.0	1,558.1	1,487.1	71.01	21.942	
10,200.0	10,191.8	10,262.9	10,179.5	36.2	38.1	-88.63	31.1	-1,707.1	1,559.0	1,487.3	71.72	21.737	
10,300.0	10,291.8	10,411.0	10,326.1	36.5	38.6	-89.32	12.3	-1,706.9	1,558.7	1,486.3	72.47	21.510	
10,400.0	10,391.8	10,547.4	10,454.6	36.9	38.9	-90.97	-32.5	-1,702.8	1,555.6	1,482.4	73.16	21.262	
10,500.0	10,491.8	10,611.5	10,512.0	37.2	39.1	-92.02	-60.8	-1,700.6	1,553.0	1,479.1	73.85	21.029	
10,535.8	10,527.6	10,632.7	10,530.6	37.4	39.2	-92.40	-71.2	-1,700.1	1,552.8	1,478.7	74.08	20.960	
10,600.0	10,591.8	10,693.4	10,582.0	37.6	39.3	-93.59	-103.4	-1,698.7	1,553.2	1,478.7	74.52	20.842	
10,700.0	10,691.8	10,766.6	10,639.7	37.9	39.5	-95.25	-148.3	-1,696.1	1,555.0	1,479.8	75.15	20.692	
10,800.0	10,791.8	10,810.0	10,670.9	38.3	39.5	-96.36	-178.4	-1,694.8	1,560.7	1,485.1	75.62	20.640	
10,900.0	10,891.8	10,851.5	10,698.3	38.7	39.6	-97.50	-209.4	-1,693.9	1,570.9	1,495.0	75.94	20.687	
11,005.2	10,997.0	10,894.3	10,723.8	39.0	39.7	-98.75	-243.9	-1,692.8	1,586.6	1,510.5	76.11	20.846	
11,050.0	11,041.7	10,910.5	10,732.6	39.2	39.7	80.16	-257.5	-1,692.4	1,594.6	1,518.5	76.12	20.950	
11,100.0	11,091.3	10,929.0	10,742.0	39.4	39.8	78.70	-273.3	-1,691.8	1,604.0	1,527.9	76.07	21.085	
11,150.0	11,140.2	10,952.6	10,753.2	39.5	39.8	77.10	-294.1	-1,690.9	1,613.6	1,537.6	76.03	21.224	
11,200.0	11,188.0	10,975.8	10,763.1	39.7	39.9	75.53	-315.1	-1,689.8	1,623.3	1,547.3	75.94	21.374	
11,250.0	11,234.4	10,998.8	10,771.8	39.8	39.9	74.01	-336.3	-1,688.5	1,632.8	1,557.0	75.83	21.533	
11,300.0	11,278.9	11,023.0	10,779.9	39.9	39.9	72.51	-359.1	-1,686.9	1,642.2	1,566.5	75.70	21.694	
11,350.0	11,321.3	11,023.0	10,779.9	40.1	39.9	71.61	-359.1	-1,686.9	1,651.5	1,576.1	75.41	21.901	
11,400.0	11,361.3	11,023.0	10,779.9	40.2	39.9	70.71	-359.1	-1,686.9	1,660.9	1,585.8	75.11	22.112	
11,450.0	11,398.4	11,023.0	10,779.9	40.3	39.9	69.80	-359.1	-1,686.9	1,670.4	1,595.5	74.82	22.324	
11,500.0	11,432.5	11,063.7	10,790.5	40.5	40.0	68.32	-398.3	-1,684.8	1,677.8	1,603.0	74.80	22.428	
11,550.0	11,463.3	11,074.7	10,792.7	40.6	40.0	67.40	-409.0	-1,684.5	1,685.8	1,611.2	74.63	22.589	
11,600.0	11,490.6	11,118.0	10,798.6	40.8	40.1	66.17	-451.9	-1,684.5	1,694.6	1,620.0	74.65	22.702	
11,650.0	11,514.0	11,118.0	10,798.6	40.9	40.1	65.59	-451.9	-1,684.5	1,700.8	1,626.3	74.50	22.830	
11,700.0	11,533.6	11,118.0	10,798.6	41.1	40.1	65.05	-451.9	-1,684.5	1,706.7	1,632.3	74.41	22.936	
11,750.0	11,549.1	11,118.0	10,798.6	41.3	40.1	64.55	-451.9	-1,684.5	1,712.2	1,637.8	74.39	23.017	
11,800.0	11,560.3	11,154.5	10,801.3	41.4	40.2	63.98	-488.4	-1,685.2	1,716.7	1,642.1	74.59	23.015	
11,850.0	11,567.3	11,185.8	10,803.0	41.6	40.3	63.64	-519.6	-1,686.0	1,719.8	1,645.0	74.82	22.985	
11,900.0	11,569.9	11,218.2	10,804.1	41.8	40.4	63.48	-551.9	-1,686.8	1,721.5	1,646.4	75.13	22.915	
11,905.2	11,570.0	11,222.2	10,804.2	41.8	40.5	63.48	-555.9	-1,687.0	1,721.6	1,646.5	75.17	22.904	
11,912.4	11,570.0	11,227.6	10,804.4	41.8	40.5	63.48	-561.4	-1,687.1	1,721.8	1,646.6	75.22	22.890	
12,000.0	11,570.0	11,294.1	10,805.9	42.2	40.7	63.57	-627.8	-1,689.4	1,724.0	1,648.1	75.91	22.713	
12,100.0	11,570.0	11,388.0	10,806.8	42.6	41.1	63.66	-721.6	-1,693.0	1,727.6	1,650.8	76.84	22.484	
12,200.0	11,570.0	11,494.3	10,808.2	43.1	41.7	63.76	-827.8	-1,696.9	1,730.8	1,652.9	77.93	22.210	
12,300.0	11,570.0	11,575.0	10,809.5	43.7	42.1	63.86	-908.4	-1,700.2	1,734.4	1,655.4	79.02	21.948	
12,400.0	11,570.0	11,645.0	10,810.9	44.3	42.6	63.97	-978.3	-1,704.7	1,739.8	1,659.6	80.17	21.701	
12,500.0	11,570.0	11,749.9	10,811.9	45.0	43.3	64.11	-1,082.9	-1,711.9	1,746.0	1,664.5	81.56	21.408	
12,600.0	11,570.0	11,920.4	10,814.1	45.7	44.6	64.32	-1,253.2	-1,720.8	1,751.4	1,668.1	83.38	21.005	
12,700.0	11,570.0	12,026.6	10,815.7	46.5	45.4	64.40	-1,359.3	-1,722.6	1,752.8	1,667.9	84.96	20.631	
12,800.0	11,570.0	12,141.0	10,817.9	47.3	46.4	64.50	-1,473.7	-1,724.1	1,753.7	1,667.0	86.67	20.234	
12,900.0	11,570.0	12,900.0	10,820.2	48.2	53.5	64.57	-1,610.0	-1,723.7	1,753.3	1,659.1	94.13	18.627	
13,000.0	11,570.0	12,435.3	10,824.4	49.1	49.1	64.61	-1,767.7	-1,716.5	1,747.7	1,657.0	90.62	19.285	
13,100.0	11,570.0	12,494.0	10,826.4	50.0	49.7	64.65	-1,826.4	-1,715.1	1,744.4	1,652.1	92.28	18.904	
13,200.0	11,570.0	12,564.7	10,828.4	51.0	50.4	64.71	-1,897.1	-1,714.8	1,743.1	1,649.1	94.05	18.534	
13,300.0	11,570.0	12,665.6	10,830.8	52.0	51.5	64.79	-1,997.9	-1,714.5	1,742.4	1,646.4	96.05	18.141	
13,400.0	11,570.0	12,778.4	10,833.9	53.0	52.7	64.88	-2,110.6	-1,713.9	1,741.2	1,643.1	98.18	17.736	
13,500.0	11,570.0	12,877.1	10,836.8	54.1	53.8	64.96	-2,209.3	-1,712.9	1,739.7	1,639.4	100.28	17.349	
13,600.0	11,570.0	12,977.4	10,838.7	55.2	54.9	65.01	-2,309.6	-1,711.8	1,738.4	1,636.0	102.43	16.972	
13,700.0	11,570.0	13,103.7	10,839.2	56.3	56.4	64.96	-2,435.8	-1,706.5	1,734.7	1,630.0	104.71	16.567	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Big Bucks Fed Com #502H - Wellbore #1 - Actual												Offset Site Error:	0.0 usft
Survey Program: 241-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	
13,800.0	11,570.0	13,258.7	10,838.8	57.5	58.3	64.87	-2,590.6	-1,699.9	1,732.3	1,625.1	107.13	16.170	
13,900.0	11,570.0	13,333.8	10,839.1	58.7	59.2	64.82	-2,665.5	-1,695.1	1,726.8	1,617.5	109.24	15.808	
14,000.0	11,570.0	13,386.4	10,839.4	59.9	59.8	64.80	-2,718.1	-1,692.8	1,723.3	1,612.0	111.27	15.488	
14,067.9	11,570.0	13,419.5	10,839.4	60.7	60.2	64.79	-2,751.2	-1,692.2	1,722.6	1,610.0	112.63	15.294	
14,100.0	11,570.0	13,439.0	10,839.3	61.1	60.5	64.79	-2,770.7	-1,692.2	1,722.8	1,609.5	113.30	15.205	
14,200.0	11,570.0	13,558.7	10,838.3	62.3	62.0	64.76	-2,890.4	-1,691.3	1,723.1	1,607.3	115.76	14.885	
14,300.0	11,570.0	13,656.5	10,836.9	63.6	63.3	64.70	-2,988.2	-1,689.5	1,722.5	1,604.4	118.10	14.585	
14,322.3	11,570.0	13,673.8	10,836.6	63.9	63.5	64.69	-3,005.4	-1,689.2	1,722.4	1,603.9	118.60	14.524	
14,400.0	11,570.0	13,746.0	10,835.5	64.9	64.4	64.65	-3,077.6	-1,688.6	1,722.8	1,602.4	120.42	14.307	
14,500.0	11,570.0	13,907.1	10,833.6	66.2	66.5	64.55	-3,238.6	-1,684.2	1,721.4	1,598.3	123.16	13.978	
14,600.0	11,570.0	14,011.4	10,834.0	67.5	67.9	64.51	-3,342.9	-1,679.9	1,718.0	1,592.4	125.63	13.675	
14,700.0	11,570.0	14,084.5	10,834.6	68.8	68.9	64.50	-3,415.9	-1,677.6	1,715.4	1,587.4	127.98	13.403	
14,800.0	11,570.0	14,210.9	10,836.3	70.1	70.7	64.51	-3,542.2	-1,674.2	1,713.0	1,582.3	130.66	13.110	
14,900.0	11,570.0	14,301.5	10,837.5	71.5	71.9	64.51	-3,632.8	-1,671.2	1,709.9	1,576.7	133.17	12.840	
15,000.0	11,570.0	14,380.2	10,838.1	72.9	73.0	64.51	-3,711.5	-1,669.0	1,707.6	1,572.0	135.61	12.592	
15,085.9	11,570.0	14,437.6	10,838.3	74.0	73.8	64.51	-3,768.9	-1,668.2	1,706.9	1,569.2	137.65	12.400	
15,100.0	11,570.0	14,447.0	10,838.3	74.2	73.9	64.51	-3,778.3	-1,668.2	1,706.9	1,568.9	137.99	12.370	
15,200.0	11,570.0	14,523.1	10,838.4	75.6	75.0	64.52	-3,854.3	-1,668.7	1,708.0	1,567.6	140.43	12.163	
15,300.0	11,570.0	14,613.8	10,837.9	77.0	76.3	64.54	-3,945.0	-1,670.0	1,710.1	1,567.1	142.99	11.960	
15,400.0	11,570.0	14,709.8	10,837.0	78.4	77.7	64.54	-4,041.1	-1,671.4	1,712.3	1,566.8	145.59	11.761	
15,500.0	11,570.0	14,808.5	10,835.4	79.9	79.1	64.52	-4,139.7	-1,672.9	1,714.9	1,566.7	148.22	11.570	
15,600.0	11,570.0	14,906.5	10,833.8	81.3	80.5	64.50	-4,237.7	-1,674.2	1,717.4	1,566.6	150.85	11.385	
15,700.0	11,570.0	15,009.0	10,833.2	82.7	82.0	64.52	-4,340.2	-1,676.4	1,720.1	1,566.5	153.58	11.200	
15,800.0	11,570.0	15,122.4	10,833.3	84.2	83.6	64.56	-4,453.6	-1,678.4	1,722.2	1,565.8	156.42	11.010	
15,900.0	11,570.0	15,250.3	10,835.5	85.6	85.5	64.66	-4,581.4	-1,680.0	1,723.2	1,563.8	159.44	10.808	
16,000.0	11,570.0	15,333.8	10,837.5	87.1	86.8	64.75	-4,664.9	-1,681.3	1,724.0	1,561.9	162.13	10.634	
16,100.0	11,570.0	15,432.9	10,840.1	88.6	88.2	64.86	-4,764.0	-1,683.1	1,725.1	1,560.1	164.97	10.457	
16,200.0	11,570.0	15,532.1	10,842.7	90.0	89.7	64.97	-4,863.1	-1,684.8	1,726.1	1,558.3	167.82	10.285	
16,300.0	11,570.0	15,612.5	10,844.0	91.5	90.9	65.04	-4,943.5	-1,686.5	1,727.9	1,557.4	170.50	10.135	
16,400.0	11,570.0	15,734.8	10,847.0	93.0	92.7	65.17	-5,065.7	-1,688.7	1,728.8	1,555.3	173.59	9.959	
16,500.0	11,570.0	15,810.0	10,848.3	94.5	93.9	65.24	-5,140.9	-1,690.4	1,730.7	1,554.5	176.24	9.820	
16,600.0	11,570.0	15,914.4	10,848.4	96.0	95.4	65.28	-5,245.2	-1,692.3	1,732.9	1,553.8	179.12	9.675	
16,700.0	11,570.0	16,011.0	10,848.0	97.5	96.9	65.30	-5,341.8	-1,694.2	1,735.4	1,553.5	181.92	9.540	
16,800.0	11,570.0	16,191.5	10,847.3	99.0	99.6	65.28	-5,522.3	-1,693.0	1,735.5	1,550.3	185.29	9.367	
16,900.0	11,570.0	16,276.1	10,846.8	100.5	100.9	65.23	-5,606.8	-1,690.6	1,733.8	1,545.8	187.99	9.223	
17,000.0	11,570.0	16,377.0	10,846.2	102.0	102.5	65.19	-5,707.7	-1,688.2	1,732.4	1,541.6	190.79	9.080	
17,100.0	11,570.0	16,485.5	10,847.0	103.6	104.1	65.19	-5,816.1	-1,686.0	1,730.8	1,537.1	193.69	8.936	
17,200.0	11,570.0	16,596.1	10,848.6	105.1	105.8	65.21	-5,926.7	-1,683.3	1,728.5	1,531.9	196.62	8.791	
17,300.0	11,570.0	16,698.9	10,849.6	106.6	107.4	65.21	-6,029.5	-1,680.2	1,725.9	1,526.4	199.49	8.651	
17,400.0	11,570.0	16,791.9	10,850.8	108.2	108.8	65.22	-6,122.4	-1,677.5	1,723.3	1,521.0	202.34	8.517	
17,500.0	11,570.0	16,886.4	10,852.1	109.7	110.3	65.24	-6,216.9	-1,675.5	1,721.3	1,516.1	205.21	8.388	
17,600.0	11,570.0	16,989.6	10,853.3	111.2	111.9	65.25	-6,320.0	-1,673.1	1,719.3	1,511.1	208.12	8.261	
17,700.0	11,570.0	17,080.4	10,854.3	112.8	113.3	65.26	-6,410.9	-1,671.0	1,717.2	1,506.3	210.97	8.140	
17,800.0	11,570.0	17,177.9	10,855.3	114.3	114.8	65.27	-6,508.3	-1,669.4	1,715.8	1,502.0	213.86	8.023	
17,834.0	11,570.0	17,190.0	10,855.4	114.8	115.0	65.27	-6,520.4	-1,669.2	1,715.5	1,500.8	214.71	7.990 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	-87.27	130.9	-2,748.1	2,751.5				
100.0	100.0	65.0	65.0	0.1	0.1	-87.27	130.9	-2,748.1	2,751.2	2,751.0	0.21	N/A	
200.0	200.0	165.0	165.0	0.5	0.4	-87.27	130.9	-2,748.1	2,751.2	2,750.4	0.85	3,245.201	
300.0	300.0	265.0	265.0	0.8	0.7	-87.27	130.9	-2,748.1	2,751.2	2,749.7	1.56	1,758.282	
400.0	400.0	365.0	365.0	1.2	1.1	-87.27	130.9	-2,748.1	2,751.2	2,749.0	2.28	1,205.798	
500.0	500.0	465.0	465.0	1.6	1.4	-87.27	130.9	-2,748.1	2,751.2	2,748.2	3.00	917.502	
600.0	600.0	565.0	565.0	1.9	1.8	-87.27	130.9	-2,748.1	2,751.2	2,747.5	3.72	740.463	
700.0	700.0	665.0	665.0	2.3	2.2	-87.27	130.9	-2,748.1	2,751.2	2,746.8	4.43	620.696	
800.0	800.0	765.0	765.0	2.6	2.5	-87.27	130.9	-2,748.1	2,751.2	2,746.1	5.15	534.278	
900.0	900.0	865.0	865.0	3.0	2.9	-87.27	130.9	-2,748.1	2,751.2	2,745.4	5.87	468.983	
1,000.0	1,000.0	965.0	965.0	3.4	3.2	-87.27	130.9	-2,748.1	2,751.2	2,744.7	6.58	417.909	
1,100.0	1,100.0	1,065.0	1,065.0	3.7	3.6	-87.27	130.9	-2,748.1	2,751.2	2,743.9	7.30	376.867	
1,200.0	1,200.0	1,165.0	1,165.0	4.1	3.9	-87.27	130.9	-2,748.1	2,751.2	2,743.2	8.02	343.166	
1,300.0	1,300.0	1,265.0	1,265.0	4.4	4.3	-87.27	130.9	-2,748.1	2,751.2	2,742.5	8.73	314.997	
1,400.0	1,400.0	1,365.0	1,365.0	4.8	4.7	-87.27	130.9	-2,748.1	2,751.2	2,741.8	9.45	291.102	
1,500.0	1,500.0	1,465.0	1,465.0	5.1	5.0	-87.27	130.9	-2,748.1	2,751.2	2,741.1	10.17	270.576	
1,600.0	1,600.0	1,544.4	1,544.4	5.5	5.3	5.07	130.9	-2,748.3	2,750.6	2,739.8	10.80	254.761	
1,700.0	1,700.0	1,612.8	1,612.8	5.8	5.5	5.07	130.7	-2,749.2	2,749.3	2,737.9	11.37	241.731	
1,800.0	1,799.9	1,681.1	1,681.1	6.2	5.8	5.07	130.3	-2,750.9	2,747.5	2,735.5	11.95	229.991	
1,900.0	1,899.7	1,749.5	1,749.4	6.5	6.0	5.07	129.7	-2,753.4	2,745.0	2,732.5	12.52	219.252	
2,000.0	1,999.4	1,817.9	1,817.7	6.9	6.2	5.06	129.0	-2,756.7	2,741.9	2,728.9	13.09	209.392	
2,100.0	2,098.9	1,886.2	1,885.9	7.2	6.5	5.05	128.1	-2,760.8	2,738.3	2,724.6	13.67	200.305	
2,200.0	2,198.3	1,954.6	1,954.1	7.6	6.7	5.04	127.0	-2,765.7	2,734.1	2,719.8	14.25	191.896	
2,300.0	2,297.4	2,023.0	2,022.3	8.0	7.0	5.03	125.7	-2,771.4	2,729.3	2,714.5	14.83	184.091	
2,400.0	2,396.4	2,100.0	2,098.9	8.4	7.2	5.01	124.1	-2,778.8	2,724.8	2,709.3	15.44	176.505	
2,500.0	2,495.5	2,160.0	2,158.5	8.7	7.4	4.99	122.7	-2,785.2	2,721.4	2,705.4	15.98	170.254	
2,600.0	2,594.5	2,228.5	2,226.6	9.1	7.7	4.96	120.9	-2,793.3	2,719.2	2,702.6	16.56	164.155	
2,701.1	2,694.6	2,303.1	2,294.3	9.5	8.0	4.93	118.9	-2,802.1	2,718.1	2,700.9	17.17	158.308	
2,717.6	2,710.9	2,313.3	2,310.6	9.6	8.0	4.92	118.4	-2,804.4	2,718.1	2,700.8	17.26	157.437 CC, ES	
2,800.0	2,792.7	2,395.7	2,392.2	9.9	8.3	4.87	115.9	-2,815.5	2,719.0	2,701.1	17.85	152.317	
2,900.0	2,892.2	2,504.4	2,491.1	10.3	8.7	4.82	112.9	-2,829.1	2,722.4	2,703.8	18.59	146.411	
3,000.0	2,991.9	2,604.6	2,589.9	10.6	9.1	4.77	109.8	-2,842.7	2,728.5	2,709.2	19.31	141.309	
3,100.0	3,091.8	2,705.1	2,688.5	11.0	9.5	4.71	106.8	-2,856.2	2,737.2	2,717.1	20.02	136.699	
3,200.0	3,191.8	2,805.7	2,786.8	11.4	9.9	4.65	103.8	-2,869.7	2,748.4	2,727.7	20.74	132.533	
3,234.4	3,226.2	2,828.4	2,820.6	11.5	10.0	-87.71	102.8	-2,874.3	2,752.9	2,732.0	20.94	131.465	
3,300.0	3,291.8	2,906.7	2,884.9	11.7	10.3	-87.76	100.8	-2,883.1	2,761.7	2,740.3	21.45	128.747	
3,400.0	3,391.8	3,007.7	2,983.0	12.0	10.7	-87.83	97.8	-2,896.6	2,775.2	2,753.0	22.16	125.212	
3,500.0	3,491.8	3,091.4	3,081.1	12.4	11.0	-87.91	94.8	-2,910.0	2,788.7	2,765.9	22.82	122.226	
3,600.0	3,591.8	3,209.6	3,179.1	12.7	11.5	-87.98	91.8	-2,923.5	2,802.2	2,778.6	23.59	118.764	
3,700.0	3,691.8	3,289.4	3,277.2	13.1	11.8	-88.05	88.8	-2,936.9	2,815.6	2,791.4	24.23	116.186	
3,800.0	3,791.8	3,388.4	3,375.2	13.4	12.2	-88.12	85.8	-2,950.4	2,829.1	2,804.2	24.94	113.416	
3,900.0	3,891.8	3,487.5	3,473.3	13.8	12.6	-88.19	82.8	-2,963.8	2,842.6	2,816.9	25.66	110.796	
4,000.0	3,991.8	3,586.5	3,571.4	14.1	13.0	-88.26	79.8	-2,977.3	2,856.1	2,829.7	26.37	108.314	
4,100.0	4,091.8	3,685.5	3,669.4	14.5	13.4	-88.33	76.8	-2,990.8	2,869.6	2,842.5	27.08	105.960	
4,200.0	4,191.8	3,784.5	3,767.5	14.8	13.8	-88.40	73.8	-3,004.2	2,883.1	2,855.3	27.80	103.724	
4,300.0	4,291.8	3,883.6	3,865.6	15.2	14.2	-88.46	70.9	-3,017.7	2,896.6	2,868.1	28.51	101.597	
4,400.0	4,391.8	3,982.6	3,963.6	15.5	14.6	-88.53	67.9	-3,031.1	2,910.1	2,880.9	29.23	99.573	
4,500.0	4,491.8	4,081.6	4,061.7	15.9	15.0	-88.60	64.9	-3,044.6	2,923.6	2,893.7	29.94	97.644	
4,600.0	4,591.8	4,180.6	4,159.7	16.2	15.4	-88.66	61.9	-3,058.0	2,937.1	2,906.5	30.66	95.803	
4,700.0	4,691.8	4,279.7	4,257.8	16.6	15.8	-88.73	58.9	-3,071.5	2,950.6	2,919.3	31.37	94.046	
4,800.0	4,791.8	4,378.7	4,355.9	16.9	16.3	-88.79	55.9	-3,084.9	2,964.2	2,932.1	32.09	92.365	
4,900.0	4,891.8	4,477.7	4,453.9	17.3	16.7	-88.86	52.9	-3,098.4	2,977.7	2,944.9	32.81	90.757	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	4,991.8	4,576.8	4,552.0	17.7	17.1	-88.92	49.9	-3,111.8	2,991.2	2,957.7	33.53	89.217	
5,100.0	5,091.8	4,675.8	4,650.1	18.0	17.5	-88.98	46.9	-3,125.3	3,004.8	2,970.5	34.25	87.741	
5,200.0	5,191.8	4,774.8	4,748.1	18.4	17.9	-89.04	43.9	-3,138.7	3,018.3	2,983.3	34.96	86.325	
5,300.0	5,291.8	4,873.8	4,846.2	18.7	18.3	-89.10	40.9	-3,152.2	3,031.8	2,996.2	35.68	84.965	
5,400.0	5,391.8	4,972.9	4,944.3	19.1	18.7	-89.17	37.9	-3,165.6	3,045.4	3,009.0	36.40	83.658	
5,500.0	5,491.8	5,071.9	5,042.3	19.4	19.1	-89.23	34.9	-3,179.1	3,058.9	3,021.8	37.12	82.401	
5,600.0	5,591.8	5,170.9	5,140.4	19.8	19.5	-89.29	31.9	-3,192.5	3,072.5	3,034.6	37.84	81.192	
5,700.0	5,691.8	5,269.9	5,238.4	20.1	19.9	-89.34	28.9	-3,206.0	3,086.0	3,047.5	38.56	80.028	
5,800.0	5,791.8	5,369.0	5,336.5	20.5	20.4	-89.40	25.9	-3,219.4	3,099.6	3,060.3	39.28	78.905	
5,900.0	5,891.8	5,468.0	5,434.6	20.8	20.8	-89.46	22.9	-3,232.9	3,113.2	3,073.1	40.00	77.823	
6,000.0	5,991.8	5,567.0	5,532.6	21.2	21.2	-89.52	19.9	-3,246.3	3,126.7	3,086.0	40.72	76.779	
6,100.0	6,091.8	5,666.0	5,630.7	21.5	21.6	-89.58	16.9	-3,259.8	3,140.3	3,098.8	41.44	75.771	
6,200.0	6,191.8	5,765.1	5,728.8	21.9	22.0	-89.63	13.9	-3,273.2	3,153.9	3,111.7	42.17	74.797	
6,300.0	6,291.8	5,864.1	5,826.8	22.3	22.4	-89.69	10.9	-3,286.7	3,167.4	3,124.5	42.89	73.856	
6,400.0	6,391.8	5,963.1	5,924.9	22.6	22.8	-89.75	7.9	-3,300.1	3,181.0	3,137.4	43.61	72.945	
6,500.0	6,491.8	6,062.2	6,022.9	23.0	23.3	-89.80	4.9	-3,313.6	3,194.6	3,150.2	44.33	72.064	
6,600.0	6,591.8	6,161.2	6,121.0	23.3	23.7	-89.86	1.9	-3,327.0	3,208.2	3,163.1	45.05	71.212	
6,700.0	6,691.8	6,260.2	6,219.1	23.7	24.1	-89.91	-1.1	-3,340.5	3,221.7	3,176.0	45.77	70.385	
6,800.0	6,791.8	6,359.2	6,317.1	24.0	24.5	-89.96	-4.1	-3,354.0	3,235.3	3,188.8	46.49	69.585	
6,900.0	6,891.8	6,458.3	6,415.2	24.4	24.9	-90.02	-7.1	-3,367.4	3,248.9	3,201.7	47.22	68.809	
7,000.0	6,991.8	6,557.3	6,513.3	24.7	25.3	-90.07	-10.1	-3,380.9	3,262.5	3,214.6	47.94	68.056	
7,100.0	7,091.8	6,656.3	6,611.3	25.1	25.7	-90.12	-13.1	-3,394.3	3,276.1	3,227.4	48.66	67.325	
7,200.0	7,191.8	6,755.3	6,709.4	25.5	26.2	-90.18	-16.1	-3,407.8	3,289.7	3,240.3	49.38	66.616	
7,300.0	7,291.8	6,854.4	6,807.5	25.8	26.6	-90.23	-19.1	-3,421.2	3,303.3	3,253.2	50.11	65.926	
7,400.0	7,391.8	6,953.4	6,905.5	26.2	27.0	-90.28	-22.1	-3,434.7	3,316.9	3,266.1	50.83	65.257	
7,500.0	7,491.8	7,052.4	7,003.6	26.5	27.4	-90.33	-25.1	-3,448.1	3,330.5	3,279.0	51.55	64.606	
7,600.0	7,591.8	7,600.0	7,128.6	26.9	29.7	-90.39	-28.8	-3,464.9	3,343.9	3,289.9	53.97	61.958	
7,700.0	7,691.8	7,708.2	7,656.8	27.2	29.9	-90.51	-35.7	-3,495.8	3,347.3	3,292.6	54.68	61.217	
7,800.0	7,791.8	7,808.2	7,756.8	27.6	30.2	-90.51	-35.7	-3,495.8	3,347.3	3,291.9	55.37	60.453	
7,900.0	7,891.8	7,908.2	7,856.8	28.0	30.5	-90.51	-35.7	-3,495.8	3,347.3	3,291.2	56.06	59.707	
8,000.0	7,991.8	8,008.2	7,956.8	28.3	30.8	-90.51	-35.7	-3,495.8	3,347.3	3,290.6	56.75	58.979	
8,100.0	8,091.8	8,108.2	8,056.8	28.7	31.1	-90.51	-35.7	-3,495.8	3,347.3	3,289.9	57.45	58.268	
8,200.0	8,191.8	8,208.2	8,156.8	29.0	31.4	-90.51	-35.7	-3,495.8	3,347.3	3,289.2	58.14	57.573	
8,300.0	8,291.8	8,308.2	8,256.8	29.4	31.7	-90.51	-35.7	-3,495.8	3,347.3	3,288.5	58.83	56.894	
8,400.0	8,391.8	8,408.2	8,356.8	29.7	32.1	-90.51	-35.7	-3,495.8	3,347.3	3,287.8	59.53	56.230	
8,500.0	8,491.8	8,508.2	8,456.8	30.1	32.4	-90.51	-35.7	-3,495.8	3,347.3	3,287.1	60.22	55.581	
8,600.0	8,591.8	8,608.2	8,556.8	30.4	32.7	-90.51	-35.7	-3,495.8	3,347.3	3,286.4	60.92	54.946	
8,700.0	8,691.8	8,708.2	8,656.8	30.8	33.0	-90.51	-35.7	-3,495.8	3,347.3	3,285.7	61.62	54.325	
8,800.0	8,791.8	8,808.2	8,756.8	31.2	33.4	-90.51	-35.7	-3,495.8	3,347.3	3,285.0	62.31	53.718	
8,900.0	8,891.8	8,908.2	8,856.8	31.5	33.7	-90.51	-35.7	-3,495.8	3,347.3	3,284.3	63.01	53.124	
9,000.0	8,991.8	9,008.2	8,956.8	31.9	34.0	-90.51	-35.7	-3,495.8	3,347.3	3,283.6	63.71	52.542	
9,100.0	9,091.8	9,108.2	9,056.8	32.2	34.3	-90.51	-35.7	-3,495.8	3,347.3	3,282.9	64.40	51.973	
9,200.0	9,191.8	9,208.2	9,156.8	32.6	34.6	-90.51	-35.7	-3,495.8	3,347.3	3,282.2	65.10	51.416	
9,300.0	9,291.8	9,308.2	9,256.8	32.9	35.0	-90.51	-35.7	-3,495.8	3,347.3	3,281.5	65.80	50.870	
9,400.0	9,391.8	9,408.2	9,356.8	33.3	35.3	-90.51	-35.7	-3,495.8	3,347.3	3,280.8	66.50	50.335	
9,500.0	9,491.8	9,508.2	9,456.8	33.7	35.6	-90.51	-35.7	-3,495.8	3,347.3	3,280.1	67.20	49.811	
9,600.0	9,591.8	9,608.2	9,556.8	34.0	36.0	-90.51	-35.7	-3,495.8	3,347.3	3,279.4	67.90	49.298	
9,700.0	9,691.8	9,708.2	9,656.8	34.4	36.3	-90.51	-35.7	-3,495.8	3,347.3	3,278.7	68.60	48.795	
9,800.0	9,791.8	9,808.2	9,756.8	34.7	36.6	-90.51	-35.7	-3,495.8	3,347.3	3,278.0	69.30	48.302	
9,900.0	9,891.8	9,908.2	9,856.8	35.1	36.9	-90.51	-35.7	-3,495.8	3,347.3	3,277.3	70.00	47.818	
10,000.0	9,991.8	10,008.2	9,956.8	35.4	37.3	-90.51	-35.7	-3,495.8	3,347.3	3,276.6	70.70	47.344	
10,100.0	10,091.8	10,108.2	10,056.8	35.8	37.6	-90.51	-35.7	-3,495.8	3,347.3	3,275.9	71.40	46.879	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Big Bull Fed Com #305H - Wellbore #1 - BLM Plan #1												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	10,191.8	10,208.2	10,156.8	36.2	37.9	-90.51	-35.7	-3,495.8	3,347.3	3,275.2	72.11	46.423	
10,300.0	10,291.8	10,308.2	10,256.8	36.5	38.3	-90.51	-35.7	-3,495.8	3,347.3	3,274.5	72.81	45.975	
10,400.0	10,391.8	10,408.2	10,356.8	36.9	38.6	-90.51	-35.7	-3,495.8	3,347.3	3,273.8	73.51	45.536	
10,500.0	10,491.8	10,508.2	10,456.8	37.2	38.9	-90.51	-35.7	-3,495.8	3,347.3	3,273.1	74.21	45.105	
10,505.6	10,497.4	10,513.8	10,462.4	37.3	38.9	-90.51	-35.7	-3,495.8	3,347.3	3,273.1	74.25	45.081	
10,600.0	10,591.8	10,606.5	10,554.9	37.6	39.2	-90.60	-41.0	-3,495.8	3,347.3	3,272.4	74.91	44.687	
10,700.0	10,691.8	10,700.1	10,646.2	37.9	39.6	-90.94	-61.3	-3,495.6	3,347.5	3,271.9	75.59	44.285	
10,800.0	10,791.8	10,785.3	10,725.4	38.3	39.8	-91.48	-92.3	-3,495.5	3,348.1	3,271.8	76.25	43.907	
10,900.0	10,891.8	10,859.8	10,790.2	38.7	40.1	-92.10	-128.9	-3,495.2	3,349.5	3,272.6	76.89	43.564	
11,005.2	10,997.0	10,926.6	10,843.9	39.0	40.3	-92.78	-168.6	-3,495.0	3,352.4	3,274.9	77.51	43.252	
11,050.0	11,041.7	10,950.0	10,861.6	39.2	40.4	87.00	-183.9	-3,494.9	3,354.0	3,276.3	77.74	43.143	
11,100.0	11,091.3	10,981.1	10,884.1	39.4	40.5	86.48	-205.5	-3,494.7	3,356.0	3,278.0	78.01	43.020	
11,150.0	11,140.2	11,009.5	10,903.5	39.5	40.5	85.99	-226.1	-3,494.6	3,358.2	3,279.9	78.26	42.908	
11,200.0	11,188.0	11,037.7	10,921.8	39.7	40.6	85.51	-247.5	-3,494.5	3,360.4	3,281.9	78.51	42.802	
11,250.0	11,234.4	11,065.7	10,938.9	39.8	40.7	85.04	-269.7	-3,494.3	3,362.7	3,284.0	78.75	42.700	
11,300.0	11,278.9	11,093.5	10,954.8	39.9	40.8	84.59	-292.5	-3,494.2	3,365.0	3,286.0	78.99	42.601	
11,350.0	11,321.3	11,121.2	10,969.5	40.1	40.9	84.16	-315.9	-3,494.1	3,367.2	3,288.0	79.22	42.503	
11,400.0	11,361.3	11,150.0	10,983.6	40.2	41.0	83.75	-341.1	-3,493.9	3,369.4	3,290.0	79.46	42.403	
11,450.0	11,398.4	11,176.2	10,995.3	40.3	41.1	83.38	-364.5	-3,493.8	3,371.5	3,291.8	79.69	42.306	
11,500.0	11,432.5	11,200.0	11,005.0	40.5	41.2	83.06	-386.3	-3,493.6	3,373.4	3,293.5	79.91	42.213	
11,550.0	11,463.3	11,230.9	11,016.3	40.6	41.3	82.73	-415.0	-3,493.4	3,375.1	3,295.0	80.17	42.097	
11,600.0	11,490.6	11,250.0	11,022.4	40.8	41.4	82.49	-433.1	-3,493.3	3,376.7	3,296.3	80.39	42.003	
11,650.0	11,514.0	11,285.3	11,032.2	40.9	41.5	82.23	-467.1	-3,493.1	3,378.0	3,297.3	80.69	41.864	
11,700.0	11,533.6	11,312.5	11,038.3	41.1	41.6	82.05	-493.5	-3,492.9	3,379.1	3,298.1	80.96	41.736	
11,750.0	11,549.1	11,339.6	11,043.1	41.3	41.7	81.90	-520.2	-3,492.8	3,379.9	3,298.7	81.25	41.599	
11,800.0	11,560.3	11,366.7	11,046.6	41.4	41.8	81.81	-547.1	-3,492.6	3,380.5	3,298.9	81.55	41.454	
11,850.0	11,567.3	11,400.0	11,049.3	41.6	42.0	81.75	-580.3	-3,492.4	3,380.7	3,298.9	81.88	41.288	
11,900.0	11,569.9	11,420.9	11,049.9	41.8	42.1	81.75	-601.1	-3,492.3	3,380.7	3,298.5	82.18	41.138	
11,905.2	11,570.0	11,428.4	11,050.0	41.8	42.1	81.75	-608.7	-3,492.2	3,380.7	3,298.5	82.23	41.111	
11,912.4	11,570.0	11,428.4	11,050.0	41.8	42.1	81.75	-608.7	-3,492.2	3,380.7	3,298.4	82.26	41.095	
12,000.0	11,570.0	11,514.2	11,050.0	42.2	42.5	81.75	-694.4	-3,491.7	3,380.7	3,297.6	83.04	40.709	
12,100.0	11,570.0	11,614.2	11,050.0	42.6	43.0	81.75	-794.4	-3,491.1	3,380.6	3,296.6	84.05	40.221	
12,200.0	11,570.0	11,714.2	11,050.0	43.1	43.6	81.75	-894.4	-3,490.5	3,380.6	3,295.5	85.17	39.691	
12,300.0	11,570.0	11,814.2	11,050.0	43.7	44.3	81.75	-994.4	-3,489.8	3,380.6	3,294.2	86.41	39.125	
12,400.0	11,570.0	11,914.2	11,050.0	44.3	45.0	81.75	-1,094.4	-3,489.2	3,380.6	3,292.8	87.74	38.528	
12,500.0	11,570.0	12,014.2	11,050.0	45.0	45.7	81.75	-1,194.4	-3,488.6	3,380.6	3,291.4	89.18	37.906	
12,600.0	11,570.0	12,114.2	11,050.0	45.7	46.5	81.75	-1,294.4	-3,488.0	3,380.6	3,289.8	90.72	37.264	
12,700.0	11,570.0	12,214.2	11,050.0	46.5	47.4	81.75	-1,394.4	-3,487.4	3,380.5	3,288.2	92.35	36.607	
12,800.0	11,570.0	12,314.2	11,050.0	47.3	48.3	81.75	-1,494.4	-3,486.8	3,380.5	3,286.5	94.06	35.939	
12,900.0	11,570.0	12,414.2	11,050.0	48.2	49.2	81.75	-1,594.4	-3,486.1	3,380.5	3,284.7	95.86	35.265	
13,000.0	11,570.0	12,514.2	11,050.0	49.1	50.1	81.75	-1,694.4	-3,485.5	3,380.5	3,282.8	97.73	34.589	
13,100.0	11,570.0	12,614.2	11,050.0	50.0	51.1	81.75	-1,794.4	-3,484.9	3,380.5	3,280.8	99.68	33.913	
13,200.0	11,570.0	12,714.2	11,050.0	51.0	52.2	81.75	-1,894.4	-3,484.3	3,380.5	3,278.8	101.70	33.240	
13,300.0	11,570.0	12,814.2	11,050.0	52.0	53.2	81.75	-1,994.4	-3,483.7	3,380.5	3,276.7	103.78	32.573	
13,400.0	11,570.0	12,914.2	11,050.0	53.0	54.3	81.75	-2,094.4	-3,483.1	3,380.4	3,274.5	105.92	31.914	
13,500.0	11,570.0	13,014.2	11,050.0	54.1	55.4	81.75	-2,194.4	-3,482.4	3,380.4	3,272.3	108.12	31.264	
13,600.0	11,570.0	13,114.2	11,050.0	55.2	56.6	81.75	-2,294.4	-3,481.8	3,380.4	3,270.0	110.38	30.625	
13,700.0	11,570.0	13,214.2	11,050.0	56.3	57.8	81.75	-2,394.4	-3,481.2	3,380.4	3,267.7	112.68	29.999	
13,800.0	11,570.0	13,314.2	11,050.0	57.5	59.0	81.75	-2,494.4	-3,480.6	3,380.4	3,265.3	115.04	29.385	
13,900.0	11,570.0	13,414.2	11,050.0	58.7	60.2	81.75	-2,594.4	-3,480.0	3,380.4	3,262.9	117.44	28.784	
14,000.0	11,570.0	13,514.2	11,050.0	59.9	61.4	81.75	-2,694.4	-3,479.4	3,380.3	3,260.5	119.88	28.198	
14,100.0	11,570.0	13,614.2	11,050.0	61.1	62.7	81.75	-2,794.4	-3,478.7	3,380.3	3,258.0	122.36	27.626	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	11,570.0	13,714.2	11,050.0	62.3	63.9	81.75	-2,894.4	-3,478.1	3,380.3	3,255.4	124.88	27.069	
14,300.0	11,570.0	13,814.2	11,050.0	63.6	65.2	81.75	-2,994.4	-3,477.5	3,380.3	3,252.9	127.43	26.527	
14,400.0	11,570.0	13,914.2	11,050.0	64.9	66.5	81.75	-3,094.4	-3,476.9	3,380.3	3,250.3	130.02	25.999	
14,500.0	11,570.0	14,014.2	11,050.0	66.2	67.9	81.75	-3,194.4	-3,476.3	3,380.3	3,247.6	132.63	25.486	
14,600.0	11,570.0	14,114.2	11,050.0	67.5	69.2	81.75	-3,294.4	-3,475.7	3,380.3	3,245.0	135.28	24.987	
14,700.0	11,570.0	14,214.2	11,050.0	68.8	70.6	81.75	-3,394.4	-3,475.0	3,380.2	3,242.3	137.96	24.502	
14,800.0	11,570.0	14,314.2	11,050.0	70.1	71.9	81.75	-3,494.4	-3,474.4	3,380.2	3,239.6	140.66	24.032	
14,900.0	11,570.0	14,414.2	11,050.0	71.5	73.3	81.75	-3,594.4	-3,473.8	3,380.2	3,236.8	143.38	23.575	
15,000.0	11,570.0	14,514.2	11,050.0	72.9	74.7	81.75	-3,694.4	-3,473.2	3,380.2	3,234.1	146.13	23.131	
15,100.0	11,570.0	14,614.2	11,050.0	74.2	76.1	81.75	-3,794.4	-3,472.6	3,380.2	3,231.3	148.90	22.701	
15,200.0	11,570.0	14,714.2	11,050.0	75.6	77.5	81.75	-3,894.4	-3,472.0	3,380.2	3,228.5	151.69	22.283	
15,300.0	11,570.0	14,814.2	11,050.0	77.0	78.9	81.75	-3,994.4	-3,471.4	3,380.1	3,225.6	154.50	21.878	
15,400.0	11,570.0	14,914.2	11,050.0	78.4	80.4	81.75	-4,094.4	-3,470.7	3,380.1	3,222.8	157.33	21.484	
15,500.0	11,570.0	15,014.2	11,050.0	79.9	81.8	81.75	-4,194.4	-3,470.1	3,380.1	3,219.9	160.18	21.102	
15,600.0	11,570.0	15,114.2	11,050.0	81.3	83.2	81.75	-4,294.4	-3,469.5	3,380.1	3,217.1	163.04	20.731	
15,700.0	11,570.0	15,214.2	11,050.0	82.7	84.7	81.75	-4,394.4	-3,468.9	3,380.1	3,214.2	165.92	20.371	
15,800.0	11,570.0	15,314.2	11,050.0	84.2	86.1	81.75	-4,494.4	-3,468.3	3,380.1	3,211.3	168.82	20.022	
15,900.0	11,570.0	15,414.2	11,050.0	85.6	87.6	81.75	-4,594.4	-3,467.7	3,380.1	3,208.3	171.73	19.683	
16,000.0	11,570.0	15,514.2	11,050.0	87.1	89.1	81.75	-4,694.4	-3,467.0	3,380.0	3,205.4	174.65	19.353	
16,100.0	11,570.0	15,614.2	11,050.0	88.6	90.6	81.75	-4,794.4	-3,466.4	3,380.0	3,202.4	177.58	19.033	
16,200.0	11,570.0	15,714.2	11,050.0	90.0	92.1	81.75	-4,894.4	-3,465.8	3,380.0	3,199.5	180.53	18.723	
16,300.0	11,570.0	15,814.2	11,050.0	91.5	93.6	81.75	-4,994.4	-3,465.2	3,380.0	3,196.5	183.49	18.421	
16,400.0	11,570.0	15,914.2	11,050.0	93.0	95.0	81.75	-5,094.4	-3,464.6	3,380.0	3,193.5	186.46	18.127	
16,500.0	11,570.0	16,014.2	11,050.0	94.5	96.6	81.75	-5,194.4	-3,464.0	3,380.0	3,190.5	189.44	17.842	
16,600.0	11,570.0	16,114.2	11,050.0	96.0	98.1	81.75	-5,294.3	-3,463.3	3,379.9	3,187.5	192.43	17.564	
16,700.0	11,570.0	16,214.2	11,050.0	97.5	99.6	81.75	-5,394.3	-3,462.7	3,379.9	3,184.5	195.43	17.295	
16,800.0	11,570.0	16,314.2	11,050.0	99.0	101.1	81.75	-5,494.3	-3,462.1	3,379.9	3,181.5	198.44	17.032	
16,900.0	11,570.0	16,414.2	11,050.0	100.5	102.6	81.75	-5,594.3	-3,461.5	3,379.9	3,178.4	201.46	16.777	
17,000.0	11,570.0	16,514.2	11,050.0	102.0	104.1	81.75	-5,694.3	-3,460.9	3,379.9	3,175.4	204.49	16.529	
17,100.0	11,570.0	16,614.2	11,050.0	103.6	105.7	81.75	-5,794.3	-3,460.3	3,379.9	3,172.3	207.52	16.287	
17,200.0	11,570.0	16,714.2	11,050.0	105.1	107.2	81.75	-5,894.3	-3,459.6	3,379.9	3,169.3	210.56	16.051	
17,300.0	11,570.0	16,814.2	11,050.0	106.6	108.7	81.75	-5,994.3	-3,459.0	3,379.8	3,166.2	213.61	15.822	
17,400.0	11,570.0	16,914.2	11,050.0	108.2	110.3	81.75	-6,094.3	-3,458.4	3,379.8	3,163.2	216.67	15.599	
17,500.0	11,570.0	17,014.2	11,050.0	109.7	111.8	81.75	-6,194.3	-3,457.8	3,379.8	3,160.1	219.73	15.381	
17,600.0	11,570.0	17,114.2	11,050.0	111.2	113.4	81.75	-6,294.3	-3,457.2	3,379.8	3,157.0	222.80	15.169	
17,700.0	11,570.0	17,214.2	11,050.0	112.8	114.9	81.75	-6,394.3	-3,456.6	3,379.8	3,153.9	225.88	14.963	
17,800.0	11,570.0	17,314.2	11,050.0	114.3	116.5	81.75	-6,494.3	-3,455.9	3,379.8	3,150.8	228.96	14.761	
17,834.0	11,570.0	17,348.2	11,050.0	114.8	117.0	81.75	-6,528.4	-3,455.7	3,379.8	3,149.7	230.01	14.694 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	-87.24	131.1	-2,717.9	2,721.3				
100.0	100.0	65.0	65.0	0.1	0.1	-87.24	131.1	-2,717.9	2,721.1	2,720.9	0.21	N/A	
200.0	200.0	165.0	165.0	0.5	0.4	-87.24	131.1	-2,717.9	2,721.1	2,720.2	0.85	3,209.613	
300.0	300.0	265.0	265.0	0.8	0.7	-87.24	131.1	-2,717.9	2,721.1	2,719.5	1.56	1,739.000	
400.0	400.0	365.0	365.0	1.2	1.1	-87.24	131.1	-2,717.9	2,721.1	2,718.8	2.28	1,192.574	
500.0	500.0	465.0	465.0	1.6	1.4	-87.24	131.1	-2,717.9	2,721.1	2,718.1	3.00	907.440	
600.0	600.0	565.0	565.0	1.9	1.8	-87.24	131.1	-2,717.9	2,721.1	2,717.3	3.72	732.343	
700.0	700.0	665.0	665.0	2.3	2.2	-87.24	131.1	-2,717.9	2,721.1	2,716.6	4.43	613.889	
800.0	800.0	765.0	765.0	2.6	2.5	-87.24	131.1	-2,717.9	2,721.1	2,715.9	5.15	528.419	
900.0	900.0	865.0	865.0	3.0	2.9	-87.24	131.1	-2,717.9	2,721.1	2,715.2	5.87	463.840	
1,000.0	1,000.0	965.0	965.0	3.4	3.2	-87.24	131.1	-2,717.9	2,721.1	2,714.5	6.58	413.326	
1,100.0	1,100.0	1,065.0	1,065.0	3.7	3.6	-87.24	131.1	-2,717.9	2,721.1	2,713.8	7.30	372.734	
1,200.0	1,200.0	1,165.0	1,165.0	4.1	3.9	-87.24	131.1	-2,717.9	2,721.1	2,713.0	8.02	339.402	
1,300.0	1,300.0	1,265.0	1,265.0	4.4	4.3	-87.24	131.1	-2,717.9	2,721.1	2,712.3	8.73	311.543	
1,400.0	1,400.0	1,365.0	1,365.0	4.8	4.7	-87.24	131.1	-2,717.9	2,721.1	2,711.6	9.45	287.910	
1,500.0	1,500.0	1,465.0	1,465.0	5.1	5.0	-87.24	131.1	-2,717.9	2,721.1	2,710.9	10.17	267.609	
1,600.0	1,600.0	1,545.5	1,545.5	5.5	5.3	5.11	131.0	-2,718.1	2,720.4	2,709.6	10.80	251.898	
1,700.0	1,700.0	1,615.4	1,615.4	5.8	5.5	5.10	130.7	-2,719.0	2,719.1	2,707.7	11.38	238.925	
1,800.0	1,799.9	1,685.3	1,685.3	6.2	5.8	5.09	130.0	-2,720.7	2,717.1	2,705.2	11.96	227.250	
1,900.0	1,899.7	1,755.2	1,755.2	6.5	6.0	5.08	129.0	-2,723.2	2,714.5	2,702.0	12.53	216.564	
2,000.0	1,999.4	1,825.2	1,825.0	6.9	6.3	5.06	127.6	-2,726.4	2,711.3	2,698.2	13.11	206.750	
2,100.0	2,098.9	1,900.0	1,899.7	7.2	6.5	5.04	125.8	-2,730.8	2,707.4	2,693.7	13.71	197.449	
2,200.0	2,198.3	1,965.0	1,964.5	7.6	6.7	5.01	123.9	-2,735.4	2,702.9	2,688.6	14.28	189.328	
2,300.0	2,297.4	2,035.0	2,034.2	8.0	7.0	4.98	121.6	-2,741.0	2,697.8	2,682.9	14.86	181.551	
2,400.0	2,396.4	2,100.0	2,098.9	8.4	7.2	4.94	119.2	-2,746.9	2,692.9	2,677.5	15.42	174.583	
2,500.0	2,495.5	2,175.0	2,173.4	8.7	7.5	4.88	116.0	-2,754.6	2,689.1	2,673.1	16.03	167.756	
2,600.0	2,594.5	2,245.0	2,242.9	9.1	7.7	4.82	112.7	-2,762.6	2,686.5	2,669.9	16.62	161.669	
2,701.1	2,694.6	2,322.6	2,319.7	9.5	8.0	4.75	108.7	-2,772.4	2,684.9	2,667.7	17.24	155.746	
2,747.8	2,740.9	2,369.2	2,365.9	9.7	8.2	4.70	106.3	-2,778.4	2,684.6	2,667.0	17.57	152.786 CC	
2,800.0	2,792.7	2,421.3	2,417.6	9.9	8.4	4.64	103.5	-2,785.1	2,685.0	2,667.0	17.94	149.638 ES	
2,900.0	2,892.2	2,521.2	2,516.4	10.3	8.8	4.54	98.2	-2,798.0	2,687.7	2,669.0	18.66	144.055	
3,000.0	2,991.9	2,620.9	2,615.2	10.6	9.2	4.44	93.0	-2,810.8	2,692.9	2,673.6	19.37	139.016	
3,100.0	3,091.8	2,720.4	2,713.7	11.0	9.5	4.33	87.7	-2,823.6	2,700.9	2,680.8	20.09	134.470	
3,200.0	3,191.8	2,819.7	2,812.1	11.4	9.9	4.23	82.4	-2,836.4	2,711.4	2,690.6	20.80	130.372	
3,234.4	3,226.2	2,853.8	2,845.9	11.5	10.1	-88.15	80.6	-2,840.8	2,715.6	2,694.6	21.04	129.054	
3,300.0	3,291.8	2,918.8	2,910.1	11.7	10.3	-88.23	77.2	-2,849.1	2,723.9	2,702.4	21.51	126.657	
3,400.0	3,391.8	3,017.8	3,008.2	12.0	10.7	-88.35	72.0	-2,861.9	2,736.7	2,714.4	22.22	123.187	
3,500.0	3,491.8	3,116.8	3,106.3	12.4	11.1	-88.47	66.7	-2,874.6	2,749.4	2,726.5	22.93	119.924	
3,600.0	3,591.8	3,215.8	3,204.3	12.7	11.5	-88.59	61.5	-2,887.4	2,762.2	2,738.5	23.64	116.852	
3,700.0	3,691.8	3,314.9	3,302.4	13.1	11.9	-88.70	56.3	-2,900.1	2,774.9	2,750.6	24.35	113.954	
3,800.0	3,791.8	3,413.9	3,400.5	13.4	12.3	-88.82	51.0	-2,912.9	2,787.7	2,762.6	25.07	111.216	
3,900.0	3,891.8	3,512.9	3,498.5	13.8	12.7	-88.93	45.8	-2,925.6	2,800.5	2,774.7	25.78	108.627	
4,000.0	3,991.8	3,612.0	3,596.6	14.1	13.1	-89.04	40.6	-2,938.4	2,813.3	2,786.8	26.50	106.174	
4,100.0	4,091.8	3,711.0	3,694.7	14.5	13.5	-89.15	35.3	-2,951.1	2,826.1	2,798.9	27.21	103.848	
4,200.0	4,191.8	3,810.0	3,792.7	14.8	13.9	-89.26	30.1	-2,963.9	2,838.9	2,811.0	27.93	101.638	
4,300.0	4,291.8	3,909.0	3,890.8	15.2	14.3	-89.37	24.8	-2,976.6	2,851.7	2,823.1	28.65	99.538	
4,400.0	4,391.8	4,008.1	3,988.8	15.5	14.7	-89.48	19.6	-2,989.4	2,864.6	2,835.2	29.37	97.538	
4,500.0	4,491.8	4,107.1	4,086.9	15.9	15.1	-89.59	14.4	-3,002.1	2,877.4	2,847.3	30.09	95.633	
4,600.0	4,591.8	4,206.1	4,185.0	16.2	15.5	-89.70	9.1	-3,014.9	2,890.3	2,859.5	30.81	93.815	
4,700.0	4,691.8	4,305.1	4,283.0	16.6	15.9	-89.80	3.9	-3,027.6	2,903.2	2,871.6	31.53	92.079	
4,800.0	4,791.8	4,404.2	4,381.1	16.9	16.3	-89.91	-1.3	-3,040.4	2,916.0	2,883.8	32.25	90.420	
4,900.0	4,891.8	4,503.2	4,479.2	17.3	16.7	-90.01	-6.6	-3,053.1	2,928.9	2,896.0	32.97	88.833	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	4,991.8	4,602.2	4,577.2	17.7	17.1	-90.11	-11.8	-3,065.9	2,941.8	2,908.1	33.69	87.313	
5,100.0	5,091.8	4,701.2	4,675.3	18.0	17.6	-90.21	-17.0	-3,078.6	2,954.7	2,920.3	34.41	85.857	
5,200.0	5,191.8	5,000.5	4,972.7	18.4	18.7	-90.44	-29.1	-3,107.9	2,965.0	2,929.1	35.97	82.438	
5,300.0	5,291.8	5,284.7	5,256.8	18.7	19.7	-90.51	-32.3	-3,115.8	2,967.2	2,930.0	37.27	79.613	
5,400.0	5,391.8	5,384.7	5,356.8	19.1	20.0	-90.51	-32.3	-3,115.8	2,967.2	2,929.3	37.96	78.161	
5,500.0	5,491.8	5,484.7	5,456.8	19.4	20.4	-90.51	-32.3	-3,115.8	2,967.2	2,928.6	38.66	76.760	
5,600.0	5,591.8	5,584.7	5,556.8	19.8	20.7	-90.51	-32.3	-3,115.8	2,967.2	2,927.9	39.35	75.406	
5,700.0	5,691.8	5,684.7	5,656.8	20.1	21.0	-90.51	-32.3	-3,115.8	2,967.2	2,927.2	40.05	74.097	
5,800.0	5,791.8	5,784.7	5,756.8	20.5	21.4	-90.51	-32.3	-3,115.8	2,967.2	2,926.5	40.74	72.832	
5,900.0	5,891.8	5,884.7	5,856.8	20.8	21.7	-90.51	-32.3	-3,115.8	2,967.2	2,925.8	41.44	71.608	
6,000.0	5,991.8	5,984.7	5,956.8	21.2	22.0	-90.51	-32.3	-3,115.8	2,967.2	2,925.1	42.13	70.424	
6,100.0	6,091.8	6,084.7	6,056.8	21.5	22.3	-90.51	-32.3	-3,115.8	2,967.2	2,924.4	42.83	69.277	
6,200.0	6,191.8	6,184.7	6,156.8	21.9	22.7	-90.51	-32.3	-3,115.8	2,967.2	2,923.7	43.53	68.165	
6,300.0	6,291.8	6,284.7	6,256.8	22.3	23.0	-90.51	-32.3	-3,115.8	2,967.2	2,923.0	44.23	67.088	
6,400.0	6,391.8	6,384.7	6,356.8	22.6	23.3	-90.51	-32.3	-3,115.8	2,967.2	2,922.3	44.93	66.044	
6,500.0	6,491.8	6,484.7	6,456.8	23.0	23.7	-90.51	-32.3	-3,115.8	2,967.2	2,921.6	45.63	65.031	
6,600.0	6,591.8	6,584.7	6,556.8	23.3	24.0	-90.51	-32.3	-3,115.8	2,967.2	2,920.9	46.33	64.047	
6,700.0	6,691.8	6,684.7	6,656.8	23.7	24.3	-90.51	-32.3	-3,115.8	2,967.2	2,920.2	47.03	63.093	
6,800.0	6,791.8	6,784.7	6,756.8	24.0	24.7	-90.51	-32.3	-3,115.8	2,967.2	2,919.5	47.73	62.165	
6,900.0	6,891.8	6,884.7	6,856.8	24.4	25.0	-90.51	-32.3	-3,115.8	2,967.2	2,918.8	48.43	61.264	
7,000.0	6,991.8	6,984.7	6,956.8	24.7	25.4	-90.51	-32.3	-3,115.8	2,967.2	2,918.1	49.14	60.389	
7,100.0	7,091.8	7,084.7	7,056.8	25.1	25.7	-90.51	-32.3	-3,115.8	2,967.2	2,917.4	49.84	59.537	
7,200.0	7,191.8	7,184.7	7,156.8	25.5	26.0	-90.51	-32.3	-3,115.8	2,967.2	2,916.7	50.54	58.709	
7,300.0	7,291.8	7,284.7	7,256.8	25.8	26.4	-90.51	-32.3	-3,115.8	2,967.2	2,916.0	51.25	57.903	
7,400.0	7,391.8	7,384.7	7,356.8	26.2	26.7	-90.51	-32.3	-3,115.8	2,967.2	2,915.3	51.95	57.118	
7,500.0	7,491.8	7,484.7	7,456.8	26.5	27.0	-90.51	-32.3	-3,115.8	2,967.2	2,914.6	52.65	56.354	
7,600.0	7,591.8	7,584.7	7,556.8	26.9	27.4	-90.51	-32.3	-3,115.8	2,967.2	2,913.9	53.36	55.610	
7,700.0	7,691.8	7,684.7	7,656.8	27.2	27.7	-90.51	-32.3	-3,115.8	2,967.2	2,913.2	54.06	54.885	
7,800.0	7,791.8	7,784.7	7,756.8	27.6	28.1	-90.51	-32.3	-3,115.8	2,967.2	2,912.5	54.77	54.178	
7,900.0	7,891.8	7,884.7	7,856.8	28.0	28.4	-90.51	-32.3	-3,115.8	2,967.2	2,911.8	55.47	53.489	
8,000.0	7,991.8	7,984.7	7,956.8	28.3	28.8	-90.51	-32.3	-3,115.8	2,967.2	2,911.1	56.18	52.817	
8,100.0	8,091.8	8,084.7	8,056.8	28.7	29.1	-90.51	-32.3	-3,115.8	2,967.2	2,910.4	56.89	52.162	
8,200.0	8,191.8	8,184.7	8,156.8	29.0	29.4	-90.51	-32.3	-3,115.8	2,967.2	2,909.7	57.59	51.522	
8,300.0	8,291.8	8,284.7	8,256.8	29.4	29.8	-90.51	-32.3	-3,115.8	2,967.2	2,908.9	58.30	50.897	
8,400.0	8,391.8	8,384.7	8,356.8	29.7	30.1	-90.51	-32.3	-3,115.8	2,967.2	2,908.2	59.01	50.288	
8,500.0	8,491.8	8,484.7	8,456.8	30.1	30.5	-90.51	-32.3	-3,115.8	2,967.2	2,907.5	59.71	49.692	
8,600.0	8,591.8	8,584.7	8,556.8	30.4	30.8	-90.51	-32.3	-3,115.8	2,967.2	2,906.8	60.42	49.110	
8,700.0	8,691.8	8,684.7	8,656.8	30.8	31.2	-90.51	-32.3	-3,115.8	2,967.2	2,906.1	61.13	48.542	
8,800.0	8,791.8	8,784.7	8,756.8	31.2	31.5	-90.51	-32.3	-3,115.8	2,967.2	2,905.4	61.84	47.986	
8,900.0	8,891.8	8,884.7	8,856.8	31.5	31.8	-90.51	-32.3	-3,115.8	2,967.2	2,904.7	62.54	47.443	
9,000.0	8,991.8	8,984.7	8,956.8	31.9	32.2	-90.51	-32.3	-3,115.8	2,967.2	2,904.0	63.25	46.912	
9,100.0	9,091.8	9,084.7	9,056.8	32.2	32.5	-90.51	-32.3	-3,115.8	2,967.2	2,903.3	63.96	46.392	
9,200.0	9,191.8	9,184.7	9,156.8	32.6	32.9	-90.51	-32.3	-3,115.8	2,967.2	2,902.6	64.67	45.884	
9,300.0	9,291.8	9,284.7	9,256.8	32.9	33.2	-90.51	-32.3	-3,115.8	2,967.2	2,901.9	65.38	45.387	
9,400.0	9,391.8	9,384.7	9,356.8	33.3	33.6	-90.51	-32.3	-3,115.8	2,967.2	2,901.2	66.09	44.900	
9,500.0	9,491.8	9,484.7	9,456.8	33.7	33.9	-90.51	-32.3	-3,115.8	2,967.2	2,900.4	66.80	44.423	
9,600.0	9,591.8	9,584.7	9,556.8	34.0	34.3	-90.51	-32.3	-3,115.8	2,967.2	2,899.7	67.50	43.956	
9,700.0	9,691.8	9,684.7	9,656.8	34.4	34.6	-90.51	-32.3	-3,115.8	2,967.2	2,899.0	68.21	43.499	
9,800.0	9,791.8	9,784.7	9,756.8	34.7	35.0	-90.51	-32.3	-3,115.8	2,967.2	2,898.3	68.92	43.051	
9,900.0	9,891.8	9,884.7	9,856.8	35.1	35.3	-90.51	-32.3	-3,115.8	2,967.2	2,897.6	69.63	42.613	
10,000.0	9,991.8	9,984.7	9,956.8	35.4	35.7	-90.51	-32.3	-3,115.8	2,967.2	2,896.9	70.34	42.183	
10,100.0	10,091.8	10,084.7	10,056.8	35.8	36.0	-90.51	-32.3	-3,115.8	2,967.2	2,896.2	71.05	41.761	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Big Bull Fed Com #602H - Wellbore #1 - BLM Plan #1												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	10,191.8	10,184.7	10,156.8	36.2	36.4	-90.51	-32.3	-3,115.8	2,967.2	2,895.5	71.76	41.348	
10,300.0	10,291.8	10,284.7	10,256.8	36.5	36.7	-90.51	-32.3	-3,115.8	2,967.2	2,894.8	72.47	40.943	
10,400.0	10,391.8	10,384.7	10,356.8	36.9	37.1	-90.51	-32.3	-3,115.8	2,967.2	2,894.1	73.18	40.545	
10,500.0	10,491.8	10,484.7	10,456.8	37.2	37.4	-90.51	-32.3	-3,115.8	2,967.2	2,893.3	73.89	40.155	
10,600.0	10,591.8	10,584.7	10,556.8	37.6	37.8	-90.51	-32.3	-3,115.8	2,967.2	2,892.6	74.60	39.773	
10,700.0	10,691.8	10,684.7	10,656.8	37.9	38.1	-90.51	-32.3	-3,115.8	2,967.2	2,891.9	75.32	39.397	
10,800.0	10,791.8	10,784.7	10,756.8	38.3	38.4	-90.51	-32.3	-3,115.8	2,967.2	2,891.2	76.03	39.029	
10,900.0	10,891.8	10,884.7	10,856.8	38.7	38.8	-90.51	-32.3	-3,115.8	2,967.2	2,890.5	76.74	38.667	
11,005.2	10,997.0	10,989.9	10,962.0	39.0	39.2	-90.51	-32.3	-3,115.8	2,967.2	2,889.8	77.49	38.294	
11,050.0	11,041.7	11,034.5	11,006.6	39.2	39.3	89.73	-32.4	-3,115.8	2,967.2	2,889.4	77.80	38.141	
11,100.0	11,091.3	11,084.0	11,056.0	39.4	39.5	89.79	-35.4	-3,115.7	2,967.2	2,889.1	78.13	37.980	
11,150.0	11,140.2	11,133.8	11,105.3	39.5	39.7	89.85	-42.6	-3,115.7	2,967.2	2,888.7	78.45	37.820	
11,200.0	11,188.0	11,183.9	11,154.0	39.7	39.8	89.92	-54.2	-3,115.6	2,967.1	2,888.4	78.78	37.662	
11,250.0	11,234.4	11,234.2	11,201.7	39.8	40.0	89.98	-70.1	-3,115.5	2,967.1	2,888.0	79.11	37.506	
11,300.0	11,278.9	11,284.8	11,248.1	39.9	40.2	90.05	-90.3	-3,115.4	2,967.0	2,887.6	79.44	37.351	
11,350.0	11,321.3	11,335.7	11,292.8	40.1	40.3	90.11	-114.6	-3,115.2	2,967.0	2,887.2	79.77	37.196	
11,400.0	11,361.3	11,386.9	11,335.4	40.2	40.5	90.18	-142.9	-3,115.1	2,966.9	2,886.8	80.10	37.042	
11,450.0	11,398.4	11,438.3	11,375.5	40.3	40.7	90.24	-175.1	-3,114.9	2,966.8	2,886.4	80.43	36.888	
11,500.0	11,432.5	11,490.0	11,412.7	40.5	40.8	90.30	-210.9	-3,114.6	2,966.8	2,886.0	80.77	36.732	
11,550.0	11,463.3	11,542.0	11,446.7	40.6	41.0	90.36	-250.2	-3,114.4	2,966.7	2,885.5	81.11	36.575	
11,600.0	11,490.6	11,594.2	11,477.1	40.8	41.2	90.42	-292.6	-3,114.1	2,966.6	2,885.1	81.47	36.414	
11,650.0	11,514.0	11,646.6	11,503.7	40.9	41.4	90.47	-337.7	-3,113.8	2,966.5	2,884.6	81.83	36.251	
11,700.0	11,533.6	11,699.2	11,526.1	41.1	41.6	90.52	-385.3	-3,113.5	2,966.4	2,884.1	82.21	36.084	
11,750.0	11,549.1	11,752.0	11,544.1	41.3	41.8	90.56	-434.9	-3,113.2	2,966.2	2,883.6	82.59	35.914	
11,800.0	11,560.3	11,804.9	11,557.4	41.4	42.0	90.61	-486.1	-3,112.9	2,966.1	2,883.1	82.99	35.741	
11,850.0	11,567.3	11,858.0	11,566.1	41.6	42.2	90.64	-538.5	-3,112.6	2,966.0	2,882.6	83.39	35.566	
11,900.0	11,569.9	11,911.2	11,569.8	41.8	42.5	90.67	-591.5	-3,112.3	2,965.9	2,882.1	83.80	35.390	
11,905.2	11,570.0	11,916.8	11,569.9	41.8	42.5	90.68	-597.1	-3,112.2	2,965.9	2,882.0	83.85	35.372	
11,912.4	11,570.0	11,925.4	11,570.0	41.8	42.5	90.68	-604.7	-3,112.2	2,965.8	2,881.9	83.91	35.344	
12,000.0	11,570.0	12,012.0	11,570.0	42.2	42.9	90.68	-692.4	-3,111.6	2,965.8	2,881.2	84.67	35.029	
12,100.0	11,570.0	12,112.0	11,570.0	42.6	43.5	90.68	-792.4	-3,111.0	2,965.8	2,880.1	85.65	34.628	
12,200.0	11,570.0	12,212.0	11,570.0	43.1	44.1	90.68	-892.4	-3,110.4	2,965.8	2,879.0	86.74	34.190	
12,300.0	11,570.0	12,312.0	11,570.0	43.7	44.7	90.68	-992.4	-3,109.8	2,965.7	2,877.8	87.95	33.721	
12,400.0	11,570.0	12,412.0	11,570.0	44.3	45.4	90.68	-1,092.4	-3,109.1	2,965.7	2,876.5	89.26	33.224	
12,500.0	11,570.0	12,512.0	11,570.0	45.0	46.1	90.68	-1,192.4	-3,108.5	2,965.7	2,875.0	90.68	32.705	
12,600.0	11,570.0	12,612.0	11,570.0	45.7	46.9	90.68	-1,292.4	-3,107.9	2,965.7	2,873.5	92.19	32.168	
12,700.0	11,570.0	12,712.0	11,570.0	46.5	47.8	90.68	-1,392.4	-3,107.2	2,965.6	2,871.8	93.80	31.617	
12,800.0	11,570.0	12,812.0	11,570.0	47.3	48.6	90.68	-1,492.4	-3,106.6	2,965.6	2,870.1	95.49	31.056	
12,900.0	11,570.0	12,912.0	11,570.0	48.2	49.5	90.68	-1,592.4	-3,106.0	2,965.6	2,868.3	97.27	30.488	
13,000.0	11,570.0	13,012.0	11,570.0	49.1	50.5	90.68	-1,692.3	-3,105.4	2,965.6	2,866.4	99.13	29.916	
13,100.0	11,570.0	13,112.0	11,570.0	50.0	51.5	90.68	-1,792.3	-3,104.7	2,965.5	2,864.5	101.06	29.344	
13,200.0	11,570.0	13,212.0	11,570.0	51.0	52.5	90.68	-1,892.3	-3,104.1	2,965.5	2,862.5	103.06	28.774	
13,300.0	11,570.0	13,312.0	11,570.0	52.0	53.6	90.68	-1,992.3	-3,103.5	2,965.5	2,860.4	105.13	28.207	
13,400.0	11,570.0	13,412.0	11,570.0	53.0	54.6	90.68	-2,092.3	-3,102.9	2,965.5	2,858.2	107.26	27.647	
13,500.0	11,570.0	13,512.0	11,570.0	54.1	55.8	90.68	-2,192.3	-3,102.2	2,965.4	2,856.0	109.45	27.093	
13,600.0	11,570.0	13,612.0	11,570.0	55.2	56.9	90.68	-2,292.3	-3,101.6	2,965.4	2,853.7	111.70	26.548	
13,700.0	11,570.0	13,712.0	11,570.0	56.3	58.1	90.68	-2,392.3	-3,101.0	2,965.4	2,851.4	114.00	26.013	
13,800.0	11,570.0	13,812.0	11,570.0	57.5	59.2	90.68	-2,492.3	-3,100.4	2,965.4	2,849.0	116.35	25.487	
13,900.0	11,570.0	13,912.0	11,570.0	58.7	60.4	90.68	-2,592.3	-3,099.7	2,965.3	2,846.6	118.74	24.973	
14,000.0	11,570.0	14,012.0	11,570.0	59.9	61.7	90.68	-2,692.3	-3,099.1	2,965.3	2,844.1	121.18	24.471	
14,100.0	11,570.0	14,112.0	11,570.0	61.1	62.9	90.68	-2,792.3	-3,098.5	2,965.3	2,841.6	123.66	23.980	
14,200.0	11,570.0	14,212.0	11,570.0	62.3	64.2	90.68	-2,892.3	-3,097.9	2,965.3	2,839.1	126.17	23.502	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	
14,300.0	11,570.0	14,312.0	11,570.0	63.6	65.5	90.68	-2,992.3	-3,097.2	2,965.2	2,836.5	128.73	23.035	
14,400.0	11,570.0	14,412.0	11,570.0	64.9	66.8	90.68	-3,092.3	-3,096.6	2,965.2	2,833.9	131.31	22.581	
14,500.0	11,570.0	14,512.0	11,570.0	66.2	68.1	90.68	-3,192.3	-3,096.0	2,965.2	2,831.3	133.93	22.140	
14,600.0	11,570.0	14,612.0	11,570.0	67.5	69.4	90.68	-3,292.3	-3,095.4	2,965.2	2,828.6	136.58	21.710	
14,700.0	11,570.0	14,712.0	11,570.0	68.8	70.8	90.68	-3,392.3	-3,094.7	2,965.1	2,825.9	139.26	21.292	
14,800.0	11,570.0	14,812.0	11,570.0	70.1	72.1	90.68	-3,492.3	-3,094.1	2,965.1	2,823.2	141.97	20.886	
14,900.0	11,570.0	14,912.0	11,570.0	71.5	73.5	90.68	-3,592.3	-3,093.5	2,965.1	2,820.4	144.70	20.492	
15,000.0	11,570.0	15,012.0	11,570.0	72.9	74.9	90.68	-3,692.3	-3,092.9	2,965.1	2,817.6	147.45	20.109	
15,100.0	11,570.0	15,112.0	11,570.0	74.2	76.3	90.68	-3,792.3	-3,092.2	2,965.0	2,814.8	150.23	19.737	
15,200.0	11,570.0	15,212.0	11,570.0	75.6	77.7	90.68	-3,892.3	-3,091.6	2,965.0	2,812.0	153.03	19.376	
15,300.0	11,570.0	15,312.0	11,570.0	77.0	79.1	90.68	-3,992.3	-3,091.0	2,965.0	2,809.2	155.85	19.025	
15,400.0	11,570.0	15,412.0	11,570.0	78.4	80.5	90.68	-4,092.3	-3,090.3	2,965.0	2,806.3	158.68	18.685	
15,500.0	11,570.0	15,512.0	11,570.0	79.9	82.0	90.68	-4,192.3	-3,089.7	2,964.9	2,803.4	161.54	18.354	
15,600.0	11,570.0	15,612.0	11,570.0	81.3	83.4	90.68	-4,292.3	-3,089.1	2,964.9	2,800.5	164.41	18.033	
15,700.0	11,570.0	15,712.0	11,570.0	82.7	84.8	90.68	-4,392.3	-3,088.5	2,964.9	2,797.6	167.31	17.721	
15,800.0	11,570.0	15,812.0	11,570.0	84.2	86.3	90.68	-4,492.3	-3,087.8	2,964.9	2,794.7	170.21	17.419	
15,900.0	11,570.0	15,912.0	11,570.0	85.6	87.8	90.68	-4,592.3	-3,087.2	2,964.8	2,791.7	173.13	17.125	
16,000.0	11,570.0	16,012.0	11,570.0	87.1	89.2	90.68	-4,692.3	-3,086.6	2,964.8	2,788.8	176.07	16.839	
16,100.0	11,570.0	16,112.0	11,570.0	88.6	90.7	90.68	-4,792.3	-3,086.0	2,964.8	2,785.8	179.01	16.562	
16,200.0	11,570.0	16,212.0	11,570.0	90.0	92.2	90.68	-4,892.3	-3,085.3	2,964.8	2,782.8	181.97	16.292	
16,300.0	11,570.0	16,312.0	11,570.0	91.5	93.7	90.68	-4,992.3	-3,084.7	2,964.7	2,779.8	184.95	16.030	
16,400.0	11,570.0	16,412.0	11,570.0	93.0	95.2	90.68	-5,092.3	-3,084.1	2,964.7	2,776.8	187.93	15.775	
16,500.0	11,570.0	16,512.0	11,570.0	94.5	96.7	90.68	-5,192.3	-3,083.5	2,964.7	2,773.8	190.93	15.528	
16,600.0	11,570.0	16,612.0	11,570.0	96.0	98.2	90.68	-5,292.3	-3,082.8	2,964.7	2,770.7	193.93	15.287	
16,700.0	11,570.0	16,712.0	11,570.0	97.5	99.7	90.68	-5,392.3	-3,082.2	2,964.6	2,767.7	196.95	15.053	
16,800.0	11,570.0	16,812.0	11,570.0	99.0	101.2	90.68	-5,492.3	-3,081.6	2,964.6	2,764.6	199.97	14.825	
16,900.0	11,570.0	16,912.0	11,570.0	100.5	102.7	90.68	-5,592.3	-3,081.0	2,964.6	2,761.6	203.01	14.603	
17,000.0	11,570.0	17,012.0	11,570.0	102.0	104.2	90.68	-5,692.3	-3,080.3	2,964.6	2,758.5	206.05	14.388	
17,100.0	11,570.0	17,112.0	11,570.0	103.6	105.8	90.68	-5,792.3	-3,079.7	2,964.5	2,755.4	209.10	14.177	
17,200.0	11,570.0	17,212.0	11,570.0	105.1	107.3	90.68	-5,892.3	-3,079.1	2,964.5	2,752.4	212.16	13.973	
17,300.0	11,570.0	17,312.0	11,570.0	106.6	108.8	90.68	-5,992.3	-3,078.5	2,964.5	2,749.3	215.23	13.774	
17,400.0	11,570.0	17,412.0	11,570.0	108.2	110.4	90.68	-6,092.3	-3,077.8	2,964.5	2,746.2	218.30	13.580	
17,500.0	11,570.0	17,512.0	11,570.0	109.7	111.9	90.68	-6,192.3	-3,077.2	2,964.4	2,743.1	221.38	13.391	
17,600.0	11,570.0	17,612.0	11,570.0	111.2	113.5	90.68	-6,292.3	-3,076.6	2,964.4	2,739.9	224.47	13.206	
17,700.0	11,570.0	17,712.0	11,570.0	112.8	115.0	90.68	-6,392.3	-3,076.0	2,964.4	2,736.8	227.57	13.027	
17,798.0	11,570.0	17,810.0	11,570.0	114.3	116.5	90.68	-6,490.2	-3,075.3	2,964.4	2,733.8	230.60	12.855	
17,800.0	11,570.0	17,800.0	11,570.0	114.3	116.4	90.68	-6,480.2	-3,075.4	2,964.4	2,733.9	230.51	12.860	
17,834.0	11,570.0	17,825.5	11,570.0	114.8	116.8	90.68	-6,505.7	-3,075.4	2,964.6	2,733.2	231.45	12.809 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	-88.95	33.9	-1,845.6	1,846.0				
100.0	100.0	82.0	82.0	0.1	0.1	-88.95	33.9	-1,845.6	1,845.9	1,845.7	0.23	7,914.234	
200.0	200.0	182.0	182.0	0.5	0.4	-88.95	33.9	-1,845.6	1,845.9	1,845.0	0.91	2,031.322	
300.0	300.0	282.0	282.0	0.8	0.8	-88.95	33.9	-1,845.6	1,845.9	1,844.3	1.63	1,135.480	
400.0	400.0	382.0	382.0	1.2	1.1	-88.95	33.9	-1,845.6	1,845.9	1,843.6	2.34	787.973	
500.0	500.0	482.0	482.0	1.6	1.5	-88.95	33.9	-1,845.6	1,845.9	1,842.9	3.06	603.328	
600.0	600.0	612.4	612.4	1.9	2.0	-88.93	34.5	-1,844.7	1,845.2	1,841.4	3.88	475.225	
700.0	700.0	749.4	749.4	2.3	2.4	-88.86	36.8	-1,841.0	1,842.6	1,837.9	4.73	389.622	
800.0	800.0	886.1	885.8	2.6	2.9	-88.73	40.8	-1,834.5	1,837.9	1,832.4	5.58	329.537	
900.0	900.0	1,022.4	1,021.7	3.0	3.4	-88.54	46.4	-1,825.4	1,831.3	1,824.9	6.43	284.973	
1,000.0	1,000.0	1,158.1	1,156.6	3.4	3.9	-88.30	53.8	-1,813.5	1,822.7	1,815.4	7.27	250.599	
1,100.0	1,100.0	1,293.0	1,290.5	3.7	4.5	-88.00	62.8	-1,799.0	1,812.1	1,804.0	8.12	223.156	
1,200.0	1,200.0	1,406.1	1,390.4	4.1	4.9	-87.75	70.1	-1,787.1	1,800.6	1,791.7	8.89	202.499	
1,300.0	1,300.0	1,507.1	1,488.4	4.4	5.3	-87.50	77.4	-1,775.4	1,789.0	1,779.4	9.62	185.937	
1,400.0	1,400.0	1,608.1	1,586.5	4.8	5.7	-87.25	84.6	-1,763.6	1,777.5	1,767.1	10.35	171.670	
1,500.0	1,500.0	1,709.0	1,684.6	5.1	6.1	-87.00	91.9	-1,751.9	1,766.0	1,754.9	11.09	159.260	
1,600.0	1,600.0	1,789.9	1,782.5	5.5	6.4	5.62	99.1	-1,740.2	1,753.7	1,741.9	11.74	149.368	
1,700.0	1,700.0	1,888.6	1,880.2	5.8	6.8	5.91	106.4	-1,728.5	1,739.7	1,727.2	12.45	139.689	
1,800.0	1,799.9	1,987.0	1,977.7	6.2	7.3	6.20	113.6	-1,716.9	1,724.0	1,710.8	13.17	130.917	
1,900.0	1,899.7	2,085.1	2,074.8	6.5	7.7	6.52	120.8	-1,705.3	1,706.6	1,692.8	13.88	122.920	
2,000.0	1,999.4	2,182.8	2,171.6	6.9	8.1	6.84	127.9	-1,693.7	1,687.6	1,673.0	14.60	115.589	
2,100.0	2,098.9	2,280.2	2,268.1	7.2	8.5	7.19	135.1	-1,682.2	1,667.0	1,651.7	15.32	108.834	
2,200.0	2,198.3	2,377.3	2,364.2	7.6	8.9	7.56	142.2	-1,670.7	1,644.7	1,628.7	16.03	102.580	
2,300.0	2,297.4	2,473.9	2,459.8	8.0	9.3	7.94	149.2	-1,659.3	1,620.8	1,604.0	16.75	96.763	
2,400.0	2,396.4	2,570.2	2,555.3	8.4	9.7	8.31	156.3	-1,647.9	1,596.1	1,578.6	17.47	91.379	
2,500.0	2,495.5	2,666.6	2,650.7	8.7	10.1	8.69	163.4	-1,636.5	1,571.4	1,553.3	18.18	86.416	
2,600.0	2,594.5	2,763.0	2,746.1	9.1	10.5	9.08	170.4	-1,625.1	1,546.9	1,528.0	18.91	81.820	
2,701.1	2,694.6	2,860.4	2,842.6	9.5	10.9	9.49	177.5	-1,613.5	1,522.1	1,502.5	19.64	77.509	
2,800.0	2,792.7	2,956.1	2,937.3	9.9	11.3	9.84	184.6	-1,602.2	1,499.2	1,478.8	20.36	73.647	
2,900.0	2,892.2	3,053.4	3,033.7	10.3	11.7	10.19	191.7	-1,590.7	1,478.6	1,457.5	21.09	70.119	
3,000.0	2,991.9	3,151.2	3,130.6	10.6	12.1	10.53	198.8	-1,579.1	1,460.6	1,438.8	21.82	66.933	
3,100.0	3,091.8	3,249.5	3,228.0	11.0	12.5	10.88	206.0	-1,567.5	1,445.2	1,422.6	22.56	64.060	
3,200.0	3,191.8	3,348.3	3,325.7	11.4	12.9	11.22	213.3	-1,555.8	1,432.4	1,409.1	23.30	61.477	
3,234.4	3,226.2	3,382.3	3,359.5	11.5	13.0	-81.01	215.8	-1,551.8	1,428.6	1,405.0	23.55	60.651	
3,300.0	3,291.8	3,447.3	3,423.8	11.7	13.3	-80.78	220.5	-1,544.1	1,421.7	1,397.6	24.04	59.136	
3,400.0	3,391.8	3,546.3	3,521.8	12.0	13.7	-80.41	227.8	-1,532.4	1,411.1	1,386.4	24.78	56.939	
3,500.0	3,491.8	3,645.3	3,619.9	12.4	14.1	-80.03	235.0	-1,520.6	1,400.7	1,375.1	25.53	54.869	
3,600.0	3,591.8	3,744.3	3,718.0	12.7	14.5	-79.65	242.3	-1,508.9	1,390.3	1,364.0	26.27	52.916	
3,700.0	3,691.8	3,843.4	3,816.0	13.1	14.9	-79.27	249.5	-1,497.2	1,379.9	1,352.9	27.02	51.071	
3,800.0	3,791.8	3,942.4	3,914.1	13.4	15.4	-78.88	256.8	-1,485.5	1,369.7	1,341.9	27.77	49.325	
3,900.0	3,891.8	4,041.4	4,012.2	13.8	15.8	-78.48	264.0	-1,473.8	1,359.4	1,330.9	28.52	47.671	
4,000.0	3,991.8	4,140.5	4,110.2	14.1	16.2	-78.07	271.3	-1,462.0	1,349.3	1,320.0	29.27	46.102	
4,100.0	4,091.8	4,239.5	4,208.3	14.5	16.6	-77.67	278.5	-1,450.3	1,339.2	1,309.2	30.02	44.612	
4,200.0	4,191.8	4,338.5	4,306.3	14.8	17.0	-77.25	285.8	-1,438.6	1,329.2	1,298.4	30.77	43.195	
4,300.0	4,291.8	4,437.5	4,404.4	15.2	17.4	-76.83	293.1	-1,426.9	1,319.3	1,287.7	31.53	41.847	
4,400.0	4,391.8	4,536.6	4,502.5	15.5	17.8	-76.40	300.3	-1,415.2	1,309.4	1,277.1	32.28	40.562	
4,500.0	4,491.8	4,635.6	4,600.5	15.9	18.3	-75.97	307.6	-1,403.4	1,299.6	1,266.6	33.04	39.337	
4,600.0	4,591.8	4,734.6	4,698.6	16.2	18.7	-75.53	314.8	-1,391.7	1,289.9	1,256.1	33.80	38.167	
4,700.0	4,691.8	4,833.6	4,796.7	16.6	19.1	-75.08	322.1	-1,380.0	1,280.3	1,245.7	34.56	37.050	
4,800.0	4,791.8	4,932.7	4,894.7	16.9	19.5	-74.62	329.3	-1,368.3	1,270.7	1,235.4	35.32	35.982	
4,900.0	4,891.8	5,031.7	4,992.8	17.3	19.9	-74.16	336.6	-1,356.6	1,261.2	1,225.1	36.08	34.959	
5,000.0	4,991.8	5,130.7	5,090.8	17.7	20.3	-73.70	343.8	-1,344.8	1,251.8	1,215.0	36.84	33.980	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	5,091.8	5,229.7	5,188.9	18.0	20.7	-73.22	351.1	-1,333.1	1,242.5	1,204.9	37.60	33.043	
5,200.0	5,191.8	5,328.8	5,287.0	18.4	21.2	-72.74	358.3	-1,321.4	1,233.3	1,194.9	38.37	32.143	
5,300.0	5,291.8	5,427.8	5,385.0	18.7	21.6	-72.25	365.6	-1,309.7	1,224.2	1,185.0	39.14	31.280	
5,400.0	5,391.8	5,526.8	5,483.1	19.1	22.0	-71.75	372.8	-1,298.0	1,215.1	1,175.2	39.90	30.452	
5,500.0	5,491.8	5,625.9	5,581.2	19.4	22.4	-71.25	380.1	-1,286.2	1,206.2	1,165.5	40.67	29.656	
5,600.0	5,591.8	5,724.9	5,679.2	19.8	22.8	-70.74	387.3	-1,274.5	1,197.3	1,155.9	41.44	28.891	
5,700.0	5,691.8	5,823.9	5,777.3	20.1	23.2	-70.22	394.6	-1,262.8	1,188.5	1,146.3	42.21	28.155	
5,800.0	5,791.8	5,922.9	5,875.4	20.5	23.6	-69.69	401.8	-1,251.1	1,179.9	1,136.9	42.99	27.448	
5,900.0	5,891.8	6,022.0	5,973.4	20.8	24.1	-69.16	409.1	-1,239.4	1,171.3	1,127.6	43.76	26.767	
6,000.0	5,991.8	6,117.5	6,068.0	21.2	24.5	-68.64	416.1	-1,228.1	1,162.9	1,118.4	44.53	26.116	
6,100.0	6,091.8	6,201.5	6,151.3	21.5	24.8	-68.23	421.5	-1,219.3	1,155.5	1,110.2	45.26	25.530	
6,200.0	6,191.8	6,285.8	6,235.3	21.9	25.1	-67.89	426.0	-1,212.0	1,149.5	1,103.5	45.97	25.003	
6,300.0	6,291.8	6,370.5	6,319.7	22.3	25.4	-67.61	429.6	-1,206.3	1,144.8	1,098.1	46.67	24.531	
6,400.0	6,391.8	6,455.5	6,404.5	22.6	25.7	-67.42	432.1	-1,202.2	1,141.4	1,094.1	47.34	24.111	
6,500.0	6,491.8	6,540.6	6,489.6	23.0	26.0	-67.29	433.7	-1,199.6	1,139.4	1,091.4	48.00	23.740	
6,600.0	6,591.8	6,625.8	6,574.8	23.3	26.3	-67.25	434.3	-1,198.7	1,138.7	1,090.0	48.63	23.415	
6,635.9	6,627.6	6,660.7	6,609.6	23.5	26.4	-67.25	434.3	-1,198.7	1,138.7	1,089.8	48.87	23.301	
6,700.0	6,691.8	6,724.8	6,673.8	23.7	26.6	-67.25	434.3	-1,198.7	1,138.7	1,089.4	49.30	23.095	
6,800.0	6,791.8	6,824.8	6,773.8	24.0	26.9	-67.25	434.3	-1,198.7	1,138.7	1,088.7	49.98	22.782	
6,900.0	6,891.8	6,924.8	6,873.8	24.4	27.3	-67.25	434.3	-1,198.7	1,138.7	1,088.0	50.66	22.477	
7,000.0	6,991.8	7,024.8	6,973.8	24.7	27.6	-67.25	434.3	-1,198.7	1,138.7	1,087.3	51.34	22.179	
7,100.0	7,091.8	7,124.8	7,073.8	25.1	27.9	-67.25	434.3	-1,198.7	1,138.7	1,086.6	52.02	21.889	
7,200.0	7,191.8	7,224.8	7,173.8	25.5	28.2	-67.25	434.3	-1,198.7	1,138.7	1,086.0	52.70	21.606	
7,300.0	7,291.8	7,324.8	7,273.8	25.8	28.5	-67.25	434.3	-1,198.7	1,138.7	1,085.3	53.38	21.329	
7,400.0	7,391.8	7,424.8	7,373.8	26.2	28.8	-67.25	434.3	-1,198.7	1,138.7	1,084.6	54.07	21.060	
7,500.0	7,491.8	7,524.8	7,473.8	26.5	29.2	-67.25	434.3	-1,198.7	1,138.7	1,083.9	54.75	20.797	
7,600.0	7,591.8	7,624.8	7,573.8	26.9	29.5	-67.25	434.3	-1,198.7	1,138.7	1,083.2	55.44	20.540	
7,700.0	7,691.8	7,724.8	7,673.8	27.2	29.8	-67.25	434.3	-1,198.7	1,138.7	1,082.5	56.12	20.289	
7,800.0	7,791.8	7,824.8	7,773.8	27.6	30.1	-67.25	434.3	-1,198.7	1,138.7	1,081.9	56.81	20.043	
7,900.0	7,891.8	7,924.8	7,873.8	28.0	30.5	-67.25	434.3	-1,198.7	1,138.7	1,081.2	57.50	19.804	
8,000.0	7,991.8	8,024.8	7,973.8	28.3	30.8	-67.25	434.3	-1,198.7	1,138.7	1,080.5	58.18	19.570	
8,100.0	8,091.8	8,124.8	8,073.8	28.7	31.1	-67.25	434.3	-1,198.7	1,138.7	1,079.8	58.87	19.341	
8,200.0	8,191.8	8,224.8	8,173.8	29.0	31.4	-67.25	434.3	-1,198.7	1,138.7	1,079.1	59.56	19.117	
8,300.0	8,291.8	8,324.8	8,273.8	29.4	31.8	-67.25	434.3	-1,198.7	1,138.7	1,078.4	60.25	18.898	
8,400.0	8,391.8	8,424.8	8,373.8	29.7	32.1	-67.25	434.3	-1,198.7	1,138.7	1,077.7	60.94	18.684	
8,500.0	8,491.8	8,524.8	8,473.8	30.1	32.4	-67.25	434.3	-1,198.7	1,138.7	1,077.0	61.63	18.474	
8,600.0	8,591.8	8,624.8	8,573.8	30.4	32.7	-67.25	434.3	-1,198.7	1,138.7	1,076.3	62.33	18.269	
8,700.0	8,691.8	8,724.8	8,673.8	30.8	33.1	-67.25	434.3	-1,198.7	1,138.7	1,075.6	63.02	18.069	
8,800.0	8,791.8	8,824.8	8,773.8	31.2	33.4	-67.25	434.3	-1,198.7	1,138.7	1,074.9	63.71	17.872	
8,900.0	8,891.8	8,924.8	8,873.8	31.5	33.7	-67.25	434.3	-1,198.7	1,138.7	1,074.3	64.40	17.680	
9,000.0	8,991.8	9,024.8	8,973.8	31.9	34.1	-67.25	434.3	-1,198.7	1,138.7	1,073.6	65.10	17.492	
9,100.0	9,091.8	9,124.8	9,073.8	32.2	34.4	-67.25	434.3	-1,198.7	1,138.7	1,072.9	65.79	17.307	
9,200.0	9,191.8	9,224.8	9,173.8	32.6	34.7	-67.25	434.3	-1,198.7	1,138.7	1,072.2	66.49	17.126	
9,300.0	9,291.8	9,324.8	9,273.8	32.9	35.1	-67.25	434.3	-1,198.7	1,138.7	1,071.5	67.18	16.949	
9,400.0	9,391.8	9,424.8	9,373.8	33.3	35.4	-67.25	434.3	-1,198.7	1,138.7	1,070.8	67.88	16.775	
9,500.0	9,491.8	9,524.8	9,473.8	33.7	35.7	-67.25	434.3	-1,198.7	1,138.7	1,070.1	68.57	16.605	
9,600.0	9,591.8	9,624.8	9,573.8	34.0	36.1	-67.25	434.3	-1,198.7	1,138.7	1,069.4	69.27	16.438	
9,700.0	9,691.8	9,724.8	9,673.8	34.4	36.4	-67.25	434.3	-1,198.7	1,138.7	1,068.7	69.97	16.274	
9,800.0	9,791.8	9,824.8	9,773.8	34.7	36.7	-67.25	434.3	-1,198.7	1,138.7	1,068.0	70.66	16.114	
9,900.0	9,891.8	9,924.8	9,873.8	35.1	37.1	-67.25	434.3	-1,198.7	1,138.7	1,067.3	71.36	15.956	
10,000.0	9,991.8	10,024.8	9,973.8	35.4	37.4	-67.25	434.3	-1,198.7	1,138.7	1,066.6	72.06	15.802	
10,100.0	10,091.8	10,124.8	10,073.8	35.8	37.7	-67.25	434.3	-1,198.7	1,138.7	1,065.9	72.76	15.650	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	10,191.8	10,224.8	10,173.8	36.2	38.1	-67.25	434.3	-1,198.7	1,138.7	1,065.2	73.46	15.501	
10,300.0	10,291.8	10,324.8	10,273.8	36.5	38.4	-67.25	434.3	-1,198.7	1,138.7	1,064.5	74.15	15.355	
10,400.0	10,391.8	10,424.8	10,373.8	36.9	38.8	-67.25	434.3	-1,198.7	1,138.7	1,063.8	74.85	15.212	
10,500.0	10,491.8	10,524.8	10,473.8	37.2	39.1	-67.25	434.3	-1,198.7	1,138.7	1,063.1	75.55	15.071	
10,600.0	10,591.8	10,624.8	10,573.8	37.6	39.4	-67.25	434.3	-1,198.7	1,138.7	1,062.4	76.25	14.933	
10,700.0	10,691.8	10,724.8	10,673.8	37.9	39.8	-67.25	434.3	-1,198.7	1,138.7	1,061.7	76.95	14.797	
10,800.0	10,791.8	10,824.8	10,773.8	38.3	40.1	-67.25	434.3	-1,198.7	1,138.7	1,061.0	77.65	14.663	
10,900.0	10,891.8	10,924.8	10,873.8	38.7	40.4	-67.25	434.3	-1,198.7	1,138.7	1,060.3	78.36	14.532	
11,005.2	10,997.0	11,030.0	10,979.0	39.0	40.8	-67.25	434.3	-1,198.7	1,138.7	1,059.6	79.09	14.396	
11,050.0	11,041.7	11,074.7	11,023.7	39.2	41.0	112.97	434.3	-1,198.7	1,139.3	1,059.9	79.40	14.349	
11,100.0	11,091.3	11,124.4	11,073.3	39.4	41.1	113.03	434.3	-1,198.7	1,141.7	1,062.0	79.74	14.318	
11,150.0	11,140.2	11,223.0	11,171.7	39.5	41.4	113.46	429.4	-1,199.1	1,145.3	1,065.1	80.19	14.283	
11,200.0	11,188.0	11,372.1	11,315.4	39.7	41.8	113.50	391.1	-1,201.8	1,147.0	1,066.7	80.26	14.291	
11,250.0	11,234.4	11,518.0	11,441.8	39.8	42.0	112.58	319.2	-1,207.0	1,146.0	1,066.2	79.88	14.347	
11,300.0	11,278.9	11,651.6	11,538.2	39.9	42.1	110.95	227.4	-1,213.7	1,143.0	1,063.5	79.48	14.349	
11,350.0	11,321.3	11,768.7	11,603.2	40.1	42.2	108.97	130.6	-1,220.7	1,138.6	1,059.2	79.36	14.347	
11,400.0	11,361.3	11,869.3	11,642.3	40.2	42.2	106.92	38.2	-1,227.4	1,133.5	1,053.9	79.59	14.242	
11,450.0	11,398.4	11,955.7	11,662.6	40.3	42.1	104.93	-45.5	-1,233.5	1,128.4	1,048.4	80.07	14.094	
11,500.0	11,432.5	12,030.7	11,669.7	40.5	42.1	103.06	-119.8	-1,238.9	1,123.8	1,043.1	80.67	13.931	
11,550.0	11,463.3	12,096.1	11,670.0	40.6	42.2	101.39	-185.1	-1,243.2	1,119.9	1,038.6	81.28	13.778	
11,600.0	11,490.6	12,163.9	11,670.0	40.8	42.2	99.81	-252.9	-1,246.2	1,116.7	1,034.9	81.86	13.642	
11,650.0	11,514.0	12,235.5	11,670.0	40.9	42.4	98.37	-324.5	-1,247.6	1,113.8	1,031.4	82.41	13.515	
11,700.0	11,533.6	12,304.2	11,670.0	41.1	42.6	97.44	-384.7	-1,247.5	1,111.0	1,028.0	82.93	13.396	
11,750.0	11,549.1	12,343.3	11,670.0	41.3	42.8	96.90	-432.2	-1,247.2	1,108.8	1,025.5	83.33	13.305	
11,800.0	11,560.3	12,408.0	11,670.0	41.4	43.0	96.49	-480.9	-1,246.9	1,107.3	1,023.5	83.80	13.213	
11,850.0	11,567.3	12,441.5	11,670.0	41.6	43.1	96.22	-530.4	-1,246.6	1,106.4	1,022.3	84.15	13.148	
11,900.0	11,569.9	12,508.6	11,670.0	41.8	43.4	96.13	-580.4	-1,246.3	1,106.0	1,021.4	84.63	13.069	
11,905.2	11,570.0	12,503.4	11,670.0	41.8	43.4	96.13	-585.6	-1,246.3	1,106.0	1,021.4	84.62	13.070	
11,912.3	11,570.0	12,503.7	11,670.0	41.8	43.4	96.13	-592.6	-1,246.2	1,106.0	1,021.3	84.65	13.066 CC	
11,912.4	11,570.0	12,503.9	11,670.0	41.8	43.4	96.13	-592.8	-1,246.2	1,106.0	1,021.3	84.65	13.066	
12,000.0	11,570.0	12,608.6	11,670.0	42.2	43.9	96.13	-680.3	-1,245.7	1,106.0	1,020.5	85.49	12.937	
12,100.0	11,570.0	12,708.6	11,670.0	42.6	44.5	96.13	-780.3	-1,245.1	1,106.0	1,019.5	86.47	12.790	
12,200.0	11,570.0	12,808.6	11,670.0	43.1	45.1	96.13	-880.3	-1,244.5	1,106.0	1,018.4	87.57	12.630	
12,300.0	11,570.0	12,908.6	11,670.0	43.7	45.7	96.13	-980.3	-1,243.9	1,106.0	1,017.2	88.78	12.458	
12,400.0	11,570.0	13,008.6	11,670.0	44.3	46.4	96.13	-1,080.3	-1,243.3	1,106.0	1,015.9	90.09	12.277	
12,500.0	11,570.0	13,108.6	11,670.0	45.0	47.2	96.13	-1,180.3	-1,242.8	1,106.0	1,014.5	91.50	12.088	
12,600.0	11,570.0	13,208.6	11,670.0	45.7	48.0	96.13	-1,280.3	-1,242.2	1,106.0	1,013.0	93.01	11.892	
12,700.0	11,570.0	13,308.6	11,670.0	46.5	48.8	96.13	-1,380.3	-1,241.6	1,106.0	1,011.4	94.61	11.691	
12,800.0	11,570.0	13,408.6	11,670.0	47.3	49.7	96.13	-1,480.3	-1,241.0	1,106.0	1,009.7	96.29	11.486	
12,900.0	11,570.0	13,508.6	11,670.0	48.2	50.6	96.13	-1,580.3	-1,240.4	1,106.0	1,008.0	98.06	11.279	
13,000.0	11,570.0	13,608.6	11,670.0	49.1	51.5	96.13	-1,680.3	-1,239.8	1,106.1	1,006.1	99.91	11.071	
13,100.0	11,570.0	13,708.6	11,670.0	50.0	52.5	96.13	-1,780.3	-1,239.2	1,106.1	1,004.2	101.83	10.862	
13,200.0	11,570.0	13,808.6	11,670.0	51.0	53.5	96.13	-1,880.3	-1,238.6	1,106.1	1,002.2	103.81	10.654	
13,300.0	11,570.0	13,908.6	11,670.0	52.0	54.6	96.13	-1,980.3	-1,238.0	1,106.1	1,000.2	105.87	10.447	
13,400.0	11,570.0	14,008.6	11,670.0	53.0	55.7	96.13	-2,080.3	-1,237.4	1,106.1	998.1	107.99	10.243	
13,500.0	11,570.0	14,108.6	11,670.0	54.1	56.8	96.13	-2,180.3	-1,236.8	1,106.1	995.9	110.16	10.041	
13,600.0	11,570.0	14,208.6	11,670.0	55.2	57.9	96.13	-2,280.3	-1,236.2	1,106.1	993.7	112.39	9.841	
13,700.0	11,570.0	14,308.6	11,670.0	56.3	59.1	96.13	-2,380.3	-1,235.6	1,106.1	991.4	114.67	9.646	
13,800.0	11,570.0	14,408.6	11,670.0	57.5	60.2	96.13	-2,480.3	-1,235.0	1,106.1	989.1	117.00	9.453	
13,900.0	11,570.0	14,508.6	11,670.0	58.7	61.4	96.13	-2,580.3	-1,234.4	1,106.1	986.7	119.38	9.265	
14,000.0	11,570.0	14,608.6	11,670.0	59.9	62.7	96.13	-2,680.3	-1,233.8	1,106.1	984.3	121.80	9.081	
14,100.0	11,570.0	14,708.6	11,670.0	61.1	63.9	96.13	-2,780.3	-1,233.2	1,106.1	981.9	124.26	8.902	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	11,570.0	14,791.4	11,670.0	62.3	64.9	96.13	-2,880.3	-1,232.6	1,106.1	979.6	126.54	8.741	
14,300.0	11,570.0	14,908.6	11,670.0	63.6	66.4	96.13	-2,980.3	-1,232.0	1,106.1	976.8	129.29	8.555	
14,400.0	11,570.0	15,008.6	11,670.0	64.9	67.7	96.13	-3,080.3	-1,231.5	1,106.1	974.3	131.86	8.388	
14,500.0	11,570.0	15,108.6	11,670.0	66.2	69.0	96.13	-3,180.3	-1,230.9	1,106.1	971.7	134.46	8.226	
14,600.0	11,570.0	15,208.6	11,670.0	67.5	70.4	96.12	-3,280.3	-1,230.3	1,106.1	969.1	137.10	8.068	
14,700.0	11,570.0	15,308.6	11,670.0	68.8	71.7	96.12	-3,380.3	-1,229.7	1,106.2	966.4	139.76	7.915	
14,800.0	11,570.0	15,408.6	11,670.0	70.1	73.1	96.12	-3,480.3	-1,229.1	1,106.2	963.7	142.44	7.766	
14,900.0	11,570.0	15,508.6	11,670.0	71.5	74.4	96.12	-3,580.3	-1,228.5	1,106.2	961.0	145.15	7.621	
15,000.0	11,570.0	15,591.4	11,670.0	72.9	75.6	96.12	-3,680.3	-1,227.9	1,106.2	958.5	147.65	7.492	
15,100.0	11,570.0	15,708.6	11,670.0	74.2	77.2	96.12	-3,780.3	-1,227.3	1,106.2	955.5	150.65	7.343	
15,200.0	11,570.0	15,808.6	11,670.0	75.6	78.6	96.12	-3,880.3	-1,226.7	1,106.2	952.8	153.43	7.210	
15,300.0	11,570.0	15,908.6	11,670.0	77.0	80.0	96.12	-3,980.3	-1,226.1	1,106.2	950.0	156.23	7.081	
15,400.0	11,570.0	16,008.6	11,670.0	78.4	81.4	96.12	-4,080.3	-1,225.5	1,106.2	947.1	159.05	6.955	
15,500.0	11,570.0	16,108.6	11,670.0	79.9	82.8	96.12	-4,180.3	-1,224.9	1,106.2	944.3	161.89	6.833	
15,600.0	11,570.0	16,208.6	11,670.0	81.3	84.3	96.12	-4,280.3	-1,224.3	1,106.2	941.5	164.74	6.715	
15,700.0	11,570.0	16,308.6	11,670.0	82.7	85.7	96.12	-4,380.3	-1,223.7	1,106.2	938.6	167.61	6.600	
15,800.0	11,570.0	16,408.6	11,670.0	84.2	87.1	96.12	-4,480.3	-1,223.1	1,106.2	935.7	170.50	6.488	
15,900.0	11,570.0	16,508.6	11,670.0	85.6	88.6	96.12	-4,580.3	-1,222.5	1,106.2	932.8	173.40	6.379	
16,000.0	11,570.0	16,608.6	11,670.0	87.1	90.1	96.12	-4,680.3	-1,221.9	1,106.2	929.9	176.32	6.274	
16,100.0	11,570.0	16,708.6	11,670.0	88.6	91.5	96.12	-4,780.3	-1,221.3	1,106.2	927.0	179.25	6.172	
16,200.0	11,570.0	16,808.6	11,670.0	90.0	93.0	96.12	-4,880.3	-1,220.7	1,106.2	924.0	182.19	6.072	
16,300.0	11,570.0	16,908.6	11,670.0	91.5	94.5	96.12	-4,980.3	-1,220.2	1,106.2	921.1	185.15	5.975	
16,400.0	11,570.0	17,008.6	11,670.0	93.0	96.0	96.12	-5,080.3	-1,219.6	1,106.3	918.1	188.11	5.881	
16,500.0	11,570.0	17,108.6	11,670.0	94.5	97.5	96.12	-5,180.3	-1,219.0	1,106.3	915.2	191.09	5.789	
16,600.0	11,570.0	17,208.6	11,670.0	96.0	99.0	96.12	-5,280.3	-1,218.4	1,106.3	912.2	194.08	5.700	
16,700.0	11,570.0	17,308.6	11,670.0	97.5	100.5	96.12	-5,380.3	-1,217.8	1,106.3	909.2	197.07	5.613	
16,800.0	11,570.0	17,408.6	11,670.0	99.0	102.0	96.12	-5,480.3	-1,217.2	1,106.3	906.2	200.08	5.529	
16,900.0	11,570.0	17,508.6	11,670.0	100.5	103.5	96.12	-5,580.3	-1,216.6	1,106.3	903.2	203.10	5.447	
17,000.0	11,570.0	17,608.6	11,670.0	102.0	105.0	96.12	-5,680.3	-1,216.0	1,106.3	900.2	206.12	5.367	
17,100.0	11,570.0	17,691.4	11,670.0	103.6	106.3	96.12	-5,780.3	-1,215.4	1,106.3	897.4	208.90	5.296	
17,200.0	11,570.0	17,808.6	11,670.0	105.1	108.1	96.12	-5,880.3	-1,214.8	1,106.3	894.1	212.20	5.214	
17,300.0	11,570.0	17,908.6	11,670.0	106.6	109.6	96.12	-5,980.3	-1,214.2	1,106.3	891.1	215.25	5.140	
17,400.0	11,570.0	18,008.6	11,670.0	108.2	111.1	96.12	-6,080.3	-1,213.6	1,106.3	888.0	218.30	5.068	
17,500.0	11,570.0	18,108.6	11,670.0	109.7	112.7	96.12	-6,180.3	-1,213.0	1,106.3	884.9	221.37	4.998	
17,600.0	11,570.0	18,208.6	11,670.0	111.2	114.2	96.12	-6,280.2	-1,212.4	1,106.3	881.9	224.44	4.929	
17,700.0	11,570.0	18,308.6	11,670.0	112.8	115.7	96.12	-6,380.2	-1,211.8	1,106.3	878.8	227.51	4.863	
17,800.0	11,570.0	18,391.4	11,670.0	114.3	117.0	96.12	-6,480.2	-1,211.2	1,106.3	876.0	230.33	4.803	
17,834.0	11,570.0	18,425.4	11,670.0	114.8	117.6	96.12	-6,514.3	-1,211.0	1,106.3	875.0	231.38	4.781 ES, 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	-88.97	33.7	-1,875.5	1,875.9				
100.0	100.0	82.0	82.0	0.1	0.1	-88.97	33.7	-1,875.5	1,875.8	1,875.6	0.23	8,042.422	
200.0	200.0	182.0	182.0	0.5	0.4	-88.97	33.7	-1,875.5	1,875.8	1,874.9	0.91	2,064.224	
300.0	300.0	282.0	282.0	0.8	0.8	-88.97	33.7	-1,875.5	1,875.8	1,874.2	1.63	1,153.872	
400.0	400.0	382.0	382.0	1.2	1.1	-88.97	33.7	-1,875.5	1,875.8	1,873.5	2.34	800.736	
500.0	500.0	482.0	482.0	1.6	1.5	-88.97	33.7	-1,875.5	1,875.8	1,872.8	3.06	613.100	
600.0	600.0	582.0	582.0	1.9	1.9	-88.97	33.7	-1,875.5	1,875.8	1,872.0	3.78	496.707	
700.0	700.0	682.0	682.0	2.3	2.2	-88.97	33.7	-1,875.5	1,875.8	1,871.3	4.49	417.456	
800.0	800.0	782.0	782.0	2.6	2.6	-88.97	33.7	-1,875.5	1,875.8	1,870.6	5.21	360.014	
900.0	900.0	882.0	882.0	3.0	2.9	-88.97	33.7	-1,875.5	1,875.8	1,869.9	5.93	316.469	
1,000.0	1,000.0	982.0	982.0	3.4	3.3	-88.97	33.7	-1,875.5	1,875.8	1,869.2	6.64	282.320	
1,100.0	1,100.0	1,082.0	1,082.0	3.7	3.6	-88.97	33.7	-1,875.5	1,875.8	1,868.5	7.36	254.824	
1,200.0	1,200.0	1,182.0	1,182.0	4.1	4.0	-88.97	33.7	-1,875.5	1,875.8	1,867.7	8.08	232.208	
1,300.0	1,300.0	1,282.0	1,282.0	4.4	4.4	-88.97	33.7	-1,875.5	1,875.8	1,867.0	8.80	213.279	
1,400.0	1,400.0	1,382.0	1,382.0	4.8	4.7	-88.97	33.7	-1,875.5	1,875.8	1,866.3	9.51	197.204	
1,500.0	1,500.0	1,482.0	1,482.0	5.1	5.1	-88.97	33.7	-1,875.5	1,875.8	1,865.6	10.23	183.382	
1,600.0	1,600.0	1,573.9	1,573.9	5.5	5.4	3.39	34.2	-1,875.7	1,875.1	1,864.2	10.91	171.923	
1,700.0	1,700.0	1,663.9	1,663.9	5.8	5.7	3.45	35.9	-1,876.3	1,873.2	1,861.6	11.57	161.907	
1,800.0	1,799.9	1,753.8	1,753.7	6.2	6.1	3.55	39.0	-1,877.3	1,870.1	1,857.9	12.23	152.864	
1,900.0	1,899.7	1,843.6	1,843.4	6.5	6.4	3.70	43.5	-1,878.8	1,865.8	1,852.9	12.90	144.645	
2,000.0	1,999.4	1,933.2	1,932.8	6.9	6.7	3.90	49.2	-1,880.7	1,860.3	1,846.7	13.57	137.133	
2,100.0	2,098.9	2,022.5	2,021.8	7.2	7.0	4.13	56.3	-1,883.1	1,853.6	1,839.4	14.23	130.228	
2,200.0	2,198.3	2,111.5	2,110.4	7.6	7.3	4.42	64.6	-1,885.9	1,845.8	1,830.9	14.90	123.849	
2,300.0	2,297.4	2,200.2	2,198.5	8.0	7.7	4.75	74.2	-1,889.2	1,836.8	1,821.3	15.58	117.929	
2,400.0	2,396.4	2,288.6	2,286.2	8.4	8.0	5.12	85.1	-1,892.8	1,827.7	1,811.4	16.25	112.462	
2,500.0	2,495.5	2,385.9	2,382.5	8.7	8.4	5.56	97.9	-1,897.2	1,818.9	1,802.0	16.97	107.205	
2,600.0	2,594.5	2,484.5	2,480.1	9.1	8.7	6.00	110.9	-1,901.5	1,810.3	1,792.6	17.69	102.322	
2,701.1	2,694.6	2,584.2	2,578.9	9.5	9.1	6.46	124.0	-1,906.0	1,801.7	1,783.3	18.43	97.760	
2,800.0	2,792.7	2,681.8	2,675.5	9.9	9.5	6.89	136.9	-1,910.3	1,794.7	1,775.6	19.16	93.693	
2,900.0	2,892.2	2,780.8	2,773.5	10.3	9.9	7.33	150.0	-1,914.7	1,790.3	1,770.4	19.89	90.005	
3,000.0	2,991.9	2,879.8	2,871.6	10.6	10.3	7.76	163.0	-1,919.1	1,788.6	1,768.0	20.63	86.704	
3,013.2	3,005.1	2,907.1	2,884.5	10.7	10.4	7.81	164.7	-1,919.7	1,788.6	1,767.8	20.78	86.067	
3,100.0	3,091.8	2,978.9	2,969.7	11.0	10.7	8.18	176.1	-1,923.5	1,789.6	1,768.2	21.37	83.754	
3,200.0	3,191.8	3,078.0	3,067.8	11.4	11.0	8.60	189.2	-1,928.0	1,793.3	1,771.2	22.11	81.124	
3,234.4	3,226.2	3,112.1	3,101.6	11.5	11.2	-83.60	193.6	-1,929.5	1,795.2	1,772.8	22.36	80.288	
3,300.0	3,291.8	3,177.0	3,165.9	11.7	11.4	-83.34	202.2	-1,932.4	1,799.1	1,776.2	22.84	78.764	
3,400.0	3,391.8	3,276.0	3,264.0	12.0	11.8	-82.94	215.3	-1,936.8	1,805.1	1,781.5	23.58	76.560	
3,500.0	3,491.8	3,375.1	3,362.0	12.4	12.2	-82.55	228.3	-1,941.2	1,811.2	1,786.9	24.32	74.490	
3,600.0	3,591.8	3,474.1	3,460.1	12.7	12.6	-82.16	241.4	-1,945.6	1,817.5	1,792.4	25.05	72.542	
3,700.0	3,691.8	3,573.1	3,558.1	13.1	13.0	-81.77	254.4	-1,950.0	1,823.8	1,798.0	25.79	70.707	
3,800.0	3,791.8	3,672.2	3,656.2	13.4	13.4	-81.38	267.5	-1,954.4	1,830.1	1,803.6	26.53	68.975	
3,900.0	3,891.8	3,771.2	3,754.3	13.8	13.8	-81.00	280.6	-1,958.8	1,836.6	1,809.3	27.27	67.339	
4,000.0	3,991.8	3,870.2	3,852.3	14.1	14.2	-80.62	293.6	-1,963.2	1,843.2	1,815.1	28.02	65.791	
4,100.0	4,091.8	3,969.2	3,950.4	14.5	14.6	-80.24	306.7	-1,967.6	1,849.8	1,821.0	28.76	64.325	
4,200.0	4,191.8	4,068.3	4,048.5	14.8	15.0	-79.87	319.7	-1,972.0	1,856.5	1,827.0	29.50	62.934	
4,300.0	4,291.8	4,167.3	4,146.5	15.2	15.4	-79.50	332.8	-1,976.4	1,863.3	1,833.0	30.24	61.614	
4,400.0	4,391.8	4,266.3	4,244.6	15.5	15.8	-79.13	345.9	-1,980.8	1,870.2	1,839.2	30.98	60.359	
4,500.0	4,491.8	4,365.3	4,342.6	15.9	16.2	-78.76	358.9	-1,985.2	1,877.1	1,845.4	31.73	59.165	
4,600.0	4,591.8	4,464.4	4,440.7	16.2	16.6	-78.40	372.0	-1,989.6	1,884.1	1,851.7	32.47	58.028	
4,700.0	4,691.8	4,563.4	4,538.8	16.6	17.0	-78.03	385.0	-1,994.0	1,891.2	1,858.0	33.21	56.943	
4,800.0	4,791.8	4,675.2	4,649.5	16.9	17.5	-77.64	399.5	-1,998.9	1,898.3	1,864.3	34.01	55.813	
4,900.0	4,891.8	4,809.3	4,782.8	17.3	18.0	-77.26	413.3	-2,003.6	1,903.9	1,869.1	34.89	54.568	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	4,991.8	4,944.3	4,917.5	17.7	18.5	-77.00	422.8	-2,006.8	1,907.8	1,872.1	35.74	53.373	
5,100.0	5,091.8	5,079.9	5,052.9	18.0	19.0	-76.87	427.7	-2,008.4	1,909.8	1,873.3	36.57	52.223	
5,200.0	5,191.8	5,200.7	5,173.8	18.4	19.4	-76.85	428.5	-2,008.7	1,910.1	1,872.8	37.33	51.170	
5,300.0	5,291.8	5,300.7	5,273.8	18.7	19.8	-76.85	428.5	-2,008.7	1,910.1	1,872.1	38.03	50.234	
5,400.0	5,391.8	5,400.7	5,373.8	19.1	20.1	-76.85	428.5	-2,008.7	1,910.1	1,871.4	38.72	49.331	
5,500.0	5,491.8	5,500.7	5,473.8	19.4	20.4	-76.85	428.5	-2,008.7	1,910.1	1,870.7	39.42	48.458	
5,600.0	5,591.8	5,600.7	5,573.8	19.8	20.8	-76.85	428.5	-2,008.7	1,910.1	1,870.0	40.12	47.615	
5,700.0	5,691.8	5,700.7	5,673.8	20.1	21.1	-76.85	428.5	-2,008.7	1,910.1	1,869.3	40.81	46.801	
5,800.0	5,791.8	5,800.7	5,773.8	20.5	21.4	-76.85	428.5	-2,008.7	1,910.1	1,868.6	41.51	46.012	
5,900.0	5,891.8	5,900.7	5,873.8	20.8	21.8	-76.85	428.5	-2,008.7	1,910.1	1,867.9	42.21	45.250	
6,000.0	5,991.8	6,000.7	5,973.8	21.2	22.1	-76.85	428.5	-2,008.7	1,910.1	1,867.2	42.91	44.512	
6,100.0	6,091.8	6,100.7	6,073.8	21.5	22.5	-76.85	428.5	-2,008.7	1,910.1	1,866.5	43.61	43.796	
6,200.0	6,191.8	6,200.7	6,173.8	21.9	22.8	-76.85	428.5	-2,008.7	1,910.1	1,865.8	44.32	43.103	
6,300.0	6,291.8	6,300.7	6,273.8	22.3	23.2	-76.85	428.5	-2,008.7	1,910.1	1,865.1	45.02	42.431	
6,400.0	6,391.8	6,400.7	6,373.8	22.6	23.5	-76.85	428.5	-2,008.7	1,910.1	1,864.4	45.72	41.780	
6,500.0	6,491.8	6,500.7	6,473.8	23.0	23.8	-76.85	428.5	-2,008.7	1,910.1	1,863.7	46.42	41.147	
6,600.0	6,591.8	6,600.7	6,573.8	23.3	24.2	-76.85	428.5	-2,008.7	1,910.1	1,863.0	47.13	40.534	
6,700.0	6,691.8	6,700.7	6,673.8	23.7	24.5	-76.85	428.5	-2,008.7	1,910.1	1,862.3	47.83	39.937	
6,800.0	6,791.8	6,800.7	6,773.8	24.0	24.9	-76.85	428.5	-2,008.7	1,910.1	1,861.6	48.53	39.358	
6,900.0	6,891.8	6,900.7	6,873.8	24.4	25.2	-76.85	428.5	-2,008.7	1,910.1	1,860.9	49.24	38.795	
7,000.0	6,991.8	7,000.7	6,973.8	24.7	25.6	-76.85	428.5	-2,008.7	1,910.1	1,860.2	49.94	38.248	
7,100.0	7,091.8	7,100.7	7,073.8	25.1	25.9	-76.85	428.5	-2,008.7	1,910.1	1,859.5	50.65	37.716	
7,200.0	7,191.8	7,200.7	7,173.8	25.5	26.3	-76.85	428.5	-2,008.7	1,910.1	1,858.8	51.35	37.198	
7,300.0	7,291.8	7,300.7	7,273.8	25.8	26.6	-76.85	428.5	-2,008.7	1,910.1	1,858.1	52.06	36.693	
7,400.0	7,391.8	7,400.7	7,373.8	26.2	26.9	-76.85	428.5	-2,008.7	1,910.1	1,857.4	52.76	36.203	
7,500.0	7,491.8	7,500.7	7,473.8	26.5	27.3	-76.85	428.5	-2,008.7	1,910.1	1,856.7	53.47	35.724	
7,600.0	7,591.8	7,600.7	7,573.8	26.9	27.6	-76.85	428.5	-2,008.7	1,910.1	1,856.0	54.18	35.259	
7,700.0	7,691.8	7,700.7	7,673.8	27.2	28.0	-76.85	428.5	-2,008.7	1,910.1	1,855.3	54.88	34.805	
7,800.0	7,791.8	7,800.7	7,773.8	27.6	28.3	-76.85	428.5	-2,008.7	1,910.1	1,854.6	55.59	34.362	
7,900.0	7,891.8	7,900.7	7,873.8	28.0	28.7	-76.85	428.5	-2,008.7	1,910.1	1,853.9	56.30	33.930	
8,000.0	7,991.8	8,000.7	7,973.8	28.3	29.0	-76.85	428.5	-2,008.7	1,910.1	1,853.1	57.00	33.509	
8,100.0	8,091.8	8,100.7	8,073.8	28.7	29.4	-76.85	428.5	-2,008.7	1,910.1	1,852.4	57.71	33.098	
8,200.0	8,191.8	8,200.7	8,173.8	29.0	29.7	-76.85	428.5	-2,008.7	1,910.1	1,851.7	58.42	32.697	
8,300.0	8,291.8	8,300.7	8,273.8	29.4	30.1	-76.85	428.5	-2,008.7	1,910.1	1,851.0	59.13	32.306	
8,400.0	8,391.8	8,400.7	8,373.8	29.7	30.4	-76.85	428.5	-2,008.7	1,910.1	1,850.3	59.84	31.923	
8,500.0	8,491.8	8,500.7	8,473.8	30.1	30.8	-76.85	428.5	-2,008.7	1,910.1	1,849.6	60.54	31.550	
8,600.0	8,591.8	8,600.7	8,573.8	30.4	31.1	-76.85	428.5	-2,008.7	1,910.1	1,848.9	61.25	31.185	
8,700.0	8,691.8	8,700.7	8,673.8	30.8	31.5	-76.85	428.5	-2,008.7	1,910.1	1,848.2	61.96	30.828	
8,800.0	8,791.8	8,800.7	8,773.8	31.2	31.8	-76.85	428.5	-2,008.7	1,910.1	1,847.5	62.67	30.479	
8,900.0	8,891.8	8,900.7	8,873.8	31.5	32.2	-76.85	428.5	-2,008.7	1,910.1	1,846.8	63.38	30.138	
9,000.0	8,991.8	9,000.7	8,973.8	31.9	32.5	-76.85	428.5	-2,008.7	1,910.1	1,846.1	64.09	29.804	
9,100.0	9,091.8	9,100.7	9,073.8	32.2	32.9	-76.85	428.5	-2,008.7	1,910.1	1,845.4	64.80	29.478	
9,200.0	9,191.8	9,200.7	9,173.8	32.6	33.2	-76.85	428.5	-2,008.7	1,910.1	1,844.6	65.51	29.159	
9,300.0	9,291.8	9,300.7	9,273.8	32.9	33.6	-76.85	428.5	-2,008.7	1,910.1	1,843.9	66.22	28.846	
9,400.0	9,391.8	9,400.7	9,373.8	33.3	33.9	-76.85	428.5	-2,008.7	1,910.1	1,843.2	66.93	28.540	
9,500.0	9,491.8	9,500.7	9,473.8	33.7	34.3	-76.85	428.5	-2,008.7	1,910.1	1,842.5	67.64	28.240	
9,600.0	9,591.8	9,600.7	9,573.8	34.0	34.6	-76.85	428.5	-2,008.7	1,910.1	1,841.8	68.35	27.947	
9,700.0	9,691.8	9,700.7	9,673.8	34.4	35.0	-76.85	428.5	-2,008.7	1,910.1	1,841.1	69.06	27.659	
9,800.0	9,791.8	9,800.7	9,773.8	34.7	35.3	-76.85	428.5	-2,008.7	1,910.1	1,840.4	69.77	27.378	
9,900.0	9,891.8	9,900.7	9,873.8	35.1	35.7	-76.85	428.5	-2,008.7	1,910.1	1,839.7	70.48	27.101	
10,000.0	9,991.8	10,000.7	9,973.8	35.4	36.0	-76.85	428.5	-2,008.7	1,910.1	1,839.0	71.19	26.831	
10,100.0	10,091.8	10,100.7	10,073.8	35.8	36.4	-76.85	428.5	-2,008.7	1,910.1	1,838.2	71.90	26.566	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Big Stag Fed Com #304H - Wellbore #1 - BLM Plan #1												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	10,191.8	10,200.7	10,173.8	36.2	36.7	-76.85	428.5	-2,008.7	1,910.1	1,837.5	72.61	26.305	
10,300.0	10,291.8	10,300.7	10,273.8	36.5	37.1	-76.85	428.5	-2,008.7	1,910.1	1,836.8	73.33	26.050	
10,400.0	10,391.8	10,400.7	10,373.8	36.9	37.5	-76.85	428.5	-2,008.7	1,910.1	1,836.1	74.04	25.800	
10,500.0	10,491.8	10,500.7	10,473.8	37.2	37.8	-76.85	428.5	-2,008.7	1,910.1	1,835.4	74.75	25.554	
10,600.0	10,591.8	10,600.7	10,573.8	37.6	38.2	-76.85	428.5	-2,008.7	1,910.1	1,834.7	75.46	25.313	
10,700.0	10,691.8	10,700.7	10,673.8	37.9	38.5	-76.85	428.5	-2,008.7	1,910.1	1,834.0	76.17	25.077	
10,800.0	10,791.8	10,800.7	10,773.8	38.3	38.9	-76.85	428.5	-2,008.7	1,910.1	1,833.3	76.88	24.845	
10,900.0	10,891.8	10,900.7	10,873.8	38.7	39.2	-76.85	428.5	-2,008.7	1,910.1	1,832.6	77.60	24.617	
11,005.2	10,997.0	11,989.8	11,570.0	39.0	41.5	-96.38	-204.7	-1,923.9	1,881.5	1,804.8	76.72	24.524	
11,050.0	11,041.7	12,000.0	11,570.0	39.2	41.5	84.93	-214.8	-1,922.7	1,867.8	1,790.4	77.37	24.140	
11,100.0	11,091.3	12,000.0	11,570.0	39.4	41.5	86.44	-214.8	-1,922.7	1,853.3	1,775.2	78.03	23.749	
11,150.0	11,140.2	12,000.0	11,570.0	39.5	41.5	87.85	-214.8	-1,922.7	1,839.7	1,761.0	78.65	23.392	
11,200.0	11,188.0	12,000.0	11,570.0	39.7	41.5	89.14	-214.8	-1,922.7	1,827.2	1,748.0	79.21	23.067	
11,250.0	11,234.4	12,021.4	11,570.0	39.8	41.6	89.67	-236.1	-1,920.5	1,815.8	1,736.0	79.79	22.758	
11,300.0	11,278.9	12,035.3	11,570.0	39.9	41.6	90.31	-249.9	-1,919.2	1,805.5	1,725.2	80.29	22.489	
11,350.0	11,321.3	12,051.6	11,570.0	40.1	41.7	90.80	-266.1	-1,917.7	1,796.4	1,715.7	80.74	22.248	
11,400.0	11,361.3	12,070.1	11,570.0	40.2	41.7	91.13	-284.6	-1,916.1	1,788.5	1,707.3	81.16	22.036	
11,450.0	11,398.4	12,100.0	11,570.0	40.3	41.8	91.11	-314.4	-1,913.7	1,781.6	1,700.1	81.57	21.843	
11,500.0	11,432.5	12,113.2	11,570.0	40.5	41.8	91.42	-327.6	-1,912.8	1,775.8	1,693.9	81.90	21.683	
11,550.0	11,463.3	12,137.5	11,570.0	40.6	41.9	91.42	-351.8	-1,911.2	1,771.0	1,688.8	82.23	21.536	
11,600.0	11,490.6	12,163.4	11,570.0	40.8	42.0	91.35	-377.7	-1,909.8	1,767.1	1,684.6	82.55	21.407	
11,650.0	11,514.0	12,200.0	11,570.0	40.9	42.1	91.11	-414.2	-1,908.2	1,764.1	1,681.3	82.88	21.285	
11,700.0	11,533.6	12,219.2	11,570.0	41.1	42.2	91.10	-433.4	-1,907.5	1,761.9	1,678.7	83.15	21.188	
11,750.0	11,549.1	12,248.6	11,570.0	41.3	42.3	90.95	-462.8	-1,906.7	1,760.4	1,676.9	83.46	21.093	
11,800.0	11,560.3	12,278.7	11,570.0	41.4	42.4	90.81	-493.0	-1,906.3	1,759.6	1,675.8	83.76	21.008	
11,850.0	11,567.3	12,320.0	11,570.0	41.6	42.6	90.66	-534.2	-1,906.0	1,759.3	1,675.2	84.11	20.916	
11,900.0	11,569.9	12,369.9	11,570.0	41.8	42.8	90.59	-584.1	-1,905.7	1,759.2	1,674.6	84.51	20.815	
11,905.2	11,570.0	12,375.1	11,570.0	41.8	42.8	90.59	-589.3	-1,905.7	1,759.1	1,674.6	84.55	20.805	
11,912.0	11,570.0	12,381.9	11,570.0	41.8	42.8	90.59	-596.1	-1,905.6	1,759.1	1,674.5	84.61	20.791 CC	
11,912.4	11,570.0	12,382.3	11,570.0	41.8	42.8	90.59	-596.5	-1,905.6	1,759.1	1,674.5	84.61	20.791	
12,000.0	11,570.0	12,469.9	11,570.0	42.2	43.3	90.59	-684.1	-1,905.1	1,759.2	1,673.8	85.38	20.603	
12,100.0	11,570.0	12,569.9	11,570.0	42.6	43.8	90.59	-784.1	-1,904.5	1,759.2	1,672.8	86.37	20.367	
12,200.0	11,570.0	12,669.9	11,570.0	43.1	44.4	90.59	-884.1	-1,903.9	1,759.2	1,671.7	87.48	20.110	
12,300.0	11,570.0	12,769.9	11,570.0	43.7	45.1	90.59	-984.1	-1,903.3	1,759.2	1,670.5	88.69	19.835	
12,400.0	11,570.0	12,869.9	11,570.0	44.3	45.8	90.59	-1,084.1	-1,902.8	1,759.2	1,669.2	90.01	19.544	
12,500.0	11,570.0	12,969.9	11,570.0	45.0	46.5	90.59	-1,184.1	-1,902.2	1,759.2	1,667.8	91.43	19.241	
12,600.0	11,570.0	13,069.9	11,570.0	45.7	47.3	90.59	-1,284.1	-1,901.6	1,759.2	1,666.3	92.95	18.927	
12,700.0	11,570.0	13,169.9	11,570.0	46.5	48.1	90.59	-1,384.1	-1,901.0	1,759.3	1,664.7	94.56	18.605	
12,800.0	11,570.0	13,269.9	11,570.0	47.3	49.0	90.59	-1,484.1	-1,900.4	1,759.3	1,663.0	96.26	18.277	
12,900.0	11,570.0	13,369.9	11,570.0	48.2	49.9	90.59	-1,584.1	-1,899.8	1,759.3	1,661.3	98.04	17.945	
13,000.0	11,570.0	13,469.9	11,570.0	49.1	50.9	90.59	-1,684.1	-1,899.3	1,759.3	1,659.4	99.90	17.611	
13,100.0	11,570.0	13,569.9	11,570.0	50.0	51.9	90.59	-1,784.1	-1,898.7	1,759.3	1,657.5	101.83	17.277	
13,200.0	11,570.0	13,669.9	11,570.0	51.0	52.9	90.59	-1,884.1	-1,898.1	1,759.3	1,655.5	103.83	16.944	
13,300.0	11,570.0	13,769.9	11,570.0	52.0	54.0	90.59	-1,984.1	-1,897.5	1,759.4	1,653.5	105.90	16.613	
13,400.0	11,570.0	13,869.9	11,570.0	53.0	55.1	90.59	-2,084.1	-1,896.9	1,759.4	1,651.3	108.03	16.286	
13,500.0	11,570.0	13,969.9	11,570.0	54.1	56.2	90.59	-2,184.1	-1,896.3	1,759.4	1,649.2	110.22	15.962	
13,600.0	11,570.0	14,069.9	11,570.0	55.2	57.3	90.59	-2,284.1	-1,895.7	1,759.4	1,646.9	112.47	15.644	
13,700.0	11,570.0	14,169.9	11,570.0	56.3	58.5	90.59	-2,384.1	-1,895.2	1,759.4	1,644.7	114.76	15.331	
13,800.0	11,570.0	14,269.9	11,570.0	57.5	59.7	90.59	-2,484.1	-1,894.6	1,759.4	1,642.3	117.11	15.024	
13,900.0	11,570.0	14,369.9	11,570.0	58.7	60.9	90.59	-2,584.1	-1,894.0	1,759.5	1,639.9	119.50	14.723	
14,000.0	11,570.0	14,469.9	11,570.0	59.9	62.1	90.59	-2,684.1	-1,893.4	1,759.5	1,637.5	121.94	14.429	
14,100.0	11,570.0	14,569.9	11,570.0	61.1	63.4	90.59	-2,784.1	-1,892.8	1,759.5	1,635.1	124.41	14.142	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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	11,570.0	14,669.9	11,570.0	62.3	64.7	90.59	-2,884.1	-1,892.2	1,759.5	1,632.6	126.93	13.862		
14,300.0	11,570.0	14,769.9	11,570.0	63.6	65.9	90.59	-2,984.1	-1,891.6	1,759.5	1,630.0	129.48	13.589		
14,400.0	11,570.0	14,869.9	11,570.0	64.9	67.3	90.59	-3,084.1	-1,891.1	1,759.5	1,627.5	132.06	13.323		
14,500.0	11,570.0	14,969.9	11,570.0	66.2	68.6	90.59	-3,184.1	-1,890.5	1,759.5	1,624.9	134.68	13.065		
14,600.0	11,570.0	15,069.9	11,570.0	67.5	69.9	90.59	-3,284.1	-1,889.9	1,759.6	1,622.2	137.33	12.813		
14,700.0	11,570.0	15,169.9	11,570.0	68.8	71.3	90.59	-3,384.1	-1,889.3	1,759.6	1,619.6	140.00	12.568		
14,800.0	11,570.0	15,269.9	11,570.0	70.1	72.6	90.59	-3,484.1	-1,888.7	1,759.6	1,616.9	142.71	12.330		
14,900.0	11,570.0	15,369.9	11,570.0	71.5	74.0	90.59	-3,584.1	-1,888.1	1,759.6	1,614.2	145.43	12.099		
15,000.0	11,570.0	15,469.9	11,570.0	72.9	75.4	90.59	-3,684.1	-1,887.5	1,759.6	1,611.4	148.18	11.874		
15,100.0	11,570.0	15,569.9	11,570.0	74.2	76.8	90.59	-3,784.1	-1,887.0	1,759.6	1,608.7	150.96	11.656		
15,200.0	11,570.0	15,669.9	11,570.0	75.6	78.2	90.59	-3,884.0	-1,886.4	1,759.7	1,605.9	153.76	11.444		
15,300.0	11,570.0	15,769.9	11,570.0	77.0	79.6	90.59	-3,984.0	-1,885.8	1,759.7	1,603.1	156.57	11.239		
15,400.0	11,570.0	15,869.9	11,570.0	78.4	81.0	90.59	-4,084.0	-1,885.2	1,759.7	1,600.3	159.41	11.039		
15,500.0	11,570.0	15,969.9	11,570.0	79.9	82.4	90.59	-4,184.0	-1,884.6	1,759.7	1,597.4	162.26	10.845		
15,600.0	11,570.0	16,069.9	11,570.0	81.3	83.9	90.59	-4,284.0	-1,884.0	1,759.7	1,594.6	165.13	10.656		
15,700.0	11,570.0	16,169.9	11,570.0	82.7	85.3	90.59	-4,384.0	-1,883.4	1,759.7	1,591.7	168.02	10.473		
15,800.0	11,570.0	16,269.9	11,570.0	84.2	86.8	90.59	-4,484.0	-1,882.9	1,759.7	1,588.8	170.92	10.296		
15,900.0	11,570.0	16,369.9	11,570.0	85.6	88.3	90.59	-4,584.0	-1,882.3	1,759.8	1,585.9	173.84	10.123		
16,000.0	11,570.0	16,469.9	11,570.0	87.1	89.7	90.59	-4,684.0	-1,881.7	1,759.8	1,583.0	176.77	9.955		
16,100.0	11,570.0	16,569.9	11,570.0	88.6	91.2	90.59	-4,784.0	-1,881.1	1,759.8	1,580.1	179.72	9.792		
16,200.0	11,570.0	16,669.9	11,570.0	90.0	92.7	90.59	-4,884.0	-1,880.5	1,759.8	1,577.1	182.68	9.633		
16,300.0	11,570.0	16,769.9	11,570.0	91.5	94.2	90.59	-4,984.0	-1,879.9	1,759.8	1,574.2	185.65	9.479		
16,400.0	11,570.0	16,869.9	11,570.0	93.0	95.7	90.59	-5,084.0	-1,879.4	1,759.8	1,571.2	188.63	9.330		
16,500.0	11,570.0	16,969.9	11,570.0	94.5	97.2	90.59	-5,184.0	-1,878.8	1,759.9	1,568.2	191.62	9.184		
16,600.0	11,570.0	17,069.9	11,570.0	96.0	98.7	90.59	-5,284.0	-1,878.2	1,759.9	1,565.2	194.63	9.042		
16,700.0	11,570.0	17,169.9	11,570.0	97.5	100.2	90.59	-5,384.0	-1,877.6	1,759.9	1,562.2	197.64	8.905		
16,800.0	11,570.0	17,269.9	11,570.0	99.0	101.7	90.59	-5,484.0	-1,877.0	1,759.9	1,559.2	200.66	8.770		
16,900.0	11,570.0	17,369.9	11,570.0	100.5	103.2	90.59	-5,584.0	-1,876.4	1,759.9	1,556.2	203.69	8.640		
17,000.0	11,570.0	17,469.9	11,570.0	102.0	104.7	90.59	-5,684.0	-1,875.8	1,759.9	1,553.2	206.73	8.513		
17,100.0	11,570.0	17,569.9	11,570.0	103.6	106.3	90.59	-5,784.0	-1,875.3	1,759.9	1,550.2	209.78	8.389		
17,200.0	11,570.0	17,669.9	11,570.0	105.1	107.8	90.59	-5,884.0	-1,874.7	1,760.0	1,547.1	212.84	8.269		
17,300.0	11,570.0	17,769.9	11,570.0	106.6	109.3	90.59	-5,984.0	-1,874.1	1,760.0	1,544.1	215.91	8.152		
17,400.0	11,570.0	17,869.9	11,570.0	108.2	110.9	90.59	-6,084.0	-1,873.5	1,760.0	1,541.0	218.98	8.037		
17,500.0	11,570.0	17,969.9	11,570.0	109.7	112.4	90.59	-6,184.0	-1,872.9	1,760.0	1,538.0	222.06	7.926		
17,600.0	11,570.0	18,069.9	11,570.0	111.2	114.0	90.59	-6,284.0	-1,872.3	1,760.0	1,534.9	225.14	7.817		
17,700.0	11,570.0	18,169.9	11,570.0	112.8	115.5	90.59	-6,384.0	-1,871.7	1,760.0	1,531.8	228.23	7.712		
17,800.0	11,570.0	18,269.9	11,570.0	114.3	116.9	90.59	-6,484.0	-1,871.2	1,760.1	1,528.9	231.21	7.613		
17,834.0	11,570.0	18,303.9	11,570.0	114.8	117.4	90.59	-6,518.0	-1,871.0	1,760.1	1,527.9	232.20	7.580 ES, 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 333-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	-88.22	57.4	-1,849.3	1,850.3				
100.0	100.0	82.4	82.4	0.1	0.1	-88.23	57.3	-1,849.3	1,850.2	1,849.9	0.26	7,026.033	
200.0	200.0	181.5	181.5	0.5	0.3	-88.23	57.1	-1,849.4	1,850.3	1,849.5	0.78	2,358.658	
300.0	300.0	280.7	280.7	0.8	0.5	-88.25	56.6	-1,849.5	1,850.4	1,849.1	1.31	1,417.286	
400.0	400.0	381.3	381.3	1.2	0.7	-88.27	56.0	-1,849.7	1,850.5	1,848.6	1.92	962.186	
500.0	500.0	481.1	481.1	1.6	1.1	-88.29	55.2	-1,849.8	1,850.6	1,847.9	2.64	701.014	
600.0	600.0	581.3	581.3	1.9	1.4	-88.31	54.5	-1,849.9	1,850.7	1,847.4	3.36	551.169	
700.0	700.0	680.7	680.7	2.3	1.8	-88.34	53.7	-1,850.0	1,850.8	1,846.7	4.07	454.424	
800.0	800.0	775.7	775.7	2.6	2.1	-88.36	53.1	-1,850.3	1,851.1	1,846.3	4.77	387.923	
900.0	900.0	877.1	877.1	3.0	2.5	-88.38	52.5	-1,850.7	1,851.5	1,846.0	5.49	337.061	
1,000.0	1,000.0	975.4	975.4	3.4	2.8	-88.39	51.9	-1,851.1	1,851.8	1,845.6	6.20	298.520	
1,100.0	1,100.0	1,081.6	1,081.6	3.7	3.2	-88.41	51.3	-1,851.3	1,852.0	1,845.1	6.94	266.777	
1,200.0	1,200.0	1,181.8	1,181.8	4.1	3.6	-88.43	50.8	-1,851.4	1,852.1	1,844.5	7.66	241.915	
1,300.0	1,300.0	1,281.1	1,281.1	4.4	3.9	-88.43	50.8	-1,851.5	1,852.2	1,843.8	8.35	221.727	
1,400.0	1,400.0	1,379.3	1,379.2	4.8	4.3	-88.43	50.9	-1,851.7	1,852.4	1,843.3	9.05	204.735	
1,500.0	1,500.0	1,480.0	1,480.0	5.1	4.6	-88.43	50.8	-1,851.9	1,852.6	1,842.8	9.76	189.795	
1,600.0	1,600.0	1,585.0	1,585.0	5.5	5.0	3.92	50.8	-1,851.9	1,851.7	1,841.3	10.47	176.840	
1,700.0	1,700.0	1,687.2	1,687.2	5.8	5.3	3.94	51.2	-1,851.7	1,849.0	1,837.8	11.15	165.794	
1,800.0	1,799.9	1,810.5	1,810.5	6.2	5.7	3.98	52.0	-1,850.7	1,843.8	1,831.9	11.91	154.826	
1,900.0	1,899.7	1,927.9	1,927.9	6.5	6.1	4.02	52.6	-1,848.3	1,835.7	1,823.1	12.65	145.084	
2,000.0	1,999.4	2,035.6	2,035.5	6.9	6.5	4.06	53.0	-1,845.4	1,825.2	1,811.8	13.37	136.541	
2,100.0	2,098.9	2,140.3	2,140.1	7.2	6.9	4.11	53.5	-1,842.2	1,812.6	1,798.5	14.07	128.789	
2,200.0	2,198.3	2,229.1	2,228.9	7.6	7.2	4.16	53.7	-1,839.4	1,798.3	1,783.5	14.73	122.064	
2,300.0	2,297.4	2,319.1	2,318.9	8.0	7.5	4.19	53.6	-1,837.4	1,783.0	1,767.6	15.40	115.800	
2,400.0	2,396.4	2,419.6	2,419.4	8.4	7.8	4.21	53.1	-1,835.2	1,766.9	1,750.9	16.10	109.763	
2,500.0	2,495.5	2,517.3	2,517.0	8.7	8.2	4.22	52.4	-1,833.0	1,750.8	1,734.0	16.79	104.267	
2,600.0	2,594.5	2,618.6	2,618.3	9.1	8.5	4.22	51.1	-1,830.8	1,734.7	1,717.2	17.50	99.128	
2,701.1	2,694.6	2,710.0	2,709.6	9.5	8.9	4.22	50.1	-1,828.8	1,718.5	1,700.3	18.18	94.516	
2,800.0	2,792.7	2,795.7	2,795.4	9.9	9.2	4.22	49.7	-1,827.6	1,704.6	1,685.7	18.84	90.489	
2,900.0	2,892.2	2,895.8	2,895.4	10.3	9.5	4.24	50.0	-1,826.5	1,693.6	1,674.0	19.54	86.664	
3,000.0	2,991.9	2,997.6	2,997.3	10.6	9.9	4.27	50.6	-1,825.2	1,684.8	1,664.6	20.25	83.196	
3,100.0	3,091.8	3,115.9	3,115.5	11.0	10.3	4.31	51.4	-1,823.1	1,678.3	1,657.3	21.01	79.874	
3,200.0	3,191.8	3,219.5	3,219.1	11.4	10.7	4.34	52.1	-1,820.4	1,673.5	1,651.8	21.73	77.026	
3,234.4	3,226.2	3,254.7	3,254.3	11.5	10.8	-88.00	52.4	-1,819.5	1,672.4	1,650.5	21.97	76.119	
3,300.0	3,291.8	3,319.9	3,319.5	11.7	11.0	-87.98	52.9	-1,817.7	1,670.7	1,648.2	22.43	74.479	
3,400.0	3,391.8	3,414.7	3,414.2	12.0	11.3	-87.97	53.1	-1,815.3	1,668.2	1,645.1	23.12	72.150	
3,500.0	3,491.8	3,516.2	3,515.7	12.4	11.7	-87.99	52.3	-1,812.8	1,665.7	1,641.9	23.83	69.893	
3,600.0	3,591.8	3,613.4	3,612.8	12.7	12.1	-88.04	50.8	-1,810.6	1,663.4	1,638.9	24.53	67.805	
3,700.0	3,691.8	3,715.2	3,714.6	13.1	12.4	-88.09	49.2	-1,808.3	1,661.1	1,635.8	25.25	65.795	
3,800.0	3,791.8	3,816.8	3,816.1	13.4	12.8	-88.14	47.7	-1,805.9	1,658.6	1,632.7	25.96	63.892	
3,900.0	3,891.8	3,908.1	3,907.4	13.8	13.1	-88.18	46.5	-1,803.7	1,656.3	1,629.6	26.64	62.171	
4,000.0	3,991.8	3,989.6	3,988.9	14.1	13.4	-88.20	45.9	-1,802.6	1,654.9	1,627.6	27.29	60.649	
4,075.7	4,067.5	4,051.3	4,050.6	14.4	13.6	-88.20	45.8	-1,802.4	1,654.5	1,626.8	27.77	59.574 CC	
4,100.0	4,091.8	4,074.5	4,073.8	14.5	13.7	-88.20	45.8	-1,802.4	1,654.5	1,626.6	27.94	59.221	
4,200.0	4,191.8	4,173.9	4,173.2	14.8	14.0	-88.19	46.2	-1,802.4	1,654.6	1,626.0	28.63	57.789	
4,300.0	4,291.8	4,271.9	4,271.2	15.2	14.4	-88.18	46.6	-1,802.6	1,654.8	1,625.5	29.32	56.435	
4,400.0	4,391.8	4,369.4	4,368.7	15.5	14.7	-88.16	47.0	-1,802.8	1,655.1	1,625.1	30.01	55.150	
4,500.0	4,491.8	4,466.0	4,465.3	15.9	15.0	-88.15	47.3	-1,803.3	1,655.5	1,624.8	30.70	53.934	
4,600.0	4,591.8	4,563.1	4,562.4	16.2	15.4	-88.14	47.8	-1,803.9	1,656.2	1,624.8	31.38	52.775	
4,700.0	4,691.8	4,660.9	4,660.2	16.6	15.7	-88.12	48.3	-1,804.7	1,657.0	1,625.0	32.07	51.665	
4,800.0	4,791.8	4,760.6	4,759.9	16.9	16.0	-88.10	48.9	-1,805.6	1,658.0	1,625.2	32.77	50.594	
4,900.0	4,891.8	4,862.7	4,862.0	17.3	16.4	-88.07	49.7	-1,806.5	1,658.8	1,625.3	33.48	49.551	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 333-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	4,991.8	4,959.7	4,959.0	17.7	16.7	-88.04	50.6	-1,807.2	1,659.6	1,625.4	34.17	48.574	
5,100.0	5,091.8	5,056.2	5,055.4	18.0	17.0	-88.01	51.6	-1,808.2	1,660.7	1,625.9	34.86	47.645	
5,200.0	5,191.8	5,154.7	5,154.0	18.4	17.4	-87.97	52.7	-1,809.4	1,661.9	1,626.4	35.55	46.746	
5,300.0	5,291.8	5,255.1	5,254.3	18.7	17.7	-87.93	54.1	-1,810.6	1,663.2	1,626.9	36.26	45.874	
5,400.0	5,391.8	5,350.9	5,350.1	19.1	18.1	-87.89	55.2	-1,811.8	1,664.5	1,627.6	36.94	45.056	
5,500.0	5,491.8	5,453.2	5,452.4	19.4	18.4	-87.85	56.5	-1,813.3	1,666.0	1,628.3	37.65	44.244	
5,600.0	5,591.8	5,551.9	5,551.1	19.8	18.8	-87.80	57.9	-1,814.6	1,667.3	1,629.0	38.35	43.473	
5,700.0	5,691.8	5,657.3	5,656.5	20.1	19.1	-87.76	59.1	-1,815.9	1,668.6	1,629.6	39.08	42.702	
5,800.0	5,791.8	5,757.7	5,756.9	20.5	19.5	-87.73	59.9	-1,817.0	1,669.8	1,630.0	39.78	41.973	
5,900.0	5,891.8	5,861.0	5,860.1	20.8	19.8	-87.70	61.0	-1,818.0	1,670.7	1,630.2	40.50	41.254	
6,000.0	5,991.8	5,959.4	5,958.5	21.2	20.2	-87.67	61.9	-1,818.8	1,671.7	1,630.5	41.20	40.575	
6,100.0	6,091.8	6,057.5	6,056.6	21.5	20.5	-87.64	62.9	-1,819.8	1,672.7	1,630.8	41.90	39.922	
6,200.0	6,191.8	6,144.2	6,143.3	21.9	20.8	-87.60	64.1	-1,820.9	1,674.0	1,631.5	42.56	39.336	
6,300.0	6,291.8	6,218.4	6,217.5	22.3	21.1	-87.50	67.0	-1,822.7	1,676.7	1,633.5	43.16	38.845	
6,400.0	6,391.8	6,297.0	6,295.8	22.6	21.4	-87.31	72.7	-1,825.8	1,680.9	1,637.1	43.78	38.396	
6,500.0	6,491.8	6,362.1	6,360.5	23.0	21.6	-87.12	78.5	-1,829.4	1,686.8	1,642.5	44.32	38.059	
6,600.0	6,591.8	6,449.1	6,446.9	23.3	21.9	-86.86	86.5	-1,835.4	1,694.2	1,649.2	44.96	37.681	
6,700.0	6,691.8	6,563.3	6,560.4	23.7	22.3	-86.49	97.7	-1,843.1	1,701.5	1,655.7	45.74	37.197	
6,800.0	6,791.8	6,725.9	6,721.4	24.0	22.9	-85.80	118.8	-1,850.3	1,707.1	1,660.3	46.74	36.525	
6,900.0	6,891.8	6,876.0	6,870.7	24.4	23.4	-85.33	133.0	-1,851.2	1,708.2	1,660.6	47.64	35.859	
7,000.0	6,991.8	7,013.8	7,008.4	24.7	23.9	-85.11	139.2	-1,849.0	1,706.9	1,658.5	48.46	35.222	
7,100.0	7,091.8	7,114.4	7,108.9	25.1	24.2	-85.05	141.0	-1,846.8	1,704.9	1,655.7	49.17	34.672	
7,200.0	7,191.8	7,213.4	7,207.9	25.5	24.6	-85.05	140.8	-1,844.9	1,702.9	1,653.1	49.87	34.145	
7,300.0	7,291.8	7,313.1	7,307.6	25.8	24.9	-85.08	139.8	-1,843.0	1,701.0	1,650.4	50.58	33.632	
7,400.0	7,391.8	7,411.7	7,406.2	26.2	25.3	-85.11	138.8	-1,841.3	1,699.1	1,647.8	51.28	33.136	
7,500.0	7,491.8	7,511.6	7,506.1	26.5	25.6	-85.14	137.6	-1,839.5	1,697.3	1,645.3	51.98	32.652	
7,600.0	7,591.8	7,612.6	7,607.1	26.9	26.0	-85.18	136.4	-1,837.7	1,695.4	1,642.7	52.69	32.179	
7,700.0	7,691.8	7,714.0	7,708.5	27.2	26.3	-85.22	135.1	-1,835.9	1,693.5	1,640.1	53.39	31.716	
7,800.0	7,791.8	7,813.5	7,807.9	27.6	26.7	-85.25	134.0	-1,834.0	1,691.5	1,637.4	54.10	31.267	
7,900.0	7,891.8	7,913.0	7,907.4	28.0	27.0	-85.28	132.9	-1,832.1	1,689.5	1,634.7	54.80	30.829	
8,000.0	7,991.8	7,994.3	7,988.7	28.3	27.3	-85.30	132.3	-1,831.0	1,688.1	1,632.7	55.46	30.441	
8,100.0	8,091.8	8,081.1	8,075.5	28.7	27.6	-85.31	132.0	-1,830.7	1,687.7	1,631.6	56.12	30.073	
8,117.4	8,109.2	8,097.2	8,091.5	28.7	27.7	-85.31	132.0	-1,830.7	1,687.7	1,631.4	56.24	30.010	
8,200.0	8,191.8	8,181.4	8,175.8	29.0	28.0	-85.31	131.8	-1,830.7	1,687.7	1,630.9	56.82	29.700	
8,300.0	8,291.8	8,283.0	8,277.4	29.4	28.3	-85.32	131.5	-1,830.6	1,687.6	1,630.0	57.53	29.332	
8,400.0	8,391.8	8,382.8	8,377.2	29.7	28.7	-85.34	131.1	-1,830.5	1,687.4	1,629.2	58.24	28.975	
8,500.0	8,491.8	8,482.8	8,477.2	30.1	29.0	-85.35	130.6	-1,830.4	1,687.3	1,628.4	58.94	28.626	
8,600.0	8,591.8	8,586.0	8,580.3	30.4	29.4	-85.38	129.9	-1,830.2	1,687.0	1,627.4	59.66	28.279	
8,700.0	8,691.8	8,682.3	8,676.7	30.8	29.7	-85.40	129.2	-1,830.0	1,686.8	1,626.5	60.35	27.950	
8,746.8	8,738.6	8,727.3	8,721.7	31.0	29.9	-85.41	128.8	-1,830.0	1,686.8	1,626.1	60.68	27.800	
8,800.0	8,791.8	8,778.4	8,772.8	31.2	30.0	-85.43	128.3	-1,830.1	1,686.8	1,625.8	61.04	27.633	
8,900.0	8,891.8	8,871.8	8,866.1	31.5	30.4	-85.46	127.4	-1,830.4	1,687.1	1,625.4	61.73	27.332	
9,000.0	8,991.8	8,958.4	8,952.7	31.9	30.7	-85.51	126.1	-1,831.3	1,688.0	1,625.6	62.38	27.058	
9,100.0	9,091.8	9,044.2	9,038.5	32.2	31.0	-85.58	124.0	-1,833.0	1,689.8	1,626.8	63.03	26.808	
9,200.0	9,191.8	9,150.6	9,144.9	32.6	31.3	-85.65	122.2	-1,835.3	1,691.8	1,628.0	63.76	26.532	
9,300.0	9,291.8	9,258.6	9,252.8	32.9	31.7	-85.70	120.8	-1,837.0	1,693.3	1,628.8	64.50	26.254	
9,400.0	9,391.8	9,375.5	9,369.7	33.3	32.1	-85.78	118.7	-1,838.3	1,694.2	1,629.0	65.26	25.961	
9,500.0	9,491.8	9,484.8	9,479.0	33.7	32.5	-85.79	118.2	-1,838.2	1,694.1	1,628.1	66.00	25.669	
9,600.0	9,591.8	9,596.9	9,591.1	34.0	32.9	-85.79	118.3	-1,837.6	1,693.6	1,626.8	66.74	25.375	
9,700.0	9,691.8	9,714.8	9,709.0	34.4	33.3	-85.74	119.5	-1,835.6	1,692.0	1,624.5	67.50	25.067	
9,800.0	9,791.8	9,814.4	9,808.5	34.7	33.6	-85.70	120.7	-1,833.5	1,690.0	1,621.8	68.21	24.777	
9,900.0	9,891.8	9,909.6	9,903.8	35.1	34.0	-85.65	122.0	-1,831.6	1,688.1	1,619.2	68.90	24.500	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 333-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	
10,000.0	9,991.8	10,006.6	10,000.7	35.4	34.3	-85.59	123.6	-1,829.9	1,686.5	1,616.9	69.60	24.230	
10,100.0	10,091.8	10,114.1	10,108.2	35.8	34.7	-85.59	123.4	-1,828.3	1,684.9	1,614.6	70.33	23.958	
10,200.0	10,191.8	10,244.2	10,236.8	36.2	35.1	-86.22	104.8	-1,826.0	1,682.1	1,611.1	71.10	23.661	
10,300.0	10,291.8	10,356.0	10,342.8	36.5	35.5	-87.39	70.3	-1,823.8	1,678.2	1,606.4	71.81	23.370	
10,400.0	10,391.8	10,478.5	10,448.0	36.9	35.9	-89.51	8.1	-1,820.0	1,673.0	1,600.5	72.55	23.060	
10,500.0	10,491.8	10,538.0	10,493.3	37.2	36.1	-90.83	-30.4	-1,818.7	1,670.4	1,597.2	73.17	22.830	
10,521.9	10,513.6	10,542.7	10,496.7	37.3	36.1	-90.94	-33.6	-1,818.7	1,670.3	1,597.0	73.27	22.797 ES	
10,600.0	10,591.8	10,581.8	10,523.8	37.6	36.2	-91.91	-61.9	-1,818.4	1,671.4	1,597.8	73.65	22.693	
10,700.0	10,691.8	10,633.0	10,555.5	37.9	36.4	-93.29	-102.0	-1,818.3	1,676.7	1,602.7	74.06	22.640	
10,800.0	10,791.8	10,657.3	10,569.0	38.3	36.5	-93.98	-122.2	-1,818.5	1,686.5	1,612.3	74.19	22.730	
10,900.0	10,891.8	10,685.2	10,583.1	38.7	36.5	-94.80	-146.2	-1,818.7	1,701.1	1,627.0	74.19	22.931	
11,005.2	10,997.0	10,727.0	10,601.6	39.0	36.7	-96.07	-183.8	-1,819.3	1,722.2	1,648.1	74.09	23.246	
11,050.0	11,041.7	10,727.0	10,601.6	39.2	36.7	83.09	-183.8	-1,819.3	1,732.4	1,658.5	73.86	23.453	
11,100.0	11,091.3	10,727.0	10,601.6	39.4	36.7	81.84	-183.8	-1,819.3	1,744.6	1,671.0	73.57	23.713	
11,150.0	11,140.2	10,727.0	10,601.6	39.5	36.7	80.52	-183.8	-1,819.3	1,757.5	1,684.3	73.24	23.998	
11,200.0	11,188.0	10,727.0	10,601.6	39.7	36.7	79.13	-183.8	-1,819.3	1,771.1	1,698.2	72.87	24.303	
11,250.0	11,234.4	10,759.8	10,613.6	39.8	36.8	76.95	-214.2	-1,820.1	1,784.2	1,711.5	72.75	24.525	
11,300.0	11,278.9	10,771.0	10,617.3	39.9	36.8	75.32	-224.8	-1,820.5	1,797.9	1,725.5	72.45	24.816	
11,350.0	11,321.3	10,782.6	10,620.8	40.1	36.9	73.72	-235.9	-1,821.0	1,811.6	1,739.4	72.16	25.107	
11,400.0	11,361.3	10,821.0	10,630.7	40.2	37.0	71.69	-272.9	-1,823.1	1,825.8	1,753.7	72.06	25.338	
11,450.0	11,398.4	10,821.0	10,630.7	40.3	37.0	70.44	-272.9	-1,823.1	1,838.6	1,766.9	71.70	25.641	
11,500.0	11,432.5	10,821.0	10,630.7	40.5	37.0	69.22	-272.9	-1,823.1	1,851.2	1,779.8	71.38	25.933	
11,550.0	11,463.3	10,850.5	10,636.3	40.6	37.1	67.69	-301.9	-1,824.8	1,863.3	1,792.0	71.29	26.137	
11,600.0	11,490.6	10,883.7	10,640.7	40.8	37.2	66.26	-334.6	-1,826.0	1,874.2	1,803.0	71.23	26.311	
11,650.0	11,514.0	10,917.1	10,643.2	40.9	37.3	64.98	-368.0	-1,826.4	1,884.0	1,812.8	71.20	26.461	
11,700.0	11,533.6	10,971.5	10,645.8	41.1	37.5	63.73	-422.3	-1,826.5	1,892.1	1,820.8	71.30	26.535	
11,750.0	11,549.1	11,016.4	10,648.1	41.3	37.7	62.85	-467.2	-1,826.5	1,898.3	1,826.8	71.45	26.570	
11,800.0	11,560.3	11,061.1	10,650.1	41.4	37.9	62.24	-511.8	-1,826.5	1,902.7	1,831.0	71.65	26.557	
11,850.0	11,567.3	11,115.4	10,652.3	41.6	38.2	61.88	-566.1	-1,826.4	1,905.1	1,833.1	71.98	26.468	
11,900.0	11,569.9	11,172.2	10,654.2	41.8	38.4	61.83	-622.9	-1,825.9	1,905.3	1,832.9	72.38	26.323	
11,905.2	11,570.0	11,178.2	10,654.4	41.8	38.5	61.85	-628.8	-1,825.8	1,905.2	1,832.8	72.43	26.305	
11,912.4	11,570.0	11,186.0	10,654.7	41.8	38.5	61.86	-636.7	-1,825.7	1,905.0	1,832.5	72.50	26.276	
12,000.0	11,570.0	11,317.5	10,659.3	42.2	39.3	61.95	-768.0	-1,823.2	1,902.7	1,829.2	73.57	25.864	
12,100.0	11,570.0	12,100.0	10,664.0	42.6	44.5	61.98	-903.8	-1,815.7	1,896.5	1,817.8	78.75	24.083	
12,200.0	11,570.0	11,520.4	10,666.5	43.1	40.6	62.01	-970.5	-1,812.2	1,890.9	1,815.2	75.72	24.971	
12,300.0	11,570.0	11,575.2	10,668.7	43.7	41.0	62.05	-1,025.2	-1,810.9	1,887.4	1,810.8	76.64	24.627	
12,400.0	11,570.0	11,636.0	10,670.8	44.3	41.5	62.12	-1,086.0	-1,811.2	1,886.6	1,808.9	77.68	24.287	
12,402.2	11,570.0	11,636.0	10,670.8	44.3	41.5	62.12	-1,086.0	-1,811.2	1,886.6	1,808.9	77.69	24.283	
12,500.0	11,570.0	11,685.6	10,672.3	45.0	41.9	62.18	-1,135.5	-1,812.6	1,888.0	1,809.3	78.71	23.988	
12,600.0	11,570.0	11,730.0	10,673.5	45.7	42.3	62.25	-1,179.9	-1,814.7	1,891.7	1,812.0	79.74	23.723	
12,700.0	11,570.0	11,796.6	10,674.9	46.5	42.8	62.36	-1,246.3	-1,819.3	1,897.7	1,816.6	81.03	23.418	
12,800.0	11,570.0	11,860.4	10,675.9	47.3	43.4	62.47	-1,309.8	-1,825.5	1,906.0	1,823.7	82.36	23.143	
12,900.0	11,570.0	12,900.0	10,675.2	48.2	54.0	62.59	-1,729.7	-1,832.7	1,912.6	1,819.7	92.83	20.602	
13,000.0	11,570.0	12,364.7	10,675.2	49.1	48.3	62.49	-1,812.4	-1,824.8	1,904.8	1,816.4	88.43	21.541	
13,100.0	11,570.0	12,420.7	10,675.1	50.0	49.0	62.44	-1,868.2	-1,820.9	1,899.2	1,809.3	89.86	21.134	
13,200.0	11,570.0	12,485.0	10,674.7	51.0	49.7	62.39	-1,932.5	-1,818.1	1,896.0	1,804.6	91.42	20.740	
13,300.0	11,570.0	12,591.1	10,675.8	52.0	50.9	62.39	-2,038.5	-1,815.5	1,893.9	1,800.4	93.45	20.267	
13,400.0	11,570.0	12,693.2	10,678.7	53.0	52.1	62.44	-2,140.6	-1,812.8	1,890.8	1,795.3	95.54	19.792	
13,500.0	11,570.0	12,782.9	10,681.1	54.1	53.2	62.49	-2,230.2	-1,810.8	1,888.1	1,790.5	97.55	19.355	
13,600.0	11,570.0	12,875.1	10,683.4	55.2	54.3	62.53	-2,322.4	-1,809.2	1,885.9	1,786.3	99.63	18.929	
13,700.0	11,570.0	12,983.3	10,686.3	56.3	55.6	62.59	-2,430.5	-1,807.2	1,883.6	1,781.7	101.93	18.479	
13,800.0	11,570.0	13,078.9	10,689.0	57.5	56.8	62.65	-2,526.1	-1,805.3	1,881.1	1,777.0	104.15	18.062	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 333-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	
13,900.0	11,570.0	13,171.9	10,691.4	58.7	58.0	62.70	-2,619.0	-1,804.2	1,879.3	1,772.9	106.37	17.667	
14,000.0	11,570.0	13,279.2	10,693.9	59.9	59.4	62.75	-2,726.3	-1,801.8	1,876.8	1,768.0	108.78	17.253	
14,100.0	11,570.0	13,427.0	10,696.8	61.1	61.4	62.77	-2,873.9	-1,796.8	1,873.5	1,761.9	111.63	16.782	
14,200.0	11,570.0	13,494.5	10,698.1	62.3	62.3	62.76	-2,941.3	-1,793.2	1,868.8	1,755.1	113.66	16.442	
14,300.0	11,570.0	13,565.0	10,699.4	63.6	63.3	62.78	-3,011.8	-1,792.0	1,866.8	1,751.1	115.75	16.128	
14,400.0	11,570.0	13,740.2	10,701.9	64.9	65.7	62.77	-3,186.7	-1,784.9	1,862.9	1,743.9	118.98	15.658	
14,500.0	11,570.0	13,805.0	10,702.7	66.2	66.6	62.75	-3,251.5	-1,781.9	1,858.6	1,737.6	121.05	15.354	
14,600.0	11,570.0	13,845.8	10,703.2	67.5	67.1	62.76	-3,292.2	-1,781.2	1,856.8	1,733.9	122.86	15.112	
14,616.9	11,570.0	13,854.1	10,703.2	67.7	67.2	62.76	-3,300.5	-1,781.1	1,856.7	1,733.5	123.18	15.073	
14,700.0	11,570.0	13,899.0	10,703.6	68.8	67.9	62.78	-3,345.5	-1,781.7	1,857.7	1,732.9	124.79	14.886	
14,800.0	11,570.0	13,991.6	10,704.3	70.1	69.1	62.84	-3,438.1	-1,784.0	1,860.1	1,732.9	127.26	14.617	
14,900.0	11,570.0	14,070.1	10,704.4	71.5	70.2	62.88	-3,516.5	-1,786.3	1,863.1	1,733.6	129.53	14.383	
15,000.0	11,570.0	14,163.2	10,703.6	72.9	71.6	62.91	-3,609.5	-1,789.4	1,867.0	1,735.0	132.01	14.143	
15,100.0	11,570.0	14,311.4	10,701.9	74.2	73.7	62.91	-3,757.8	-1,791.7	1,869.3	1,734.1	135.24	13.822	
15,200.0	11,570.0	14,408.7	10,702.5	75.6	75.1	62.96	-3,855.0	-1,793.2	1,871.0	1,733.2	137.85	13.573	
15,300.0	11,570.0	14,530.4	10,703.5	77.0	76.8	63.01	-3,976.7	-1,794.3	1,871.9	1,731.1	140.80	13.295	
15,400.0	11,570.0	14,621.9	10,704.3	78.4	78.2	63.04	-4,068.2	-1,794.6	1,872.3	1,729.0	143.36	13.061	
15,500.0	11,570.0	14,705.3	10,706.0	79.9	79.4	63.12	-4,151.5	-1,796.1	1,873.6	1,727.8	145.85	12.846	
15,600.0	11,570.0	14,797.8	10,707.1	81.3	80.7	63.18	-4,244.0	-1,798.2	1,875.7	1,727.2	148.48	12.632	
15,700.0	11,570.0	14,890.1	10,709.1	82.7	82.1	63.28	-4,336.3	-1,801.0	1,877.9	1,726.7	151.15	12.424	
15,800.0	11,570.0	14,974.3	10,711.6	84.2	83.3	63.41	-4,420.3	-1,804.5	1,880.8	1,727.1	153.74	12.234	
15,900.0	11,570.0	15,060.0	10,714.0	85.6	84.6	63.54	-4,505.9	-1,808.8	1,884.6	1,728.2	156.36	12.053	
16,000.0	11,570.0	15,150.1	10,716.2	87.1	86.0	63.67	-4,595.9	-1,813.8	1,889.1	1,730.0	159.06	11.876	
16,100.0	11,570.0	15,261.4	10,717.8	88.6	87.6	63.80	-4,707.0	-1,819.5	1,893.6	1,731.5	162.10	11.682	
16,200.0	11,570.0	15,421.7	10,718.2	90.0	90.0	63.88	-4,867.2	-1,823.6	1,896.5	1,730.7	165.80	11.439	
16,300.0	11,570.0	15,576.4	10,718.3	91.5	92.4	63.87	-5,021.9	-1,821.6	1,895.7	1,726.5	169.24	11.202	
16,400.0	11,570.0	15,706.3	10,718.1	93.0	94.4	63.81	-5,151.7	-1,816.7	1,893.0	1,720.7	172.28	10.988	
16,500.0	11,570.0	15,894.1	10,716.9	94.5	97.2	63.60	-5,339.0	-1,802.8	1,887.2	1,711.6	175.63	10.746	
16,600.0	11,570.0	15,977.0	10,716.4	96.0	98.5	63.47	-5,421.4	-1,794.0	1,878.6	1,700.5	178.15	10.545	
16,700.0	11,570.0	16,045.0	10,716.1	97.5	99.6	63.39	-5,489.0	-1,787.7	1,871.5	1,690.9	180.59	10.363	
16,800.0	11,570.0	16,112.5	10,716.1	99.0	100.6	63.34	-5,556.5	-1,784.0	1,867.0	1,683.9	183.04	10.200	
16,900.0	11,570.0	16,202.3	10,716.1	100.5	102.0	63.29	-5,646.2	-1,779.8	1,863.3	1,677.6	185.69	10.035	
17,000.0	11,570.0	16,293.9	10,716.2	102.0	103.5	63.25	-5,737.7	-1,776.2	1,860.3	1,671.9	188.37	9.875	
17,100.0	11,570.0	16,390.2	10,716.5	103.6	105.0	63.22	-5,834.0	-1,772.7	1,857.4	1,666.3	191.12	9.719	
17,200.0	11,570.0	16,470.4	10,717.1	105.1	106.2	63.21	-5,914.1	-1,770.3	1,855.0	1,661.3	193.71	9.576	
17,300.0	11,570.0	16,543.0	10,717.5	106.6	107.3	63.22	-5,986.7	-1,769.8	1,854.6	1,658.4	196.21	9.452	
17,303.0	11,570.0	16,543.0	10,717.5	106.7	107.3	63.22	-5,986.7	-1,769.8	1,854.6	1,658.3	196.26	9.450	
17,400.0	11,570.0	16,610.1	10,717.7	108.2	108.4	63.24	-6,053.8	-1,770.6	1,855.7	1,657.1	198.61	9.343	
17,500.0	11,570.0	16,705.5	10,718.0	109.7	109.9	63.28	-6,149.2	-1,772.1	1,857.5	1,656.1	201.43	9.222	
17,600.0	11,570.0	16,813.3	10,718.3	111.2	111.5	63.32	-6,257.0	-1,773.6	1,859.2	1,654.8	204.45	9.094	
17,700.0	11,570.0	16,907.0	10,718.6	112.8	113.0	63.35	-6,350.6	-1,774.9	1,860.8	1,653.5	207.26	8.978	
17,800.0	11,570.0	17,000.7	10,719.0	114.3	114.5	63.39	-6,444.4	-1,776.6	1,862.7	1,652.7	210.08	8.867	
17,834.0	11,570.0	17,003.0	10,719.1	114.8	114.5	63.40	-6,446.7	-1,776.6	1,863.7	1,653.2	210.54	8.852 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 364-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	-88.92	34.1	-1,815.7	1,816.1				
100.0	100.0	83.4	83.4	0.1	0.1	-88.93	34.0	-1,815.7	1,816.0	1,815.8	0.27	6,818.467	
200.0	200.0	182.6	182.6	0.5	0.3	-88.94	33.5	-1,815.8	1,816.1	1,815.3	0.79	2,300.892	
300.0	300.0	281.8	281.8	0.8	0.5	-88.97	32.6	-1,815.9	1,816.2	1,814.9	1.31	1,384.031	
400.0	400.0	381.4	381.4	1.2	0.7	-89.01	31.4	-1,816.1	1,816.3	1,814.5	1.87	971.528	
500.0	500.0	482.8	482.8	1.6	1.0	-89.06	29.9	-1,816.2	1,816.4	1,813.8	2.59	700.566	
600.0	600.0	581.1	581.1	1.9	1.4	-89.10	28.6	-1,816.3	1,816.5	1,813.2	3.30	549.696	
700.0	700.0	680.4	680.4	2.3	1.7	-89.14	27.4	-1,816.5	1,816.7	1,812.7	4.02	451.934	
800.0	800.0	777.5	777.5	2.6	2.1	-89.17	26.2	-1,816.8	1,817.0	1,812.2	4.73	384.361	
900.0	900.0	879.3	879.2	3.0	2.5	-89.21	25.0	-1,817.1	1,817.3	1,811.9	5.45	333.387	
1,000.0	1,000.0	983.2	983.1	3.4	2.8	-89.24	24.0	-1,817.3	1,817.5	1,811.3	6.18	293.970	
1,100.0	1,100.0	1,077.9	1,077.9	3.7	3.2	-89.27	23.3	-1,817.5	1,817.7	1,810.8	6.88	264.176	
1,200.0	1,200.0	1,176.8	1,176.8	4.1	3.5	-89.28	22.7	-1,817.9	1,818.1	1,810.5	7.59	239.474	
1,300.0	1,300.0	1,280.5	1,280.4	4.4	3.9	-89.30	22.1	-1,818.2	1,818.4	1,810.1	8.32	218.530	
1,400.0	1,400.0	1,379.7	1,379.6	4.8	4.2	-89.32	21.7	-1,818.4	1,818.5	1,809.5	9.03	201.304	
1,500.0	1,500.0	1,477.4	1,477.3	5.1	4.6	-89.33	21.4	-1,818.8	1,818.9	1,809.2	9.74	186.768	
1,600.0	1,600.0	1,581.2	1,581.1	5.5	5.0	3.02	21.2	-1,819.0	1,818.3	1,807.8	10.45	173.954	
1,700.0	1,700.0	1,682.0	1,681.9	5.8	5.3	3.02	21.3	-1,819.2	1,815.8	1,804.7	11.14	163.014	
1,800.0	1,799.9	1,799.8	1,799.7	6.2	5.7	3.05	21.7	-1,818.8	1,811.1	1,799.3	11.87	152.537	
1,900.0	1,899.7	1,899.3	1,899.2	6.5	6.0	3.08	22.2	-1,818.0	1,804.2	1,791.7	12.55	143.769	
2,000.0	1,999.4	1,999.3	1,999.2	6.9	6.4	3.12	22.9	-1,817.1	1,795.5	1,782.3	13.23	135.710	
2,100.0	2,098.9	2,099.4	2,099.3	7.2	6.7	3.17	23.7	-1,816.2	1,785.1	1,771.2	13.92	128.283	
2,200.0	2,198.3	2,201.1	2,201.0	7.6	7.0	3.23	24.7	-1,815.1	1,772.8	1,758.2	14.61	121.360	
2,300.0	2,297.4	2,302.7	2,302.6	8.0	7.4	3.31	26.2	-1,814.0	1,758.6	1,743.3	15.30	114.929	
2,400.0	2,396.4	2,404.0	2,403.9	8.4	7.7	3.40	27.9	-1,812.6	1,743.5	1,727.5	16.00	108.984	
2,500.0	2,495.5	2,504.8	2,504.6	8.7	8.1	3.49	29.8	-1,811.2	1,728.2	1,711.5	16.69	103.529	
2,600.0	2,594.5	2,607.4	2,607.2	9.1	8.4	3.59	31.9	-1,809.6	1,712.8	1,695.4	17.40	98.451	
2,701.1	2,694.6	2,716.1	2,715.8	9.5	8.8	3.71	34.3	-1,807.5	1,696.8	1,678.7	18.13	93.609	
2,800.0	2,792.7	2,826.7	2,826.4	9.9	9.2	3.81	36.8	-1,804.6	1,681.9	1,663.0	18.85	89.204	
2,900.0	2,892.2	2,934.7	2,934.3	10.3	9.6	3.92	39.5	-1,801.0	1,668.6	1,649.1	19.58	85.228	
3,000.0	2,991.9	3,043.3	3,042.8	10.6	10.0	4.03	42.4	-1,796.9	1,657.5	1,637.2	20.31	81.629	
3,100.0	3,091.8	3,149.3	3,148.7	11.0	10.3	4.14	45.4	-1,792.2	1,648.3	1,627.3	21.03	78.398	
3,200.0	3,191.8	3,247.4	3,246.5	11.4	10.7	4.25	48.3	-1,787.9	1,641.8	1,620.1	21.72	75.576	
3,234.4	3,226.2	3,281.7	3,280.9	11.5	10.8	-88.06	49.4	-1,786.3	1,640.2	1,618.2	21.97	74.670	
3,300.0	3,291.8	3,337.5	3,336.5	11.7	11.0	-88.00	51.1	-1,784.0	1,637.5	1,615.1	22.40	73.103	
3,400.0	3,391.8	3,412.9	3,411.9	12.0	11.3	-87.94	52.6	-1,781.6	1,634.4	1,611.4	23.03	70.961	
3,500.0	3,491.8	3,479.0	3,478.0	12.4	11.5	-87.91	53.4	-1,780.8	1,633.3	1,609.6	23.63	69.117 CC	
3,514.3	3,506.0	3,491.0	3,490.0	12.4	11.5	-87.91	53.5	-1,780.8	1,633.3	1,609.6	23.72	68.847 ES	
3,600.0	3,591.8	3,546.7	3,545.7	12.7	11.7	-87.89	54.1	-1,781.4	1,634.1	1,609.9	24.22	67.465	
3,700.0	3,691.8	3,608.0	3,606.9	13.1	11.9	-87.86	55.0	-1,783.1	1,637.0	1,612.3	24.78	66.065	
3,800.0	3,791.8	3,660.6	3,659.4	13.4	12.1	-87.83	56.0	-1,786.0	1,642.7	1,617.4	25.28	64.968	
3,900.0	3,891.8	3,715.6	3,714.3	13.8	12.3	-87.80	56.9	-1,790.7	1,651.1	1,625.4	25.78	64.047	
4,000.0	3,991.8	3,774.0	3,772.3	14.1	12.5	-87.77	58.0	-1,797.1	1,662.2	1,636.0	26.27	63.268	
4,100.0	4,091.8	3,831.5	3,829.2	14.5	12.7	-87.74	59.2	-1,804.9	1,675.8	1,649.0	26.74	62.660	
4,200.0	4,191.8	3,889.3	3,886.3	14.8	12.9	-87.71	60.6	-1,814.0	1,691.7	1,664.5	27.20	62.194	
4,300.0	4,291.8	3,944.4	3,940.5	15.2	13.1	-87.67	62.0	-1,824.1	1,710.0	1,682.4	27.62	61.907	
4,400.0	4,391.8	4,011.0	4,005.6	15.5	13.3	-87.64	63.6	-1,837.8	1,730.6	1,702.5	28.10	61.582	
4,500.0	4,491.8	4,093.9	4,086.5	15.9	13.6	-87.60	65.5	-1,856.0	1,752.6	1,723.9	28.69	61.098	
4,600.0	4,591.8	4,194.2	4,184.3	16.2	14.0	-87.53	68.4	-1,878.1	1,774.7	1,745.4	29.39	60.390	
4,700.0	4,691.8	4,291.8	4,279.4	16.6	14.4	-87.47	71.4	-1,899.4	1,796.8	1,766.7	30.07	59.745	
4,800.0	4,791.8	4,386.2	4,371.5	16.9	14.7	-87.41	74.0	-1,920.2	1,818.9	1,788.2	30.74	59.168	
4,900.0	4,891.8	4,480.1	4,463.0	17.3	15.1	-87.37	76.2	-1,941.1	1,841.2	1,809.8	31.41	58.626	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 364-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	4,991.8	4,591.6	4,571.7	17.7	15.5	-87.34	78.4	-1,965.8	1,863.5	1,831.3	32.19	57.884	
5,100.0	5,091.8	4,702.7	4,680.3	18.0	16.0	-87.30	80.8	-1,989.3	1,884.7	1,851.8	32.98	57.149	
5,200.0	5,191.8	4,812.7	4,787.8	18.4	16.4	-87.19	85.5	-2,011.9	1,905.4	1,871.7	33.76	56.443	
5,300.0	5,291.8	4,896.6	4,869.7	18.7	16.8	-87.04	91.2	-2,029.0	1,926.1	1,891.8	34.37	56.047	
5,400.0	5,391.8	4,993.3	4,964.0	19.1	17.2	-86.82	99.4	-2,049.0	1,947.3	1,912.2	35.06	55.537	
5,500.0	5,491.8	5,089.0	5,057.2	19.4	17.6	-86.59	108.4	-2,068.7	1,968.5	1,932.7	35.75	55.058	
5,600.0	5,591.8	5,191.5	5,157.1	19.8	18.0	-86.34	118.1	-2,089.8	1,989.7	1,953.2	36.49	54.523	
5,700.0	5,691.8	5,284.3	5,247.4	20.1	18.4	-86.11	127.0	-2,108.8	2,010.8	1,973.7	37.17	54.104	
5,800.0	5,791.8	5,381.1	5,341.7	20.5	18.9	-85.88	136.6	-2,128.8	2,032.2	1,994.3	37.87	53.662	
5,900.0	5,891.8	5,477.5	5,435.5	20.8	19.3	-85.64	146.3	-2,148.7	2,053.6	2,015.0	38.57	53.241	
6,000.0	5,991.8	5,574.6	5,530.0	21.2	19.7	-85.42	155.9	-2,168.7	2,075.0	2,035.7	39.28	52.829	
6,100.0	6,091.8	5,676.0	5,628.7	21.5	20.2	-85.18	166.2	-2,189.7	2,096.6	2,056.5	40.02	52.391	
6,200.0	6,191.8	5,774.2	5,724.3	21.9	20.6	-84.95	176.1	-2,209.8	2,117.9	2,077.1	40.74	51.991	
6,300.0	6,291.8	5,882.5	5,829.8	22.3	21.1	-84.72	186.6	-2,231.8	2,139.1	2,097.6	41.52	51.516	
6,400.0	6,391.8	5,996.8	5,941.4	22.6	21.6	-84.51	196.4	-2,254.3	2,159.5	2,117.2	42.35	50.993	
6,500.0	6,491.8	6,096.5	6,038.9	23.0	22.1	-84.35	204.1	-2,273.6	2,179.6	2,136.5	43.08	50.597	
6,600.0	6,591.8	6,196.1	6,136.4	23.3	22.5	-84.20	211.6	-2,292.9	2,199.6	2,155.8	43.81	50.212	
6,700.0	6,691.8	6,295.3	6,233.5	23.7	23.0	-84.06	219.0	-2,312.0	2,219.5	2,175.0	44.53	49.842	
6,800.0	6,791.8	6,390.4	6,326.6	24.0	23.4	-83.94	225.5	-2,330.4	2,239.5	2,194.3	45.23	49.514	
6,900.0	6,891.8	6,478.7	6,412.9	24.4	23.8	-83.87	229.9	-2,347.9	2,259.8	2,213.9	45.88	49.253	
7,000.0	6,991.8	6,611.6	6,543.2	24.7	24.4	-83.88	232.4	-2,373.9	2,279.4	2,232.6	46.82	48.683	
7,100.0	7,091.8	6,720.7	6,650.4	25.1	24.9	-83.96	231.4	-2,394.6	2,298.2	2,250.6	47.60	48.280	
7,200.0	7,191.8	6,806.0	6,734.1	25.5	25.3	-84.04	230.1	-2,410.6	2,316.7	2,268.5	48.23	48.035	
7,300.0	7,291.8	6,871.6	6,798.4	25.8	25.5	-84.11	228.7	-2,423.8	2,336.5	2,287.8	48.73	47.949	
7,400.0	7,391.8	6,973.8	6,898.4	26.2	26.0	-84.23	225.9	-2,445.0	2,356.9	2,307.4	49.47	47.646	
7,500.0	7,491.8	7,092.4	7,014.4	26.5	26.5	-84.38	222.2	-2,468.9	2,376.7	2,326.4	50.31	47.239	
7,600.0	7,591.8	7,181.9	7,102.2	26.9	26.9	-84.50	219.1	-2,486.6	2,396.1	2,345.1	50.97	47.011	
7,700.0	7,691.8	7,254.4	7,173.0	27.2	27.2	-84.59	216.6	-2,501.6	2,416.4	2,364.9	51.51	46.912	
7,800.0	7,791.8	7,350.5	7,266.9	27.6	27.7	-84.72	213.3	-2,522.1	2,437.3	2,385.1	52.21	46.682	
7,900.0	7,891.8	7,469.5	7,383.1	28.0	28.2	-84.88	208.8	-2,546.9	2,457.8	2,404.7	53.06	46.318	
8,000.0	7,991.8	7,609.2	7,520.0	28.3	28.9	-85.08	202.9	-2,574.5	2,477.2	2,423.1	54.04	45.836	
8,100.0	8,091.8	7,679.8	7,589.2	28.7	29.2	-85.17	200.0	-2,588.1	2,496.0	2,441.4	54.58	45.728	
8,200.0	8,191.8	7,758.5	7,666.2	29.0	29.5	-85.27	197.1	-2,604.1	2,516.0	2,460.8	55.17	45.603	
8,300.0	8,291.8	7,854.1	7,759.7	29.4	30.0	-85.39	193.5	-2,623.9	2,536.3	2,480.5	55.87	45.396	
8,400.0	8,391.8	7,954.5	7,855.2	29.7	32.3	-85.53	192.4	-2,686.5	2,545.7	2,486.8	58.87	43.246	
8,500.0	8,491.8	8,057.0	7,958.5	30.1	32.7	-85.53	192.3	-2,686.9	2,546.0	2,486.4	59.58	42.731	
8,600.0	8,591.8	8,165.2	8,065.9	30.4	33.0	-85.54	192.1	-2,687.2	2,546.3	2,486.0	60.27	42.248	
8,700.0	8,691.8	8,276.1	8,166.8	30.8	33.3	-85.55	191.6	-2,687.6	2,546.6	2,485.7	60.97	41.768	
8,800.0	8,791.8	8,386.8	8,266.5	31.2	33.6	-85.57	190.8	-2,688.0	2,547.0	2,485.3	61.67	41.301	
8,900.0	8,891.8	8,499.0	8,379.7	31.5	33.9	-85.59	189.9	-2,688.5	2,547.5	2,485.1	62.35	40.855	
9,000.0	8,991.8	8,617.5	8,495.2	31.9	34.2	-85.60	189.2	-2,689.3	2,548.2	2,485.1	63.05	40.414	
9,100.0	9,091.8	8,741.1	8,615.8	32.2	34.5	-85.62	188.5	-2,689.8	2,548.6	2,484.9	63.77	39.966	
9,200.0	9,191.8	8,870.2	8,740.9	32.6	34.8	-85.64	187.8	-2,690.3	2,549.2	2,484.8	64.44	39.558	
9,300.0	9,291.8	8,999.8	8,866.4	32.9	35.1	-85.66	187.0	-2,691.5	2,550.6	2,485.5	65.09	39.187	
9,400.0	9,391.8	9,130.2	8,991.9	33.3	35.4	-85.70	185.3	-2,693.5	2,552.5	2,486.7	65.79	38.799	
9,500.0	9,491.8	9,262.7	9,123.3	33.7	35.7	-85.73	183.9	-2,695.4	2,554.4	2,487.9	66.48	38.421	
9,600.0	9,591.8	9,401.0	9,261.6	34.0	36.0	-85.74	183.7	-2,697.4	2,556.9	2,489.8	67.13	38.088	
9,700.0	9,691.8	9,540.5	9,399.5	34.4	36.6	-85.69	186.0	-2,699.3	2,557.9	2,489.9	68.02	37.607	
9,800.0	9,791.8	9,680.9	9,549.6	34.7	36.8	-85.67	186.9	-2,699.5	2,558.3	2,489.7	68.66	37.260	
9,900.0	9,891.8	9,822.2	9,699.8	35.1	37.0	-85.67	187.2	-2,700.7	2,559.9	2,490.6	69.31	36.936	
10,000.0	9,991.8	9,964.7	9,849.8	35.4	37.3	-85.68	187.0	-2,702.6	2,561.3	2,491.4	69.90	36.643	
10,100.0	10,091.8	10,107.3	10,035.8	35.8	38.8	-87.08	122.9	-2,676.6	2,556.7	2,485.8	70.88	36.073	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 364-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	10,191.8	10,610.9	10,490.6	36.2	38.9	-87.79	91.1	-2,670.6	2,543.4	2,471.8	71.61	35.519	
10,300.0	10,291.8	10,684.1	10,549.2	36.5	39.0	-88.78	47.7	-2,665.1	2,531.9	2,459.6	72.33	35.003	
10,400.0	10,391.8	10,726.0	10,579.4	36.9	39.1	-89.43	18.8	-2,662.5	2,522.2	2,449.2	73.06	34.524	
10,500.0	10,491.8	10,771.5	10,610.0	37.2	39.2	-90.20	-14.9	-2,660.3	2,515.3	2,441.5	73.75	34.106	
10,600.0	10,591.8	10,821.0	10,641.5	37.6	39.2	-91.07	-53.0	-2,659.0	2,511.7	2,437.3	74.40	33.759	
10,665.7	10,657.5	10,821.0	10,641.5	37.8	39.2	-91.07	-53.0	-2,659.0	2,510.8	2,436.1	74.75	33.591	
10,700.0	10,691.8	10,831.7	10,648.0	37.9	39.3	-91.26	-61.4	-2,658.9	2,511.0	2,436.1	74.93	33.510	
10,800.0	10,791.8	10,852.2	10,659.9	38.3	39.3	-91.64	-78.1	-2,658.7	2,513.8	2,438.4	75.40	33.339	
10,900.0	10,891.8	10,884.0	10,676.8	38.7	39.3	-92.26	-105.1	-2,658.7	2,519.9	2,444.1	75.83	33.233	
11,005.2	10,997.0	10,915.0	10,691.4	39.0	39.4	-92.88	-132.4	-2,659.1	2,530.2	2,454.0	76.18	33.212	
11,050.0	11,041.7	10,915.0	10,691.4	39.2	39.4	86.77	-132.4	-2,659.1	2,535.7	2,459.4	76.25	33.253	
11,100.0	11,091.3	10,915.0	10,691.4	39.4	39.4	86.09	-132.4	-2,659.1	2,542.4	2,466.1	76.30	33.321	
11,150.0	11,140.2	10,941.5	10,702.7	39.5	39.4	84.89	-156.4	-2,659.6	2,549.5	2,473.1	76.44	33.355	
11,200.0	11,188.0	10,957.3	10,709.2	39.7	39.4	83.86	-170.8	-2,659.9	2,557.1	2,480.6	76.51	33.421	
11,250.0	11,234.4	10,974.0	10,715.7	39.8	39.4	82.80	-186.1	-2,660.4	2,565.0	2,488.4	76.58	33.494	
11,300.0	11,278.9	11,009.0	10,728.5	39.9	39.5	81.50	-218.7	-2,661.6	2,573.1	2,496.4	76.72	33.541	
11,350.0	11,321.3	11,009.0	10,728.5	40.1	39.5	80.70	-218.7	-2,661.6	2,581.1	2,504.4	76.70	33.653	
11,400.0	11,361.3	11,035.0	10,737.3	40.2	39.5	79.59	-243.2	-2,662.6	2,589.0	2,512.2	76.80	33.712	
11,450.0	11,398.4	11,060.9	10,745.5	40.3	39.6	78.55	-267.6	-2,663.6	2,596.7	2,519.8	76.90	33.766	
11,500.0	11,432.5	11,087.3	10,753.4	40.5	39.6	77.58	-292.8	-2,664.7	2,604.1	2,527.1	77.02	33.810	
11,550.0	11,463.3	11,103.0	10,757.8	40.6	39.7	76.77	-307.9	-2,665.4	2,611.0	2,533.9	77.10	33.864	
11,600.0	11,490.6	11,103.0	10,757.8	40.8	39.7	76.10	-307.9	-2,665.4	2,617.9	2,540.7	77.13	33.941	
11,650.0	11,514.0	11,136.2	10,765.8	40.9	39.8	75.31	-340.1	-2,667.1	2,623.8	2,546.5	77.34	33.927	
11,700.0	11,533.6	11,150.2	10,768.6	41.1	39.8	74.70	-353.7	-2,668.0	2,629.7	2,552.2	77.48	33.940	
11,750.0	11,549.1	11,164.2	10,771.1	41.3	39.8	74.14	-367.5	-2,668.9	2,635.0	2,557.3	77.65	33.936	
11,800.0	11,560.3	11,800.0	10,775.9	41.4	42.9	73.64	-404.2	-2,671.8	2,640.1	2,559.6	80.50	32.796	
11,850.0	11,567.3	11,351.8	10,786.1	41.6	40.5	73.20	-554.2	-2,675.9	2,642.5	2,563.7	78.72	33.566	
11,900.0	11,569.9	11,431.2	10,788.1	41.8	40.8	73.14	-633.5	-2,675.2	2,642.6	2,563.4	79.25	33.346	
11,905.2	11,570.0	11,441.8	10,788.4	41.8	40.8	73.16	-644.2	-2,675.0	2,642.5	2,563.2	79.32	33.316	
11,912.4	11,570.0	11,447.9	10,788.6	41.8	40.9	73.16	-650.3	-2,674.9	2,642.4	2,563.0	79.38	33.289	
12,000.0	11,570.0	11,527.1	10,791.9	42.2	41.3	73.23	-729.4	-2,674.0	2,640.9	2,560.7	80.18	32.939	
12,100.0	11,570.0	11,649.2	10,798.4	42.6	41.9	73.36	-851.3	-2,672.9	2,639.1	2,557.7	81.36	32.436	
12,200.0	11,570.0	11,762.8	10,804.0	43.1	42.7	73.47	-964.7	-2,670.5	2,636.2	2,553.6	82.63	31.905	
12,300.0	11,570.0	11,844.1	10,807.9	43.7	43.2	73.54	-1,046.0	-2,669.0	2,633.6	2,549.8	83.81	31.423	
12,400.0	11,570.0	11,926.9	10,810.9	44.3	43.9	73.60	-1,128.7	-2,667.9	2,631.9	2,546.8	85.09	30.930	
12,500.0	11,570.0	12,034.6	10,813.8	45.0	44.7	73.65	-1,236.3	-2,666.2	2,630.2	2,543.6	86.61	30.368	
12,600.0	11,570.0	12,132.8	10,815.6	45.7	45.5	73.68	-1,334.5	-2,664.3	2,628.4	2,540.3	88.16	29.816	
12,700.0	11,570.0	12,245.0	10,817.3	46.5	46.5	73.71	-1,446.7	-2,662.0	2,626.6	2,536.7	89.88	29.224	
12,800.0	11,570.0	12,369.6	10,819.1	47.3	47.7	73.73	-1,571.2	-2,658.2	2,623.9	2,532.1	91.77	28.591	
12,900.0	11,570.0	12,447.9	10,820.5	48.2	48.4	73.74	-1,649.5	-2,655.9	2,621.0	2,527.6	93.43	28.052	
13,000.0	11,570.0	12,509.7	10,821.3	49.1	49.1	73.76	-1,711.2	-2,654.6	2,619.4	2,524.3	95.04	27.562	
13,048.3	11,570.0	12,535.7	10,821.5	49.5	49.3	73.76	-1,737.2	-2,654.4	2,619.2	2,523.4	95.80	27.339	
13,100.0	11,570.0	12,573.0	10,821.7	50.0	49.7	73.77	-1,774.5	-2,654.5	2,619.4	2,522.7	96.69	27.090	
13,200.0	11,570.0	12,632.2	10,821.9	51.0	50.3	73.78	-1,833.7	-2,655.2	2,621.0	2,522.6	98.37	26.643	
13,300.0	11,570.0	12,763.8	10,822.2	52.0	51.7	73.80	-1,965.3	-2,657.1	2,623.0	2,522.4	100.67	26.055	
13,400.0	11,570.0	12,879.4	10,822.2	53.0	53.0	73.80	-2,080.9	-2,657.2	2,623.7	2,520.7	102.92	25.493	
13,500.0	11,570.0	12,988.7	10,822.8	54.1	54.3	73.82	-2,190.1	-2,656.8	2,623.7	2,518.5	105.17	24.948	
13,563.4	11,570.0	13,051.6	10,822.8	54.8	55.0	73.82	-2,253.1	-2,656.4	2,623.7	2,517.1	106.57	24.620	
13,600.0	11,570.0	13,074.8	10,822.7	55.2	55.3	73.82	-2,276.3	-2,656.3	2,623.8	2,516.5	107.28	24.458	
13,700.0	11,570.0	13,139.0	10,822.7	56.3	56.0	73.82	-2,340.5	-2,656.6	2,624.9	2,515.6	109.24	24.029	
13,800.0	11,570.0	13,200.3	10,822.8	57.5	56.8	73.83	-2,401.8	-2,657.8	2,627.4	2,516.2	111.20	23.627	
13,900.0	11,570.0	13,268.6	10,822.8	58.7	57.6	73.85	-2,470.0	-2,660.3	2,631.4	2,518.2	113.25	23.235	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 364-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	11,570.0	13,376.0	10,823.6	59.9	58.9	73.90	-2,577.3	-2,665.1	2,636.1	2,520.4	115.72	22.779	
14,100.0	11,570.0	13,495.7	10,823.9	61.1	60.5	73.94	-2,696.9	-2,669.1	2,639.7	2,521.4	118.35	22.305	
14,200.0	11,570.0	13,589.6	10,824.2	62.3	61.7	73.96	-2,790.8	-2,672.0	2,643.3	2,522.5	120.76	21.889	
14,300.0	11,570.0	13,709.5	10,824.5	63.6	63.2	73.99	-2,910.6	-2,675.7	2,646.8	2,523.3	123.46	21.438	
14,400.0	11,570.0	13,824.9	10,824.4	64.9	64.7	74.01	-3,026.0	-2,678.5	2,649.7	2,523.6	126.15	21.004	
14,500.0	11,570.0	14,001.9	10,823.6	66.2	67.1	74.00	-3,202.9	-2,678.4	2,650.2	2,520.7	129.45	20.473	
14,600.0	11,570.0	14,122.0	10,824.0	67.5	68.7	74.00	-3,323.0	-2,676.2	2,648.8	2,516.6	132.23	20.031	
14,700.0	11,570.0	14,195.7	10,825.0	68.8	69.7	74.02	-3,396.8	-2,675.4	2,648.0	2,513.4	134.64	19.668	
14,726.2	11,570.0	14,214.4	10,825.3	69.2	70.0	74.03	-3,415.4	-2,675.4	2,648.0	2,512.7	135.27	19.576	
14,800.0	11,570.0	14,271.0	10,826.2	70.1	70.8	74.05	-3,472.0	-2,675.5	2,648.3	2,511.2	137.07	19.320	
14,900.0	11,570.0	14,402.6	10,827.0	71.5	72.6	74.07	-3,603.7	-2,674.8	2,648.1	2,508.0	140.06	18.907	
15,000.0	11,570.0	14,528.5	10,827.8	72.9	74.4	74.08	-3,729.5	-2,673.4	2,647.5	2,504.5	143.01	18.513	
15,100.0	11,570.0	14,608.0	10,827.8	74.2	75.5	74.07	-3,809.0	-2,671.7	2,646.1	2,500.5	145.54	18.181	
15,200.0	11,570.0	14,691.7	10,828.1	75.6	76.7	74.08	-3,892.7	-2,671.1	2,645.9	2,497.7	148.13	17.862	
15,300.0	11,570.0	14,804.3	10,828.8	77.0	78.3	74.09	-4,005.3	-2,670.1	2,645.4	2,494.4	151.02	17.517	
15,397.8	11,570.0	14,885.8	10,828.7	78.4	79.5	74.09	-4,086.8	-2,669.2	2,645.0	2,491.4	153.58	17.222	
15,400.0	11,570.0	14,887.5	10,828.7	78.4	79.5	74.09	-4,088.4	-2,669.2	2,645.0	2,491.4	153.64	17.216	
15,500.0	11,570.0	15,044.3	10,826.5	79.9	81.8	74.03	-4,245.3	-2,666.5	2,644.5	2,487.5	156.94	16.850	
15,600.0	11,570.0	15,120.0	10,825.0	81.3	82.9	73.99	-4,320.9	-2,664.3	2,642.8	2,483.3	159.51	16.568	
15,700.0	11,570.0	15,200.3	10,824.1	82.7	84.0	73.96	-4,401.2	-2,662.9	2,642.0	2,479.9	162.14	16.295	
15,800.0	11,570.0	15,311.2	10,823.8	84.2	85.7	73.95	-4,512.1	-2,661.5	2,641.5	2,476.4	165.08	16.001	
15,900.0	11,570.0	15,437.3	10,824.1	85.6	87.5	73.95	-4,638.1	-2,658.6	2,639.7	2,471.5	168.18	15.695	
16,000.0	11,570.0	15,515.6	10,824.9	87.1	88.7	73.96	-4,716.4	-2,657.2	2,638.2	2,467.4	170.85	15.441	
16,100.0	11,570.0	15,604.8	10,826.0	88.6	90.0	73.98	-4,805.6	-2,656.3	2,637.5	2,463.8	173.64	15.189	
16,200.0	11,570.0	15,716.6	10,827.2	90.0	91.7	74.00	-4,917.3	-2,654.8	2,636.5	2,459.8	176.66	14.924	
16,300.0	11,570.0	15,809.6	10,827.8	91.5	93.1	74.01	-5,010.4	-2,653.5	2,635.6	2,456.1	179.51	14.682	
16,400.0	11,570.0	15,914.8	10,828.8	93.0	94.7	74.02	-5,115.5	-2,652.3	2,634.7	2,452.3	182.48	14.438	
16,500.0	11,570.0	16,013.8	10,829.8	94.5	96.2	74.04	-5,214.5	-2,650.8	2,633.6	2,448.2	185.41	14.204	
16,600.0	11,570.0	16,138.7	10,831.1	96.0	98.1	74.06	-5,339.5	-2,649.0	2,632.6	2,444.0	188.59	13.959	
16,700.0	11,570.0	16,228.2	10,832.0	97.5	99.5	74.07	-5,428.9	-2,646.9	2,630.7	2,439.3	191.45	13.741	
16,800.0	11,570.0	16,328.3	10,832.9	99.0	101.0	74.08	-5,529.0	-2,645.1	2,629.3	2,434.9	194.41	13.524	
16,900.0	11,570.0	16,408.7	10,833.6	100.5	102.2	74.09	-5,609.3	-2,643.8	2,628.1	2,430.9	197.19	13.327	
17,000.0	11,570.0	16,497.7	10,834.4	102.0	103.6	74.11	-5,698.4	-2,643.1	2,627.6	2,427.5	200.06	13.134	
17,100.0	11,570.0	16,603.9	10,835.9	103.6	105.2	74.14	-5,804.5	-2,642.4	2,627.2	2,424.1	203.12	12.934	
17,200.0	11,570.0	16,690.9	10,836.5	105.1	106.6	74.15	-5,891.6	-2,641.6	2,626.7	2,420.7	205.99	12.752	
17,213.4	11,570.0	16,701.7	10,836.4	105.3	106.7	74.15	-5,902.3	-2,641.5	2,626.7	2,420.4	206.36	12.729	
17,300.0	11,570.0	16,791.1	10,835.1	106.6	108.1	74.12	-5,991.7	-2,640.7	2,626.8	2,417.8	208.96	12.571	
17,400.0	11,570.0	16,907.5	10,835.9	108.2	109.9	74.13	-6,108.1	-2,639.7	2,626.4	2,414.2	212.13	12.381	
17,500.0	11,570.0	16,998.1	10,836.8	109.7	111.3	74.15	-6,198.7	-2,638.9	2,625.8	2,410.7	215.06	12.210	
17,600.0	11,570.0	17,124.3	10,838.1	111.2	113.3	74.17	-6,324.9	-2,637.4	2,625.0	2,406.7	218.34	12.023	
17,700.0	11,570.0	17,213.1	10,839.3	112.8	114.7	74.19	-6,413.7	-2,635.6	2,623.4	2,402.1	221.27	11.856	
17,800.0	11,570.0	17,309.7	10,839.2	114.3	116.2	74.18	-6,510.2	-2,634.6	2,622.9	2,398.6	224.25	11.696	
17,834.0	11,570.0	17,327.0	10,839.3	114.8	116.4	74.19	-6,527.5	-2,634.4	2,622.7	2,397.5	225.11	11.650 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 200-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	-88.19	57.6	-1,819.4	1,820.3				
100.0	100.0	89.3	89.3	0.1	0.1	-88.18	57.9	-1,819.2	1,820.2	1,819.9	0.27	6,829.703	
200.0	200.0	195.6	195.6	0.5	0.3	-88.14	58.9	-1,818.7	1,819.7	1,818.9	0.79	2,307.879	
300.0	300.0	298.8	298.8	0.8	0.7	-88.10	60.2	-1,817.9	1,819.0	1,817.5	1.51	1,206.183	
400.0	400.0	403.3	403.2	1.2	1.0	-88.07	61.2	-1,816.9	1,818.0	1,815.8	2.24	811.655	
500.0	500.0	504.0	504.0	1.6	1.4	-88.06	61.6	-1,815.8	1,816.9	1,814.0	2.96	614.408	
600.0	600.0	602.9	602.8	1.9	1.7	-88.04	62.0	-1,814.7	1,815.9	1,812.2	3.67	494.998	
700.0	700.0	693.3	693.3	2.3	2.1	-88.03	62.3	-1,814.0	1,815.1	1,810.7	4.35	417.406	
778.3	778.3	762.3	762.3	2.6	2.3	-88.03	62.2	-1,813.8	1,814.9	1,810.0	4.86	373.063	
800.0	800.0	781.4	781.4	2.6	2.4	-88.04	62.2	-1,813.8	1,814.9	1,809.9	5.01	362.407	
900.0	900.0	883.1	883.1	3.0	2.7	-88.04	62.1	-1,814.0	1,815.0	1,809.3	5.71	318.109	
1,000.0	1,000.0	968.1	968.1	3.4	3.0	-88.04	62.1	-1,814.4	1,815.5	1,809.1	6.35	285.809	
1,100.0	1,100.0	1,080.0	1,080.0	3.7	3.4	-88.04	62.0	-1,814.9	1,815.9	1,808.9	7.09	255.963	
1,200.0	1,200.0	1,169.9	1,169.8	4.1	3.7	-88.04	62.1	-1,815.4	1,816.5	1,808.7	7.76	233.952	
1,300.0	1,300.0	1,270.3	1,270.2	4.4	4.0	-88.04	62.2	-1,816.2	1,817.3	1,808.8	8.47	214.490	
1,400.0	1,400.0	1,376.1	1,376.0	4.8	4.4	-88.04	62.2	-1,816.8	1,817.9	1,808.7	9.20	197.577	
1,500.0	1,500.0	1,478.7	1,478.6	5.1	4.8	-88.04	62.2	-1,817.2	1,818.2	1,808.3	9.92	183.305	
1,600.0	1,600.0	1,577.5	1,577.4	5.5	5.1	4.31	62.3	-1,817.4	1,817.6	1,806.9	10.62	171.217	
1,700.0	1,700.0	1,658.0	1,658.0	5.8	5.4	4.32	62.3	-1,818.1	1,815.9	1,804.6	11.24	161.553	
1,800.0	1,799.9	1,787.0	1,786.9	6.2	5.9	4.34	62.5	-1,819.5	1,812.7	1,800.7	12.04	150.587	
1,900.0	1,899.7	1,892.4	1,892.3	6.5	6.2	4.37	63.0	-1,819.1	1,806.3	1,793.6	12.75	141.649	
2,000.0	1,999.4	2,018.1	2,018.0	6.9	6.7	4.45	64.3	-1,817.7	1,797.4	1,783.9	13.54	132.783	
2,100.0	2,098.9	2,156.8	2,156.5	7.2	7.2	4.64	68.8	-1,813.3	1,784.9	1,770.5	14.36	124.279	
2,200.0	2,198.3	2,314.9	2,314.1	7.6	7.7	5.05	78.8	-1,803.7	1,767.8	1,752.5	15.24	115.982	
2,300.0	2,297.4	2,425.8	2,424.1	8.0	8.1	5.42	87.7	-1,794.4	1,746.8	1,730.8	15.98	109.344	
2,400.0	2,396.4	2,529.0	2,526.6	8.4	8.5	5.78	96.4	-1,785.3	1,724.8	1,708.1	16.69	103.353	
2,500.0	2,495.5	2,634.9	2,631.7	8.7	8.9	6.17	105.7	-1,775.6	1,702.4	1,685.0	17.41	97.772	
2,600.0	2,594.5	2,744.3	2,740.1	9.1	9.3	6.58	115.1	-1,764.8	1,679.4	1,661.3	18.15	92.546	
2,701.1	2,694.6	2,847.9	2,842.8	9.5	9.7	6.95	123.1	-1,754.1	1,655.8	1,636.9	18.87	87.735	
2,800.0	2,792.7	2,949.1	2,943.1	9.9	10.1	7.28	131.1	-1,743.2	1,633.5	1,613.9	19.58	83.412	
2,900.0	2,892.2	3,045.6	3,038.9	10.3	10.4	7.58	138.3	-1,732.9	1,613.5	1,593.3	20.29	79.522	
3,000.0	2,991.9	3,146.1	3,138.5	10.6	10.8	7.87	145.2	-1,722.0	1,596.1	1,575.1	21.01	75.970	
3,100.0	3,091.8	3,244.6	3,236.2	11.0	11.2	8.15	152.1	-1,711.3	1,581.2	1,559.4	21.73	72.779	
3,200.0	3,191.8	3,344.9	3,335.6	11.4	11.6	8.44	159.4	-1,700.3	1,568.8	1,546.4	22.45	69.885	
3,234.4	3,226.2	3,379.6	3,370.0	11.5	11.7	-83.81	161.9	-1,696.5	1,565.2	1,542.5	22.70	68.957	
3,300.0	3,291.8	3,432.3	3,422.3	11.7	11.9	-83.65	165.5	-1,690.9	1,558.7	1,535.5	23.14	67.352	
3,400.0	3,391.8	3,512.4	3,501.8	12.0	12.3	-83.43	170.7	-1,683.4	1,550.0	1,526.2	23.82	65.076	
3,500.0	3,491.8	3,604.7	3,593.7	12.4	12.6	-83.19	176.4	-1,675.5	1,542.2	1,517.7	24.52	62.889	
3,600.0	3,591.8	3,705.8	3,694.2	12.7	13.0	-82.92	182.6	-1,666.8	1,534.4	1,509.2	25.25	60.771	
3,700.0	3,691.8	3,800.3	3,788.1	13.1	13.4	-82.64	188.9	-1,658.9	1,526.9	1,501.0	25.96	58.814	
3,800.0	3,791.8	3,899.5	3,886.7	13.4	13.7	-82.35	195.7	-1,650.7	1,519.6	1,492.9	26.69	56.940	
3,900.0	3,891.8	4,001.8	3,988.4	13.8	14.1	-82.03	202.9	-1,642.2	1,512.3	1,484.9	27.42	55.145	
4,000.0	3,991.8	4,101.0	4,087.0	14.1	14.5	-81.72	210.0	-1,633.7	1,504.8	1,476.6	28.15	53.451	
4,100.0	4,091.8	4,197.5	4,182.9	14.5	14.9	-81.41	217.1	-1,625.6	1,497.5	1,468.7	28.88	51.859	
4,200.0	4,191.8	4,295.6	4,280.4	14.8	15.3	-81.07	224.6	-1,617.4	1,490.5	1,460.8	29.61	50.342	
4,300.0	4,291.8	4,391.7	4,375.9	15.2	15.7	-80.73	232.3	-1,609.5	1,483.5	1,453.2	30.33	48.907	
4,400.0	4,391.8	4,488.3	4,471.8	15.5	16.0	-80.37	240.3	-1,601.7	1,476.9	1,445.9	31.06	47.546	
4,500.0	4,491.8	4,585.5	4,568.3	15.9	16.4	-80.00	248.8	-1,593.9	1,470.5	1,438.7	31.80	46.248	
4,600.0	4,491.8	4,679.0	4,661.2	16.2	16.8	-79.64	256.9	-1,586.7	1,464.4	1,431.9	32.52	45.031	
4,700.0	4,491.8	4,775.7	4,757.3	16.6	17.2	-79.29	264.6	-1,579.8	1,458.8	1,425.5	33.25	43.872	
4,800.0	4,791.8	4,876.2	4,857.3	16.9	17.5	-78.94	272.3	-1,572.6	1,453.2	1,419.2	33.99	42.752	
4,900.0	4,891.8	4,977.4	4,957.9	17.3	17.9	-78.57	280.4	-1,565.2	1,447.5	1,412.8	34.74	41.673	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 200-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	4,991.8	5,066.5	5,046.5	17.7	18.3	-78.25	287.3	-1,558.9	1,442.2	1,406.7	35.45	40.688	
5,100.0	5,091.8	5,159.4	5,139.0	18.0	18.6	-77.97	293.2	-1,553.3	1,437.6	1,401.4	36.16	39.757	
5,200.0	5,191.8	5,258.5	5,237.8	18.4	19.0	-77.70	298.9	-1,547.7	1,433.3	1,396.4	36.89	38.854	
5,300.0	5,291.8	5,357.1	5,336.1	18.7	19.4	-77.43	304.6	-1,542.1	1,429.0	1,391.4	37.62	37.989	
5,400.0	5,391.8	5,456.3	5,435.0	19.1	19.8	-77.16	310.2	-1,536.6	1,424.8	1,386.5	38.34	37.157	
5,500.0	5,491.8	5,555.9	5,534.2	19.4	20.1	-76.90	315.7	-1,531.2	1,420.7	1,381.6	39.07	36.358	
5,600.0	5,591.8	5,656.1	5,634.2	19.8	20.5	-76.63	321.3	-1,525.6	1,416.5	1,376.7	39.81	35.585	
5,700.0	5,691.8	5,762.4	5,740.2	20.1	20.9	-76.34	327.2	-1,519.6	1,412.4	1,371.9	40.56	34.825	
5,800.0	5,791.8	5,860.2	5,857.4	20.5	21.4	-75.94	335.1	-1,511.2	1,407.0	1,365.7	41.34	34.034	
5,900.0	5,891.8	5,979.9	5,956.5	20.8	21.8	-75.57	342.5	-1,503.3	1,401.2	1,359.1	42.08	33.294	
6,000.0	5,991.8	6,079.7	6,055.7	21.2	22.2	-75.19	349.9	-1,495.6	1,395.5	1,352.6	42.83	32.582	
6,100.0	6,091.8	6,178.6	6,154.0	21.5	22.5	-74.81	357.6	-1,487.7	1,389.8	1,346.2	43.57	31.895	
6,200.0	6,191.8	6,276.1	6,250.9	21.9	22.9	-74.42	365.3	-1,480.0	1,384.2	1,339.9	44.31	31.236	
6,300.0	6,291.8	6,372.9	6,347.1	22.3	23.3	-74.02	373.0	-1,472.5	1,378.9	1,333.9	45.06	30.605	
6,400.0	6,391.8	6,469.9	6,443.5	22.6	23.7	-73.64	380.5	-1,465.3	1,373.9	1,328.1	45.80	30.000	
6,500.0	6,491.8	6,565.0	6,538.1	23.0	24.1	-73.27	387.6	-1,458.5	1,369.1	1,322.6	46.53	29.425	
6,600.0	6,591.8	6,661.7	6,664.0	23.3	24.6	-72.76	397.3	-1,448.3	1,363.7	1,316.3	47.34	28.805	
6,700.0	6,691.8	6,796.1	6,767.6	23.7	25.0	-72.30	405.5	-1,438.4	1,356.9	1,308.8	48.10	28.209	
6,800.0	6,791.8	6,891.1	6,861.9	24.0	25.3	-71.89	412.8	-1,429.5	1,350.3	1,301.5	48.85	27.645	
6,900.0	6,891.8	6,985.5	6,955.8	24.4	25.7	-71.51	419.4	-1,421.2	1,344.2	1,294.6	49.58	27.110	
7,000.0	6,991.8	7,082.3	7,052.0	24.7	26.1	-71.15	425.7	-1,413.2	1,338.4	1,288.0	50.32	26.595	
7,100.0	7,091.8	7,176.7	7,145.9	25.1	26.5	-70.82	431.2	-1,405.8	1,332.9	1,281.8	51.05	26.108	
7,200.0	7,191.8	7,271.2	7,240.1	25.5	26.8	-70.51	436.3	-1,398.9	1,327.8	1,276.1	51.78	25.643	
7,300.0	7,291.8	7,367.2	7,335.5	25.8	27.2	-70.15	442.8	-1,391.9	1,323.2	1,270.7	52.52	25.195	
7,400.0	7,391.8	7,466.1	7,433.9	26.2	27.6	-69.74	450.1	-1,384.6	1,318.7	1,265.4	53.27	24.757	
7,500.0	7,491.8	7,562.9	7,530.2	26.5	28.0	-69.36	456.8	-1,377.6	1,314.4	1,260.4	54.01	24.339	
7,600.0	7,591.8	7,659.8	7,626.7	26.9	28.3	-68.99	463.3	-1,371.1	1,310.4	1,255.7	54.74	23.938	
7,700.0	7,691.8	7,763.3	7,729.8	27.2	28.7	-68.61	470.0	-1,364.1	1,306.5	1,251.0	55.50	23.540	
7,800.0	7,791.8	7,872.0	7,837.8	27.6	29.2	-68.15	478.1	-1,355.7	1,302.1	1,245.8	56.27	23.138	
7,900.0	7,891.8	7,980.0	7,945.0	28.0	29.6	-67.60	487.4	-1,346.1	1,297.0	1,240.0	57.05	22.733	
8,000.0	7,991.8	8,081.1	8,045.2	28.3	30.0	-67.07	496.3	-1,336.5	1,291.6	1,233.8	57.82	22.338	
8,100.0	8,091.8	8,175.6	8,139.0	28.7	30.4	-66.60	504.2	-1,327.9	1,286.5	1,227.9	58.57	21.963	
8,200.0	8,191.8	8,268.6	8,231.4	29.0	30.7	-66.18	511.0	-1,320.2	1,281.8	1,222.5	59.31	21.611	
8,300.0	8,291.8	8,350.3	8,312.8	29.4	31.1	-65.91	515.5	-1,314.9	1,278.2	1,218.2	60.01	21.300	
8,400.0	8,391.8	8,427.5	8,389.9	29.7	31.3	-65.72	518.6	-1,311.8	1,276.1	1,215.5	60.66	21.037	
8,493.0	8,484.7	8,506.6	8,469.0	30.1	31.6	-65.60	520.9	-1,310.5	1,275.8	1,214.5	61.28	20.820	
8,500.0	8,491.8	8,513.4	8,475.8	30.1	31.6	-65.59	521.1	-1,310.4	1,275.8	1,214.4	61.33	20.803	
8,500.6	8,492.4	8,514.0	8,476.4	30.1	31.6	-65.59	521.1	-1,310.4	1,275.8	1,214.4	61.33	20.802	
8,600.0	8,591.8	8,612.7	8,575.0	30.4	32.0	-65.46	523.8	-1,309.3	1,275.9	1,213.8	62.03	20.567	
8,700.0	8,691.8	8,713.7	8,676.0	30.8	32.3	-65.34	526.3	-1,308.1	1,275.9	1,213.1	62.75	20.333	
8,800.0	8,791.8	8,814.0	8,776.3	31.2	32.7	-65.22	528.7	-1,307.0	1,275.8	1,212.4	63.46	20.104	
8,855.4	8,847.2	8,868.9	8,831.2	31.4	32.9	-65.16	529.9	-1,306.4	1,275.8	1,212.0	63.85	19.981	
8,900.0	8,891.8	8,912.5	8,874.7	31.5	33.0	-65.11	530.8	-1,306.0	1,275.8	1,211.7	64.16	19.884	
9,000.0	8,991.8	9,005.6	8,967.8	31.9	33.3	-65.05	532.1	-1,305.7	1,276.1	1,211.3	64.84	19.682	
9,100.0	9,091.8	9,099.2	9,061.4	32.2	33.7	-65.04	532.8	-1,306.3	1,277.0	1,211.5	65.50	19.497	
9,200.0	9,191.8	9,188.1	9,150.3	32.6	33.9	-65.03	533.4	-1,307.5	1,278.5	1,212.4	66.13	19.332	
9,300.0	9,291.8	9,278.7	9,240.9	32.9	34.2	-65.04	534.3	-1,309.5	1,280.9	1,214.2	66.77	19.184	
9,400.0	9,391.8	9,383.2	9,345.4	33.3	34.6	-65.04	535.4	-1,312.1	1,283.7	1,216.2	67.48	19.024	
9,500.0	9,491.8	9,495.5	9,457.6	33.7	34.9	-65.02	536.8	-1,313.8	1,285.6	1,217.3	68.22	18.845	
9,600.0	9,591.8	9,587.1	9,549.2	34.0	35.2	-64.98	538.2	-1,314.8	1,287.2	1,218.3	68.87	18.689	
9,700.0	9,691.8	9,676.7	9,638.7	34.4	35.5	-64.94	539.9	-1,316.5	1,289.7	1,220.2	69.52	18.552	
9,800.0	9,791.8	9,787.4	9,749.4	34.7	35.9	-64.86	542.7	-1,318.3	1,292.3	1,222.0	70.27	18.392	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 200-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	
9,900.0	9,891.8	9,878.3	9,840.3	35.1	36.2	-64.77	545.5	-1,319.4	1,294.7	1,223.8	70.93	18.254	
10,000.0	9,991.8	10,034.6	9,996.5	35.4	36.7	-64.64	548.5	-1,318.7	1,295.0	1,223.2	71.86	18.022	
10,100.0	10,091.8	10,143.8	10,105.7	35.8	37.1	-64.59	548.4	-1,316.1	1,292.8	1,220.2	72.58	17.812	
10,200.0	10,191.8	10,244.0	10,205.9	36.2	37.5	-64.57	547.8	-1,313.8	1,290.5	1,217.2	73.27	17.611	
10,300.0	10,291.8	10,348.0	10,309.8	36.5	37.8	-64.58	546.7	-1,311.5	1,288.0	1,214.0	73.97	17.412	
10,400.0	10,391.8	10,455.7	10,417.5	36.9	38.2	-64.60	544.9	-1,308.8	1,285.1	1,210.4	74.68	17.209	
10,500.0	10,491.8	10,551.7	10,513.4	37.2	38.5	-64.62	543.3	-1,306.4	1,282.1	1,206.7	75.35	17.014	
10,600.0	10,591.8	10,667.8	10,620.1	37.6	39.3	-66.95	481.7	-1,295.3	1,269.8	1,194.5	75.37	16.848	
10,700.0	10,691.8	10,990.4	10,931.8	37.9	39.6	-69.07	431.3	-1,292.1	1,250.8	1,175.0	75.78	16.505	
10,800.0	10,791.8	11,189.4	11,096.1	38.3	39.9	-74.01	320.4	-1,287.7	1,227.5	1,151.9	75.56	16.245	
10,900.0	10,891.8	11,418.2	11,225.7	38.7	39.9	-82.97	134.3	-1,286.5	1,198.7	1,123.1	75.61	15.853	
11,005.2	10,997.0	11,475.5	11,243.5	39.0	39.9	-85.68	79.9	-1,287.0	1,171.4	1,094.2	77.18	15.177	
11,050.0	11,041.7	11,493.4	11,247.7	39.2	39.9	94.59	62.5	-1,287.3	1,162.2	1,084.4	77.78	14.942	
11,100.0	11,091.3	11,513.9	11,251.6	39.4	39.9	94.44	42.3	-1,287.7	1,154.0	1,075.7	78.36	14.726	
11,150.0	11,140.2	11,534.4	11,254.7	39.5	39.9	94.08	22.1	-1,288.2	1,148.0	1,069.2	78.85	14.559	
11,200.0	11,188.0	11,554.7	11,256.8	39.7	39.9	93.53	1.9	-1,288.8	1,144.1	1,064.9	79.23	14.440	
11,250.0	11,234.4	11,575.0	11,258.0	39.8	39.9	92.80	-18.4	-1,289.4	1,142.3	1,062.8	79.50	14.369	
11,270.2	11,252.6	11,583.4	11,258.3	39.9	39.9	92.44	-26.8	-1,289.7	1,142.1	1,062.6	79.58	14.352 CC	
11,300.0	11,278.9	11,596.5	11,258.7	39.9	39.9	91.83	-39.9	-1,290.1	1,142.5	1,062.8	79.67	14.340	
11,350.0	11,321.3	11,620.5	11,259.2	40.1	40.0	90.63	-63.8	-1,291.0	1,144.5	1,064.7	79.75	14.351	
11,400.0	11,361.3	11,646.6	11,259.4	40.2	40.0	89.23	-90.0	-1,292.0	1,148.0	1,068.3	79.75	14.395	
11,450.0	11,398.4	11,679.1	11,259.2	40.3	40.1	87.53	-122.4	-1,293.4	1,153.0	1,073.3	79.71	14.465	
11,500.0	11,432.5	11,738.0	11,259.1	40.5	40.3	85.00	-181.2	-1,295.3	1,158.4	1,078.7	79.69	14.536	
11,550.0	11,463.3	11,767.5	11,259.3	40.6	40.4	83.53	-210.7	-1,296.2	1,164.2	1,084.6	79.62	14.623	
11,600.0	11,490.6	11,802.0	11,259.5	40.8	40.5	82.00	-245.2	-1,297.4	1,170.5	1,090.9	79.55	14.713	
11,650.0	11,514.0	11,839.3	11,259.8	40.9	40.6	80.54	-282.5	-1,298.9	1,176.9	1,097.4	79.53	14.799	
11,700.0	11,533.6	11,879.9	11,259.9	41.1	40.7	79.17	-323.1	-1,300.8	1,183.2	1,103.6	79.56	14.872	
11,750.0	11,549.1	11,922.2	11,259.9	41.3	40.9	77.98	-365.3	-1,302.9	1,189.1	1,109.5	79.64	14.931	
11,800.0	11,560.3	11,993.2	11,259.7	41.4	41.2	76.78	-436.3	-1,305.9	1,194.0	1,114.0	79.93	14.938	
11,850.0	11,567.3	12,052.8	11,259.6	41.6	41.4	76.10	-495.8	-1,307.5	1,197.1	1,116.9	80.24	14.918	
11,900.0	11,569.9	12,107.0	11,259.5	41.8	41.7	75.79	-549.9	-1,308.7	1,199.0	1,118.4	80.61	14.873	
11,905.2	11,570.0	12,112.6	11,259.5	41.8	41.7	75.78	-555.6	-1,308.8	1,199.1	1,118.5	80.66	14.867	
11,912.4	11,570.0	12,120.5	11,259.5	41.8	41.8	75.78	-563.4	-1,308.9	1,199.3	1,118.6	80.72	14.858	
12,000.0	11,570.0	12,193.9	11,259.3	42.2	42.2	75.80	-636.9	-1,310.9	1,202.1	1,120.7	81.41	14.766	
12,100.0	11,570.0	12,327.6	11,258.7	42.6	42.9	75.81	-770.5	-1,313.2	1,204.5	1,121.9	82.61	14.581	
12,200.0	11,570.0	12,448.2	11,258.1	43.1	43.7	75.78	-891.1	-1,312.1	1,204.2	1,120.4	83.86	14.359	
12,300.0	11,570.0	12,541.9	11,257.0	43.7	44.4	75.71	-984.8	-1,310.4	1,203.4	1,118.4	85.02	14.154	
12,328.4	11,570.0	12,566.3	11,256.7	43.9	44.6	75.70	-1,009.2	-1,310.2	1,203.4	1,118.0	85.36	14.098	
12,400.0	11,570.0	12,633.5	11,256.0	44.3	45.1	75.67	-1,076.4	-1,309.8	1,203.6	1,117.3	86.27	13.951	
12,500.0	11,570.0	12,776.4	11,254.6	45.0	46.2	75.58	-1,219.2	-1,307.3	1,203.0	1,114.9	88.05	13.662	
12,600.0	11,570.0	12,856.6	11,253.9	45.7	46.9	75.53	-1,299.4	-1,304.9	1,200.8	1,111.4	89.39	13.433	
12,700.0	11,570.0	12,940.2	11,253.0	46.5	47.7	75.47	-1,383.0	-1,303.4	1,199.9	1,109.1	90.83	13.210	
12,713.1	11,570.0	12,951.1	11,252.9	46.6	47.8	75.47	-1,393.9	-1,303.3	1,199.9	1,108.9	91.03	13.182	
12,800.0	11,570.0	13,034.4	11,252.0	47.3	48.5	75.43	-1,477.2	-1,302.7	1,200.1	1,107.6	92.45	12.980	
12,900.0	11,570.0	13,139.9	11,250.9	48.2	49.5	75.37	-1,582.7	-1,301.9	1,200.2	1,105.9	94.27	12.732	
13,000.0	11,570.0	13,249.7	11,249.5	49.1	50.6	75.30	-1,692.4	-1,300.3	1,199.6	1,103.4	96.20	12.470	
13,100.0	11,570.0	13,339.3	11,248.6	50.0	51.6	75.25	-1,782.0	-1,299.1	1,199.2	1,101.2	97.99	12.237	
13,156.6	11,570.0	13,394.6	11,248.1	50.5	52.2	75.22	-1,837.4	-1,298.6	1,199.1	1,100.0	99.09	12.101	
13,200.0	11,570.0	13,437.1	11,247.7	51.0	52.6	75.20	-1,879.8	-1,298.2	1,199.2	1,099.2	99.94	11.999	
13,300.0	11,570.0	13,536.5	11,246.6	52.0	53.7	75.15	-1,979.2	-1,297.5	1,199.3	1,097.3	101.97	11.762	
13,400.0	11,570.0	13,640.6	11,245.3	53.0	54.9	75.09	-2,083.3	-1,296.4	1,199.2	1,095.0	104.11	11.518	
13,500.0	11,570.0	13,741.2	11,244.2	54.1	56.0	75.03	-2,183.8	-1,295.4	1,199.1	1,092.9	106.26	11.285	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 200-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	
13,600.0	11,570.0	13,849.7	11,243.6	55.2	57.3	74.99	-2,292.4	-1,293.6	1,198.2	1,089.6	108.58	11.035	
13,700.0	11,570.0	13,953.4	11,243.1	56.3	58.5	74.95	-2,396.1	-1,291.9	1,197.3	1,086.4	110.89	10.798	
13,800.0	11,570.0	14,050.7	11,242.9	57.5	59.7	74.92	-2,493.4	-1,289.8	1,195.9	1,082.7	113.16	10.568	
13,900.0	11,570.0	14,156.9	11,243.3	58.7	61.1	74.93	-2,599.5	-1,288.2	1,194.9	1,079.3	115.61	10.336	
14,000.0	11,570.0	14,252.9	11,243.5	59.9	62.3	74.92	-2,695.5	-1,286.0	1,193.3	1,075.3	117.96	10.116	
14,100.0	11,570.0	14,348.0	11,243.9	61.1	63.5	74.93	-2,790.6	-1,284.6	1,192.3	1,072.0	120.34	9.908	
14,200.0	11,570.0	14,456.6	11,244.8	62.3	64.9	74.96	-2,899.2	-1,283.0	1,191.3	1,068.3	122.96	9.688	
14,300.0	11,570.0	14,561.7	11,245.7	63.6	66.3	74.97	-3,004.2	-1,280.7	1,189.5	1,063.9	125.56	9.473	
14,400.0	11,570.0	14,663.8	11,246.5	64.9	67.6	74.99	-3,106.3	-1,278.1	1,187.4	1,059.2	128.15	9.266	
14,500.0	11,570.0	14,748.4	11,247.2	66.2	68.8	75.01	-3,190.9	-1,276.5	1,185.9	1,055.4	130.51	9.087	
14,600.0	11,570.0	14,840.9	11,247.8	67.5	70.0	75.03	-3,283.4	-1,275.6	1,185.4	1,052.4	133.02	8.912	
14,664.9	11,570.0	14,903.1	11,248.1	68.3	70.9	75.05	-3,345.6	-1,275.2	1,185.3	1,050.6	134.69	8.800	
14,700.0	11,570.0	14,936.8	11,248.3	68.8	71.3	75.05	-3,379.3	-1,275.1	1,185.3	1,049.7	135.59	8.742	
14,800.0	11,570.0	15,044.1	11,248.9	70.1	72.8	75.08	-3,486.6	-1,274.4	1,185.2	1,046.8	138.38	8.565	
14,900.0	11,570.0	15,153.9	11,249.6	71.5	74.3	75.11	-3,596.3	-1,272.9	1,184.2	1,043.0	141.23	8.385	
15,000.0	11,570.0	15,251.0	11,250.3	72.9	75.7	75.12	-3,693.4	-1,271.0	1,182.8	1,038.9	143.90	8.220	
15,100.0	11,570.0	15,348.9	11,250.3	74.2	77.1	75.11	-3,791.3	-1,269.9	1,182.3	1,035.7	146.59	8.065	
15,200.0	11,570.0	15,465.3	11,251.2	75.6	78.8	75.13	-3,907.6	-1,266.9	1,180.1	1,030.5	149.60	7.889	
15,300.0	11,570.0	15,569.1	11,252.0	77.0	80.3	75.14	-4,011.4	-1,264.1	1,177.9	1,025.4	152.43	7.727	
15,400.0	11,570.0	15,657.0	11,252.8	78.4	81.5	75.15	-4,099.3	-1,261.6	1,175.5	1,020.4	155.05	7.581	
15,479.2	11,570.0	15,717.5	11,253.3	79.6	82.4	75.17	-4,159.7	-1,260.8	1,174.8	1,017.8	156.97	7.484	
15,500.0	11,570.0	15,732.6	11,253.4	79.9	82.6	75.18	-4,174.9	-1,260.8	1,174.8	1,017.4	157.46	7.461	
15,600.0	11,570.0	15,810.5	11,254.1	81.3	83.7	75.23	-4,252.8	-1,261.8	1,176.4	1,016.5	159.90	7.357	
15,700.0	11,570.0	15,910.0	11,254.8	82.7	85.2	75.29	-4,352.3	-1,264.0	1,179.0	1,016.2	162.76	7.244	
15,800.0	11,570.0	16,016.4	11,255.7	84.2	86.7	75.37	-4,458.6	-1,265.8	1,180.9	1,015.2	165.76	7.124	
15,900.0	11,570.0	16,116.0	11,256.3	85.6	88.2	75.42	-4,558.2	-1,267.3	1,182.9	1,014.2	168.64	7.014	
16,000.0	11,570.0	16,213.4	11,257.0	87.1	89.6	75.48	-4,655.6	-1,268.9	1,184.8	1,013.3	171.50	6.908	
16,100.0	11,570.0	16,312.3	11,257.6	88.6	91.1	75.54	-4,754.5	-1,270.7	1,187.1	1,012.7	174.40	6.807	
16,200.0	11,570.0	16,413.2	11,257.6	90.0	92.6	75.56	-4,855.4	-1,272.3	1,189.2	1,011.8	177.33	6.706	
16,300.0	11,570.0	16,504.9	11,258.2	91.5	94.0	75.62	-4,947.1	-1,274.2	1,191.5	1,011.4	180.10	6.616	
16,400.0	11,570.0	16,603.6	11,258.5	93.0	95.4	75.67	-5,045.7	-1,276.8	1,194.6	1,011.6	183.02	6.527	
16,500.0	11,570.0	16,715.9	11,258.3	94.5	97.1	75.70	-5,158.0	-1,278.9	1,197.1	1,010.9	186.21	6.429	
16,600.0	11,570.0	16,831.9	11,257.8	96.0	98.9	75.69	-5,274.0	-1,279.6	1,198.3	1,008.9	189.45	6.325	
16,700.0	11,570.0	16,918.0	11,258.1	97.5	100.2	75.72	-5,360.1	-1,280.2	1,199.5	1,007.4	192.16	6.242	
16,800.0	11,570.0	17,012.4	11,258.3	99.0	101.6	75.75	-5,454.5	-1,281.6	1,201.5	1,006.4	195.03	6.161	
16,900.0	11,570.0	17,126.0	11,258.2	100.5	103.3	75.76	-5,568.0	-1,282.6	1,202.9	1,004.6	198.27	6.067	
17,000.0	11,570.0	17,214.7	11,258.0	102.0	104.7	75.77	-5,656.8	-1,283.4	1,204.4	1,003.4	201.03	5.991	
17,100.0	11,570.0	17,315.9	11,257.6	103.6	106.2	75.78	-5,757.9	-1,285.0	1,206.7	1,002.6	204.04	5.914	
17,200.0	11,570.0	17,454.0	11,257.7	105.1	108.3	75.78	-5,896.0	-1,284.2	1,206.5	998.8	207.72	5.808	
17,300.0	11,570.0	17,550.5	11,257.5	106.6	109.8	75.76	-5,992.5	-1,282.2	1,205.2	994.5	210.65	5.721	
17,400.0	11,570.0	17,654.6	11,257.3	108.2	111.4	75.73	-6,096.6	-1,280.5	1,204.2	990.5	213.71	5.635	
17,500.0	11,570.0	17,772.7	11,257.6	109.7	113.3	75.72	-6,214.7	-1,277.4	1,202.2	985.2	216.99	5.540	
17,600.0	11,570.0	17,863.7	11,257.7	111.2	114.7	75.70	-6,305.6	-1,274.6	1,199.8	979.9	219.87	5.457	
17,700.0	11,570.0	17,962.7	11,257.7	112.8	116.2	75.67	-6,404.6	-1,271.8	1,197.6	974.8	222.87	5.374	
17,790.2	11,570.0	18,029.0	11,257.5	114.2	117.3	75.65	-6,470.9	-1,270.1	1,196.2	971.0	225.20	5.312	
17,800.0	11,570.0	18,029.0	11,257.5	114.3	117.3	75.65	-6,470.9	-1,270.1	1,196.2	970.9	225.31	5.309 ES	
17,834.0	11,570.0	18,029.0	11,257.5	114.8	117.3	75.65	-6,470.9	-1,270.1	1,197.0	971.4	225.62	5.305 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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 325-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	-7.32	7,765.1	-997.5	7,829.5				
100.0	100.0	2.9	2.9	0.1	0.0	-7.32	7,765.1	-997.5	7,828.9	7,828.8	0.13	N/A	
200.0	200.0	117.7	117.7	0.5	0.2	-7.32	7,765.0	-997.7	7,828.8	7,828.2	0.68	N/A	
300.0	300.0	232.6	232.6	0.8	0.4	-7.32	7,764.6	-998.1	7,828.5	7,827.3	1.23	6,342.266	
400.0	400.0	347.5	347.5	1.2	0.6	-7.33	7,764.0	-998.8	7,828.1	7,826.3	1.78	4,385.529	
500.0	500.0	462.3	462.2	1.6	1.0	-7.33	7,763.1	-999.2	7,827.4	7,824.8	2.60	3,015.303	
600.0	600.0	601.4	601.4	1.9	1.5	-7.34	7,761.7	-999.5	7,826.4	7,822.9	3.45	2,267.184	
700.0	700.0	718.2	718.2	2.3	2.0	-7.34	7,760.0	-1,000.1	7,825.0	7,820.8	4.23	1,850.126	
800.0	800.0	921.4	921.3	2.6	2.7	-7.35	7,755.8	-1,001.0	7,823.2	7,817.9	5.32	1,471.209	
900.0	900.0	1,013.7	1,013.6	3.0	3.0	-7.36	7,753.0	-1,001.3	7,820.2	7,814.2	6.00	1,302.290	
1,000.0	1,000.0	1,065.0	1,064.9	3.4	3.2	-7.36	7,751.7	-1,001.3	7,817.8	7,811.3	6.54	1,194.515	
1,100.0	1,100.0	1,116.3	1,116.2	3.7	3.4	-7.36	7,750.8	-1,001.2	7,816.1	7,809.0	7.09	1,103.174	
1,200.0	1,200.0	1,177.5	1,177.3	4.1	3.6	-7.36	7,750.2	-1,001.0	7,814.9	7,807.3	7.66	1,020.142	
1,300.0	1,300.0	1,294.8	1,294.7	4.4	4.0	-7.36	7,749.0	-1,000.5	7,813.8	7,805.4	8.44	926.287	
1,400.0	1,400.0	1,397.7	1,397.5	4.8	4.4	-7.36	7,747.7	-1,000.2	7,812.6	7,803.4	9.16	852.857	
1,500.0	1,500.0	1,488.1	1,487.9	5.1	4.7	-7.36	7,746.7	-1,000.2	7,811.4	7,801.6	9.84	793.659	
1,600.0	1,600.0	1,603.9	1,603.8	5.5	5.1	85.01	7,745.3	-1,000.1	7,810.2	7,799.6	10.61	736.366	
1,700.0	1,700.0	1,688.1	1,688.0	5.8	5.4	85.04	7,744.3	-999.6	7,808.7	7,797.5	11.24	694.463	
1,800.0	1,799.9	1,764.3	1,764.1	6.2	5.7	85.09	7,743.8	-998.2	7,807.4	7,795.6	11.86	658.567	
1,900.0	1,899.7	1,818.0	1,817.8	6.5	5.9	85.13	7,743.6	-996.7	7,806.3	7,793.9	12.39	630.013	
2,000.0	1,999.4	1,885.6	1,885.4	6.9	6.1	85.19	7,743.7	-994.7	7,805.5	7,792.5	12.97	601.709	
2,100.0	2,098.9	1,911.0	1,910.7	7.2	6.2	85.22	7,743.9	-994.1	7,805.3	7,791.9	13.41	581.872	
2,109.9	2,108.8	1,936.2	1,935.9	7.3	6.3	85.24	7,744.1	-993.7	7,805.2	7,791.7	13.53	576.689	
2,200.0	2,198.3	1,973.1	1,972.8	7.6	6.4	85.27	7,744.7	-993.2	7,805.6	7,791.6	13.98	558.208	
2,300.0	2,297.4	2,027.3	2,027.0	8.0	6.6	85.32	7,745.8	-992.8	7,806.5	7,792.0	14.53	537.205	
2,400.0	2,396.4	2,133.6	2,133.3	8.4	6.9	85.42	7,748.0	-993.4	7,807.5	7,792.2	15.26	511.590	
2,500.0	2,495.5	2,196.0	2,195.7	8.7	7.1	85.48	7,749.3	-994.3	7,808.7	7,792.8	15.85	492.702	
2,600.0	2,594.5	2,252.9	2,252.5	9.1	7.3	85.53	7,750.8	-995.2	7,810.4	7,794.0	16.42	475.613	
2,701.1	2,694.6	2,518.1	2,517.6	9.5	8.2	85.78	7,757.0	-999.2	7,812.5	7,794.8	17.72	440.809	
2,701.9	2,695.4	2,518.5	2,518.0	9.5	8.2	85.78	7,757.0	-999.2	7,812.5	7,794.8	17.73	440.696	
2,800.0	2,792.7	2,575.0	2,574.5	9.9	8.4	85.84	7,757.7	-999.6	7,812.9	7,794.6	18.30	426.950	
2,900.0	2,892.2	2,683.8	2,683.3	10.3	8.8	85.93	7,759.4	-999.0	7,813.8	7,794.7	19.05	410.157	
3,000.0	2,991.9	2,727.0	2,726.5	10.6	8.9	85.98	7,760.4	-998.3	7,815.1	7,795.5	19.57	399.385	
3,100.0	3,091.8	2,783.1	2,782.5	11.0	9.1	86.04	7,761.9	-996.9	7,817.2	7,797.1	20.12	388.533	
3,200.0	3,191.8	18,273.0	10,720.5	11.4	131.7	7.47	130.2	-1,767.5	7,797.4	7,727.4	69.98	111.428	
3,234.4	3,226.2	18,273.0	10,720.5	11.5	131.7	-85.19	130.2	-1,767.5	7,763.7	7,693.7	70.02	110.884	
3,300.0	3,291.8	18,273.0	10,720.5	11.7	131.7	-85.19	130.2	-1,767.5	7,699.6	7,629.5	70.11	109.828	
3,400.0	3,391.8	18,273.0	10,720.5	12.0	131.7	-85.19	130.2	-1,767.5	7,601.9	7,531.6	70.26	108.202	
3,500.0	3,491.8	18,273.0	10,720.5	12.4	131.7	-85.19	130.2	-1,767.5	7,504.2	7,433.8	70.42	106.563	
3,600.0	3,591.8	18,273.0	10,720.5	12.7	131.7	-85.19	130.2	-1,767.5	7,406.6	7,336.0	70.60	104.913	
3,700.0	3,691.8	18,273.0	10,720.5	13.1	131.7	-85.19	130.2	-1,767.5	7,309.1	7,238.3	70.79	103.253	
3,800.0	3,791.8	18,273.0	10,720.5	13.4	131.7	-85.19	130.2	-1,767.5	7,211.6	7,140.6	70.99	101.583	
3,900.0	3,891.8	18,273.0	10,720.5	13.8	131.7	-85.19	130.2	-1,767.5	7,114.2	7,043.0	71.21	99.903	
4,000.0	3,991.8	18,273.0	10,720.5	14.1	131.7	-85.19	130.2	-1,767.5	7,016.9	6,945.5	71.44	98.216	
4,100.0	4,091.8	18,273.0	10,720.5	14.5	131.7	-85.19	130.2	-1,767.5	6,919.7	6,848.0	71.69	96.522	
4,200.0	4,191.8	18,273.0	10,720.5	14.8	131.7	-85.19	130.2	-1,767.5	6,822.5	6,750.6	71.95	94.822	
4,300.0	4,291.8	18,273.0	10,720.5	15.2	131.7	-85.19	130.2	-1,767.5	6,725.4	6,653.2	72.23	93.117	
4,400.0	4,391.8	18,273.0	10,720.5	15.5	131.7	-85.19	130.2	-1,767.5	6,628.4	6,555.9	72.51	91.408	
4,500.0	4,491.8	18,273.0	10,720.5	15.9	131.7	-85.19	130.2	-1,767.5	6,531.5	6,458.7	72.82	89.695	
4,600.0	4,591.8	18,273.0	10,720.5	16.2	131.7	-85.19	130.2	-1,767.5	6,434.7	6,361.6	73.14	87.980	
4,700.0	4,691.8	18,273.0	10,720.5	16.6	131.7	-85.19	130.2	-1,767.5	6,338.0	6,264.5	73.47	86.263	
4,800.0	4,791.8	18,273.0	10,720.5	16.9	131.7	-85.19	130.2	-1,767.5	6,241.4	6,167.6	73.82	84.545	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 325-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	
4,900.0	4,891.8	18,273.0	10,720.5	17.3	131.7	-85.19	130.2	-1,767.5	6,144.9	6,070.7	74.19	82.828	
5,000.0	4,991.8	18,273.0	10,720.5	17.7	131.7	-85.19	130.2	-1,767.5	6,048.5	5,974.0	74.57	81.110	
5,100.0	5,091.8	18,273.0	10,720.5	18.0	131.7	-85.19	130.2	-1,767.5	5,952.3	5,877.3	74.97	79.394	
5,200.0	5,191.8	18,273.0	10,720.5	18.4	131.7	-85.19	130.2	-1,767.5	5,856.1	5,780.7	75.39	77.679	
5,300.0	5,291.8	18,273.0	10,720.5	18.7	131.7	-85.19	130.2	-1,767.5	5,760.1	5,684.3	75.82	75.967	
5,400.0	5,391.8	18,273.0	10,720.5	19.1	131.7	-85.19	130.2	-1,767.5	5,664.2	5,588.0	76.28	74.258	
5,500.0	5,491.8	18,273.0	10,720.5	19.4	131.7	-85.19	130.2	-1,767.5	5,568.5	5,491.8	76.75	72.553	
5,600.0	5,591.8	18,273.0	10,720.5	19.8	131.7	-85.19	130.2	-1,767.5	5,472.9	5,395.7	77.25	70.852	
5,700.0	5,691.8	18,273.0	10,720.5	20.1	131.7	-85.19	130.2	-1,767.5	5,377.5	5,299.8	77.76	69.155	
5,800.0	5,791.8	18,273.0	10,720.5	20.5	131.7	-85.19	130.2	-1,767.5	5,282.3	5,204.0	78.30	67.464	
5,900.0	5,891.8	18,273.0	10,720.5	20.8	131.7	-85.19	130.2	-1,767.5	5,187.2	5,108.4	78.86	65.779	
6,000.0	5,991.8	18,273.0	10,720.5	21.2	131.7	-85.19	130.2	-1,767.5	5,092.4	5,012.9	79.44	64.099	
6,100.0	6,091.8	18,273.0	10,720.5	21.5	131.7	-85.19	130.2	-1,767.5	4,997.7	4,917.6	80.06	62.427	
6,200.0	6,191.8	18,273.0	10,720.5	21.9	131.7	-85.19	130.2	-1,767.5	4,903.2	4,822.5	80.69	60.763	
6,300.0	6,291.8	18,273.0	10,720.5	22.3	131.7	-85.19	130.2	-1,767.5	4,809.0	4,727.6	81.36	59.106	
6,400.0	6,391.8	18,273.0	10,720.5	22.6	131.7	-85.19	130.2	-1,767.5	4,715.0	4,632.9	82.06	57.458	
6,500.0	6,491.8	18,273.0	10,720.5	23.0	131.7	-85.19	130.2	-1,767.5	4,621.2	4,538.5	82.79	55.820	
6,600.0	6,591.8	18,273.0	10,720.5	23.3	131.7	-85.19	130.2	-1,767.5	4,527.8	4,444.2	83.55	54.191	
6,700.0	6,691.8	18,273.0	10,720.5	23.7	131.7	-85.19	130.2	-1,767.5	4,434.6	4,350.2	84.35	52.573	
6,800.0	6,791.8	18,273.0	10,720.5	24.0	131.7	-85.19	130.2	-1,767.5	4,341.7	4,256.5	85.19	50.965	
6,900.0	6,891.8	18,273.0	10,720.5	24.4	131.7	-85.19	130.2	-1,767.5	4,249.1	4,163.0	86.07	49.370	
7,000.0	6,991.8	18,273.0	10,720.5	24.7	131.7	-85.19	130.2	-1,767.5	4,156.9	4,069.9	86.99	47.787	
7,100.0	7,091.8	18,273.0	10,720.5	25.1	131.7	-85.19	130.2	-1,767.5	4,065.0	3,977.1	87.95	46.218	
7,200.0	7,191.8	18,273.0	10,720.5	25.5	131.7	-85.19	130.2	-1,767.5	3,973.6	3,884.6	88.97	44.663	
7,300.0	7,291.8	18,273.0	10,720.5	25.8	131.7	-85.19	130.2	-1,767.5	3,882.5	3,792.5	90.03	43.123	
7,400.0	7,391.8	18,273.0	10,720.5	26.2	131.7	-85.19	130.2	-1,767.5	3,791.9	3,700.8	91.15	41.599	
7,500.0	7,491.8	18,273.0	10,720.5	26.5	131.7	-85.19	130.2	-1,767.5	3,701.8	3,609.5	92.33	40.092	
7,600.0	7,591.8	18,273.0	10,720.5	26.9	131.7	-85.19	130.2	-1,767.5	3,612.2	3,518.6	93.58	38.602	
7,700.0	7,691.8	18,273.0	10,720.5	27.2	131.7	-85.19	130.2	-1,767.5	3,523.2	3,428.3	94.88	37.132	
7,800.0	7,791.8	18,273.0	10,720.5	27.6	131.7	-85.19	130.2	-1,767.5	3,434.8	3,338.5	96.26	35.682	
7,900.0	7,891.8	18,273.0	10,720.5	28.0	131.7	-85.19	130.2	-1,767.5	3,347.0	3,249.3	97.72	34.253	
8,000.0	7,991.8	18,273.0	10,720.5	28.3	131.7	-85.19	130.2	-1,767.5	3,259.9	3,160.7	99.25	32.846	
8,100.0	8,091.8	18,273.0	10,720.5	28.7	131.7	-85.19	130.2	-1,767.5	3,173.6	3,072.8	100.87	31.464	
8,200.0	8,191.8	18,273.0	10,720.5	29.0	131.7	-85.19	130.2	-1,767.5	3,088.1	2,985.6	102.57	30.106	
8,300.0	8,291.8	18,273.0	10,720.5	29.4	131.7	-85.19	130.2	-1,767.5	3,003.6	2,899.2	104.38	28.776	
8,400.0	8,391.8	18,273.0	10,720.5	29.7	131.7	-85.19	130.2	-1,767.5	2,919.9	2,813.7	106.28	27.474	
8,500.0	8,491.8	18,273.0	10,720.5	30.1	131.7	-85.19	130.2	-1,767.5	2,837.4	2,729.1	108.29	26.202	
8,600.0	8,591.8	18,273.0	10,720.5	30.4	131.7	-85.19	130.2	-1,767.5	2,756.0	2,645.6	110.41	24.962	
8,700.0	8,691.8	18,273.0	10,720.5	30.8	131.7	-85.19	130.2	-1,767.5	2,675.9	2,563.2	112.65	23.755	
8,800.0	8,791.8	18,273.0	10,720.5	31.2	131.7	-85.19	130.2	-1,767.5	2,597.1	2,482.1	115.00	22.583	
8,900.0	8,891.8	18,273.0	10,720.5	31.5	131.7	-85.19	130.2	-1,767.5	2,519.9	2,402.4	117.48	21.449	
9,000.0	8,991.8	18,273.0	10,720.5	31.9	131.7	-85.19	130.2	-1,767.5	2,444.3	2,324.2	120.09	20.354	
9,100.0	9,091.8	18,273.0	10,720.5	32.2	131.7	-85.19	130.2	-1,767.5	2,370.5	2,247.7	122.82	19.301	
9,200.0	9,191.8	18,273.0	10,720.5	32.6	131.7	-85.19	130.2	-1,767.5	2,298.7	2,173.0	125.68	18.290	
9,300.0	9,291.8	18,273.0	10,720.5	32.9	131.7	-85.19	130.2	-1,767.5	2,229.1	2,100.4	128.66	17.326	
9,400.0	9,391.8	18,273.0	10,720.5	33.3	131.7	-85.19	130.2	-1,767.5	2,161.8	2,030.1	131.75	16.408	
9,500.0	9,491.8	18,273.0	10,720.5	33.7	131.7	-85.19	130.2	-1,767.5	2,097.2	1,962.3	134.95	15.541	
9,600.0	9,591.8	18,273.0	10,720.5	34.0	131.7	-85.19	130.2	-1,767.5	2,035.5	1,897.2	138.24	14.725	
9,700.0	9,691.8	18,273.0	10,720.5	34.4	131.7	-85.19	130.2	-1,767.5	1,976.8	1,835.2	141.58	13.962	
9,800.0	9,791.8	18,273.0	10,720.5	34.7	131.7	-85.19	130.2	-1,767.5	1,921.6	1,776.6	144.97	13.255	
9,900.0	9,891.8	18,273.0	10,720.5	35.1	131.7	-85.19	130.2	-1,767.5	1,870.1	1,721.8	148.35	12.606	
10,000.0	9,991.8	18,273.0	10,720.5	35.4	131.7	-85.19	130.2	-1,767.5	1,822.7	1,671.0	151.69	12.016	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 325-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	
10,100.0	10,091.8	18,273.0	10,720.5	35.8	131.7	-85.19	130.2	-1,767.5	1,779.6	1,624.6	154.93	11.486	
10,200.0	10,191.8	18,273.0	10,720.5	36.2	131.7	-85.19	130.2	-1,767.5	1,741.1	1,583.1	158.01	11.019	
10,300.0	10,291.8	18,273.0	10,720.5	36.5	131.7	-85.19	130.2	-1,767.5	1,707.7	1,546.8	160.88	10.615	
10,400.0	10,391.8	18,273.0	10,720.5	36.9	131.7	-85.19	130.2	-1,767.5	1,679.6	1,516.1	163.47	10.275	
10,500.0	10,491.8	18,273.0	10,720.5	37.2	131.7	-85.19	130.2	-1,767.5	1,657.1	1,491.3	165.71	10.000	
10,600.0	10,591.8	18,273.0	10,720.5	37.6	131.7	-85.19	130.2	-1,767.5	1,640.3	1,472.8	167.54	9.790	
10,700.0	10,691.8	18,273.0	10,720.5	37.9	131.7	-85.19	130.2	-1,767.5	1,629.5	1,460.6	168.93	9.646	
10,800.0	10,791.8	18,273.0	10,720.5	38.3	131.7	-85.19	130.2	-1,767.5	1,624.8	1,455.0	169.82	9.568	
10,826.3	10,818.0	18,273.0	10,720.5	38.4	131.7	-85.19	130.2	-1,767.5	1,624.6	1,454.6	169.97	9.558 CC, ES	
10,900.0	10,891.8	18,273.0	10,720.5	38.7	131.7	-85.19	130.2	-1,767.5	1,626.3	1,456.1	170.21	9.554 SF	
11,005.2	10,997.0	18,273.0	10,720.5	39.0	131.7	-85.19	130.2	-1,767.5	1,634.4	1,464.4	170.08	9.610	
11,050.0	11,041.7	18,273.0	10,720.5	39.2	131.7	94.44	130.2	-1,767.5	1,640.1	1,470.2	169.85	9.656	
11,100.0	11,091.3	18,273.0	10,720.5	39.4	131.7	93.63	130.2	-1,767.5	1,648.1	1,478.7	169.48	9.725	
11,150.0	11,140.2	18,273.0	10,720.5	39.5	131.7	92.64	130.2	-1,767.5	1,657.9	1,488.9	169.00	9.810	
11,200.0	11,188.0	18,273.0	10,720.5	39.7	131.7	91.46	130.2	-1,767.5	1,669.3	1,500.9	168.43	9.911	
11,250.0	11,234.4	18,273.0	10,720.5	39.8	131.7	90.13	130.2	-1,767.5	1,682.3	1,514.5	167.78	10.026	
11,300.0	11,278.9	18,273.0	10,720.5	39.9	131.7	88.63	130.2	-1,767.5	1,696.6	1,529.5	167.07	10.155	
11,350.0	11,321.3	18,273.0	10,720.5	40.1	131.7	87.00	130.2	-1,767.5	1,712.1	1,545.8	166.30	10.295	
11,400.0	11,361.3	18,273.0	10,720.5	40.2	131.7	85.23	130.2	-1,767.5	1,728.8	1,563.3	165.50	10.446	
11,450.0	11,398.4	18,273.0	10,720.5	40.3	131.7	83.37	130.2	-1,767.5	1,746.4	1,581.7	164.68	10.605	
11,500.0	11,432.5	18,273.0	10,720.5	40.5	131.7	81.41	130.2	-1,767.5	1,764.7	1,600.9	163.84	10.771	
11,550.0	11,463.3	18,273.0	10,720.5	40.6	131.7	79.39	130.2	-1,767.5	1,783.7	1,620.7	163.01	10.942	
11,600.0	11,490.6	18,273.0	10,720.5	40.8	131.7	77.32	130.2	-1,767.5	1,803.1	1,640.9	162.20	11.117	
11,650.0	11,514.0	18,273.0	10,720.5	40.9	131.7	75.24	130.2	-1,767.5	1,822.8	1,661.4	161.41	11.293	
11,700.0	11,533.6	18,273.0	10,720.5	41.1	131.7	73.16	130.2	-1,767.5	1,842.7	1,682.0	160.65	11.470	
11,750.0	11,549.1	18,273.0	10,720.5	41.3	131.7	71.10	130.2	-1,767.5	1,862.5	1,702.6	159.93	11.646	
11,800.0	11,560.3	18,273.0	10,720.5	41.4	131.7	69.09	130.2	-1,767.5	1,882.2	1,722.9	159.26	11.818	
11,850.0	11,567.3	18,273.0	10,720.5	41.6	131.7	67.14	130.2	-1,767.5	1,901.6	1,742.9	158.63	11.987	
11,900.0	11,569.9	18,273.0	10,720.5	41.8	131.7	65.27	130.2	-1,767.5	1,920.5	1,762.4	158.06	12.150	
11,905.2	11,570.0	18,273.0	10,720.5	41.8	131.7	65.08	130.2	-1,767.5	1,922.4	1,764.4	158.00	12.167	
11,912.4	11,570.0	18,273.0	10,720.5	41.8	131.7	65.06	130.2	-1,767.5	1,925.1	1,767.2	157.92	12.190	
12,000.0	11,570.0	18,273.0	10,720.5	42.2	131.7	65.06	130.2	-1,767.5	1,959.8	1,802.9	156.92	12.489	
12,100.0	11,570.0	18,273.0	10,720.5	42.6	131.7	65.06	130.2	-1,767.5	2,003.4	1,847.8	155.66	12.871	
12,200.0	11,570.0	18,273.0	10,720.5	43.1	131.7	65.06	130.2	-1,767.5	2,051.0	1,896.7	154.29	13.293	
12,300.0	11,570.0	18,273.0	10,720.5	43.7	131.7	65.06	130.2	-1,767.5	2,102.2	1,949.3	152.85	13.753	
12,400.0	11,570.0	18,273.0	10,720.5	44.3	131.7	65.06	130.2	-1,767.5	2,156.8	2,005.5	151.35	14.251	
12,500.0	11,570.0	18,273.0	10,720.5	45.0	131.7	65.06	130.2	-1,767.5	2,214.6	2,064.8	149.81	14.783	
12,600.0	11,570.0	18,273.0	10,720.5	45.7	131.7	65.06	130.2	-1,767.5	2,275.4	2,127.1	148.25	15.349	
12,700.0	11,570.0	18,273.0	10,720.5	46.5	131.7	65.06	130.2	-1,767.5	2,338.8	2,192.2	146.68	15.945	
12,800.0	11,570.0	18,273.0	10,720.5	47.3	131.7	65.06	130.2	-1,767.5	2,404.8	2,259.6	145.12	16.571	
12,900.0	11,570.0	18,273.0	10,720.5	48.2	131.7	65.06	130.2	-1,767.5	2,473.0	2,329.4	143.58	17.224	
13,000.0	11,570.0	18,273.0	10,720.5	49.1	131.7	65.06	130.2	-1,767.5	2,543.3	2,401.2	142.06	17.903	
13,100.0	11,570.0	18,273.0	10,720.5	50.0	131.7	65.06	130.2	-1,767.5	2,615.6	2,475.0	140.57	18.606	
13,200.0	11,570.0	18,273.0	10,720.5	51.0	131.7	65.06	130.2	-1,767.5	2,689.6	2,550.5	139.12	19.333	
13,300.0	11,570.0	18,273.0	10,720.5	52.0	131.7	65.06	130.2	-1,767.5	2,765.3	2,627.5	137.71	20.080	
13,400.0	11,570.0	18,273.0	10,720.5	53.0	131.7	65.06	130.2	-1,767.5	2,842.4	2,706.1	136.34	20.848	
13,500.0	11,570.0	18,273.0	10,720.5	54.1	131.7	65.06	130.2	-1,767.5	2,921.0	2,786.0	135.02	21.634	
13,600.0	11,570.0	18,273.0	10,720.5	55.2	131.7	65.06	130.2	-1,767.5	3,000.8	2,867.1	133.74	22.437	
13,700.0	11,570.0	18,273.0	10,720.5	56.3	131.7	65.06	130.2	-1,767.5	3,081.8	2,949.3	132.51	23.257	
13,800.0	11,570.0	18,273.0	10,720.5	57.5	131.7	65.06	130.2	-1,767.5	3,163.9	3,032.6	131.33	24.092	
13,900.0	11,570.0	18,273.0	10,720.5	58.7	131.7	65.06	130.2	-1,767.5	3,247.0	3,116.8	130.19	24.941	
14,000.0	11,570.0	18,273.0	10,720.5	59.9	131.7	65.06	130.2	-1,767.5	3,331.1	3,202.0	129.10	25.803	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Minis 1 Fed Com #011H - Wellbore #1 - Actual													Offset Site Error:	0.0 usft
Survey Program: 325-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	11,570.0	18,273.0	10,720.5	61.1	131.7	65.06	130.2	-1,767.5	3,415.9	3,287.9	128.05	26.677		
14,200.0	11,570.0	18,273.0	10,720.5	62.3	131.7	65.06	130.2	-1,767.5	3,501.6	3,374.6	127.04	27.563		
14,300.0	11,570.0	18,273.0	10,720.5	63.6	131.7	65.06	130.2	-1,767.5	3,588.1	3,462.0	126.08	28.459		
14,400.0	11,570.0	18,273.0	10,720.5	64.9	131.7	65.06	130.2	-1,767.5	3,675.2	3,550.0	125.15	29.366		
14,500.0	11,570.0	18,273.0	10,720.5	66.2	131.7	65.06	130.2	-1,767.5	3,762.9	3,638.7	124.27	30.281		
14,600.0	11,570.0	18,273.0	10,720.5	67.5	131.7	65.06	130.2	-1,767.5	3,851.3	3,727.9	123.42	31.205		
14,700.0	11,570.0	18,273.0	10,720.5	68.8	131.7	65.06	130.2	-1,767.5	3,940.2	3,817.6	122.61	32.137		
14,800.0	11,570.0	18,273.0	10,720.5	70.1	131.7	65.06	130.2	-1,767.5	4,029.6	3,907.8	121.83	33.076		
14,900.0	11,570.0	18,273.0	10,720.5	71.5	131.7	65.06	130.2	-1,767.5	4,119.5	3,998.5	121.08	34.022		
15,000.0	11,570.0	18,273.0	10,720.5	72.9	131.7	65.06	130.2	-1,767.5	4,209.9	4,089.5	120.37	34.975		
15,100.0	11,570.0	18,273.0	10,720.5	74.2	131.7	65.06	130.2	-1,767.5	4,300.7	4,181.0	119.69	35.933		
15,200.0	11,570.0	18,273.0	10,720.5	75.6	131.7	65.06	130.2	-1,767.5	4,391.9	4,272.9	119.03	36.896		
15,300.0	11,570.0	18,273.0	10,720.5	77.0	131.7	65.06	130.2	-1,767.5	4,483.5	4,365.1	118.41	37.865		
15,400.0	11,570.0	18,273.0	10,720.5	78.4	131.7	65.06	130.2	-1,767.5	4,575.4	4,457.6	117.81	38.838		
15,500.0	11,570.0	18,273.0	10,720.5	79.9	131.7	65.06	130.2	-1,767.5	4,667.7	4,550.4	117.23	39.815		
15,600.0	11,570.0	18,273.0	10,720.5	81.3	131.7	65.06	130.2	-1,767.5	4,760.2	4,643.6	116.68	40.796		
15,700.0	11,570.0	18,273.0	10,720.5	82.7	131.7	65.06	130.2	-1,767.5	4,853.1	4,736.9	116.16	41.781		
15,800.0	11,570.0	18,273.0	10,720.5	84.2	131.7	65.06	130.2	-1,767.5	4,946.2	4,830.6	115.65	42.769		
15,900.0	11,570.0	18,273.0	10,720.5	85.6	131.7	65.06	130.2	-1,767.5	5,039.7	4,924.5	115.17	43.759		
16,000.0	11,570.0	18,273.0	10,720.5	87.1	131.7	65.06	130.2	-1,767.5	5,133.3	5,018.6	114.70	44.753		
16,100.0	11,570.0	18,273.0	10,720.5	88.6	131.7	65.06	130.2	-1,767.5	5,227.2	5,112.9	114.26	45.749		
16,200.0	11,570.0	18,273.0	10,720.5	90.0	131.7	65.06	130.2	-1,767.5	5,321.3	5,207.5	113.83	46.747		
16,300.0	11,570.0	18,273.0	10,720.5	91.5	131.7	65.06	130.2	-1,767.5	5,415.6	5,302.2	113.42	47.747		
16,400.0	11,570.0	18,273.0	10,720.5	93.0	131.7	65.06	130.2	-1,767.5	5,510.2	5,397.1	113.03	48.748		
16,500.0	11,570.0	18,273.0	10,720.5	94.5	131.7	65.06	130.2	-1,767.5	5,604.9	5,492.2	112.66	49.751		
16,600.0	11,570.0	18,273.0	10,720.5	96.0	131.7	65.06	130.2	-1,767.5	5,699.8	5,587.5	112.30	50.756		
16,700.0	11,570.0	18,273.0	10,720.5	97.5	131.7	65.06	130.2	-1,767.5	5,794.8	5,682.9	111.95	51.762		
16,800.0	11,570.0	18,273.0	10,720.5	99.0	131.7	65.06	130.2	-1,767.5	5,890.1	5,778.4	111.62	52.768		
16,900.0	11,570.0	18,273.0	10,720.5	100.5	131.7	65.06	130.2	-1,767.5	5,985.4	5,874.1	111.30	53.776		
17,000.0	11,570.0	18,273.0	10,720.5	102.0	131.7	65.06	130.2	-1,767.5	6,081.0	5,970.0	111.00	54.784		
17,100.0	11,570.0	18,273.0	10,720.5	103.6	131.7	65.06	130.2	-1,767.5	6,176.7	6,065.9	110.71	55.793		
17,200.0	11,570.0	18,273.0	10,720.5	105.1	131.7	65.06	130.2	-1,767.5	6,272.5	6,162.0	110.43	56.802		
17,300.0	11,570.0	18,273.0	10,720.5	106.6	131.7	65.06	130.2	-1,767.5	6,368.4	6,258.2	110.16	57.811		
17,400.0	11,570.0	18,273.0	10,720.5	108.2	131.7	65.06	130.2	-1,767.5	6,464.5	6,354.6	109.90	58.821		
17,500.0	11,570.0	18,273.0	10,720.5	109.7	131.7	65.06	130.2	-1,767.5	6,560.6	6,451.0	109.65	59.830		
17,600.0	11,570.0	18,273.0	10,720.5	111.2	131.7	65.06	130.2	-1,767.5	6,656.9	6,547.5	109.42	60.840		
17,700.0	11,570.0	18,273.0	10,720.5	112.8	131.7	65.06	130.2	-1,767.5	6,753.3	6,644.1	109.19	61.849		
17,800.0	11,570.0	18,273.0	10,720.5	114.3	131.7	65.06	130.2	-1,767.5	6,849.8	6,740.9	108.97	62.858		
17,834.0	11,570.0	18,273.0	10,720.5	114.8	131.7	65.06	130.2	-1,767.5	6,882.7	6,773.8	108.90	63.201		

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

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COMPASS 5000.14 Build 83

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 198-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	-25.46	7,764.4	-3,697.2	8,600.4					
100.0	100.0	0.0	0.0	0.1	0.0	-25.46	7,764.4	-3,697.2	8,599.7	8,599.6	0.13	N/A		
139.8	139.8	31.3	31.3	0.3	0.0	-25.46	7,764.4	-3,697.1	8,599.7	8,599.4	0.32	N/A		
200.0	200.0	92.4	92.4	0.5	0.1	-25.46	7,764.4	-3,697.1	8,599.7	8,599.1	0.63	N/A		
300.0	300.0	194.0	194.0	0.8	0.3	-25.46	7,764.6	-3,696.7	8,599.7	8,598.5	1.14	7,514.056		
400.0	400.0	330.9	330.9	1.2	0.8	-25.46	7,764.3	-3,696.3	8,599.4	8,597.4	1.98	4,351.200		
500.0	500.0	419.9	419.9	1.6	1.1	-25.46	7,764.1	-3,696.1	8,599.0	8,596.3	2.65	3,244.300		
600.0	600.0	497.9	497.9	1.9	1.4	-25.45	7,764.0	-3,695.6	8,598.7	8,595.4	3.29	2,616.648		
615.2	615.2	506.2	506.2	2.0	1.4	-25.45	7,764.1	-3,695.6	8,598.7	8,595.3	3.37	2,551.603		
700.0	700.0	700.0	700.0	2.3	2.1	-25.45	7,764.2	-3,695.4	8,598.8	8,594.5	4.36	1,972.687		
777.2	777.2	668.2	668.2	2.6	2.0	-25.45	7,764.3	-3,695.3	8,598.8	8,594.2	4.53	1,899.872		
800.0	800.0	684.8	684.8	2.6	2.0	-25.45	7,764.3	-3,695.2	8,598.8	8,594.1	4.67	1,842.500		
900.0	900.0	784.7	784.7	3.0	2.4	-25.45	7,764.7	-3,694.7	8,598.9	8,593.5	5.38	1,598.193		
1,000.0	1,000.0	915.6	915.6	3.4	2.9	-25.44	7,764.8	-3,694.3	8,598.8	8,592.6	6.20	1,385.965		
1,049.3	1,049.3	940.3	940.3	3.5	2.9	-25.44	7,764.7	-3,694.3	8,598.8	8,592.3	6.47	1,329.762		
1,100.0	1,100.0	970.1	970.1	3.7	3.0	-25.44	7,764.8	-3,694.2	8,598.8	8,592.1	6.75	1,273.525		
1,200.0	1,200.0	1,104.4	1,104.4	4.1	3.5	-25.44	7,764.9	-3,694.3	8,599.0	8,591.4	7.57	1,135.821		
1,240.3	1,240.3	1,131.3	1,131.3	4.2	3.6	-25.44	7,764.9	-3,694.4	8,598.9	8,591.1	7.81	1,101.585		
1,300.0	1,300.0	1,171.1	1,171.1	4.4	3.7	-25.45	7,764.9	-3,694.6	8,599.0	8,590.9	8.15	1,054.478		
1,400.0	1,400.0	1,400.0	1,337.7	4.8	4.5	-25.45	7,764.4	-3,695.1	8,598.9	8,589.6	9.30	924.834		
1,500.0	1,500.0	1,452.2	1,452.1	5.1	4.7	-25.45	7,763.6	-3,694.7	8,598.1	8,588.3	9.84	873.596		
1,600.0	1,600.0	1,560.0	1,560.0	5.5	5.1	66.91	7,762.6	-3,694.1	8,596.7	8,586.1	10.57	813.074		
1,700.0	1,700.0	1,597.6	1,597.5	5.8	5.2	66.93	7,762.3	-3,694.1	8,595.1	8,584.1	11.05	778.146		
1,800.0	1,799.9	1,620.0	1,620.0	6.2	5.3	66.95	7,762.2	-3,694.4	8,593.8	8,582.3	11.47	749.357		
1,900.0	1,899.7	1,655.0	1,655.0	6.5	5.4	66.97	7,762.3	-3,695.4	8,592.7	8,580.8	11.94	719.861		
2,000.0	1,999.4	1,655.0	1,655.0	6.9	5.4	66.97	7,762.3	-3,695.4	8,591.8	8,579.5	12.29	699.304		
2,100.0	2,098.9	1,689.5	1,689.4	7.2	5.5	66.99	7,762.7	-3,696.9	8,591.1	8,578.3	12.76	673.400		
2,200.0	2,198.3	1,713.4	1,713.2	7.6	5.6	67.01	7,763.2	-3,698.1	8,590.6	8,577.4	13.20	650.945		
2,300.0	2,297.4	1,750.0	1,749.8	8.0	5.7	67.03	7,764.2	-3,700.4	8,590.3	8,576.6	13.69	627.687		
2,328.3	2,325.4	1,750.0	1,749.8	8.1	5.7	67.03	7,764.2	-3,700.4	8,590.3	8,576.5	13.79	622.968		
2,400.0	2,396.4	1,750.0	1,749.8	8.4	5.7	67.03	7,764.2	-3,700.4	8,590.6	8,576.5	14.05	611.346		
2,500.0	2,495.5	1,803.1	1,802.8	8.7	5.9	67.05	7,765.9	-3,704.5	8,591.5	8,576.9	14.61	588.151		
2,600.0	2,594.5	1,844.0	1,843.4	9.1	6.1	67.07	7,767.5	-3,708.1	8,593.3	8,578.2	15.12	568.224		
2,701.1	2,694.6	1,927.8	1,926.8	9.5	6.3	67.11	7,770.9	-3,715.8	8,595.6	8,579.8	15.80	544.015		
2,800.0	2,792.7	2,245.7	2,242.4	9.9	7.5	67.17	7,775.8	-3,752.8	8,596.8	8,579.5	17.33	496.033		
2,900.0	2,892.2	2,344.4	2,340.4	10.3	7.9	67.17	7,775.5	-3,765.4	8,598.1	8,580.0	18.07	475.798		
3,000.0	2,991.9	2,443.9	2,439.0	10.6	8.2	67.16	7,775.1	-3,778.2	8,600.3	8,581.5	18.81	457.229		
3,100.0	3,091.8	2,520.5	2,515.0	11.0	8.5	67.18	7,775.0	-3,787.8	8,603.8	8,584.3	19.46	442.227		
3,200.0	3,191.8	2,653.7	2,647.3	11.4	9.0	67.16	7,775.4	-3,803.8	8,608.3	8,587.9	20.31	423.847		
3,234.4	3,226.2	2,716.5	2,709.6	11.5	9.3	-25.20	7,775.5	-3,810.6	8,609.9	8,589.2	20.67	416.617		
3,300.0	3,291.8	2,802.1	2,794.8	11.7	9.6	-25.25	7,775.8	-3,819.1	8,612.9	8,591.7	21.21	406.011		
3,400.0	3,391.8	2,883.0	2,875.4	12.0	9.9	-25.30	7,776.4	-3,826.6	8,617.5	8,595.6	21.86	394.229		
3,500.0	3,491.8	2,924.1	2,916.3	12.4	10.0	-25.32	7,777.0	-3,830.4	8,622.6	8,600.2	22.36	385.710		
3,600.0	3,591.8	2,977.0	2,968.9	12.7	10.2	-25.35	7,777.9	-3,835.7	8,628.3	8,605.4	22.90	376.859		
3,700.0	3,691.8	3,028.5	3,020.2	13.1	10.4	-25.37	7,779.0	-3,840.9	8,634.6	8,611.2	23.43	368.523		
3,800.0	3,791.8	3,127.4	3,118.6	13.4	10.8	-25.42	7,781.7	-3,850.4	8,641.3	8,617.1	24.15	357.866		
3,900.0	3,891.8	3,202.6	3,193.4	13.8	11.1	-25.46	7,783.8	-3,857.4	8,647.8	8,623.1	24.77	349.082		
4,000.0	3,991.8	3,261.0	3,251.4	14.1	11.3	-25.49	7,785.4	-3,863.8	8,655.0	8,629.6	25.34	341.612		
4,100.0	4,091.8	18,931.0	11,471.7	14.5	134.5	-88.84	81.7	-4,472.2	8,647.8	8,556.9	90.91	95.128		
4,200.0	4,191.8	18,931.0	11,471.7	14.8	134.5	-88.84	81.7	-4,472.2	8,561.4	8,469.8	91.56	93.503		
4,300.0	4,291.8	18,931.0	11,471.7	15.2	134.5	-88.84	81.7	-4,472.2	8,475.2	8,383.0	92.23	91.888		
4,400.0	4,391.8	18,931.0	11,471.7	15.5	134.5	-88.84	81.7	-4,472.2	8,389.4	8,296.5	92.92	90.284		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 198-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	
4,500.0	4,491.8	18,931.0	11,471.7	15.9	134.5	-88.84	81.7	-4,472.2	8,303.9	8,210.2	93.63	88.690	
4,600.0	4,591.8	18,931.0	11,471.7	16.2	134.5	-88.84	81.7	-4,472.2	8,218.7	8,124.3	94.35	87.109	
4,700.0	4,691.8	18,931.0	11,471.7	16.6	134.5	-88.84	81.7	-4,472.2	8,133.8	8,038.7	95.09	85.539	
4,800.0	4,791.8	18,931.0	11,471.7	16.9	134.5	-88.84	81.7	-4,472.2	8,049.3	7,953.4	95.84	83.982	
4,900.0	4,891.8	18,931.0	11,471.7	17.3	134.5	-88.84	81.7	-4,472.2	7,965.1	7,868.5	96.62	82.439	
5,000.0	4,991.8	18,931.0	11,471.7	17.7	134.5	-88.84	81.7	-4,472.2	7,881.3	7,783.9	97.41	80.908	
5,100.0	5,091.8	18,931.0	11,471.7	18.0	134.5	-88.84	81.7	-4,472.2	7,797.9	7,699.7	98.22	79.392	
5,200.0	5,191.8	18,931.0	11,471.7	18.4	134.5	-88.84	81.7	-4,472.2	7,714.9	7,615.8	99.05	77.890	
5,300.0	5,291.8	18,931.0	11,471.7	18.7	134.5	-88.84	81.7	-4,472.2	7,632.3	7,532.4	99.90	76.403	
5,400.0	5,391.8	18,931.0	11,471.7	19.1	134.5	-88.84	81.7	-4,472.2	7,550.1	7,449.3	100.76	74.930	
5,500.0	5,491.8	18,931.0	11,471.7	19.4	134.5	-88.84	81.7	-4,472.2	7,468.3	7,366.7	101.65	73.474	
5,600.0	5,591.8	18,931.0	11,471.7	19.8	134.5	-88.84	81.7	-4,472.2	7,387.0	7,284.5	102.55	72.033	
5,700.0	5,691.8	18,931.0	11,471.7	20.1	134.5	-88.84	81.7	-4,472.2	7,306.2	7,202.7	103.48	70.608	
5,800.0	5,791.8	18,931.0	11,471.7	20.5	134.5	-88.84	81.7	-4,472.2	7,225.8	7,121.4	104.42	69.200	
5,900.0	5,891.8	18,931.0	11,471.7	20.8	134.5	-88.84	81.7	-4,472.2	7,146.0	7,040.6	105.38	67.809	
6,000.0	5,991.8	18,931.0	11,471.7	21.2	134.5	-88.84	81.7	-4,472.2	7,066.6	6,960.3	106.37	66.436	
6,100.0	6,091.8	18,931.0	11,471.7	21.5	134.5	-88.84	81.7	-4,472.2	6,987.8	6,880.4	107.37	65.079	
6,200.0	6,191.8	18,931.0	11,471.7	21.9	134.5	-88.84	81.7	-4,472.2	6,909.5	6,801.1	108.40	63.741	
6,300.0	6,291.8	18,931.0	11,471.7	22.3	134.5	-88.84	81.7	-4,472.2	6,831.8	6,722.4	109.45	62.421	
6,400.0	6,391.8	18,931.0	11,471.7	22.6	134.5	-88.84	81.7	-4,472.2	6,754.7	6,644.2	110.52	61.120	
6,500.0	6,491.8	18,931.0	11,471.7	23.0	134.5	-88.84	81.7	-4,472.2	6,678.2	6,566.6	111.61	59.837	
6,600.0	6,591.8	18,931.0	11,471.7	23.3	134.5	-88.84	81.7	-4,472.2	6,602.3	6,489.6	112.72	58.574	
6,700.0	6,691.8	18,931.0	11,471.7	23.7	134.5	-88.84	81.7	-4,472.2	6,527.1	6,413.2	113.85	57.330	
6,800.0	6,791.8	18,931.0	11,471.7	24.0	134.5	-88.84	81.7	-4,472.2	6,452.5	6,337.5	115.01	56.106	
6,900.0	6,891.8	18,931.0	11,471.7	24.4	134.5	-88.84	81.7	-4,472.2	6,378.6	6,262.5	116.18	54.902	
7,000.0	6,991.8	18,931.0	11,471.7	24.7	134.5	-88.84	81.7	-4,472.2	6,305.5	6,188.1	117.38	53.719	
7,100.0	7,091.8	18,931.0	11,471.7	25.1	134.5	-88.84	81.7	-4,472.2	6,233.1	6,114.5	118.60	52.556	
7,200.0	7,191.8	18,931.0	11,471.7	25.5	134.5	-88.84	81.7	-4,472.2	6,161.5	6,041.6	119.84	51.413	
7,300.0	7,291.8	18,931.0	11,471.7	25.8	134.5	-88.84	81.7	-4,472.2	6,090.6	5,969.5	121.10	50.292	
7,400.0	7,391.8	18,931.0	11,471.7	26.2	134.5	-88.84	81.7	-4,472.2	6,020.6	5,898.3	122.39	49.193	
7,500.0	7,491.8	18,931.0	11,471.7	26.5	134.5	-88.84	81.7	-4,472.2	5,951.5	5,827.8	123.69	48.115	
7,600.0	7,591.8	18,931.0	11,471.7	26.9	134.5	-88.84	81.7	-4,472.2	5,883.2	5,758.2	125.02	47.059	
7,700.0	7,691.8	18,931.0	11,471.7	27.2	134.5	-88.84	81.7	-4,472.2	5,815.9	5,689.5	126.36	46.026	
7,800.0	7,791.8	18,931.0	11,471.7	27.6	134.5	-88.84	81.7	-4,472.2	5,749.5	5,621.8	127.73	45.014	
7,900.0	7,891.8	18,931.0	11,471.7	28.0	134.5	-88.84	81.7	-4,472.2	5,684.1	5,555.0	129.11	44.026	
8,000.0	7,991.8	18,931.0	11,471.7	28.3	134.5	-88.84	81.7	-4,472.2	5,619.7	5,489.2	130.51	43.060	
8,100.0	8,091.8	18,931.0	11,471.7	28.7	134.5	-88.84	81.7	-4,472.2	5,556.4	5,424.5	131.93	42.117	
8,200.0	8,191.8	18,931.0	11,471.7	29.0	134.5	-88.84	81.7	-4,472.2	5,494.2	5,360.8	133.36	41.198	
8,300.0	8,291.8	18,931.0	11,471.7	29.4	134.5	-88.84	81.7	-4,472.2	5,433.0	5,298.2	134.81	40.302	
8,400.0	8,391.8	18,931.0	11,471.7	29.7	134.5	-88.84	81.7	-4,472.2	5,373.1	5,236.8	136.27	39.430	
8,500.0	8,491.8	18,931.0	11,471.7	30.1	134.5	-88.84	81.7	-4,472.2	5,314.4	5,176.6	137.74	38.581	
8,600.0	8,591.8	18,931.0	11,471.7	30.4	134.5	-88.84	81.7	-4,472.2	5,256.9	5,117.6	139.23	37.757	
8,700.0	8,691.8	18,931.0	11,471.7	30.8	134.5	-88.84	81.7	-4,472.2	5,200.7	5,059.9	140.72	36.957	
8,800.0	8,791.8	18,931.0	11,471.7	31.2	134.5	-88.84	81.7	-4,472.2	5,145.8	5,003.6	142.22	36.181	
8,900.0	8,891.8	18,931.0	11,471.7	31.5	134.5	-88.84	81.7	-4,472.2	5,092.3	4,948.5	143.73	35.430	
9,000.0	8,991.8	18,931.0	11,471.7	31.9	134.5	-88.84	81.7	-4,472.2	5,040.2	4,895.0	145.23	34.704	
9,100.0	9,091.8	18,931.0	11,471.7	32.2	134.5	-88.84	81.7	-4,472.2	4,989.6	4,842.8	146.74	34.002	
9,200.0	9,191.8	18,931.0	11,471.7	32.6	134.5	-88.84	81.7	-4,472.2	4,940.4	4,792.2	148.25	33.325	
9,300.0	9,291.8	18,931.0	11,471.7	32.9	134.5	-88.84	81.7	-4,472.2	4,892.9	4,743.1	149.75	32.674	
9,400.0	9,391.8	18,931.0	11,471.7	33.3	134.5	-88.84	81.7	-4,472.2	4,846.9	4,695.6	151.24	32.047	
9,500.0	9,491.8	18,931.0	11,471.7	33.7	134.5	-88.84	81.7	-4,472.2	4,802.6	4,649.8	152.73	31.446	
9,600.0	9,591.8	18,931.0	11,471.7	34.0	134.5	-88.84	81.7	-4,472.2	4,759.9	4,605.7	154.19	30.869	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 198-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	
9,700.0	9,691.8	18,931.0	11,471.7	34.4	134.5	-88.84	81.7	-4,472.2	4,719.0	4,563.4	155.65	30.319	
9,800.0	9,791.8	18,931.0	11,471.7	34.7	134.5	-88.84	81.7	-4,472.2	4,679.9	4,522.8	157.08	29.793	
9,900.0	9,891.8	18,931.0	11,471.7	35.1	134.5	-88.84	81.7	-4,472.2	4,642.6	4,484.1	158.48	29.293	
10,000.0	9,991.8	18,931.0	11,471.7	35.4	134.5	-88.84	81.7	-4,472.2	4,607.1	4,447.3	159.86	28.819	
10,100.0	10,091.8	18,931.0	11,471.7	35.8	134.5	-88.84	81.7	-4,472.2	4,573.6	4,412.4	161.21	28.370	
10,200.0	10,191.8	18,931.0	11,471.7	36.2	134.5	-88.84	81.7	-4,472.2	4,542.0	4,379.5	162.52	27.947	
10,300.0	10,291.8	18,931.0	11,471.7	36.5	134.5	-88.84	81.7	-4,472.2	4,512.5	4,348.7	163.80	27.549	
10,400.0	10,391.8	18,931.0	11,471.7	36.9	134.5	-88.84	81.7	-4,472.2	4,484.9	4,319.9	165.03	27.176	
10,500.0	10,491.8	18,931.0	11,471.7	37.2	134.5	-88.84	81.7	-4,472.2	4,459.4	4,293.2	166.21	26.830	
10,600.0	10,591.8	18,931.0	11,471.7	37.6	134.5	-88.84	81.7	-4,472.2	4,436.1	4,268.7	167.35	26.508	
10,700.0	10,691.8	18,931.0	11,471.7	37.9	134.5	-88.84	81.7	-4,472.2	4,414.9	4,246.4	168.43	26.212	
10,800.0	10,791.8	18,931.0	11,471.7	38.3	134.5	-88.84	81.7	-4,472.2	4,395.8	4,226.4	169.46	25.941	
10,900.0	10,891.8	18,931.0	11,471.7	38.7	134.5	-88.84	81.7	-4,472.2	4,379.0	4,208.6	170.42	25.695	
11,005.2	10,997.0	18,931.0	11,471.7	39.0	134.5	-88.84	81.7	-4,472.2	4,363.7	4,192.3	171.37	25.464	
11,050.0	11,041.7	18,931.0	11,471.7	39.2	134.5	91.94	81.7	-4,472.2	4,357.9	4,186.2	171.74	25.375	
11,100.0	11,091.3	18,931.0	11,471.7	39.4	134.5	92.51	81.7	-4,472.2	4,352.2	4,180.1	172.14	25.283	
11,150.0	11,140.2	18,931.0	11,471.7	39.5	134.5	93.01	81.7	-4,472.2	4,347.3	4,174.8	172.53	25.197	
11,200.0	11,188.0	18,931.0	11,471.7	39.7	134.5	93.43	81.7	-4,472.2	4,343.1	4,170.2	172.90	25.120	
11,250.0	11,234.4	18,931.0	11,471.7	39.8	134.5	93.76	81.7	-4,472.2	4,339.8	4,166.6	173.24	25.050	
11,300.0	11,278.9	18,931.0	11,471.7	39.9	134.5	94.00	81.7	-4,472.2	4,337.4	4,163.8	173.57	24.989	
11,350.0	11,321.3	18,931.0	11,471.7	40.1	134.5	94.16	81.7	-4,472.2	4,335.8	4,161.9	173.88	24.936	
11,400.0	11,361.3	18,931.0	11,471.7	40.2	134.5	94.23	81.7	-4,472.2	4,335.1	4,160.9	174.16	24.891	
11,413.4	11,371.5	18,931.0	11,471.7	40.2	134.5	94.23	81.7	-4,472.2	4,335.1	4,160.8	174.23	24.881 CC, ES	
11,450.0	11,398.4	18,931.0	11,471.7	40.3	134.5	94.21	81.7	-4,472.2	4,335.3	4,160.9	174.42	24.855	
11,500.0	11,432.5	18,931.0	11,471.7	40.5	134.5	94.10	81.7	-4,472.2	4,336.4	4,161.7	174.67	24.827	
11,550.0	11,463.3	18,931.0	11,471.7	40.6	134.5	93.90	81.7	-4,472.2	4,338.4	4,163.5	174.89	24.806	
11,600.0	11,490.6	18,931.0	11,471.7	40.8	134.5	93.61	81.7	-4,472.2	4,341.3	4,166.2	175.09	24.794	
11,650.0	11,514.0	18,931.0	11,471.7	40.9	134.5	93.24	81.7	-4,472.2	4,345.0	4,169.7	175.28	24.789 SF	
11,700.0	11,533.6	18,931.0	11,471.7	41.1	134.5	92.79	81.7	-4,472.2	4,349.5	4,174.0	175.44	24.791	
11,750.0	11,549.1	18,931.0	11,471.7	41.3	134.5	92.26	81.7	-4,472.2	4,354.8	4,179.2	175.59	24.801	
11,800.0	11,560.3	18,931.0	11,471.7	41.4	134.5	91.65	81.7	-4,472.2	4,360.8	4,185.1	175.72	24.816	
11,850.0	11,567.3	18,931.0	11,471.7	41.6	134.5	90.97	81.7	-4,472.2	4,367.6	4,191.7	175.84	24.839	
11,900.0	11,569.9	18,931.0	11,471.7	41.8	134.5	90.22	81.7	-4,472.2	4,374.9	4,199.0	175.93	24.867	
11,905.2	11,570.0	18,931.0	11,471.7	41.8	134.5	90.14	81.7	-4,472.2	4,375.7	4,199.8	175.94	24.871	
11,912.4	11,570.0	18,931.0	11,471.7	41.8	134.5	90.14	81.7	-4,472.2	4,376.9	4,200.9	175.95	24.875	
12,000.0	11,570.0	18,931.0	11,471.7	42.2	134.5	90.14	81.7	-4,472.2	4,391.6	4,215.5	176.10	24.938	
12,100.0	11,570.0	18,931.0	11,471.7	42.6	134.5	90.14	81.7	-4,472.2	4,410.5	4,234.2	176.27	25.022	
12,200.0	11,570.0	18,931.0	11,471.7	43.1	134.5	90.14	81.7	-4,472.2	4,431.6	4,255.1	176.42	25.119	
12,300.0	11,570.0	18,931.0	11,471.7	43.7	134.5	90.14	81.7	-4,472.2	4,454.8	4,278.2	176.58	25.229	
12,400.0	11,570.0	18,931.0	11,471.7	44.3	134.5	90.14	81.7	-4,472.2	4,480.1	4,303.4	176.72	25.352	
12,500.0	11,570.0	18,931.0	11,471.7	45.0	134.5	90.14	81.7	-4,472.2	4,507.5	4,330.7	176.84	25.489	
12,600.0	11,570.0	18,931.0	11,471.7	45.7	134.5	90.14	81.7	-4,472.2	4,536.9	4,360.0	176.96	25.639	
12,700.0	11,570.0	18,931.0	11,471.7	46.5	134.5	90.14	81.7	-4,472.2	4,568.4	4,391.3	177.05	25.803	
12,800.0	11,570.0	18,931.0	11,471.7	47.3	134.5	90.14	81.7	-4,472.2	4,601.8	4,424.7	177.13	25.980	
12,900.0	11,570.0	18,931.0	11,471.7	48.2	134.5	90.14	81.7	-4,472.2	4,637.1	4,459.9	177.18	26.171	
13,000.0	11,570.0	18,931.0	11,471.7	49.1	134.5	90.14	81.7	-4,472.2	4,674.3	4,497.1	177.22	26.376	
13,100.0	11,570.0	18,931.0	11,471.7	50.0	134.5	90.14	81.7	-4,472.2	4,713.3	4,536.1	177.23	26.594	
13,200.0	11,570.0	18,931.0	11,471.7	51.0	134.5	90.14	81.7	-4,472.2	4,754.1	4,576.9	177.22	26.825	
13,300.0	11,570.0	18,931.0	11,471.7	52.0	134.5	90.14	81.7	-4,472.2	4,796.7	4,619.5	177.19	27.070	
13,400.0	11,570.0	18,931.0	11,471.7	53.0	134.5	90.14	81.7	-4,472.2	4,840.9	4,663.8	177.14	27.328	
13,500.0	11,570.0	18,931.0	11,471.7	54.1	134.5	90.14	81.7	-4,472.2	4,886.8	4,709.7	177.06	27.599	
13,600.0	11,570.0	18,931.0	11,471.7	55.2	134.5	90.14	81.7	-4,472.2	4,934.3	4,757.3	176.96	27.883	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 198-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		
13,700.0	11,570.0	18,931.0	11,471.7	56.3	134.5	90.14	81.7	-4,472.2	4,983.3	4,806.4	176.84	28.180		
13,800.0	11,570.0	18,931.0	11,471.7	57.5	134.5	90.14	81.7	-4,472.2	5,033.8	4,857.1	176.70	28.488		
13,900.0	11,570.0	18,931.0	11,471.7	58.7	134.5	90.14	81.7	-4,472.2	5,085.8	4,909.3	176.54	28.809		
14,000.0	11,570.0	18,931.0	11,471.7	59.9	134.5	90.14	81.7	-4,472.2	5,139.3	4,962.9	176.35	29.142		
14,100.0	11,570.0	18,931.0	11,471.7	61.1	134.5	90.14	81.7	-4,472.2	5,194.1	5,017.9	176.15	29.486		
14,200.0	11,570.0	18,931.0	11,471.7	62.3	134.5	90.14	81.7	-4,472.2	5,250.2	5,074.3	175.93	29.842		
14,300.0	11,570.0	18,931.0	11,471.7	63.6	134.5	90.14	81.7	-4,472.2	5,307.6	5,131.9	175.70	30.209		
14,400.0	11,570.0	18,931.0	11,471.7	64.9	134.5	90.14	81.7	-4,472.2	5,366.3	5,190.9	175.44	30.587		
14,500.0	11,570.0	18,931.0	11,471.7	66.2	134.5	90.14	81.7	-4,472.2	5,426.2	5,251.0	175.18	30.975		
14,600.0	11,570.0	18,931.0	11,471.7	67.5	134.5	90.14	81.7	-4,472.2	5,487.2	5,312.3	174.90	31.374		
14,700.0	11,570.0	18,931.0	11,471.7	68.8	134.5	90.14	81.7	-4,472.2	5,549.4	5,374.8	174.61	31.782		
14,800.0	11,570.0	18,931.0	11,471.7	70.1	134.5	90.14	81.7	-4,472.2	5,612.7	5,438.4	174.30	32.201		
14,900.0	11,570.0	18,931.0	11,471.7	71.5	134.5	90.14	81.7	-4,472.2	5,677.0	5,503.0	173.99	32.629		
15,000.0	11,570.0	18,931.0	11,471.7	72.9	134.5	90.14	81.7	-4,472.2	5,742.4	5,568.7	173.66	33.066		
15,100.0	11,570.0	18,931.0	11,471.7	74.2	134.5	90.14	81.7	-4,472.2	5,808.7	5,635.4	173.33	33.512		
15,200.0	11,570.0	18,931.0	11,471.7	75.6	134.5	90.14	81.7	-4,472.2	5,876.0	5,703.0	172.99	33.967		
15,300.0	11,570.0	18,931.0	11,471.7	77.0	134.5	90.14	81.7	-4,472.2	5,944.2	5,771.6	172.65	34.430		
15,400.0	11,570.0	18,931.0	11,471.7	78.4	134.5	90.14	81.7	-4,472.2	6,013.3	5,841.0	172.29	34.902		
15,500.0	11,570.0	18,931.0	11,471.7	79.9	134.5	90.14	81.7	-4,472.2	6,083.3	5,911.4	171.94	35.381		
15,600.0	11,570.0	18,931.0	11,471.7	81.3	134.5	90.14	81.7	-4,472.2	6,154.1	5,982.5	171.57	35.868		
15,700.0	11,570.0	18,931.0	11,471.7	82.7	134.5	90.14	81.7	-4,472.2	6,225.7	6,054.5	171.21	36.363		
15,800.0	11,570.0	18,931.0	11,471.7	84.2	134.5	90.14	81.7	-4,472.2	6,298.0	6,127.2	170.84	36.865		
15,900.0	11,570.0	18,931.0	11,471.7	85.6	134.5	90.14	81.7	-4,472.2	6,371.2	6,200.7	170.47	37.374		
16,000.0	11,570.0	18,931.0	11,471.7	87.1	134.5	90.14	81.7	-4,472.2	6,445.0	6,274.9	170.10	37.890		
16,100.0	11,570.0	18,931.0	11,471.7	88.6	134.5	90.14	81.7	-4,472.2	6,519.5	6,349.8	169.73	38.412		
16,200.0	11,570.0	18,931.0	11,471.7	90.0	134.5	90.14	81.7	-4,472.2	6,594.7	6,425.4	169.35	38.941		
16,300.0	11,570.0	18,931.0	11,471.7	91.5	134.5	90.14	81.7	-4,472.2	6,670.6	6,501.6	168.98	39.476		
16,400.0	11,570.0	18,931.0	11,471.7	93.0	134.5	90.14	81.7	-4,472.2	6,747.1	6,578.5	168.61	40.017		
16,500.0	11,570.0	18,931.0	11,471.7	94.5	134.5	90.14	81.7	-4,472.2	6,824.2	6,655.9	168.23	40.563		
16,600.0	11,570.0	18,931.0	11,471.7	96.0	134.5	90.14	81.7	-4,472.2	6,901.9	6,734.0	167.86	41.116		
16,700.0	11,570.0	18,931.0	11,471.7	97.5	134.5	90.14	81.7	-4,472.2	6,980.1	6,812.6	167.50	41.673		
16,800.0	11,570.0	18,931.0	11,471.7	99.0	134.5	90.14	81.7	-4,472.2	7,058.9	6,891.8	167.13	42.236		
16,900.0	11,570.0	18,931.0	11,471.7	100.5	134.5	90.14	81.7	-4,472.2	7,138.2	6,971.5	166.76	42.805		
17,000.0	11,570.0	18,931.0	11,471.7	102.0	134.5	90.14	81.7	-4,472.2	7,218.1	7,051.7	166.40	43.377		
17,100.0	11,570.0	18,931.0	11,471.7	103.6	134.5	90.14	81.7	-4,472.2	7,298.4	7,132.4	166.04	43.955		
17,200.0	11,570.0	18,931.0	11,471.7	105.1	134.5	90.14	81.7	-4,472.2	7,379.3	7,213.6	165.69	44.537		
17,300.0	11,570.0	18,931.0	11,471.7	106.6	134.5	90.14	81.7	-4,472.2	7,460.5	7,295.2	165.33	45.124		
17,400.0	11,570.0	18,931.0	11,471.7	108.2	134.5	90.14	81.7	-4,472.2	7,542.3	7,377.3	164.98	45.715		
17,500.0	11,570.0	18,931.0	11,471.7	109.7	134.5	90.14	81.7	-4,472.2	7,624.5	7,459.8	164.64	46.310		
17,600.0	11,570.0	18,931.0	11,471.7	111.2	134.5	90.14	81.7	-4,472.2	7,707.0	7,542.8	164.30	46.909		
17,700.0	11,570.0	18,931.0	11,471.7	112.8	134.5	90.14	81.7	-4,472.2	7,790.0	7,626.1	163.96	47.512		
17,800.0	11,570.0	18,931.0	11,471.7	114.3	134.5	90.14	81.7	-4,472.2	7,873.4	7,709.8	163.62	48.119		
17,834.0	11,570.0	18,931.0	11,471.7	114.8	134.5	90.14	81.7	-4,472.2	7,901.9	7,738.4	163.51	48.326		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 288-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	-25.28	7,764.6	-3,667.3	8,587.8				
100.0	100.0	0.0	0.0	0.1	0.0	-25.28	7,764.6	-3,667.3	8,587.1	8,586.9	0.13	N/A	
111.5	111.5	0.0	0.0	0.2	0.0	-25.28	7,764.6	-3,667.3	8,587.1	8,586.9	0.17	N/A	
200.0	200.0	62.8	62.8	0.5	0.1	-25.28	7,764.6	-3,667.4	8,587.2	8,586.6	0.59	N/A	
300.0	300.0	133.8	133.8	0.8	0.2	-25.28	7,764.8	-3,667.8	8,587.7	8,586.6	1.06	8,063.787	
400.0	400.0	204.7	204.7	1.2	0.3	-25.29	7,765.1	-3,668.6	8,588.5	8,586.9	1.54	5,578.790	
500.0	500.0	288.0	288.0	1.6	0.5	-25.30	7,765.5	-3,670.0	8,589.6	8,587.6	2.03	4,222.959	
600.0	600.0	683.0	682.9	1.9	1.9	-25.32	7,762.7	-3,672.4	8,589.8	8,586.0	3.78	2,270.728	
700.0	700.0	750.0	749.9	2.3	2.1	-25.32	7,761.6	-3,671.6	8,587.7	8,583.3	4.37	1,965.796	
800.0	800.0	816.8	816.6	2.6	2.3	-25.31	7,760.7	-3,670.9	8,586.0	8,581.1	4.96	1,732.214	
900.0	900.0	883.8	883.7	3.0	2.6	-25.31	7,760.1	-3,670.1	8,584.7	8,579.2	5.55	1,547.845	
1,000.0	1,000.0	970.6	970.5	3.4	2.9	-25.31	7,759.7	-3,669.1	8,583.8	8,577.6	6.21	1,383.265	
1,100.0	1,100.0	1,093.9	1,093.7	3.7	3.3	-25.30	7,758.8	-3,667.4	8,582.5	8,575.5	7.00	1,226.926	
1,200.0	1,200.0	1,185.0	1,184.8	4.1	3.6	-25.29	7,758.2	-3,666.3	8,581.4	8,573.7	7.67	1,118.214	
1,300.0	1,300.0	1,269.3	1,269.2	4.4	3.9	-25.29	7,757.7	-3,665.3	8,580.3	8,572.0	8.33	1,030.037	
1,400.0	1,400.0	1,355.6	1,355.5	4.8	4.2	-25.28	7,757.3	-3,664.4	8,579.5	8,570.5	8.99	953.967	
1,500.0	1,500.0	1,457.1	1,456.9	5.1	4.6	-25.28	7,756.8	-3,663.5	8,578.7	8,569.0	9.71	883.378	
1,600.0	1,600.0	1,606.7	1,606.5	5.5	5.1	67.09	7,756.0	-3,661.6	8,577.3	8,566.7	10.59	809.823	
1,700.0	1,700.0	1,726.1	1,725.9	5.8	5.5	67.15	7,755.0	-3,659.3	8,574.8	8,563.4	11.36	754.942	
1,800.0	1,799.9	1,822.2	1,821.9	6.2	5.9	67.23	7,755.2	-3,655.4	8,571.5	8,559.5	12.04	711.698	
1,900.0	1,899.7	1,923.3	1,922.8	6.5	6.2	67.34	7,756.2	-3,649.5	8,567.6	8,554.8	12.75	671.959	
2,000.0	1,999.4	2,016.7	2,016.1	6.9	6.6	67.47	7,757.5	-3,643.4	8,563.0	8,549.5	13.43	637.390	
2,100.0	2,098.9	2,103.3	2,102.4	7.2	6.9	67.61	7,758.9	-3,637.6	8,557.9	8,543.8	14.10	606.948	
2,200.0	2,198.3	2,211.2	2,210.1	7.6	7.3	67.79	7,760.7	-3,630.1	8,552.2	8,537.4	14.85	575.956	
2,300.0	2,297.4	2,318.4	2,317.0	8.0	7.6	67.98	7,762.5	-3,622.3	8,545.7	8,530.1	15.60	547.698	
2,400.0	2,396.4	2,438.6	2,436.8	8.4	8.1	68.15	7,764.9	-3,612.5	8,538.9	8,522.5	16.41	520.270	
2,500.0	2,495.5	2,596.4	2,593.7	8.7	8.7	68.39	7,768.3	-3,597.0	8,531.6	8,514.3	17.37	491.210	
2,600.0	2,594.5	2,600.0	2,728.2	9.1	8.7	68.62	7,771.5	-3,580.8	8,523.6	8,505.9	17.76	479.975	
2,701.1	2,694.6	2,802.8	2,798.5	9.5	9.4	68.74	7,773.3	-3,572.0	8,515.7	8,496.7	18.91	450.265	
2,800.0	2,792.7	2,854.3	2,849.7	9.9	9.6	68.73	7,774.7	-3,565.9	8,508.8	8,489.3	19.49	436.610	
2,900.0	2,892.2	2,900.8	2,895.9	10.3	9.8	68.72	7,776.1	-3,560.8	8,503.5	8,483.5	20.04	424.254	
3,000.0	2,991.9	2,989.1	2,983.6	10.6	10.2	68.77	7,779.2	-3,551.3	8,499.6	8,478.9	20.75	409.655	
3,100.0	3,091.8	3,151.9	3,145.6	11.0	10.8	68.88	7,783.3	-3,535.4	8,496.3	8,474.6	21.72	391.154	
3,200.0	3,191.8	3,256.4	3,249.9	11.4	11.2	68.90	7,783.9	-3,528.7	8,493.4	8,471.0	22.46	378.152	
3,234.4	3,226.2	3,283.8	3,277.2	11.5	11.3	-23.45	7,784.0	-3,527.1	8,492.7	8,470.0	22.68	374.443	
3,300.0	3,291.8	3,340.3	3,333.6	11.7	11.5	-23.42	7,784.4	-3,523.7	8,491.5	8,468.4	23.12	367.343	
3,400.0	3,391.8	3,425.8	3,418.9	12.0	11.8	-23.39	7,784.9	-3,518.8	8,489.8	8,466.0	23.78	357.057	
3,500.0	3,491.8	3,505.3	3,498.3	12.4	12.1	-23.36	7,785.5	-3,514.4	8,488.3	8,463.8	24.42	347.633	
3,600.0	3,591.8	3,585.0	3,577.9	12.7	12.4	-23.33	7,786.4	-3,509.7	8,487.0	8,461.9	25.06	338.680	
3,700.0	3,691.8	18,876.0	11,477.8	13.1	133.8	-87.58	117.2	-3,065.0	8,419.7	8,339.7	80.03	105.210	
3,800.0	3,791.8	18,876.0	11,477.8	13.4	133.8	-87.58	117.2	-3,065.0	8,326.0	8,245.6	80.44	103.502	
3,900.0	3,891.8	18,876.0	11,477.8	13.8	133.8	-87.58	117.2	-3,065.0	8,232.4	8,151.6	80.87	101.794	
4,000.0	3,991.8	18,876.0	11,477.8	14.1	133.8	-87.58	117.2	-3,065.0	8,139.0	8,057.7	81.32	100.087	
4,100.0	4,091.8	18,876.0	11,477.8	14.5	133.8	-87.58	117.2	-3,065.0	8,045.7	7,964.0	81.78	98.382	
4,200.0	4,191.8	18,876.0	11,477.8	14.8	133.8	-87.58	117.2	-3,065.0	7,952.6	7,870.4	82.26	96.679	
4,300.0	4,291.8	18,876.0	11,477.8	15.2	133.8	-87.58	117.2	-3,065.0	7,859.7	7,776.9	82.75	94.980	
4,400.0	4,391.8	18,876.0	11,477.8	15.5	133.8	-87.58	117.2	-3,065.0	7,766.9	7,683.7	83.26	93.285	
4,500.0	4,491.8	18,876.0	11,477.8	15.9	133.8	-87.58	117.2	-3,065.0	7,674.4	7,590.6	83.79	91.594	
4,600.0	4,591.8	18,876.0	11,477.8	16.2	133.8	-87.58	117.2	-3,065.0	7,582.0	7,497.6	84.33	89.909	
4,700.0	4,691.8	18,876.0	11,477.8	16.6	133.8	-87.58	117.2	-3,065.0	7,489.8	7,404.9	84.89	88.231	
4,800.0	4,791.8	18,876.0	11,477.8	16.9	133.8	-87.58	117.2	-3,065.0	7,397.8	7,312.3	85.47	86.559	
4,900.0	4,891.8	18,876.0	11,477.8	17.3	133.8	-87.58	117.2	-3,065.0	7,306.0	7,219.9	86.06	84.894	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 288-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	4,991.8	18,876.0	11,477.8	17.7	133.8	-87.58	117.2	-3,065.0	7,214.4	7,127.8	86.67	83.238	
5,100.0	5,091.8	18,876.0	11,477.8	18.0	133.8	-87.58	117.2	-3,065.0	7,123.1	7,035.8	87.30	81.590	
5,200.0	5,191.8	18,876.0	11,477.8	18.4	133.8	-87.58	117.2	-3,065.0	7,032.0	6,944.1	87.95	79.951	
5,300.0	5,291.8	18,876.0	11,477.8	18.7	133.8	-87.58	117.2	-3,065.0	6,941.2	6,852.5	88.62	78.321	
5,400.0	5,391.8	18,876.0	11,477.8	19.1	133.8	-87.58	117.2	-3,065.0	6,850.6	6,761.2	89.31	76.702	
5,500.0	5,491.8	18,876.0	11,477.8	19.4	133.8	-87.58	117.2	-3,065.0	6,760.2	6,670.2	90.02	75.094	
5,600.0	5,591.8	18,876.0	11,477.8	19.8	133.8	-87.58	117.2	-3,065.0	6,670.2	6,579.4	90.76	73.496	
5,700.0	5,691.8	18,876.0	11,477.8	20.1	133.8	-87.58	117.2	-3,065.0	6,580.4	6,488.9	91.51	71.911	
5,800.0	5,791.8	18,876.0	11,477.8	20.5	133.8	-87.58	117.2	-3,065.0	6,490.9	6,398.6	92.28	70.337	
5,900.0	5,891.8	18,876.0	11,477.8	20.8	133.8	-87.58	117.2	-3,065.0	6,401.8	6,308.7	93.08	68.776	
6,000.0	5,991.8	18,876.0	11,477.8	21.2	133.8	-87.58	117.2	-3,065.0	6,312.9	6,219.0	93.90	67.228	
6,100.0	6,091.8	18,876.0	11,477.8	21.5	133.8	-87.58	117.2	-3,065.0	6,224.4	6,129.7	94.75	65.694	
6,200.0	6,191.8	18,876.0	11,477.8	21.9	133.8	-87.58	117.2	-3,065.0	6,136.3	6,040.7	95.62	64.173	
6,300.0	6,291.8	18,876.0	11,477.8	22.3	133.8	-87.58	117.2	-3,065.0	6,048.5	5,952.0	96.52	62.667	
6,400.0	6,391.8	18,876.0	11,477.8	22.6	133.8	-87.58	117.2	-3,065.0	5,961.1	5,863.7	97.44	61.177	
6,500.0	6,491.8	18,876.0	11,477.8	23.0	133.8	-87.58	117.2	-3,065.0	5,874.1	5,775.8	98.39	59.701	
6,600.0	6,591.8	18,876.0	11,477.8	23.3	133.8	-87.58	117.2	-3,065.0	5,787.6	5,688.2	99.37	58.242	
6,700.0	6,691.8	18,876.0	11,477.8	23.7	133.8	-87.58	117.2	-3,065.0	5,701.5	5,601.1	100.38	56.799	
6,800.0	6,791.8	18,876.0	11,477.8	24.0	133.8	-87.58	117.2	-3,065.0	5,615.8	5,514.4	101.42	55.373	
6,900.0	6,891.8	18,876.0	11,477.8	24.4	133.8	-87.58	117.2	-3,065.0	5,530.6	5,428.1	102.49	53.964	
7,000.0	6,991.8	18,876.0	11,477.8	24.7	133.8	-87.58	117.2	-3,065.0	5,445.9	5,342.3	103.59	52.573	
7,100.0	7,091.8	18,876.0	11,477.8	25.1	133.8	-87.58	117.2	-3,065.0	5,361.8	5,257.0	104.72	51.201	
7,200.0	7,191.8	18,876.0	11,477.8	25.5	133.8	-87.58	117.2	-3,065.0	5,278.2	5,172.3	105.89	49.848	
7,300.0	7,291.8	18,876.0	11,477.8	25.8	133.8	-87.58	117.2	-3,065.0	5,195.1	5,088.1	107.09	48.514	
7,400.0	7,391.8	18,876.0	11,477.8	26.2	133.8	-87.58	117.2	-3,065.0	5,112.7	5,004.4	108.32	47.200	
7,500.0	7,491.8	18,876.0	11,477.8	26.5	133.8	-87.58	117.2	-3,065.0	5,030.9	4,921.4	109.59	45.906	
7,600.0	7,591.8	18,876.0	11,477.8	26.9	133.8	-87.58	117.2	-3,065.0	4,949.8	4,838.9	110.90	44.633	
7,700.0	7,691.8	18,876.0	11,477.8	27.2	133.8	-87.58	117.2	-3,065.0	4,869.4	4,757.2	112.24	43.382	
7,800.0	7,791.8	18,876.0	11,477.8	27.6	133.8	-87.58	117.2	-3,065.0	4,789.8	4,676.1	113.63	42.153	
7,900.0	7,891.8	18,876.0	11,477.8	28.0	133.8	-87.58	117.2	-3,065.0	4,710.9	4,595.8	115.05	40.947	
8,000.0	7,991.8	18,876.0	11,477.8	28.3	133.8	-87.58	117.2	-3,065.0	4,632.8	4,516.3	116.51	39.763	
8,100.0	8,091.8	18,876.0	11,477.8	28.7	133.8	-87.58	117.2	-3,065.0	4,555.6	4,437.6	118.01	38.603	
8,200.0	8,191.8	18,876.0	11,477.8	29.0	133.8	-87.58	117.2	-3,065.0	4,479.3	4,359.7	119.55	37.467	
8,300.0	8,291.8	18,876.0	11,477.8	29.4	133.8	-87.58	117.2	-3,065.0	4,403.9	4,282.8	121.13	36.356	
8,400.0	8,391.8	18,876.0	11,477.8	29.7	133.8	-87.58	117.2	-3,065.0	4,329.5	4,206.8	122.75	35.271	
8,500.0	8,491.8	18,876.0	11,477.8	30.1	133.8	-87.58	117.2	-3,065.0	4,256.2	4,131.8	124.41	34.211	
8,600.0	8,591.8	18,876.0	11,477.8	30.4	133.8	-87.58	117.2	-3,065.0	4,184.0	4,057.9	126.11	33.177	
8,700.0	8,691.8	18,876.0	11,477.8	30.8	133.8	-87.58	117.2	-3,065.0	4,112.9	3,985.1	127.85	32.170	
8,800.0	8,791.8	18,876.0	11,477.8	31.2	133.8	-87.58	117.2	-3,065.0	4,043.1	3,913.5	129.62	31.191	
8,900.0	8,891.8	18,876.0	11,477.8	31.5	133.8	-87.58	117.2	-3,065.0	3,974.6	3,843.1	131.44	30.240	
9,000.0	8,991.8	18,876.0	11,477.8	31.9	133.8	-87.58	117.2	-3,065.0	3,907.4	3,774.1	133.28	29.317	
9,100.0	9,091.8	18,876.0	11,477.8	32.2	133.8	-87.58	117.2	-3,065.0	3,841.7	3,706.5	135.16	28.423	
9,200.0	9,191.8	18,876.0	11,477.8	32.6	133.8	-87.58	117.2	-3,065.0	3,777.4	3,640.3	137.07	27.559	
9,300.0	9,291.8	18,876.0	11,477.8	32.9	133.8	-87.58	117.2	-3,065.0	3,714.7	3,575.7	139.00	26.724	
9,400.0	9,391.8	18,876.0	11,477.8	33.3	133.8	-87.58	117.2	-3,065.0	3,653.7	3,512.8	140.96	25.921	
9,500.0	9,491.8	18,876.0	11,477.8	33.7	133.8	-87.58	117.2	-3,065.0	3,594.5	3,451.5	142.93	25.148	
9,600.0	9,591.8	18,876.0	11,477.8	34.0	133.8	-87.58	117.2	-3,065.0	3,537.1	3,392.1	144.92	24.407	
9,700.0	9,691.8	18,876.0	11,477.8	34.4	133.8	-87.58	117.2	-3,065.0	3,481.6	3,334.6	146.91	23.698	
9,800.0	9,791.8	18,876.0	11,477.8	34.7	133.8	-87.58	117.2	-3,065.0	3,428.1	3,279.2	148.91	23.021	
9,900.0	9,891.8	18,876.0	11,477.8	35.1	133.8	-87.58	117.2	-3,065.0	3,376.7	3,225.8	150.90	22.378	
10,000.0	9,991.8	18,876.0	11,477.8	35.4	133.8	-87.58	117.2	-3,065.0	3,327.6	3,174.7	152.87	21.767	
10,100.0	10,091.8	18,876.0	11,477.8	35.8	133.8	-87.58	117.2	-3,065.0	3,280.7	3,125.9	154.82	21.191	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 288-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	10,191.8	18,876.0	11,477.8	36.2	133.8	-87.58	117.2	-3,065.0	3,236.3	3,079.6	156.74	20.648		
10,300.0	10,291.8	18,876.0	11,477.8	36.5	133.8	-87.58	117.2	-3,065.0	3,194.4	3,035.8	158.61	20.140		
10,400.0	10,391.8	18,876.0	11,477.8	36.9	133.8	-87.58	117.2	-3,065.0	3,155.1	2,994.7	160.43	19.666		
10,500.0	10,491.8	18,876.0	11,477.8	37.2	133.8	-87.58	117.2	-3,065.0	3,118.5	2,956.3	162.19	19.228		
10,600.0	10,591.8	18,876.0	11,477.8	37.6	133.8	-87.58	117.2	-3,065.0	3,084.7	2,920.9	163.87	18.825		
10,700.0	10,691.8	18,876.0	11,477.8	37.9	133.8	-87.58	117.2	-3,065.0	3,053.9	2,888.4	165.46	18.457		
10,800.0	10,791.8	18,876.0	11,477.8	38.3	133.8	-87.58	117.2	-3,065.0	3,026.0	2,859.0	166.95	18.125		
10,900.0	10,891.8	18,876.0	11,477.8	38.7	133.8	-87.58	117.2	-3,065.0	3,001.2	2,832.9	168.33	17.829		
11,005.2	10,997.0	18,876.0	11,477.8	39.0	133.8	-87.58	117.2	-3,065.0	2,978.5	2,808.8	169.66	17.556		
11,050.0	11,041.7	18,876.0	11,477.8	39.2	133.8	93.48	117.2	-3,065.0	2,970.0	2,799.8	170.16	17.454		
11,100.0	11,091.3	18,876.0	11,477.8	39.4	133.8	94.34	117.2	-3,065.0	2,961.5	2,790.9	170.66	17.353		
11,150.0	11,140.2	18,876.0	11,477.8	39.5	133.8	95.08	117.2	-3,065.0	2,954.2	2,783.1	171.10	17.266		
11,200.0	11,188.0	18,876.0	11,477.8	39.7	133.8	95.69	117.2	-3,065.0	2,948.1	2,776.6	171.47	17.193		
11,250.0	11,234.4	18,876.0	11,477.8	39.8	133.8	96.17	117.2	-3,065.0	2,943.3	2,771.5	171.78	17.134		
11,300.0	11,278.9	18,876.0	11,477.8	39.9	133.8	96.52	117.2	-3,065.0	2,939.8	2,767.7	172.02	17.090		
11,350.0	11,321.3	18,876.0	11,477.8	40.1	133.8	96.74	117.2	-3,065.0	2,937.6	2,765.4	172.19	17.060		
11,400.0	11,361.3	18,876.0	11,477.8	40.2	133.8	96.82	117.2	-3,065.0	2,936.7	2,764.5	172.29	17.046		
11,405.0	11,365.1	18,876.0	11,477.8	40.2	133.8	96.82	117.2	-3,065.0	2,936.7	2,764.4	172.29	17.045 CC, ES, SF		
11,450.0	11,398.4	18,876.0	11,477.8	40.3	133.8	96.77	117.2	-3,065.0	2,937.3	2,765.0	172.32	17.046		
11,500.0	11,432.5	18,876.0	11,477.8	40.5	133.8	96.58	117.2	-3,065.0	2,939.2	2,766.9	172.29	17.059		
11,550.0	11,463.3	18,876.0	11,477.8	40.6	133.8	96.25	117.2	-3,065.0	2,942.5	2,770.3	172.20	17.087		
11,600.0	11,490.6	18,876.0	11,477.8	40.8	133.8	95.80	117.2	-3,065.0	2,947.0	2,775.0	172.06	17.128		
11,650.0	11,514.0	18,876.0	11,477.8	40.9	133.8	95.21	117.2	-3,065.0	2,952.9	2,781.0	171.87	17.181		
11,700.0	11,533.6	18,876.0	11,477.8	41.1	133.8	94.50	117.2	-3,065.0	2,960.0	2,788.3	171.62	17.247		
11,750.0	11,549.1	18,876.0	11,477.8	41.3	133.8	93.67	117.2	-3,065.0	2,968.2	2,796.9	171.34	17.323		
11,800.0	11,560.3	18,876.0	11,477.8	41.4	133.8	92.72	117.2	-3,065.0	2,977.5	2,806.5	171.02	17.411		
11,850.0	11,567.3	18,876.0	11,477.8	41.6	133.8	91.66	117.2	-3,065.0	2,987.9	2,817.2	170.66	17.507		
11,900.0	11,569.9	18,876.0	11,477.8	41.8	133.8	90.51	117.2	-3,065.0	2,999.1	2,828.8	170.28	17.613		
11,905.2	11,570.0	18,876.0	11,477.8	41.8	133.8	90.38	117.2	-3,065.0	3,000.4	2,830.1	170.24	17.624		
11,912.4	11,570.0	18,876.0	11,477.8	41.8	133.8	90.38	117.2	-3,065.0	3,002.1	2,831.9	170.18	17.640		
12,000.0	11,570.0	18,876.0	11,477.8	42.2	133.8	90.38	117.2	-3,065.0	3,024.3	2,854.8	169.46	17.846		
12,100.0	11,570.0	18,876.0	11,477.8	42.6	133.8	90.38	117.2	-3,065.0	3,052.5	2,883.9	168.60	18.105		
12,200.0	11,570.0	18,876.0	11,477.8	43.1	133.8	90.38	117.2	-3,065.0	3,083.8	2,916.1	167.70	18.389		
12,300.0	11,570.0	18,876.0	11,477.8	43.7	133.8	90.38	117.2	-3,065.0	3,117.9	2,951.2	166.75	18.698		
12,400.0	11,570.0	18,876.0	11,477.8	44.3	133.8	90.38	117.2	-3,065.0	3,154.9	2,989.1	165.77	19.031		
12,500.0	11,570.0	18,876.0	11,477.8	45.0	133.8	90.38	117.2	-3,065.0	3,194.5	3,029.7	164.76	19.388		
12,600.0	11,570.0	18,876.0	11,477.8	45.7	133.8	90.38	117.2	-3,065.0	3,236.7	3,073.0	163.73	19.769		
12,700.0	11,570.0	18,876.0	11,477.8	46.5	133.8	90.38	117.2	-3,065.0	3,281.5	3,118.8	162.67	20.173		
12,800.0	11,570.0	18,876.0	11,477.8	47.3	133.8	90.38	117.2	-3,065.0	3,328.7	3,167.1	161.58	20.600		
12,900.0	11,570.0	18,876.0	11,477.8	48.2	133.8	90.38	117.2	-3,065.0	3,378.1	3,217.6	160.49	21.049		
13,000.0	11,570.0	18,876.0	11,477.8	49.1	133.8	90.38	117.2	-3,065.0	3,429.8	3,270.4	159.38	21.519		
13,100.0	11,570.0	18,876.0	11,477.8	50.0	133.8	90.38	117.2	-3,065.0	3,483.5	3,325.3	158.27	22.011		
13,200.0	11,570.0	18,876.0	11,477.8	51.0	133.8	90.38	117.2	-3,065.0	3,539.3	3,382.2	157.15	22.522		
13,300.0	11,570.0	18,876.0	11,477.8	52.0	133.8	90.38	117.2	-3,065.0	3,597.0	3,441.0	156.03	23.054		
13,400.0	11,570.0	18,876.0	11,477.8	53.0	133.8	90.38	117.2	-3,065.0	3,656.5	3,501.6	154.91	23.605		
13,500.0	11,570.0	18,876.0	11,477.8	54.1	133.8	90.38	117.2	-3,065.0	3,717.8	3,564.0	153.79	24.174		
13,600.0	11,570.0	18,876.0	11,477.8	55.2	133.8	90.38	117.2	-3,065.0	3,780.7	3,628.0	152.69	24.761		
13,700.0	11,570.0	18,876.0	11,477.8	56.3	133.8	90.38	117.2	-3,065.0	3,845.2	3,693.6	151.60	25.365		
13,800.0	11,570.0	18,876.0	11,477.8	57.5	133.8	90.38	117.2	-3,065.0	3,911.1	3,760.6	150.51	25.985		
13,900.0	11,570.0	18,876.0	11,477.8	58.7	133.8	90.38	117.2	-3,065.0	3,978.5	3,829.1	149.45	26.622		
14,000.0	11,570.0	18,876.0	11,477.8	59.9	133.8	90.38	117.2	-3,065.0	4,047.3	3,898.9	148.39	27.274		
14,100.0	11,570.0	18,876.0	11,477.8	61.1	133.8	90.38	117.2	-3,065.0	4,117.3	3,969.9	147.36	27.940		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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													Big Game - Minis 1 Federal Com #005H - Wellbore #1 - Actual		Offset Site Error:	0.0 usft
Survey Program: 288-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	11,570.0	18,876.0	11,477.8	62.3	133.8	90.38	117.2	-3,065.0	4,188.5	4,042.2	146.34	28.621				
14,300.0	11,570.0	18,876.0	11,477.8	63.6	133.8	90.38	117.2	-3,065.0	4,260.9	4,115.6	145.35	29.315				
14,400.0	11,570.0	18,876.0	11,477.8	64.9	133.8	90.38	117.2	-3,065.0	4,334.4	4,190.0	144.37	30.022				
14,500.0	11,570.0	18,876.0	11,477.8	66.2	133.8	90.38	117.2	-3,065.0	4,409.0	4,265.5	143.42	30.742				
14,600.0	11,570.0	18,876.0	11,477.8	67.5	133.8	90.38	117.2	-3,065.0	4,484.5	4,342.0	142.49	31.473				
14,700.0	11,570.0	18,876.0	11,477.8	68.8	133.8	90.38	117.2	-3,065.0	4,561.0	4,419.4	141.58	32.215				
14,800.0	11,570.0	18,876.0	11,477.8	70.1	133.8	90.38	117.2	-3,065.0	4,638.3	4,497.6	140.69	32.968				
14,900.0	11,570.0	18,876.0	11,477.8	71.5	133.8	90.38	117.2	-3,065.0	4,716.5	4,576.7	139.82	33.732				
15,000.0	11,570.0	18,876.0	11,477.8	72.9	133.8	90.38	117.2	-3,065.0	4,795.6	4,656.6	138.98	34.505				
15,100.0	11,570.0	18,876.0	11,477.8	74.2	133.8	90.38	117.2	-3,065.0	4,875.4	4,737.2	138.16	35.287				
15,200.0	11,570.0	18,876.0	11,477.8	75.6	133.8	90.38	117.2	-3,065.0	4,955.9	4,818.5	137.37	36.078				
15,300.0	11,570.0	18,876.0	11,477.8	77.0	133.8	90.38	117.2	-3,065.0	5,037.1	4,900.5	136.59	36.877				
15,400.0	11,570.0	18,876.0	11,477.8	78.4	133.8	90.38	117.2	-3,065.0	5,119.0	4,983.2	135.84	37.685				
15,500.0	11,570.0	18,876.0	11,477.8	79.9	133.8	90.38	117.2	-3,065.0	5,201.5	5,066.4	135.11	38.499				
15,600.0	11,570.0	18,876.0	11,477.8	81.3	133.8	90.38	117.2	-3,065.0	5,284.7	5,150.3	134.40	39.321				
15,700.0	11,570.0	18,876.0	11,477.8	82.7	133.8	90.38	117.2	-3,065.0	5,368.4	5,234.7	133.71	40.149				
15,800.0	11,570.0	18,876.0	11,477.8	84.2	133.8	90.38	117.2	-3,065.0	5,452.6	5,319.6	133.04	40.984				
15,900.0	11,570.0	18,876.0	11,477.8	85.6	133.8	90.38	117.2	-3,065.0	5,537.4	5,405.0	132.40	41.825				
16,000.0	11,570.0	18,876.0	11,477.8	87.1	133.8	90.38	117.2	-3,065.0	5,622.7	5,490.9	131.77	42.671				
16,100.0	11,570.0	18,876.0	11,477.8	88.6	133.8	90.38	117.2	-3,065.0	5,708.4	5,577.3	131.16	43.522				
16,200.0	11,570.0	18,876.0	11,477.8	90.0	133.8	90.38	117.2	-3,065.0	5,794.6	5,664.1	130.57	44.379				
16,300.0	11,570.0	18,876.0	11,477.8	91.5	133.8	90.38	117.2	-3,065.0	5,881.3	5,751.3	130.00	45.240				
16,400.0	11,570.0	18,876.0	11,477.8	93.0	133.8	90.38	117.2	-3,065.0	5,968.4	5,838.9	129.45	46.105				
16,500.0	11,570.0	18,876.0	11,477.8	94.5	133.8	90.38	117.2	-3,065.0	6,055.8	5,926.9	128.92	46.975				
16,600.0	11,570.0	18,876.0	11,477.8	96.0	133.8	90.38	117.2	-3,065.0	6,143.7	6,015.3	128.40	47.848				
16,700.0	11,570.0	18,876.0	11,477.8	97.5	133.8	90.38	117.2	-3,065.0	6,231.9	6,104.0	127.90	48.724				
16,800.0	11,570.0	18,876.0	11,477.8	99.0	133.8	90.38	117.2	-3,065.0	6,320.4	6,193.0	127.42	49.604				
16,900.0	11,570.0	18,876.0	11,477.8	100.5	133.8	90.38	117.2	-3,065.0	6,409.3	6,282.4	126.95	50.487				
17,000.0	11,570.0	18,876.0	11,477.8	102.0	133.8	90.38	117.2	-3,065.0	6,498.6	6,372.1	126.50	51.373				
17,100.0	11,570.0	18,876.0	11,477.8	103.6	133.8	90.38	117.2	-3,065.0	6,588.1	6,462.0	126.06	52.261				
17,200.0	11,570.0	18,876.0	11,477.8	105.1	133.8	90.38	117.2	-3,065.0	6,677.9	6,552.3	125.64	53.152				
17,300.0	11,570.0	18,876.0	11,477.8	106.6	133.8	90.38	117.2	-3,065.0	6,768.1	6,642.8	125.23	54.045				
17,400.0	11,570.0	18,876.0	11,477.8	108.2	133.8	90.38	117.2	-3,065.0	6,858.4	6,733.6	124.84	54.939				
17,500.0	11,570.0	18,876.0	11,477.8	109.7	133.8	90.38	117.2	-3,065.0	6,949.1	6,824.6	124.46	55.836				
17,600.0	11,570.0	18,876.0	11,477.8	111.2	133.8	90.38	117.2	-3,065.0	7,040.0	6,915.9	124.09	56.734				
17,700.0	11,570.0	18,876.0	11,477.8	112.8	133.8	90.38	117.2	-3,065.0	7,131.2	7,007.4	123.73	57.633				
17,800.0	11,570.0	18,876.0	11,477.8	114.3	133.8	90.38	117.2	-3,065.0	7,222.5	7,099.1	123.39	58.534				
17,834.0	11,570.0	18,876.0	11,477.8	114.8	133.8	90.38	117.2	-3,065.0	7,253.7	7,130.4	123.28	58.841				

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 290-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	-6.70	7,635.9	-896.8	7,688.9				
100.0	100.0	13.3	13.3	0.1	0.0	-6.70	7,635.9	-896.8	7,688.4	7,688.2	0.15	N/A	
200.0	200.0	112.0	112.0	0.5	0.2	-6.70	7,635.9	-896.9	7,688.4	7,687.7	0.67	N/A	
300.0	300.0	210.7	210.7	0.8	0.3	-6.70	7,635.9	-897.4	7,688.4	7,687.2	1.18	6,500.948	
400.0	400.0	318.5	318.5	1.2	0.6	-6.71	7,635.8	-898.1	7,688.5	7,686.7	1.77	4,342.765	
500.0	500.0	424.5	424.5	1.6	0.9	-6.72	7,635.5	-899.0	7,688.2	7,685.7	2.51	3,065.057	
541.6	541.6	455.1	455.1	1.7	1.1	-6.72	7,635.4	-899.3	7,688.2	7,685.4	2.77	2,778.239	
600.0	600.0	502.0	502.0	1.9	1.2	-6.72	7,635.4	-899.7	7,688.3	7,685.1	3.14	2,444.752	
700.0	700.0	598.5	598.5	2.3	1.6	-6.73	7,635.5	-900.9	7,688.5	7,684.6	3.85	1,997.306	
800.0	800.0	668.0	668.0	2.6	1.8	-6.74	7,635.4	-901.8	7,688.7	7,684.2	4.46	1,724.940	
900.0	900.0	737.0	737.0	3.0	2.1	-6.74	7,635.9	-902.1	7,689.4	7,684.3	5.05	1,521.207	
1,000.0	1,000.0	763.5	763.4	3.4	2.1	-6.74	7,636.4	-901.8	7,690.9	7,685.4	5.50	1,397.554	
1,100.0	1,100.0	807.5	807.4	3.7	2.3	-6.73	7,637.5	-901.2	7,693.3	7,687.2	6.01	1,280.099	
1,200.0	1,200.0	902.4	902.2	4.1	2.6	-6.71	7,640.5	-899.1	7,696.2	7,689.5	6.69	1,150.363	
1,300.0	1,300.0	1,032.9	1,032.7	4.4	3.1	-6.69	7,644.1	-896.5	7,698.6	7,691.1	7.50	1,026.778	
1,400.0	1,400.0	1,107.8	1,107.5	4.8	3.3	-6.68	7,646.2	-895.1	7,701.1	7,693.0	8.12	948.826	
1,500.0	1,500.0	1,276.8	1,276.5	5.1	3.9	-6.65	7,650.2	-892.1	7,703.3	7,694.2	9.07	849.566	
1,600.0	1,600.0	1,369.9	1,369.5	5.5	4.3	85.69	7,652.0	-890.7	7,705.0	7,695.2	9.74	790.708	
1,700.0	1,700.0	1,462.0	1,461.7	5.8	4.6	85.71	7,654.0	-889.5	7,706.7	7,696.3	10.41	740.134	
1,800.0	1,799.9	1,551.0	1,550.6	6.2	4.9	85.73	7,655.8	-888.0	7,708.2	7,697.2	11.07	696.162	
1,900.0	1,899.7	1,624.7	1,624.2	6.5	5.2	85.76	7,657.5	-886.1	7,709.9	7,698.2	11.68	659.959	
2,000.0	1,999.4	1,683.0	1,682.5	6.9	5.4	85.79	7,659.4	-884.0	7,712.1	7,699.8	12.24	630.022	
2,100.0	2,098.9	1,766.2	1,765.6	7.2	5.7	85.86	7,662.5	-880.0	7,714.5	7,701.7	12.90	598.249	
2,200.0	2,198.3	1,889.7	1,888.8	7.6	6.1	85.99	7,667.0	-873.2	7,716.8	7,703.1	13.70	563.193	
2,300.0	2,297.4	1,930.4	1,929.4	8.0	6.3	86.03	7,668.7	-870.8	7,719.3	7,705.1	14.22	542.951	
2,400.0	2,396.4	1,987.0	1,985.7	8.4	6.5	86.11	7,671.4	-866.9	7,722.3	7,707.5	14.80	521.936	
2,500.0	2,495.5	2,054.1	2,052.6	8.7	6.7	86.22	7,674.9	-861.7	7,725.9	7,710.5	15.42	501.070	
2,600.0	2,594.5	2,139.9	2,138.0	9.1	7.0	86.37	7,679.6	-854.8	7,729.7	7,713.6	16.12	479.612	
2,701.1	2,694.6	2,185.6	2,183.4	9.5	7.2	86.44	7,682.3	-851.1	7,734.0	7,717.4	16.67	463.878	
2,800.0	2,792.7	2,221.5	2,219.1	9.9	7.3	86.58	7,684.7	-847.8	7,739.1	7,722.0	17.18	450.430	
2,900.0	2,892.2	2,273.2	2,270.3	10.3	7.5	86.75	7,688.7	-842.5	7,745.3	7,727.5	17.75	436.409	
3,000.0	2,991.9	2,373.1	2,369.4	10.6	7.9	86.99	7,696.5	-831.8	7,751.8	7,733.3	18.49	419.128	
3,100.0	3,091.8	2,461.4	2,456.9	11.0	8.3	87.19	7,703.5	-822.3	7,758.5	7,739.3	19.19	404.303	
3,200.0	3,191.8	2,554.2	2,548.8	11.4	8.6	87.39	7,711.0	-812.3	7,765.5	7,745.6	19.90	390.322	
3,234.4	3,226.2	2,588.7	2,583.0	11.5	8.7	-4.89	7,713.8	-808.5	7,768.0	7,747.9	20.15	385.566	
3,300.0	3,291.8	2,649.9	2,643.7	11.7	9.0	-4.83	7,718.8	-801.7	7,772.7	7,752.1	20.61	377.164	
3,400.0	3,391.8	2,734.9	2,727.7	12.0	9.3	-4.76	7,725.8	-791.9	7,780.0	7,758.8	21.28	365.593	
3,500.0	3,491.8	2,832.5	2,824.3	12.4	9.7	-4.67	7,734.0	-780.3	7,787.5	7,765.5	22.01	353.861	
3,600.0	3,591.8	2,935.3	2,926.1	12.7	10.1	-4.57	7,742.6	-768.0	7,794.9	7,772.2	22.76	342.514	
3,700.0	3,691.8	3,206.2	3,194.3	13.1	11.2	-4.32	7,762.6	-735.9	7,801.7	7,777.5	24.19	322.464	
3,800.0	3,791.8	3,305.7	3,293.0	13.4	11.6	-4.24	7,768.6	-725.1	7,806.9	7,782.0	24.93	313.140	
3,900.0	3,891.8	18,855.3	11,529.5	13.8	130.8	-59.49	203.7	-504.7	7,735.3	7,671.1	64.24	120.405	
4,000.0	3,991.8	18,857.6	11,529.6	14.1	130.8	-59.78	201.5	-504.9	7,635.5	7,571.2	64.28	118.785	
4,100.0	4,091.8	18,859.8	11,529.6	14.5	130.9	-60.06	199.3	-505.2	7,535.6	7,471.3	64.32	117.153	
4,200.0	4,191.8	18,862.1	11,529.7	14.8	130.9	-60.35	197.0	-505.4	7,435.8	7,371.4	64.37	115.509	
4,300.0	4,291.8	18,864.3	11,529.7	15.2	131.0	-60.63	194.8	-505.6	7,335.9	7,271.5	64.43	113.854	
4,400.0	4,391.8	18,866.6	11,529.8	15.5	131.0	-60.92	192.5	-505.8	7,236.1	7,171.6	64.50	112.188	
4,500.0	4,491.8	18,868.8	11,529.8	15.9	131.0	-61.21	190.3	-506.0	7,136.2	7,071.7	64.57	110.513	
4,600.0	4,591.8	18,871.1	11,529.9	16.2	131.1	-61.50	188.1	-506.3	7,036.4	6,971.7	64.66	108.828	
4,700.0	4,691.8	18,873.3	11,529.9	16.6	131.1	-61.80	185.8	-506.5	6,936.6	6,871.8	64.75	107.134	
4,800.0	4,791.8	18,875.6	11,530.0	16.9	131.1	-62.09	183.6	-506.7	6,836.7	6,771.9	64.84	105.434	
4,900.0	4,891.8	18,877.8	11,530.0	17.3	131.2	-62.39	181.3	-506.9	6,736.9	6,672.0	64.95	103.727	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Minis 1 Federal Com #006H - Wellbore #1 - Actual													Offset Site Error:	0.0 usft
Survey Program: 290-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	4,991.8	18,880.1	11,530.1	17.7	131.2	-62.68	179.1	-507.1	6,637.1	6,572.0	65.06	102.014		
5,100.0	5,091.8	18,882.3	11,530.1	18.0	131.2	-62.98	176.9	-507.4	6,537.3	6,472.1	65.18	100.297		
5,200.0	5,191.8	18,884.6	11,530.2	18.4	131.3	-63.28	174.6	-507.6	6,437.5	6,372.2	65.30	98.576		
5,300.0	5,291.8	18,886.8	11,530.2	18.7	131.3	-63.58	172.4	-507.8	6,337.7	6,272.2	65.44	96.852		
5,400.0	5,391.8	18,889.1	11,530.3	19.1	131.3	-63.88	170.1	-508.0	6,237.9	6,172.3	65.57	95.126		
5,500.0	5,491.8	18,891.3	11,530.3	19.4	131.4	-64.18	167.9	-508.2	6,138.1	6,072.4	65.72	93.399		
5,600.0	5,591.8	18,893.6	11,530.4	19.8	131.4	-64.49	165.7	-508.5	6,038.3	5,972.4	65.87	91.671		
5,700.0	5,691.8	18,895.8	11,530.4	20.1	131.4	-64.79	163.4	-508.7	5,938.5	5,872.5	66.03	89.943		
5,800.0	5,791.8	18,898.1	11,530.5	20.5	131.5	-65.10	161.2	-508.9	5,838.8	5,772.6	66.19	88.216		
5,900.0	5,891.8	18,900.3	11,530.5	20.8	131.5	-65.40	158.9	-509.1	5,739.0	5,672.6	66.35	86.490		
6,000.0	5,991.8	18,902.6	11,530.6	21.2	131.5	-65.71	156.7	-509.3	5,639.2	5,572.7	66.53	84.765		
6,100.0	6,091.8	18,904.8	11,530.6	21.5	131.6	-66.02	154.5	-509.6	5,539.5	5,472.8	66.71	83.044		
6,200.0	6,191.8	18,907.1	11,530.7	21.9	131.6	-66.33	152.2	-509.8	5,439.7	5,372.8	66.89	81.324		
6,300.0	6,291.8	18,909.4	11,530.7	22.3	131.6	-66.64	150.0	-510.0	5,340.0	5,272.9	67.08	79.608		
6,400.0	6,391.8	18,911.6	11,530.8	22.6	131.7	-66.96	147.7	-510.2	5,240.3	5,173.0	67.27	77.896		
6,500.0	6,491.8	18,913.9	11,530.8	23.0	131.7	-67.27	145.5	-510.4	5,140.6	5,073.1	67.47	76.187		
6,600.0	6,591.8	18,916.1	11,530.9	23.3	131.8	-67.58	143.3	-510.7	5,040.9	4,973.2	67.68	74.482		
6,700.0	6,691.8	18,918.4	11,531.0	23.7	131.8	-67.90	141.0	-510.9	4,941.2	4,873.3	67.89	72.782		
6,800.0	6,791.8	18,920.6	11,531.0	24.0	131.8	-68.22	138.8	-511.1	4,841.5	4,773.4	68.11	71.087		
6,900.0	6,891.8	18,922.9	11,531.1	24.4	131.9	-68.53	136.5	-511.3	4,741.8	4,673.5	68.33	69.397		
7,000.0	6,991.8	18,925.1	11,531.1	24.7	131.9	-68.85	134.3	-511.5	4,642.2	4,573.6	68.56	67.713		
7,100.0	7,091.8	18,927.4	11,531.2	25.1	131.9	-69.17	132.1	-511.8	4,542.5	4,473.7	68.79	66.034		
7,200.0	7,191.8	18,929.6	11,531.2	25.5	132.0	-69.49	129.8	-512.0	4,442.9	4,373.9	69.03	64.360		
7,300.0	7,291.8	18,931.9	11,531.3	25.8	132.0	-69.81	127.6	-512.2	4,343.3	4,274.0	69.28	62.693		
7,400.0	7,391.8	18,934.1	11,531.3	26.2	132.0	-70.14	125.3	-512.4	4,243.7	4,174.2	69.53	61.032		
7,500.0	7,491.8	18,936.4	11,531.4	26.5	132.1	-70.46	123.1	-512.6	4,144.1	4,074.3	69.79	59.377		
7,600.0	7,591.8	18,938.6	11,531.4	26.9	132.1	-70.79	120.9	-512.9	4,044.6	3,974.5	70.06	57.729		
7,700.0	7,691.8	18,940.9	11,531.5	27.2	132.1	-71.11	118.6	-513.1	3,945.0	3,874.7	70.34	56.087		
7,800.0	7,791.8	18,943.1	11,531.5	27.6	132.2	-71.44	116.4	-513.3	3,845.5	3,774.9	70.62	54.452		
7,900.0	7,891.8	18,945.4	11,531.6	28.0	132.2	-71.76	114.1	-513.5	3,746.0	3,675.1	70.91	52.824		
8,000.0	7,991.8	18,947.6	11,531.6	28.3	132.2	-72.09	111.9	-513.8	3,646.6	3,575.4	71.22	51.204		
8,100.0	8,091.8	18,949.9	11,531.7	28.7	132.3	-72.42	109.7	-514.0	3,547.2	3,475.6	71.53	49.590		
8,200.0	8,191.8	18,952.1	11,531.7	29.0	132.3	-72.75	107.4	-514.2	3,447.8	3,375.9	71.85	47.984		
8,300.0	8,291.8	18,954.4	11,531.8	29.4	132.3	-73.08	105.2	-514.4	3,348.4	3,276.2	72.19	46.384		
8,400.0	8,391.8	18,956.6	11,531.8	29.7	132.4	-73.41	102.9	-514.6	3,249.1	3,176.5	72.54	44.793		
8,500.0	8,491.8	18,958.9	11,531.9	30.1	132.4	-73.74	100.7	-514.9	3,149.8	3,076.9	72.90	43.208		
8,600.0	8,591.8	18,949.0	11,531.6	30.4	132.3	-72.29	110.5	-513.9	3,050.6	2,977.4	73.16	41.697		
8,700.0	8,691.8	18,949.0	11,531.6	30.8	132.3	-72.29	110.5	-513.9	2,951.4	2,877.9	73.53	40.138		
8,800.0	8,791.8	18,949.0	11,531.6	31.2	132.3	-72.29	110.5	-513.9	2,852.3	2,778.3	73.92	38.585		
8,900.0	8,891.8	18,949.0	11,531.6	31.5	132.3	-72.29	110.5	-513.9	2,753.2	2,678.9	74.33	37.040		
9,000.0	8,991.8	18,949.0	11,531.6	31.9	132.3	-72.29	110.5	-513.9	2,654.2	2,579.4	74.76	35.502		
9,100.0	9,091.8	18,949.0	11,531.6	32.2	132.3	-72.29	110.5	-513.9	2,555.3	2,480.1	75.22	33.970		
9,200.0	9,191.8	18,949.0	11,531.6	32.6	132.3	-72.29	110.5	-513.9	2,456.5	2,380.8	75.71	32.446		
9,300.0	9,291.8	18,949.0	11,531.6	32.9	132.3	-72.29	110.5	-513.9	2,357.8	2,281.5	76.23	30.930		
9,400.0	9,391.8	18,949.0	11,531.6	33.3	132.3	-72.29	110.5	-513.9	2,259.1	2,182.4	76.79	29.420		
9,500.0	9,491.8	18,949.0	11,531.6	33.7	132.3	-72.29	110.5	-513.9	2,160.7	2,083.3	77.39	27.918		
9,600.0	9,591.8	18,949.0	11,531.6	34.0	132.3	-72.29	110.5	-513.9	2,062.3	1,984.3	78.05	26.423		
9,700.0	9,691.8	18,949.0	11,531.6	34.4	132.3	-72.29	110.5	-513.9	1,964.2	1,885.4	78.77	24.936		
9,800.0	9,791.8	18,949.0	11,531.6	34.7	132.3	-72.29	110.5	-513.9	1,866.2	1,786.6	79.56	23.456		
9,900.0	9,891.8	18,949.0	11,531.6	35.1	132.3	-72.29	110.5	-513.9	1,768.4	1,688.0	80.44	21.985		
10,000.0	9,991.8	18,949.0	11,531.6	35.4	132.3	-72.29	110.5	-513.9	1,671.0	1,589.5	81.42	20.522		
10,100.0	10,091.8	18,949.0	11,531.6	35.8	132.3	-72.29	110.5	-513.9	1,573.8	1,491.3	82.54	19.067		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 290-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	10,191.8	18,949.0	11,531.6	36.2	132.3	-72.29	110.5	-513.9	1,477.0	1,393.2	83.81	17.623	
10,300.0	10,291.8	18,949.0	11,531.6	36.5	132.3	-72.29	110.5	-513.9	1,380.7	1,295.4	85.28	16.189	
10,400.0	10,391.8	18,949.0	11,531.6	36.9	132.3	-72.29	110.5	-513.9	1,284.9	1,197.9	87.00	14.769	
10,500.0	10,491.8	18,949.0	11,531.6	37.2	132.3	-72.29	110.5	-513.9	1,189.8	1,100.8	89.04	13.363	
10,600.0	10,591.8	18,949.0	11,531.6	37.6	132.3	-72.29	110.5	-513.9	1,095.7	1,004.2	91.48	11.977	
10,700.0	10,691.8	18,949.0	11,531.6	37.9	132.3	-72.29	110.5	-513.9	1,002.6	908.1	94.45	10.615	
10,800.0	10,791.8	18,949.0	11,531.6	38.3	132.3	-72.29	110.5	-513.9	911.0	812.9	98.11	9.286	
10,900.0	10,891.8	18,949.0	11,531.6	38.7	132.3	-72.29	110.5	-513.9	821.4	718.7	102.67	8.000	
11,005.2	10,997.0	18,949.0	11,531.6	39.0	132.3	-72.29	110.5	-513.9	729.9	621.2	108.76	6.712	
11,050.0	11,041.7	18,949.0	11,531.6	39.2	132.3	114.24	110.5	-513.9	692.6	580.8	111.81	6.194	
11,100.0	11,091.3	18,949.0	11,531.6	39.4	132.3	120.01	110.5	-513.9	653.0	537.5	115.50	5.654	
11,150.0	11,140.2	18,949.0	11,531.6	39.5	132.3	124.55	110.5	-513.9	616.5	497.0	119.44	5.161	
11,200.0	11,188.0	18,949.0	11,531.6	39.7	132.3	128.04	110.5	-513.9	583.8	460.3	123.47	4.728	
11,250.0	11,234.4	18,949.0	11,531.6	39.8	132.3	130.64	110.5	-513.9	555.9	428.5	127.40	4.364	
11,300.0	11,278.9	18,949.0	11,531.6	39.9	132.3	132.48	110.5	-513.9	533.9	403.0	130.92	4.078	
11,350.0	11,321.3	18,949.0	11,531.6	40.1	132.3	133.66	110.5	-513.9	518.6	384.9	133.69	3.879	
11,400.0	11,361.3	18,949.0	11,531.6	40.2	132.3	134.23	110.5	-513.9	510.8	375.4	135.37	3.773	
11,424.8	11,380.1	18,949.0	11,531.6	40.3	132.3	134.30	110.5	-513.9	509.8	374.1	135.73	3.756	CC, ES, SF
11,450.0	11,398.4	18,949.0	11,531.6	40.3	132.3	134.23	110.5	-513.9	510.8	375.0	135.76	3.763	
11,500.0	11,432.5	18,949.0	11,531.6	40.5	132.3	133.65	110.5	-513.9	518.7	383.9	134.83	3.847	
11,550.0	11,463.3	18,949.0	11,531.6	40.6	132.3	132.47	110.5	-513.9	534.0	401.3	132.77	4.022	
11,600.0	11,490.6	18,949.0	11,531.6	40.8	132.3	130.62	110.5	-513.9	556.1	426.2	129.87	4.282	
11,650.0	11,514.0	18,949.0	11,531.6	40.9	132.3	128.02	110.5	-513.9	584.0	457.5	126.48	4.617	
11,700.0	11,533.6	18,949.0	11,531.6	41.1	132.3	124.52	110.5	-513.9	616.7	493.8	122.91	5.017	
11,750.0	11,549.1	18,949.0	11,531.6	41.3	132.3	119.97	110.5	-513.9	653.3	533.9	119.38	5.472	
11,800.0	11,560.3	18,949.0	11,531.6	41.4	132.3	114.19	110.5	-513.9	692.9	576.9	116.03	5.972	
11,850.0	11,567.3	18,949.0	11,531.6	41.6	132.3	107.04	110.5	-513.9	734.7	621.8	112.94	6.505	
11,900.0	11,569.9	18,949.0	11,531.6	41.8	132.3	98.49	110.5	-513.9	778.1	668.0	110.14	7.065	
11,905.2	11,570.0	18,949.0	11,531.6	41.8	132.3	97.52	110.5	-513.9	782.8	672.9	109.87	7.124	
11,912.4	11,570.0	18,949.0	11,531.6	41.8	132.3	97.56	110.5	-513.9	789.1	679.6	109.50	7.207	
12,000.0	11,570.0	18,949.0	11,531.6	42.2	132.3	97.56	110.5	-513.9	867.6	762.2	105.46	8.227	
12,100.0	11,570.0	18,949.0	11,531.6	42.6	132.3	97.56	110.5	-513.9	959.2	857.4	101.77	9.425	
12,200.0	11,570.0	18,949.0	11,531.6	43.1	132.3	97.56	110.5	-513.9	1,052.3	953.5	98.85	10.646	
12,300.0	11,570.0	18,949.0	11,531.6	43.7	132.3	97.56	110.5	-513.9	1,146.6	1,050.1	96.51	11.881	
12,400.0	11,570.0	18,949.0	11,531.6	44.3	132.3	97.56	110.5	-513.9	1,241.8	1,147.2	94.62	13.124	
12,500.0	11,570.0	18,949.0	11,531.6	45.0	132.3	97.56	110.5	-513.9	1,337.7	1,244.6	93.08	14.370	
12,600.0	11,570.0	18,949.0	11,531.6	45.7	132.3	97.56	110.5	-513.9	1,434.1	1,342.3	91.82	15.618	
12,700.0	11,570.0	18,949.0	11,531.6	46.5	132.3	97.56	110.5	-513.9	1,531.0	1,440.2	90.78	16.864	
12,800.0	11,570.0	18,949.0	11,531.6	47.3	132.3	97.56	110.5	-513.9	1,628.3	1,538.3	89.92	18.109	
12,900.0	11,570.0	18,949.0	11,531.6	48.2	132.3	97.56	110.5	-513.9	1,725.8	1,636.7	89.19	19.350	
13,000.0	11,570.0	18,949.0	11,531.6	49.1	132.3	97.56	110.5	-513.9	1,823.7	1,735.1	88.58	20.588	
13,100.0	11,570.0	18,949.0	11,531.6	50.0	132.3	97.56	110.5	-513.9	1,921.8	1,833.7	88.06	21.823	
13,200.0	11,570.0	18,949.0	11,531.6	51.0	132.3	97.56	110.5	-513.9	2,020.0	1,932.4	87.62	23.054	
13,300.0	11,570.0	18,949.0	11,531.6	52.0	132.3	97.56	110.5	-513.9	2,118.4	2,031.2	87.25	24.281	
13,400.0	11,570.0	18,949.0	11,531.6	53.0	132.3	97.56	110.5	-513.9	2,217.0	2,130.1	86.93	25.504	
13,500.0	11,570.0	18,949.0	11,531.6	54.1	132.3	97.56	110.5	-513.9	2,315.7	2,229.0	86.65	26.724	
13,600.0	11,570.0	18,949.0	11,531.6	55.2	132.3	97.56	110.5	-513.9	2,414.5	2,328.1	86.41	27.941	
13,700.0	11,570.0	18,949.0	11,531.6	56.3	132.3	97.56	110.5	-513.9	2,513.4	2,427.2	86.21	29.154	
13,800.0	11,570.0	18,949.0	11,531.6	57.5	132.3	97.56	110.5	-513.9	2,612.3	2,526.3	86.03	30.364	
13,900.0	11,570.0	18,949.0	11,531.6	58.7	132.3	97.56	110.5	-513.9	2,711.4	2,625.5	85.88	31.571	
14,000.0	11,570.0	18,949.0	11,531.6	59.9	132.3	97.56	110.5	-513.9	2,810.5	2,724.7	85.75	32.774	
14,100.0	11,570.0	18,949.0	11,531.6	61.1	132.3	97.56	110.5	-513.9	2,909.7	2,824.0	85.64	33.975	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Minis 1 Federal Com #006H - Wellbore #1 - Actual													Offset Site Error:	0.0 usft
Survey Program: 290-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	11,570.0	18,949.0	11,531.6	62.3	132.3	97.56	110.5	-513.9	3,008.9	2,923.4	85.55	35.173		
14,300.0	11,570.0	18,949.0	11,531.6	63.6	132.3	97.56	110.5	-513.9	3,108.2	3,022.7	85.47	36.368		
14,400.0	11,570.0	18,949.0	11,531.6	64.9	132.3	97.56	110.5	-513.9	3,207.5	3,122.1	85.40	37.560		
14,500.0	11,570.0	18,949.0	11,531.6	66.2	132.3	97.56	110.5	-513.9	3,306.9	3,221.5	85.34	38.749		
14,600.0	11,570.0	18,949.0	11,531.6	67.5	132.3	97.56	110.5	-513.9	3,406.3	3,321.0	85.29	39.936		
14,700.0	11,570.0	18,949.0	11,531.6	68.8	132.3	97.56	110.5	-513.9	3,505.7	3,420.5	85.25	41.121		
14,800.0	11,570.0	18,949.0	11,531.6	70.1	132.3	97.56	110.5	-513.9	3,605.2	3,520.0	85.22	42.302		
14,900.0	11,570.0	18,949.0	11,531.6	71.5	132.3	97.56	110.5	-513.9	3,704.7	3,619.5	85.20	43.481		
15,000.0	11,570.0	18,949.0	11,531.6	72.9	132.3	97.56	110.5	-513.9	3,804.2	3,719.0	85.18	44.658		
15,100.0	11,570.0	18,949.0	11,531.6	74.2	132.3	97.56	110.5	-513.9	3,903.8	3,818.6	85.17	45.832		
15,200.0	11,570.0	18,949.0	11,531.6	75.6	132.3	97.56	110.5	-513.9	4,003.3	3,918.2	85.17	47.004		
15,300.0	11,570.0	18,949.0	11,531.6	77.0	132.3	97.56	110.5	-513.9	4,102.9	4,017.7	85.17	48.174		
15,400.0	11,570.0	18,949.0	11,531.6	78.4	132.3	97.56	110.5	-513.9	4,202.5	4,117.3	85.17	49.341		
15,500.0	11,570.0	18,949.0	11,531.6	79.9	132.3	97.56	110.5	-513.9	4,302.2	4,217.0	85.18	50.505		
15,600.0	11,570.0	18,949.0	11,531.6	81.3	132.3	97.56	110.5	-513.9	4,401.8	4,316.6	85.19	51.667		
15,700.0	11,570.0	18,949.0	11,531.6	82.7	132.3	97.56	110.5	-513.9	4,501.5	4,416.2	85.21	52.827		
15,800.0	11,570.0	18,949.0	11,531.6	84.2	132.3	97.56	110.5	-513.9	4,601.1	4,515.9	85.23	53.984		
15,900.0	11,570.0	18,949.0	11,531.6	85.6	132.3	97.56	110.5	-513.9	4,700.8	4,615.6	85.25	55.139		
16,000.0	11,570.0	18,949.0	11,531.6	87.1	132.3	97.56	110.5	-513.9	4,800.5	4,715.2	85.28	56.292		
16,100.0	11,570.0	18,949.0	11,531.6	88.6	132.3	97.56	110.5	-513.9	4,900.2	4,814.9	85.31	57.442		
16,200.0	11,570.0	18,949.0	11,531.6	90.0	132.3	97.56	110.5	-513.9	5,000.0	4,914.6	85.34	58.589		
16,300.0	11,570.0	18,949.0	11,531.6	91.5	132.3	97.56	110.5	-513.9	5,099.7	5,014.3	85.37	59.735		
16,400.0	11,570.0	18,949.0	11,531.6	93.0	132.3	97.56	110.5	-513.9	5,199.4	5,114.0	85.41	60.877		
16,500.0	11,570.0	18,949.0	11,531.6	94.5	132.3	97.56	110.5	-513.9	5,299.2	5,213.8	85.45	62.018		
16,600.0	11,570.0	18,949.0	11,531.6	96.0	132.3	97.56	110.5	-513.9	5,399.0	5,313.5	85.49	63.156		
16,700.0	11,570.0	18,949.0	11,531.6	97.5	132.3	97.56	110.5	-513.9	5,498.7	5,413.2	85.53	64.291		
16,800.0	11,570.0	18,949.0	11,531.6	99.0	132.3	97.56	110.5	-513.9	5,598.5	5,513.0	85.57	65.424		
16,900.0	11,570.0	18,949.0	11,531.6	100.5	132.3	97.56	110.5	-513.9	5,698.3	5,612.7	85.62	66.554		
17,000.0	11,570.0	18,949.0	11,531.6	102.0	132.3	97.56	110.5	-513.9	5,798.1	5,712.4	85.67	67.682		
17,100.0	11,570.0	18,949.0	11,531.6	103.6	132.3	97.56	110.5	-513.9	5,897.9	5,812.2	85.72	68.807		
17,200.0	11,570.0	18,949.0	11,531.6	105.1	132.3	97.56	110.5	-513.9	5,997.7	5,912.0	85.77	69.930		
17,300.0	11,570.0	18,949.0	11,531.6	106.6	132.3	97.56	110.5	-513.9	6,097.5	6,011.7	85.82	71.050		
17,400.0	11,570.0	18,949.0	11,531.6	108.2	132.3	97.56	110.5	-513.9	6,197.4	6,111.5	85.87	72.168		
17,500.0	11,570.0	18,949.0	11,531.6	109.7	132.3	97.56	110.5	-513.9	6,297.2	6,211.3	85.93	73.283		
17,600.0	11,570.0	18,949.0	11,531.6	111.2	132.3	97.56	110.5	-513.9	6,397.0	6,311.0	85.99	74.395		
17,700.0	11,570.0	18,949.0	11,531.6	112.8	132.3	97.56	110.5	-513.9	6,496.9	6,410.8	86.05	75.505		
17,800.0	11,570.0	18,949.0	11,531.6	114.3	132.3	97.56	110.5	-513.9	6,596.7	6,510.6	86.11	76.612		
17,834.0	11,570.0	18,949.0	11,531.6	114.8	132.3	97.56	110.5	-513.9	6,630.7	6,544.6	86.13	76.988		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	-6.89	7,765.5	-937.7	7,822.5				
100.0	100.0	4.8	4.8	0.1	0.0	-6.89	7,765.5	-937.7	7,821.9	7,821.8	0.14	N/A	
200.0	200.0	143.1	143.1	0.5	0.2	-6.89	7,765.1	-937.8	7,821.7	7,821.0	0.72	N/A	
300.0	300.0	281.3	281.3	0.8	0.5	-6.89	7,764.1	-938.2	7,820.9	7,819.6	1.31	5,962.631	
400.0	400.0	373.6	373.6	1.2	0.8	-6.89	7,763.1	-938.5	7,820.0	7,818.0	2.00	3,918.777	
500.0	500.0	526.7	526.6	1.6	1.3	-6.89	7,761.2	-938.5	7,818.7	7,815.8	2.90	2,694.163	
600.0	600.0	616.6	616.5	1.9	1.7	-6.90	7,759.7	-938.4	7,817.1	7,813.5	3.58	2,182.455	
700.0	700.0	724.4	724.3	2.3	2.1	-6.90	7,758.2	-938.4	7,815.6	7,811.3	4.33	1,806.484	
800.0	800.0	877.0	876.9	2.6	2.6	-6.90	7,755.2	-938.5	7,813.7	7,808.4	5.23	1,493.243	
900.0	900.0	977.4	977.3	3.0	3.0	-6.90	7,752.9	-938.4	7,811.4	7,805.5	5.95	1,312.695	
1,000.0	1,000.0	1,092.7	1,092.5	3.4	3.4	-6.90	7,750.3	-938.1	7,809.1	7,802.4	6.72	1,161.688	
1,100.0	1,100.0	1,168.6	1,168.4	3.7	3.7	-6.90	7,748.6	-937.7	7,806.8	7,799.5	7.35	1,062.023	
1,200.0	1,200.0	1,258.4	1,258.3	4.1	4.0	-6.89	7,746.9	-936.7	7,804.9	7,796.8	8.03	972.038	
1,300.0	1,300.0	1,364.4	1,364.2	4.4	4.4	-6.89	7,744.8	-935.8	7,802.8	7,794.1	8.77	890.144	
1,400.0	1,400.0	1,473.1	1,472.9	4.8	4.7	-6.88	7,742.7	-934.5	7,800.7	7,791.2	9.51	820.156	
1,500.0	1,500.0	1,582.1	1,581.8	5.1	5.1	-6.86	7,740.6	-931.7	7,798.5	7,788.2	10.25	760.485	
1,600.0	1,600.0	1,672.3	1,671.9	5.5	5.4	85.53	7,738.9	-928.6	7,796.2	7,785.2	10.92	713.864	
1,700.0	1,700.0	1,837.1	1,836.3	5.8	6.0	85.67	7,736.0	-917.4	7,793.4	7,781.6	11.84	658.134	
1,800.0	1,799.9	1,937.6	1,936.3	6.2	6.4	85.81	7,734.2	-906.9	7,790.0	7,777.5	12.54	621.011	
1,900.0	1,899.7	1,958.0	1,956.5	6.5	6.5	85.86	7,733.8	-904.8	7,787.0	7,774.0	12.97	600.546	
2,000.0	1,999.4	2,019.0	2,017.2	6.9	6.7	85.97	7,733.2	-898.2	7,784.4	7,770.9	13.54	574.992	
2,100.0	2,098.9	2,052.0	2,050.0	7.2	6.8	86.04	7,733.3	-894.5	7,782.7	7,768.7	14.01	555.352	
2,200.0	2,198.3	2,089.5	2,087.2	7.6	6.9	86.11	7,733.7	-890.2	7,781.7	7,767.2	14.51	536.234	
2,300.0	2,297.4	2,147.0	2,144.3	8.0	7.1	86.22	7,734.9	-883.0	7,781.5	7,766.4	15.09	515.721	
2,314.9	2,312.1	2,147.0	2,144.3	8.0	7.1	86.22	7,734.9	-883.0	7,781.5	7,766.3	15.14	513.830	
2,400.0	2,396.4	2,180.2	2,177.2	8.4	7.3	86.29	7,733.9	-878.7	7,781.9	7,766.3	15.58	499.353	
2,500.0	2,495.5	2,240.0	2,236.4	8.7	7.5	86.40	7,737.6	-871.1	7,782.7	7,766.5	16.18	480.979	
2,600.0	2,594.5	2,301.9	2,297.8	9.1	7.7	86.53	7,739.8	-863.2	7,784.1	7,767.3	16.79	463.575	
2,701.1	2,694.6	2,335.0	2,330.6	9.5	7.8	86.59	7,741.1	-859.0	7,786.2	7,768.9	17.30	450.052	
2,800.0	2,792.7	2,396.1	2,391.2	9.9	8.0	86.75	7,743.9	-851.3	7,789.1	7,771.1	17.91	434.983	
2,900.0	2,892.2	2,456.5	2,451.0	10.3	8.3	86.90	7,747.2	-843.7	7,792.7	7,774.2	18.51	421.068	
3,000.0	2,991.9	2,548.1	2,541.7	10.6	8.6	87.11	7,752.4	-831.8	7,796.8	7,777.6	19.22	405.616	
3,100.0	3,091.8	2,636.9	2,629.5	11.0	8.9	87.29	7,757.5	-819.9	7,801.2	7,781.3	19.92	391.601	
3,200.0	3,191.8	2,733.2	2,724.7	11.4	9.3	87.48	7,763.1	-806.3	7,805.8	7,785.2	20.65	378.075	
3,234.4	3,226.2	2,757.1	2,748.3	11.5	9.4	-4.81	7,764.5	-802.9	7,807.5	7,786.6	20.86	374.327	
3,300.0	3,291.8	2,808.0	2,798.6	11.7	9.6	-4.76	7,767.7	-795.7	7,810.7	7,789.5	21.28	367.043	
3,400.0	3,391.8	2,921.5	2,910.7	12.0	10.1	-4.64	7,774.7	-779.5	7,815.8	7,793.7	22.07	354.055	
3,500.0	3,491.8	3,028.7	3,016.5	12.4	10.5	-4.52	7,781.2	-763.9	7,820.7	7,797.9	22.85	342.291	
3,600.0	3,591.8	3,247.1	3,232.6	12.7	11.4	-4.29	7,792.2	-733.2	7,824.6	7,800.5	24.08	324.906	
3,700.0	3,691.8	3,354.4	3,338.9	13.1	11.8	-4.18	7,796.8	-719.4	7,827.9	7,803.1	24.86	314.904	
3,800.0	3,791.8	3,447.6	3,431.2	13.4	12.1	-4.10	7,800.6	-708.5	7,831.2	7,805.7	25.57	306.235	
3,900.0	3,891.8	19,030.0	11,592.2	13.8	132.6	17.54	262.4	-63.8	7,802.0	7,737.1	64.86	120.290	
4,000.0	3,991.8	19,030.0	11,592.2	14.1	132.6	17.54	262.4	-63.8	7,702.1	7,637.2	64.87	118.731	
4,100.0	4,091.8	19,030.0	11,592.2	14.5	132.6	17.54	262.4	-63.8	7,602.1	7,537.3	64.89	117.161	
4,200.0	4,191.8	19,030.0	11,592.2	14.8	132.6	17.54	262.4	-63.8	7,502.2	7,437.3	64.91	115.578	
4,300.0	4,291.8	19,030.0	11,592.2	15.2	132.6	17.54	262.4	-63.8	7,402.3	7,337.3	64.94	113.984	
4,400.0	4,391.8	19,030.0	11,592.2	15.5	132.6	17.54	262.4	-63.8	7,302.4	7,237.4	64.98	112.380	
4,500.0	4,491.8	19,030.0	11,592.2	15.9	132.6	17.54	262.4	-63.8	7,202.4	7,137.4	65.02	110.766	
4,600.0	4,591.8	19,030.0	11,592.2	16.2	132.6	17.54	262.4	-63.8	7,102.5	7,037.4	65.08	109.142	
4,700.0	4,691.8	19,030.0	11,592.2	16.6	132.6	17.54	262.4	-63.8	7,002.6	6,937.5	65.13	107.510	
4,800.0	4,791.8	19,030.0	11,592.2	16.9	132.6	17.54	262.4	-63.8	6,902.7	6,837.5	65.20	105.869	
4,900.0	4,891.8	19,030.0	11,592.2	17.3	132.6	17.54	262.4	-63.8	6,802.8	6,737.5	65.27	104.222	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	4,991.8	19,030.0	11,592.2	17.7	132.6	17.54	262.4	-63.8	6,702.8	6,637.5	65.35	102.569		
5,100.0	5,091.8	19,030.0	11,592.2	18.0	132.6	17.54	262.4	-63.8	6,602.9	6,537.5	65.43	100.910		
5,200.0	5,191.8	19,030.0	11,592.2	18.4	132.6	17.54	262.4	-63.8	6,503.0	6,437.5	65.52	99.247		
5,300.0	5,291.8	19,030.0	11,592.2	18.7	132.6	17.54	262.4	-63.8	6,403.1	6,337.5	65.62	97.580		
5,400.0	5,391.8	19,030.0	11,592.2	19.1	132.6	17.54	262.4	-63.8	6,303.2	6,237.5	65.72	95.910		
5,500.0	5,491.8	19,030.0	11,592.2	19.4	132.6	17.54	262.4	-63.8	6,203.3	6,137.5	65.83	94.238		
5,600.0	5,591.8	19,030.0	11,592.2	19.8	132.6	17.54	262.4	-63.8	6,103.4	6,037.5	65.94	92.564		
5,700.0	5,691.8	19,030.0	11,592.2	20.1	132.6	17.54	262.4	-63.8	6,003.5	5,937.5	66.05	90.889		
5,800.0	5,791.8	19,030.0	11,592.2	20.5	132.6	17.54	262.4	-63.8	5,903.6	5,837.5	66.17	89.213		
5,900.0	5,891.8	19,030.0	11,592.2	20.8	132.6	17.54	262.4	-63.8	5,803.8	5,737.5	66.30	87.538		
6,000.0	5,991.8	19,030.0	11,592.2	21.2	132.6	17.54	262.4	-63.8	5,703.9	5,637.5	66.43	85.863		
6,100.0	6,091.8	19,030.0	11,592.2	21.5	132.6	17.54	262.4	-63.8	5,604.0	5,537.4	66.56	84.190		
6,200.0	6,191.8	19,030.0	11,592.2	21.9	132.6	17.54	262.4	-63.8	5,504.1	5,437.4	66.70	82.518		
6,300.0	6,291.8	19,030.0	11,592.2	22.3	132.6	17.54	262.4	-63.8	5,404.3	5,337.4	66.84	80.849		
6,400.0	6,391.8	19,030.0	11,592.2	22.6	132.6	17.54	262.4	-63.8	5,304.4	5,237.4	66.99	79.181		
6,500.0	6,491.8	19,030.0	11,592.2	23.0	132.6	17.54	262.4	-63.8	5,204.5	5,137.4	67.14	77.517		
6,600.0	6,591.8	19,030.0	11,592.2	23.3	132.6	17.54	262.4	-63.8	5,104.7	5,037.4	67.29	75.856		
6,700.0	6,691.8	19,030.0	11,592.2	23.7	132.6	17.54	262.4	-63.8	5,004.9	4,937.4	67.45	74.198		
6,800.0	6,791.8	19,030.0	11,592.2	24.0	132.6	17.54	262.4	-63.8	4,905.0	4,837.4	67.61	72.545		
6,900.0	6,891.8	19,030.0	11,592.2	24.4	132.6	17.54	262.4	-63.8	4,805.2	4,737.4	67.78	70.895		
7,000.0	6,991.8	19,030.0	11,592.2	24.7	132.6	17.54	262.4	-63.8	4,705.4	4,637.4	67.95	69.250		
7,100.0	7,091.8	19,030.0	11,592.2	25.1	132.6	17.54	262.4	-63.8	4,605.5	4,537.4	68.12	67.610		
7,200.0	7,191.8	19,030.0	11,592.2	25.5	132.6	17.54	262.4	-63.8	4,505.7	4,437.4	68.30	65.974		
7,300.0	7,291.8	19,030.0	11,592.2	25.8	132.6	17.54	262.4	-63.8	4,405.9	4,337.5	68.47	64.344		
7,400.0	7,391.8	19,030.0	11,592.2	26.2	132.6	17.54	262.4	-63.8	4,306.1	4,237.5	68.66	62.719		
7,500.0	7,491.8	19,030.0	11,592.2	26.5	132.6	17.54	262.4	-63.8	4,206.4	4,137.5	68.84	61.100		
7,600.0	7,591.8	19,030.0	11,592.2	26.9	132.6	17.54	262.4	-63.8	4,106.6	4,037.6	69.03	59.487		
7,700.0	7,691.8	19,030.0	11,592.2	27.2	132.6	17.54	262.4	-63.8	4,006.8	3,937.6	69.23	57.880		
7,800.0	7,791.8	19,030.0	11,592.2	27.6	132.6	17.54	262.4	-63.8	3,907.1	3,837.7	69.42	56.279		
7,900.0	7,891.8	19,030.0	11,592.2	28.0	132.6	17.54	262.4	-63.8	3,807.4	3,737.7	69.62	54.684		
8,000.0	7,991.8	19,030.0	11,592.2	28.3	132.6	17.54	262.4	-63.8	3,707.6	3,637.8	69.83	53.096		
8,100.0	8,091.8	19,030.0	11,592.2	28.7	132.6	17.54	262.4	-63.8	3,607.9	3,537.9	70.04	51.515		
8,200.0	8,191.8	19,030.0	11,592.2	29.0	132.6	17.54	262.4	-63.8	3,508.2	3,438.0	70.25	49.941		
8,300.0	8,291.8	19,030.0	11,592.2	29.4	132.6	17.54	262.4	-63.8	3,408.6	3,338.1	70.46	48.373		
8,400.0	8,391.8	19,030.0	11,592.2	29.7	132.6	17.54	262.4	-63.8	3,308.9	3,238.2	70.68	46.813		
8,500.0	8,491.8	19,030.0	11,592.2	30.1	132.6	17.54	262.4	-63.8	3,209.3	3,138.4	70.91	45.261		
8,600.0	8,591.8	19,030.0	11,592.2	30.4	132.6	17.54	262.4	-63.8	3,109.7	3,038.6	71.14	43.715		
8,700.0	8,691.8	19,030.0	11,592.2	30.8	132.6	17.54	262.4	-63.8	3,010.1	2,938.8	71.37	42.178		
8,800.0	8,791.8	19,030.0	11,592.2	31.2	132.6	17.54	262.4	-63.8	2,910.6	2,839.0	71.60	40.648		
8,900.0	8,891.8	19,030.0	11,592.2	31.5	132.6	17.54	262.4	-63.8	2,811.1	2,739.2	71.85	39.126		
9,000.0	8,991.8	19,030.0	11,592.2	31.9	132.6	17.54	262.4	-63.8	2,711.6	2,639.5	72.09	37.612		
9,100.0	9,091.8	19,030.0	11,592.2	32.2	132.6	17.54	262.4	-63.8	2,612.1	2,539.8	72.35	36.106		
9,200.0	9,191.8	19,030.0	11,592.2	32.6	132.6	17.54	262.4	-63.8	2,512.8	2,440.1	72.61	34.608		
9,300.0	9,291.8	19,030.0	11,592.2	32.9	132.6	17.54	262.4	-63.8	2,413.4	2,340.5	72.87	33.118		
9,400.0	9,391.8	19,030.0	11,592.2	33.3	132.6	17.54	262.4	-63.8	2,314.1	2,241.0	73.15	31.637		
9,500.0	9,491.8	19,030.0	11,592.2	33.7	132.6	17.54	262.4	-63.8	2,214.9	2,141.5	73.43	30.165		
9,600.0	9,591.8	19,030.0	11,592.2	34.0	132.6	17.54	262.4	-63.8	2,115.7	2,042.0	73.72	28.701		
9,700.0	9,691.8	19,030.0	11,592.2	34.4	132.6	17.54	262.4	-63.8	2,016.7	1,942.7	74.02	27.246		
9,800.0	9,791.8	19,030.0	11,592.2	34.7	132.6	17.54	262.4	-63.8	1,917.7	1,843.4	74.33	25.800		
9,900.0	9,891.8	19,030.0	11,592.2	35.1	132.6	17.54	262.4	-63.8	1,818.9	1,744.2	74.66	24.362		
10,000.0	9,991.8	19,030.0	11,592.2	35.4	132.6	17.54	262.4	-63.8	1,720.1	1,645.1	75.00	22.934		
10,100.0	10,091.8	19,030.0	11,592.2	35.8	132.6	17.54	262.4	-63.8	1,621.6	1,546.2	75.37	21.515		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	10,191.8	19,030.0	11,592.2	36.2	132.6	17.54	262.4	-63.8	1,523.2	1,447.4	75.76	20.106	
10,300.0	10,291.8	19,030.0	11,592.2	36.5	132.6	17.54	262.4	-63.8	1,425.0	1,348.8	76.18	18.706	
10,400.0	10,391.8	19,030.0	11,592.2	36.9	132.6	17.54	262.4	-63.8	1,327.1	1,250.5	76.64	17.317	
10,500.0	10,491.8	19,030.0	11,592.2	37.2	132.6	17.54	262.4	-63.8	1,229.6	1,152.5	77.15	15.938	
10,600.0	10,591.8	19,030.0	11,592.2	37.6	132.6	17.54	262.4	-63.8	1,132.5	1,054.8	77.73	14.570	
10,700.0	10,691.8	19,030.0	11,592.2	37.9	132.6	17.54	262.4	-63.8	1,035.9	957.5	78.39	13.214	
10,800.0	10,791.8	19,030.0	11,592.2	38.3	132.6	17.54	262.4	-63.8	940.1	860.9	79.18	11.873	
10,900.0	10,891.8	19,030.0	11,592.2	38.7	132.6	17.54	262.4	-63.8	845.2	765.1	80.14	10.547	
11,005.2	10,997.0	19,030.0	11,592.2	39.0	132.6	17.54	262.4	-63.8	746.8	665.4	81.41	9.174	
11,050.0	11,041.7	19,030.0	11,592.2	39.2	132.6	-164.97	262.4	-63.8	706.3	624.2	82.08	8.605	
11,100.0	11,091.3	19,030.0	11,592.2	39.4	132.6	-166.96	262.4	-63.8	663.6	580.6	82.98	7.997	
11,150.0	11,140.2	19,030.0	11,592.2	39.5	132.6	-168.30	262.4	-63.8	624.7	540.6	84.06	7.431	
11,200.0	11,188.0	19,030.0	11,592.2	39.7	132.6	-169.22	262.4	-63.8	590.4	505.1	85.30	6.922	
11,250.0	11,234.4	19,030.0	11,592.2	39.8	132.6	-169.85	262.4	-63.8	562.1	475.4	86.65	6.487	
11,300.0	11,278.9	19,030.0	11,592.2	39.9	132.6	-170.26	262.4	-63.8	540.8	452.8	88.02	6.144	
11,350.0	11,321.3	19,030.0	11,592.2	40.1	132.6	-170.49	262.4	-63.8	527.6	438.3	89.30	5.908	
11,399.5	11,360.9	19,030.0	11,592.2	40.2	132.6	-170.56	262.4	-63.8	523.2	432.8	90.35	5.790 CC	
11,400.0	11,361.3	19,030.0	11,592.2	40.2	132.6	-170.56	262.4	-63.8	523.2	432.8	90.36	5.790 ES, SF	
11,450.0	11,398.4	19,030.0	11,592.2	40.3	132.6	-170.48	262.4	-63.8	527.8	436.6	91.13	5.791	
11,500.0	11,432.5	19,030.0	11,592.2	40.5	132.6	-170.25	262.4	-63.8	541.1	449.6	91.58	5.909	
11,550.0	11,463.3	19,030.0	11,592.2	40.6	132.6	-169.84	262.4	-63.8	562.6	470.8	91.75	6.131	
11,600.0	11,490.6	19,030.0	11,592.2	40.8	132.6	-169.21	262.4	-63.8	591.0	499.3	91.71	6.444	
11,650.0	11,514.0	19,030.0	11,592.2	40.9	132.6	-168.28	262.4	-63.8	625.3	533.8	91.52	6.832	
11,700.0	11,533.6	19,030.0	11,592.2	41.1	132.6	-166.93	262.4	-63.8	664.4	573.1	91.26	7.280	
11,750.0	11,549.1	19,030.0	11,592.2	41.3	132.6	-164.93	262.4	-63.8	707.1	616.1	90.95	7.775	
11,800.0	11,560.3	19,030.0	11,592.2	41.4	132.6	-161.78	262.4	-63.8	752.5	661.9	90.62	8.304	
11,850.0	11,567.3	19,030.0	11,592.2	41.6	132.6	-156.41	262.4	-63.8	799.9	709.6	90.30	8.859	
11,900.0	11,569.9	19,030.0	11,592.2	41.8	132.6	-145.83	262.4	-63.8	848.7	758.7	89.98	9.431	
11,905.2	11,570.0	19,030.0	11,592.2	41.8	132.6	-144.14	262.4	-63.8	853.8	763.9	89.95	9.492	
11,912.4	11,570.0	19,030.0	11,592.2	41.8	132.6	-143.48	262.4	-63.8	860.9	771.0	89.91	9.575	
12,000.0	11,570.0	19,030.0	11,592.2	42.2	132.6	-143.48	262.4	-63.8	947.3	857.9	89.43	10.593	
12,100.0	11,570.0	19,030.0	11,592.2	42.6	132.6	-143.48	262.4	-63.8	1,046.2	957.2	88.99	11.756	
12,200.0	11,570.0	19,030.0	11,592.2	43.1	132.6	-143.48	262.4	-63.8	1,145.3	1,056.6	88.64	12.920	
12,300.0	11,570.0	19,030.0	11,592.2	43.7	132.6	-143.48	262.4	-63.8	1,244.5	1,156.1	88.36	14.084	
12,400.0	11,570.0	19,030.0	11,592.2	44.3	132.6	-143.48	262.4	-63.8	1,343.9	1,255.7	88.14	15.247	
12,500.0	11,570.0	19,030.0	11,592.2	45.0	132.6	-143.48	262.4	-63.8	1,443.3	1,355.3	87.95	16.411	
12,600.0	11,570.0	19,030.0	11,592.2	45.7	132.6	-143.48	262.4	-63.8	1,542.8	1,455.0	87.79	17.574	
12,700.0	11,570.0	19,030.0	11,592.2	46.5	132.6	-143.48	262.4	-63.8	1,642.4	1,554.7	87.66	18.736	
12,800.0	11,570.0	19,030.0	11,592.2	47.3	132.6	-143.48	262.4	-63.8	1,742.0	1,654.4	87.55	19.898	
12,900.0	11,570.0	19,030.0	11,592.2	48.2	132.6	-143.48	262.4	-63.8	1,841.6	1,754.2	87.45	21.059	
13,000.0	11,570.0	19,030.0	11,592.2	49.1	132.6	-143.48	262.4	-63.8	1,941.3	1,854.0	87.37	22.220	
13,100.0	11,570.0	19,030.0	11,592.2	50.0	132.6	-143.48	262.4	-63.8	2,041.1	1,953.8	87.30	23.380	
13,200.0	11,570.0	19,030.0	11,592.2	51.0	132.6	-143.48	262.4	-63.8	2,140.8	2,053.6	87.24	24.539	
13,300.0	11,570.0	19,030.0	11,592.2	52.0	132.6	-143.48	262.4	-63.8	2,240.6	2,153.4	87.19	25.697	
13,400.0	11,570.0	19,030.0	11,592.2	53.0	132.6	-143.48	262.4	-63.8	2,340.4	2,253.2	87.15	26.854	
13,500.0	11,570.0	19,030.0	11,592.2	54.1	132.6	-143.48	262.4	-63.8	2,440.2	2,353.1	87.12	28.010	
13,600.0	11,570.0	19,030.0	11,592.2	55.2	132.6	-143.48	262.4	-63.8	2,540.0	2,452.9	87.09	29.165	
13,700.0	11,570.0	19,030.0	11,592.2	56.3	132.6	-143.48	262.4	-63.8	2,639.8	2,552.8	87.07	30.320	
13,800.0	11,570.0	19,030.0	11,592.2	57.5	132.6	-143.48	262.4	-63.8	2,739.7	2,652.6	87.05	31.473	
13,900.0	11,570.0	19,030.0	11,592.2	58.7	132.6	-143.48	262.4	-63.8	2,839.5	2,752.5	87.04	32.625	
14,000.0	11,570.0	19,030.0	11,592.2	59.9	132.6	-143.48	262.4	-63.8	2,939.4	2,852.4	87.03	33.776	
14,100.0	11,570.0	19,030.0	11,592.2	61.1	132.6	-143.48	262.4	-63.8	3,039.3	2,952.3	87.02	34.925	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	11,570.0	19,030.0	11,592.2	62.3	132.6	-143.48	262.4	-63.8	3,139.2	3,052.2	87.02	36.074	
14,300.0	11,570.0	19,030.0	11,592.2	63.6	132.6	-143.48	262.4	-63.8	3,239.1	3,152.1	87.02	37.221	
14,400.0	11,570.0	19,030.0	11,592.2	64.9	132.6	-143.48	262.4	-63.8	3,339.0	3,251.9	87.03	38.367	
14,500.0	11,570.0	19,030.0	11,592.2	66.2	132.6	-143.48	262.4	-63.8	3,438.9	3,351.8	87.04	39.511	
14,600.0	11,570.0	19,030.0	11,592.2	67.5	132.6	-143.48	262.4	-63.8	3,538.8	3,451.7	87.05	40.654	
14,700.0	11,570.0	19,030.0	11,592.2	68.8	132.6	-143.48	262.4	-63.8	3,638.7	3,551.6	87.06	41.796	
14,800.0	11,570.0	19,030.0	11,592.2	70.1	132.6	-143.48	262.4	-63.8	3,738.6	3,651.6	87.07	42.936	
14,900.0	11,570.0	19,030.0	11,592.2	71.5	132.6	-143.48	262.4	-63.8	3,838.5	3,751.5	87.09	44.075	
15,000.0	11,570.0	19,030.0	11,592.2	72.9	132.6	-143.48	262.4	-63.8	3,938.5	3,851.4	87.11	45.212	
15,100.0	11,570.0	19,030.0	11,592.2	74.2	132.6	-143.48	262.4	-63.8	4,038.4	3,951.3	87.13	46.348	
15,200.0	11,570.0	19,030.0	11,592.2	75.6	132.6	-143.48	262.4	-63.8	4,138.3	4,051.2	87.16	47.482	
15,300.0	11,570.0	19,030.0	11,592.2	77.0	132.6	-143.48	262.4	-63.8	4,238.3	4,151.1	87.18	48.614	
15,400.0	11,570.0	19,030.0	11,592.2	78.4	132.6	-143.48	262.4	-63.8	4,338.2	4,251.0	87.21	49.744	
15,500.0	11,570.0	19,030.0	11,592.2	79.9	132.6	-143.48	262.4	-63.8	4,438.2	4,350.9	87.24	50.873	
15,600.0	11,570.0	19,030.0	11,592.2	81.3	132.6	-143.48	262.4	-63.8	4,538.1	4,450.8	87.27	52.000	
15,700.0	11,570.0	19,030.0	11,592.2	82.7	132.6	-143.48	262.4	-63.8	4,638.1	4,550.8	87.30	53.126	
15,800.0	11,570.0	19,030.0	11,592.2	84.2	132.6	-143.48	262.4	-63.8	4,738.0	4,650.7	87.34	54.249	
15,900.0	11,570.0	19,030.0	11,592.2	85.6	132.6	-143.48	262.4	-63.8	4,838.0	4,750.6	87.37	55.371	
16,000.0	11,570.0	19,030.0	11,592.2	87.1	132.6	-143.48	262.4	-63.8	4,937.9	4,850.5	87.41	56.491	
16,100.0	11,570.0	19,030.0	11,592.2	88.6	132.6	-143.48	262.4	-63.8	5,037.9	4,950.4	87.45	57.608	
16,200.0	11,570.0	19,030.0	11,592.2	90.0	132.6	-143.48	262.4	-63.8	5,137.8	5,050.3	87.49	58.724	
16,300.0	11,570.0	19,030.0	11,592.2	91.5	132.6	-143.48	262.4	-63.8	5,237.8	5,150.3	87.53	59.838	
16,400.0	11,570.0	19,030.0	11,592.2	93.0	132.6	-143.48	262.4	-63.8	5,337.7	5,250.2	87.58	60.950	
16,500.0	11,570.0	19,030.0	11,592.2	94.5	132.6	-143.48	262.4	-63.8	5,437.7	5,350.1	87.62	62.060	
16,600.0	11,570.0	19,030.0	11,592.2	96.0	132.6	-143.48	262.4	-63.8	5,537.7	5,450.0	87.67	63.168	
16,700.0	11,570.0	19,030.0	11,592.2	97.5	132.6	-143.48	262.4	-63.8	5,637.6	5,549.9	87.71	64.273	
16,800.0	11,570.0	19,030.0	11,592.2	99.0	132.6	-143.48	262.4	-63.8	5,737.6	5,649.8	87.76	65.377	
16,900.0	11,570.0	19,030.0	11,592.2	100.5	132.6	-143.48	262.4	-63.8	5,837.6	5,749.8	87.81	66.478	
17,000.0	11,570.0	19,030.0	11,592.2	102.0	132.6	-143.48	262.4	-63.8	5,937.5	5,849.7	87.86	67.577	
17,100.0	11,570.0	19,030.0	11,592.2	103.6	132.6	-143.48	262.4	-63.8	6,037.5	5,949.6	87.92	68.674	
17,200.0	11,570.0	19,030.0	11,592.2	105.1	132.6	-143.48	262.4	-63.8	6,137.5	6,049.5	87.97	69.769	
17,300.0	11,570.0	19,030.0	11,592.2	106.6	132.6	-143.48	262.4	-63.8	6,237.5	6,149.4	88.02	70.861	
17,400.0	11,570.0	19,030.0	11,592.2	108.2	132.6	-143.48	262.4	-63.8	6,337.4	6,249.3	88.08	71.951	
17,500.0	11,570.0	19,030.0	11,592.2	109.7	132.6	-143.48	262.4	-63.8	6,437.4	6,349.3	88.14	73.039	
17,600.0	11,570.0	19,030.0	11,592.2	111.2	132.6	-143.48	262.4	-63.8	6,537.4	6,449.2	88.19	74.124	
17,700.0	11,570.0	19,030.0	11,592.2	112.8	132.6	-143.48	262.4	-63.8	6,637.3	6,549.1	88.25	75.207	
17,800.0	11,570.0	19,030.0	11,592.2	114.3	132.6	-143.48	262.4	-63.8	6,737.3	6,649.0	88.31	76.288	
17,834.0	11,570.0	19,030.0	11,592.2	114.8	132.6	-143.48	262.4	-63.8	6,771.3	6,683.0	88.34	76.655	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 211-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	-6.92	7,635.7	-926.7	7,692.2				
100.0	100.0	15.7	15.7	0.1	0.0	-6.92	7,635.7	-926.7	7,691.7	7,691.6	0.15	N/A	
200.0	200.0	131.8	131.8	0.5	0.2	-6.92	7,635.6	-926.7	7,691.6	7,690.9	0.69	N/A	
300.0	300.0	308.2	308.2	0.8	0.7	-6.92	7,634.5	-926.7	7,691.1	7,689.6	1.52	5,063.504	
400.0	400.0	436.6	436.6	1.2	1.1	-6.92	7,632.5	-926.8	7,689.5	7,687.2	2.34	3,288.619	
500.0	500.0	524.1	524.0	1.6	1.4	-6.93	7,631.1	-927.1	7,688.1	7,685.0	3.01	2,555.187	
600.0	600.0	619.2	619.2	1.9	1.8	-6.93	7,629.8	-927.4	7,686.6	7,682.9	3.71	2,073.055	
700.0	700.0	723.8	723.7	2.3	2.2	-6.93	7,628.3	-927.6	7,685.2	7,680.8	4.44	1,730.558	
800.0	800.0	830.1	830.0	2.6	2.5	-6.94	7,626.6	-927.7	7,683.7	7,678.5	5.18	1,483.150	
900.0	900.0	893.6	893.5	3.0	2.8	-6.94	7,625.8	-927.7	7,682.4	7,676.7	5.77	1,332.308	
1,000.0	1,000.0	971.4	971.3	3.4	3.1	-6.94	7,625.1	-927.7	7,681.6	7,675.2	6.40	1,199.622	
1,100.0	1,100.0	1,070.6	1,070.5	3.7	3.4	-6.94	7,624.4	-927.7	7,680.9	7,673.7	7.12	1,079.189	
1,200.0	1,200.0	1,166.5	1,166.4	4.1	3.8	-6.94	7,623.7	-927.6	7,680.1	7,672.3	7.82	982.222	
1,300.0	1,300.0	1,265.2	1,265.1	4.4	4.1	-6.94	7,623.0	-927.7	7,679.5	7,670.9	8.53	900.163	
1,400.0	1,400.0	1,358.0	1,357.9	4.8	4.4	-6.94	7,622.4	-927.8	7,678.8	7,669.6	9.22	832.638	
1,500.0	1,500.0	1,447.1	1,447.0	5.1	4.8	-6.94	7,622.0	-927.8	7,678.3	7,668.4	9.90	775.571	
1,600.0	1,600.0	1,556.9	1,556.8	5.5	5.2	85.42	7,621.5	-927.9	7,677.8	7,667.2	10.64	721.426	
1,700.0	1,700.0	1,721.6	1,721.6	5.8	5.7	85.46	7,620.0	-927.7	7,676.7	7,665.2	11.57	663.303	
1,800.0	1,799.9	1,845.9	1,845.8	6.2	6.2	85.53	7,618.0	-926.4	7,674.7	7,662.3	12.36	620.959	
1,900.0	1,899.7	1,898.0	1,897.9	6.5	6.4	85.57	7,617.3	-925.8	7,672.8	7,659.9	12.89	595.118	
2,000.0	1,999.4	1,954.0	1,953.9	6.9	6.6	85.62	7,617.0	-925.7	7,671.4	7,658.0	13.44	570.659	
2,100.0	2,098.9	1,954.0	1,953.9	7.2	6.6	85.63	7,617.0	-925.7	7,670.8	7,657.0	13.80	555.877	
2,139.3	2,138.0	1,986.9	1,986.8	7.4	6.7	85.65	7,617.0	-926.0	7,670.6	7,656.6	14.05	545.781	
2,200.0	2,198.3	2,004.2	2,004.1	7.6	6.7	85.66	7,617.2	-926.2	7,670.8	7,656.4	14.33	535.202	
2,300.0	2,297.4	2,048.0	2,047.8	8.0	6.9	85.69	7,618.0	-927.3	7,671.7	7,656.9	14.85	516.624	
2,400.0	2,396.4	2,048.0	2,047.8	8.4	6.9	85.69	7,618.0	-927.3	7,673.5	7,658.2	15.22	504.160	
2,500.0	2,495.5	2,097.2	2,097.0	8.7	7.1	85.73	7,619.5	-929.1	7,676.0	7,660.3	15.76	487.073	
2,600.0	2,594.5	2,142.0	2,141.7	9.1	7.2	85.76	7,621.4	-931.1	7,679.5	7,663.3	16.29	471.519	
2,701.1	2,694.6	2,186.0	2,185.6	9.5	7.3	85.79	7,623.5	-933.7	7,683.8	7,667.0	16.82	456.841	
2,800.0	2,792.7	2,237.0	2,236.4	9.9	7.5	85.89	7,626.0	-937.5	7,688.6	7,671.3	17.37	442.752	
2,900.0	2,892.2	2,293.0	2,292.1	10.3	7.7	85.98	7,629.0	-942.1	7,694.3	7,676.4	17.93	429.191	
3,000.0	2,991.9	2,354.8	2,353.6	10.6	7.9	86.08	7,632.8	-947.0	7,700.8	7,682.3	18.50	416.229	
3,100.0	3,091.8	2,456.2	2,454.5	11.0	8.3	86.17	7,639.2	-954.4	7,707.5	7,688.3	19.21	401.252	
3,200.0	3,191.8	2,527.4	2,525.3	11.4	8.5	86.26	7,644.0	-959.5	7,714.7	7,694.9	19.80	389.637	
3,234.4	3,226.2	2,804.3	2,801.1	11.5	9.5	-6.20	7,658.3	-980.6	7,716.9	7,696.0	20.92	368.872	
3,300.0	3,291.8	3,300.0	2,956.5	11.7	11.3	-6.28	7,662.9	-992.4	7,719.3	7,696.3	22.93	336.702	
3,400.0	3,391.8	3,145.4	3,141.2	12.0	10.7	-6.37	7,666.3	-1,005.3	7,721.8	7,699.1	22.72	339.803	
3,500.0	3,491.8	3,241.6	3,237.2	12.4	11.0	-6.41	7,667.7	-1,010.3	7,723.8	7,700.4	23.42	329.858	
3,600.0	3,591.8	3,312.1	3,307.6	12.7	11.3	-6.44	7,668.9	-1,014.7	7,726.2	7,702.2	24.02	321.714	
3,700.0	3,691.8	3,383.7	3,378.9	13.1	11.6	-6.48	7,670.2	-1,020.3	7,729.0	7,704.3	24.62	313.906	
3,800.0	3,791.8	3,501.9	3,496.7	13.4	12.0	-6.55	7,672.5	-1,030.9	7,731.9	7,706.5	25.40	304.349	
3,900.0	3,891.8	3,670.3	3,664.4	13.8	12.6	-6.66	7,674.5	-1,045.3	7,734.1	7,707.7	26.38	293.223	
4,000.0	3,991.8	3,821.2	3,814.9	14.1	13.2	-6.75	7,675.4	-1,057.6	7,735.6	7,708.3	27.28	283.527	
4,100.0	4,091.8	18,847.2	11,621.6	14.5	131.4	-81.61	132.2	-1,085.8	7,675.0	7,610.1	64.88	118.590	
4,200.0	4,191.8	18,849.0	11,621.6	14.8	131.5	-81.71	130.4	-1,085.8	7,575.8	7,510.8	64.99	116.572	
4,300.0	4,291.8	18,850.7	11,621.7	15.2	131.5	-81.82	128.7	-1,085.8	7,476.6	7,411.5	65.10	114.843	
4,400.0	4,391.8	18,850.0	11,621.7	15.5	131.5	-81.77	129.4	-1,085.8	7,377.4	7,312.2	65.21	113.136	
4,500.0	4,491.8	18,850.0	11,621.7	15.9	131.5	-81.77	129.4	-1,085.8	7,278.2	7,212.9	65.33	111.409	
4,600.0	4,591.8	18,850.0	11,621.7	16.2	131.5	-81.77	129.4	-1,085.8	7,179.1	7,113.6	65.46	109.673	
4,700.0	4,691.8	18,850.0	11,621.7	16.6	131.5	-81.77	129.4	-1,085.8	7,080.0	7,014.4	65.60	107.929	
4,800.0	4,791.8	18,850.0	11,621.7	16.9	131.5	-81.77	129.4	-1,085.8	6,980.9	6,915.2	65.75	106.178	
4,900.0	4,891.8	18,850.0	11,621.7	17.3	131.5	-81.77	129.4	-1,085.8	6,881.8	6,815.9	65.91	104.421	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 211-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	4,991.8	18,850.0	11,621.7	17.7	131.5	-81.77	129.4	-1,085.8	6,782.8	6,716.7	66.07	102.658		
5,100.0	5,091.8	18,850.0	11,621.7	18.0	131.5	-81.77	129.4	-1,085.8	6,683.8	6,617.5	66.25	100.891		
5,200.0	5,191.8	18,850.0	11,621.7	18.4	131.5	-81.77	129.4	-1,085.8	6,584.8	6,518.4	66.43	99.120		
5,300.0	5,291.8	18,850.0	11,621.7	18.7	131.5	-81.77	129.4	-1,085.8	6,485.9	6,419.2	66.63	97.347		
5,400.0	5,391.8	18,850.0	11,621.7	19.1	131.5	-81.77	129.4	-1,085.8	6,387.0	6,320.1	66.83	95.571		
5,500.0	5,491.8	18,850.0	11,621.7	19.4	131.5	-81.77	129.4	-1,085.8	6,288.1	6,221.0	67.04	93.794		
5,600.0	5,591.8	18,850.0	11,621.7	19.8	131.5	-81.77	129.4	-1,085.8	6,189.2	6,122.0	67.26	92.017		
5,700.0	5,691.8	18,850.0	11,621.7	20.1	131.5	-81.77	129.4	-1,085.8	6,090.4	6,022.9	67.49	90.239		
5,800.0	5,791.8	18,850.0	11,621.7	20.5	131.5	-81.77	129.4	-1,085.8	5,991.7	5,923.9	67.73	88.461		
5,900.0	5,891.8	18,850.0	11,621.7	20.8	131.5	-81.77	129.4	-1,085.8	5,893.0	5,825.0	67.98	86.685		
6,000.0	5,991.8	18,850.0	11,621.7	21.2	131.5	-81.77	129.4	-1,085.8	5,794.3	5,726.0	68.24	84.910		
6,100.0	6,091.8	18,850.0	11,621.7	21.5	131.5	-81.77	129.4	-1,085.8	5,695.6	5,627.1	68.51	83.136		
6,200.0	6,191.8	18,850.0	11,621.7	21.9	131.5	-81.77	129.4	-1,085.8	5,597.1	5,528.3	68.79	81.365		
6,300.0	6,291.8	18,850.0	11,621.7	22.3	131.5	-81.77	129.4	-1,085.8	5,498.5	5,429.4	69.08	79.597		
6,400.0	6,391.8	18,850.0	11,621.7	22.6	131.5	-81.77	129.4	-1,085.8	5,400.0	5,330.7	69.38	77.832		
6,500.0	6,491.8	18,850.0	11,621.7	23.0	131.5	-81.77	129.4	-1,085.8	5,301.6	5,231.9	69.69	76.070		
6,600.0	6,591.8	18,850.0	11,621.7	23.3	131.5	-81.77	129.4	-1,085.8	5,203.3	5,133.2	70.02	74.312		
6,700.0	6,691.8	18,850.0	11,621.7	23.7	131.5	-81.77	129.4	-1,085.8	5,105.0	5,034.6	70.36	72.558		
6,800.0	6,791.8	18,850.0	11,621.7	24.0	131.5	-81.77	129.4	-1,085.8	5,006.7	4,936.0	70.71	70.808		
6,900.0	6,891.8	18,850.0	11,621.7	24.4	131.5	-81.77	129.4	-1,085.8	4,908.6	4,837.5	71.07	69.063		
7,000.0	6,991.8	18,850.0	11,621.7	24.7	131.5	-81.77	129.4	-1,085.8	4,810.5	4,739.0	71.45	67.322		
7,100.0	7,091.8	18,850.0	11,621.7	25.1	131.5	-81.77	129.4	-1,085.8	4,712.5	4,640.6	71.85	65.587		
7,200.0	7,191.8	18,850.0	11,621.7	25.5	131.5	-81.77	129.4	-1,085.8	4,614.6	4,542.3	72.26	63.858		
7,300.0	7,291.8	18,850.0	11,621.7	25.8	131.5	-81.77	129.4	-1,085.8	4,516.8	4,444.1	72.69	62.134		
7,400.0	7,391.8	18,850.0	11,621.7	26.2	131.5	-81.77	129.4	-1,085.8	4,419.0	4,345.9	73.14	60.416		
7,500.0	7,491.8	18,850.0	11,621.7	26.5	131.5	-81.77	129.4	-1,085.8	4,321.4	4,247.8	73.61	58.705		
7,600.0	7,591.8	18,850.0	11,621.7	26.9	131.5	-81.77	129.4	-1,085.8	4,223.9	4,149.8	74.10	57.000		
7,700.0	7,691.8	18,850.0	11,621.7	27.2	131.5	-81.77	129.4	-1,085.8	4,126.5	4,051.9	74.62	55.302		
7,800.0	7,791.8	18,850.0	11,621.7	27.6	131.5	-81.77	129.4	-1,085.8	4,029.2	3,954.1	75.16	53.611		
7,900.0	7,891.8	18,850.0	11,621.7	28.0	131.5	-81.77	129.4	-1,085.8	3,932.1	3,856.4	75.72	51.927		
8,000.0	7,991.8	18,850.0	11,621.7	28.3	131.5	-81.77	129.4	-1,085.8	3,835.1	3,758.8	76.32	50.252		
8,100.0	8,091.8	18,850.0	11,621.7	28.7	131.5	-81.77	129.4	-1,085.8	3,738.3	3,661.3	76.94	48.584		
8,200.0	8,191.8	18,850.0	11,621.7	29.0	131.5	-81.77	129.4	-1,085.8	3,641.6	3,564.0	77.61	46.925		
8,300.0	8,291.8	18,850.0	11,621.7	29.4	131.5	-81.77	129.4	-1,085.8	3,545.2	3,466.9	78.30	45.275		
8,400.0	8,391.8	18,850.0	11,621.7	29.7	131.5	-81.77	129.4	-1,085.8	3,448.9	3,369.9	79.04	43.634		
8,500.0	8,491.8	18,850.0	11,621.7	30.1	131.5	-81.77	129.4	-1,085.8	3,352.9	3,273.0	79.82	42.003		
8,600.0	8,591.8	18,850.0	11,621.7	30.4	131.5	-81.77	129.4	-1,085.8	3,257.1	3,176.4	80.65	40.383		
8,700.0	8,691.8	18,850.0	11,621.7	30.8	131.5	-81.77	129.4	-1,085.8	3,161.5	3,080.0	81.54	38.773		
8,800.0	8,791.8	18,850.0	11,621.7	31.2	131.5	-81.77	129.4	-1,085.8	3,066.3	2,983.8	82.48	37.175		
8,900.0	8,891.8	18,850.0	11,621.7	31.5	131.5	-81.77	129.4	-1,085.8	2,971.3	2,887.8	83.49	35.590		
9,000.0	8,991.8	18,850.0	11,621.7	31.9	131.5	-81.77	129.4	-1,085.8	2,876.7	2,792.1	84.56	34.018		
9,100.0	9,091.8	18,850.0	11,621.7	32.2	131.5	-81.77	129.4	-1,085.8	2,782.5	2,696.7	85.72	32.460		
9,200.0	9,191.8	18,850.0	11,621.7	32.6	131.5	-81.77	129.4	-1,085.8	2,688.6	2,601.7	86.96	30.917		
9,300.0	9,291.8	18,850.0	11,621.7	32.9	131.5	-81.77	129.4	-1,085.8	2,595.3	2,507.0	88.30	29.391		
9,400.0	9,391.8	18,850.0	11,621.7	33.3	131.5	-81.77	129.4	-1,085.8	2,502.4	2,412.7	89.75	27.882		
9,500.0	9,491.8	18,850.0	11,621.7	33.7	131.5	-81.77	129.4	-1,085.8	2,410.2	2,318.9	91.32	26.394		
9,600.0	9,591.8	18,850.0	11,621.7	34.0	131.5	-81.77	129.4	-1,085.8	2,318.6	2,225.5	93.02	24.926		
9,700.0	9,691.8	18,850.0	11,621.7	34.4	131.5	-81.77	129.4	-1,085.8	2,227.6	2,132.8	94.87	23.482		
9,800.0	9,791.8	18,850.0	11,621.7	34.7	131.5	-81.77	129.4	-1,085.8	2,137.6	2,040.7	96.88	22.064		
9,900.0	9,891.8	18,850.0	11,621.7	35.1	131.5	-81.77	129.4	-1,085.8	2,048.4	1,949.3	99.08	20.674		
10,000.0	9,991.8	18,850.0	11,621.7	35.4	131.5	-81.77	129.4	-1,085.8	1,960.2	1,858.8	101.49	19.315		
10,100.0	10,091.8	18,850.0	11,621.7	35.8	131.5	-81.77	129.4	-1,085.8	1,873.3	1,769.2	104.12	17.991		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 Big Game - Minis 1 Federal Com #010H - Wellbore #1 - Actual													Offset Site Error:	0.0 usft
Survey Program: 211-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	10,191.8	18,850.0	11,621.7	36.2	131.5	-81.77	129.4	-1,085.8	1,787.7	1,680.7	107.01	16.706		
10,300.0	10,291.8	18,850.0	11,621.7	36.5	131.5	-81.77	129.4	-1,085.8	1,703.7	1,593.6	110.19	15.462		
10,400.0	10,391.8	18,850.0	11,621.7	36.9	131.5	-81.77	129.4	-1,085.8	1,621.6	1,507.9	113.67	14.266		
10,500.0	10,491.8	18,850.0	11,621.7	37.2	131.5	-81.77	129.4	-1,085.8	1,541.5	1,424.0	117.47	13.122		
10,600.0	10,591.8	18,850.0	11,621.7	37.6	131.5	-81.77	129.4	-1,085.8	1,463.9	1,342.2	121.64	12.035		
10,700.0	10,691.8	18,850.0	11,621.7	37.9	131.5	-81.77	129.4	-1,085.8	1,389.1	1,263.0	126.16	11.011		
10,800.0	10,791.8	18,850.0	11,621.7	38.3	131.5	-81.77	129.4	-1,085.8	1,317.7	1,186.7	131.04	10.056		
10,900.0	10,891.8	18,850.0	11,621.7	38.7	131.5	-81.77	129.4	-1,085.8	1,250.2	1,114.0	136.25	9.176		
11,005.2	10,997.0	18,850.0	11,621.7	39.0	131.5	-81.77	129.4	-1,085.8	1,184.2	1,042.2	142.03	8.338		
11,050.0	11,041.7	18,850.0	11,621.7	39.2	131.5	101.59	129.4	-1,085.8	1,158.1	1,013.6	144.53	8.013		
11,100.0	11,091.3	18,850.0	11,621.7	39.4	131.5	104.72	129.4	-1,085.8	1,131.1	983.8	147.28	7.680		
11,150.0	11,140.2	18,850.0	11,621.7	39.5	131.5	107.42	129.4	-1,085.8	1,106.6	956.6	149.94	7.380		
11,200.0	11,188.0	18,850.0	11,621.7	39.7	131.5	109.69	129.4	-1,085.8	1,085.0	932.6	152.43	7.118		
11,250.0	11,234.4	18,850.0	11,621.7	39.8	131.5	111.53	129.4	-1,085.8	1,066.8	912.1	154.70	6.896		
11,300.0	11,278.9	18,850.0	11,621.7	39.9	131.5	112.95	129.4	-1,085.8	1,052.1	895.4	156.67	6.715		
11,350.0	11,321.3	18,850.0	11,621.7	40.1	131.5	113.96	129.4	-1,085.8	1,041.3	883.0	158.29	6.579		
11,400.0	11,361.3	18,850.0	11,621.7	40.2	131.5	114.58	129.4	-1,085.8	1,034.5	875.1	159.48	6.487		
11,450.0	11,398.4	18,850.0	11,621.7	40.3	131.5	114.82	129.4	-1,085.8	1,032.0	871.8	160.23	6.441		
11,455.0	11,402.0	18,850.0	11,621.7	40.4	131.5	114.82	129.4	-1,085.8	1,032.0	871.7	160.28	6.438	CC, ES, SF	
11,500.0	11,432.5	18,850.0	11,621.7	40.5	131.5	114.66	129.4	-1,085.8	1,033.7	873.2	160.52	6.440		
11,550.0	11,463.3	18,850.0	11,621.7	40.6	131.5	114.12	129.4	-1,085.8	1,039.6	879.3	160.34	6.484		
11,600.0	11,490.6	18,850.0	11,621.7	40.8	131.5	113.18	129.4	-1,085.8	1,049.6	889.9	159.73	6.571		
11,650.0	11,514.0	18,850.0	11,621.7	40.9	131.5	111.84	129.4	-1,085.8	1,063.5	904.8	158.73	6.700		
11,700.0	11,533.6	18,850.0	11,621.7	41.1	131.5	110.09	129.4	-1,085.8	1,081.1	923.7	157.38	6.869		
11,750.0	11,549.1	18,850.0	11,621.7	41.3	131.5	107.91	129.4	-1,085.8	1,102.0	946.3	155.76	7.075		
11,800.0	11,560.3	18,850.0	11,621.7	41.4	131.5	105.30	129.4	-1,085.8	1,125.9	972.0	153.93	7.315		
11,850.0	11,567.3	18,850.0	11,621.7	41.6	131.5	102.25	129.4	-1,085.8	1,152.5	1,000.6	151.94	7.585		
11,900.0	11,569.9	18,850.0	11,621.7	41.8	131.5	98.78	129.4	-1,085.8	1,181.4	1,031.5	149.85	7.883		
11,905.2	11,570.0	18,850.0	11,621.7	41.8	131.5	98.39	129.4	-1,085.8	1,184.5	1,034.9	149.63	7.916		
11,912.4	11,570.0	18,850.0	11,621.7	41.8	131.5	98.41	129.4	-1,085.8	1,188.8	1,039.5	149.33	7.961		
12,000.0	11,570.0	18,850.0	11,621.7	42.2	131.5	98.41	129.4	-1,085.8	1,243.9	1,098.3	145.66	8.540		
12,100.0	11,570.0	18,850.0	11,621.7	42.6	131.5	98.41	129.4	-1,085.8	1,311.1	1,169.5	141.62	9.258		
12,200.0	11,570.0	18,850.0	11,621.7	43.1	131.5	98.41	129.4	-1,085.8	1,382.3	1,244.5	137.80	10.031		
12,300.0	11,570.0	18,850.0	11,621.7	43.7	131.5	98.41	129.4	-1,085.8	1,456.9	1,322.7	134.23	10.854		
12,400.0	11,570.0	18,850.0	11,621.7	44.3	131.5	98.41	129.4	-1,085.8	1,534.4	1,403.5	130.91	11.721		
12,500.0	11,570.0	18,850.0	11,621.7	45.0	131.5	98.41	129.4	-1,085.8	1,614.4	1,486.5	127.86	12.626		
12,600.0	11,570.0	18,850.0	11,621.7	45.7	131.5	98.41	129.4	-1,085.8	1,696.5	1,571.4	125.05	13.566		
12,700.0	11,570.0	18,850.0	11,621.7	46.5	131.5	98.41	129.4	-1,085.8	1,780.4	1,657.9	122.47	14.537		
12,800.0	11,570.0	18,850.0	11,621.7	47.3	131.5	98.41	129.4	-1,085.8	1,865.9	1,745.8	120.12	15.533		
12,900.0	11,570.0	18,850.0	11,621.7	48.2	131.5	98.41	129.4	-1,085.8	1,952.8	1,834.8	117.97	16.553		
13,000.0	11,570.0	18,850.0	11,621.7	49.1	131.5	98.41	129.4	-1,085.8	2,040.8	1,924.8	116.00	17.593		
13,100.0	11,570.0	18,850.0	11,621.7	50.0	131.5	98.41	129.4	-1,085.8	2,130.0	2,015.8	114.20	18.651		
13,200.0	11,570.0	18,850.0	11,621.7	51.0	131.5	98.41	129.4	-1,085.8	2,220.0	2,107.5	112.56	19.724		
13,300.0	11,570.0	18,850.0	11,621.7	52.0	131.5	98.41	129.4	-1,085.8	2,310.9	2,199.9	111.05	20.810		
13,400.0	11,570.0	18,850.0	11,621.7	53.0	131.5	98.41	129.4	-1,085.8	2,402.5	2,292.9	109.67	21.908		
13,500.0	11,570.0	18,850.0	11,621.7	54.1	131.5	98.41	129.4	-1,085.8	2,494.8	2,386.4	108.40	23.015		
13,600.0	11,570.0	18,850.0	11,621.7	55.2	131.5	98.41	129.4	-1,085.8	2,587.6	2,480.4	107.23	24.130		
13,700.0	11,570.0	18,850.0	11,621.7	56.3	131.5	98.41	129.4	-1,085.8	2,680.9	2,574.8	106.16	25.253		
13,800.0	11,570.0	18,850.0	11,621.7	57.5	131.5	98.41	129.4	-1,085.8	2,774.7	2,669.6	105.18	26.381		
13,900.0	11,570.0	18,850.0	11,621.7	58.7	131.5	98.41	129.4	-1,085.8	2,869.0	2,764.7	104.27	27.515		
14,000.0	11,570.0	18,850.0	11,621.7	59.9	131.5	98.41	129.4	-1,085.8	2,963.6	2,860.1	103.43	28.653		
14,100.0	11,570.0	18,850.0	11,621.7	61.1	131.5	98.41	129.4	-1,085.8	3,058.5	2,955.9	102.66	29.794		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 211-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	11,570.0	18,850.0	11,621.7	62.3	131.5	98.41	129.4	-1,085.8	3,153.8	3,051.8	101.94	30.937	
14,300.0	11,570.0	18,850.0	11,621.7	63.6	131.5	98.41	129.4	-1,085.8	3,249.3	3,148.0	101.28	32.083	
14,400.0	11,570.0	18,850.0	11,621.7	64.9	131.5	98.41	129.4	-1,085.8	3,345.1	3,244.5	100.66	33.231	
14,500.0	11,570.0	18,850.0	11,621.7	66.2	131.5	98.41	129.4	-1,085.8	3,441.2	3,341.1	100.09	34.380	
14,600.0	11,570.0	18,850.0	11,621.7	67.5	131.5	98.41	129.4	-1,085.8	3,537.4	3,437.9	99.56	35.529	
14,700.0	11,570.0	18,850.0	11,621.7	68.8	131.5	98.41	129.4	-1,085.8	3,633.9	3,534.8	99.07	36.679	
14,800.0	11,570.0	18,850.0	11,621.7	70.1	131.5	98.41	129.4	-1,085.8	3,730.5	3,631.9	98.62	37.829	
14,900.0	11,570.0	18,850.0	11,621.7	71.5	131.5	98.41	129.4	-1,085.8	3,827.4	3,729.2	98.19	38.979	
15,000.0	11,570.0	18,850.0	11,621.7	72.9	131.5	98.41	129.4	-1,085.8	3,924.3	3,826.5	97.80	40.128	
15,100.0	11,570.0	18,850.0	11,621.7	74.2	131.5	98.41	129.4	-1,085.8	4,021.5	3,924.0	97.43	41.277	
15,200.0	11,570.0	18,850.0	11,621.7	75.6	131.5	98.41	129.4	-1,085.8	4,118.7	4,021.7	97.08	42.425	
15,300.0	11,570.0	18,850.0	11,621.7	77.0	131.5	98.41	129.4	-1,085.8	4,216.1	4,119.4	96.76	43.571	
15,400.0	11,570.0	18,850.0	11,621.7	78.4	131.5	98.41	129.4	-1,085.8	4,313.6	4,217.2	96.47	44.717	
15,500.0	11,570.0	18,850.0	11,621.7	79.9	131.5	98.41	129.4	-1,085.8	4,411.3	4,315.1	96.19	45.861	
15,600.0	11,570.0	18,850.0	11,621.7	81.3	131.5	98.41	129.4	-1,085.8	4,509.0	4,413.1	95.93	47.004	
15,700.0	11,570.0	18,850.0	11,621.7	82.7	131.5	98.41	129.4	-1,085.8	4,606.8	4,511.1	95.69	48.146	
15,800.0	11,570.0	18,850.0	11,621.7	84.2	131.5	98.41	129.4	-1,085.8	4,704.7	4,609.3	95.46	49.285	
15,900.0	11,570.0	18,850.0	11,621.7	85.6	131.5	98.41	129.4	-1,085.8	4,802.7	4,707.5	95.25	50.423	
16,000.0	11,570.0	18,850.0	11,621.7	87.1	131.5	98.41	129.4	-1,085.8	4,900.8	4,805.8	95.05	51.559	
16,100.0	11,570.0	18,850.0	11,621.7	88.6	131.5	98.41	129.4	-1,085.8	4,999.0	4,904.1	94.87	52.694	
16,200.0	11,570.0	18,850.0	11,621.7	90.0	131.5	98.41	129.4	-1,085.8	5,097.2	5,002.5	94.70	53.826	
16,300.0	11,570.0	18,850.0	11,621.7	91.5	131.5	98.41	129.4	-1,085.8	5,195.5	5,101.0	94.54	54.956	
16,400.0	11,570.0	18,850.0	11,621.7	93.0	131.5	98.41	129.4	-1,085.8	5,293.9	5,199.5	94.39	56.084	
16,500.0	11,570.0	18,850.0	11,621.7	94.5	131.5	98.41	129.4	-1,085.8	5,392.3	5,298.1	94.25	57.210	
16,600.0	11,570.0	18,850.0	11,621.7	96.0	131.5	98.41	129.4	-1,085.8	5,490.8	5,396.7	94.13	58.334	
16,700.0	11,570.0	18,850.0	11,621.7	97.5	131.5	98.41	129.4	-1,085.8	5,589.3	5,495.3	94.01	59.456	
16,800.0	11,570.0	18,850.0	11,621.7	99.0	131.5	98.41	129.4	-1,085.8	5,687.9	5,594.0	93.90	60.575	
16,900.0	11,570.0	18,850.0	11,621.7	100.5	131.5	98.41	129.4	-1,085.8	5,786.5	5,692.7	93.80	61.692	
17,000.0	11,570.0	18,850.0	11,621.7	102.0	131.5	98.41	129.4	-1,085.8	5,885.2	5,791.5	93.70	62.807	
17,100.0	11,570.0	18,850.0	11,621.7	103.6	131.5	98.41	129.4	-1,085.8	5,983.9	5,890.3	93.62	63.920	
17,200.0	11,570.0	18,850.0	11,621.7	105.1	131.5	98.41	129.4	-1,085.8	6,082.7	5,989.2	93.54	65.030	
17,300.0	11,570.0	18,850.0	11,621.7	106.6	131.5	98.41	129.4	-1,085.8	6,181.5	6,088.1	93.47	66.137	
17,400.0	11,570.0	18,850.0	11,621.7	108.2	131.5	98.41	129.4	-1,085.8	6,280.4	6,187.0	93.40	67.242	
17,500.0	11,570.0	18,850.0	11,621.7	109.7	131.5	98.41	129.4	-1,085.8	6,379.2	6,285.9	93.34	68.345	
17,600.0	11,570.0	18,850.0	11,621.7	111.2	131.5	98.41	129.4	-1,085.8	6,478.2	6,384.9	93.28	69.445	
17,700.0	11,570.0	18,850.0	11,621.7	112.8	131.5	98.41	129.4	-1,085.8	6,577.1	6,483.9	93.24	70.543	
17,800.0	11,570.0	18,850.0	11,621.7	114.3	131.5	98.41	129.4	-1,085.8	6,676.1	6,582.9	93.19	71.638	
17,834.0	11,570.0	18,850.0	11,621.7	114.8	131.5	98.41	129.4	-1,085.8	6,709.8	6,616.6	93.18	72.010	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	-6.48	7,636.1	-866.9	7,685.6				
100.0	100.0	18.6	18.6	0.1	0.0	-6.48	7,636.1	-866.9	7,685.2	7,685.0	0.16	N/A	
200.0	200.0	156.0	156.0	0.5	0.3	-6.48	7,635.7	-867.0	7,684.8	7,684.1	0.74	N/A	
300.0	300.0	293.5	293.5	0.8	0.5	-6.48	7,634.5	-867.4	7,684.0	7,682.7	1.32	5,842.124	
400.0	400.0	384.8	384.8	1.2	0.8	-6.48	7,633.6	-867.7	7,683.1	7,681.1	2.02	3,804.765	
500.0	500.0	536.3	536.2	1.6	1.4	-6.49	7,631.6	-867.6	7,681.7	7,678.8	2.92	2,630.391	
600.0	600.0	622.6	622.5	1.9	1.7	-6.49	7,630.2	-867.5	7,680.2	7,676.6	3.59	2,141.043	
700.0	700.0	736.8	736.8	2.3	2.1	-6.49	7,628.6	-867.5	7,678.7	7,674.4	4.36	1,763.183	
800.0	800.0	885.4	885.3	2.6	2.6	-6.49	7,625.6	-867.7	7,676.7	7,671.4	5.25	1,463.144	
900.0	900.0	983.7	983.6	3.0	3.0	-6.49	7,623.3	-867.6	7,674.4	7,668.5	5.96	1,288.228	
1,000.0	1,000.0	1,101.4	1,101.2	3.4	3.4	-6.49	7,620.7	-867.3	7,672.2	7,665.4	6.74	1,138.772	
1,100.0	1,100.0	1,173.2	1,173.1	3.7	3.7	-6.49	7,619.1	-866.8	7,669.9	7,662.5	7.35	1,043.316	
1,200.0	1,200.0	1,265.9	1,265.7	4.1	4.0	-6.48	7,617.3	-865.7	7,667.9	7,659.9	8.04	953.753	
1,300.0	1,300.0	1,371.5	1,371.3	4.4	4.4	-6.48	7,615.3	-864.9	7,665.9	7,657.1	8.78	873.574	
1,400.0	1,400.0	1,479.8	1,479.6	4.8	4.7	-6.47	7,613.2	-863.5	7,663.8	7,654.2	9.52	805.083	
1,500.0	1,500.0	1,586.8	1,586.6	5.1	5.1	-6.45	7,611.0	-860.7	7,661.5	7,651.3	10.26	747.083	
1,600.0	1,600.0	1,678.2	1,677.8	5.5	5.5	85.94	7,609.4	-857.5	7,659.3	7,648.3	10.93	701.017	
1,700.0	1,700.0	1,838.2	1,837.4	5.8	6.0	86.08	7,606.6	-846.4	7,656.6	7,644.7	11.83	647.214	
1,800.0	1,799.9	1,937.9	1,936.5	6.2	6.4	86.22	7,604.7	-836.0	7,653.3	7,640.7	12.53	610.827	
1,900.0	1,899.7	1,958.0	1,956.5	6.5	6.4	86.28	7,604.4	-833.9	7,650.4	7,637.4	12.95	590.718	
2,000.0	1,999.4	2,019.7	2,017.8	6.9	6.7	86.38	7,603.8	-827.3	7,647.9	7,634.4	13.53	565.461	
2,100.0	2,098.9	2,052.0	2,050.0	7.2	6.8	86.45	7,603.8	-823.7	7,646.4	7,632.4	14.00	546.231	
2,200.0	2,198.3	2,090.7	2,088.4	7.6	6.9	86.52	7,604.3	-819.2	7,645.6	7,631.1	14.50	527.255	
2,258.8	2,256.6	2,112.0	2,109.5	7.8	7.0	86.56	7,604.6	-816.6	7,645.4	7,630.7	14.79	516.790	
2,300.0	2,297.4	2,147.0	2,144.3	8.0	7.1	86.63	7,605.5	-812.2	7,645.6	7,630.5	15.07	507.239	
2,400.0	2,396.4	2,184.3	2,181.2	8.4	7.3	86.70	7,606.6	-807.4	7,646.2	7,630.6	15.58	490.672	
2,500.0	2,495.5	2,240.0	2,236.4	8.7	7.5	86.82	7,608.2	-800.2	7,647.3	7,631.1	16.17	473.073	
2,600.0	2,594.5	2,304.8	2,300.7	9.1	7.7	86.95	7,610.5	-792.0	7,648.9	7,632.1	16.79	455.657	
2,701.1	2,694.6	2,335.0	2,330.6	9.5	7.8	87.01	7,611.7	-788.1	7,651.3	7,634.0	17.28	442.669	
2,800.0	2,792.7	2,399.8	2,394.9	9.9	8.0	87.18	7,614.7	-780.0	7,654.3	7,636.4	17.90	427.516	
2,900.0	2,892.2	2,464.3	2,458.7	10.3	8.3	87.35	7,618.2	-771.9	7,658.2	7,639.7	18.52	413.498	
3,000.0	2,991.9	2,555.0	2,548.5	10.6	8.6	87.55	7,623.3	-760.1	7,662.5	7,643.3	19.23	398.420	
3,100.0	3,091.8	2,645.3	2,637.8	11.0	9.0	87.74	7,628.6	-747.9	7,667.0	7,647.1	19.94	384.548	
3,200.0	3,191.8	2,738.5	2,729.9	11.4	9.3	87.93	7,634.0	-734.8	7,671.7	7,651.1	20.65	371.510	
3,234.4	3,226.2	2,762.4	2,753.6	11.5	9.4	-4.36	7,635.5	-731.3	7,673.5	7,652.6	20.86	367.826	
3,300.0	3,291.8	2,808.2	2,798.7	11.7	9.6	-4.31	7,638.3	-724.8	7,676.8	7,655.6	21.26	361.034	
3,400.0	3,391.8	2,928.5	2,917.6	12.0	10.1	-4.18	7,645.7	-707.6	7,682.0	7,659.9	22.09	347.816	
3,500.0	3,491.8	3,042.1	3,029.8	12.4	10.5	-4.05	7,652.6	-691.2	7,687.0	7,664.1	22.89	335.877	
3,600.0	3,591.8	3,253.8	3,239.2	12.7	11.4	-3.83	7,663.1	-661.5	7,690.9	7,666.8	24.09	319.211	
3,700.0	3,691.8	3,361.5	3,345.9	13.1	11.8	-3.72	7,667.7	-647.7	7,694.3	7,669.5	24.87	309.378	
3,800.0	3,791.8	3,454.3	3,437.9	13.4	12.2	-3.64	7,671.5	-636.9	7,697.8	7,672.2	25.58	300.895	
3,900.0	3,891.8	3,559.9	3,542.9	13.8	12.6	-3.55	7,675.9	-625.4	7,701.2	7,674.9	26.34	292.326	
4,000.0	3,991.8	19,030.0	11,592.2	14.1	132.6	48.23	133.0	7.1	7,689.8	7,624.9	64.88	118.525	
4,100.0	4,091.8	19,030.0	11,592.2	14.5	132.6	48.23	133.0	7.1	7,589.8	7,524.9	64.90	116.955	
4,200.0	4,191.8	19,030.0	11,592.2	14.8	132.6	48.23	133.0	7.1	7,489.8	7,424.9	64.92	115.372	
4,300.0	4,291.8	19,030.0	11,592.2	15.2	132.6	48.23	133.0	7.1	7,389.9	7,324.9	64.95	113.779	
4,400.0	4,391.8	19,030.0	11,592.2	15.5	132.6	48.23	133.0	7.1	7,289.9	7,224.9	64.99	112.175	
4,500.0	4,491.8	19,030.0	11,592.2	15.9	132.6	48.23	133.0	7.1	7,190.0	7,124.9	65.03	110.561	
4,600.0	4,591.8	19,030.0	11,592.2	16.2	132.6	48.23	133.0	7.1	7,090.0	7,024.9	65.08	108.937	
4,700.0	4,691.8	19,030.0	11,592.2	16.6	132.6	48.23	133.0	7.1	6,990.0	6,924.9	65.14	107.305	
4,800.0	4,791.8	19,030.0	11,592.2	16.9	132.6	48.23	133.0	7.1	6,890.1	6,824.9	65.21	105.666	
4,900.0	4,891.8	19,030.0	11,592.2	17.3	132.6	48.23	133.0	7.1	6,790.1	6,724.9	65.28	104.019	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	4,991.8	19,030.0	11,592.2	17.7	132.6	48.23	133.0	7.1	6,690.2	6,624.8	65.36	102.366		
5,100.0	5,091.8	19,030.0	11,592.2	18.0	132.6	48.23	133.0	7.1	6,590.2	6,524.8	65.44	100.707		
5,200.0	5,191.8	19,030.0	11,592.2	18.4	132.6	48.23	133.0	7.1	6,490.3	6,424.8	65.53	99.044		
5,300.0	5,291.8	19,030.0	11,592.2	18.7	132.6	48.23	133.0	7.1	6,390.3	6,324.7	65.62	97.377		
5,400.0	5,391.8	19,030.0	11,592.2	19.1	132.6	48.23	133.0	7.1	6,290.4	6,224.7	65.73	95.707		
5,500.0	5,491.8	19,030.0	11,592.2	19.4	132.6	48.23	133.0	7.1	6,190.4	6,124.6	65.83	94.035		
5,600.0	5,591.8	19,030.0	11,592.2	19.8	132.6	48.23	133.0	7.1	6,090.5	6,024.6	65.94	92.361		
5,700.0	5,691.8	19,030.0	11,592.2	20.1	132.6	48.23	133.0	7.1	5,990.6	5,924.5	66.06	90.686		
5,800.0	5,791.8	19,030.0	11,592.2	20.5	132.6	48.23	133.0	7.1	5,890.6	5,824.4	66.18	89.010		
5,900.0	5,891.8	19,030.0	11,592.2	20.8	132.6	48.23	133.0	7.1	5,790.7	5,724.4	66.30	87.335		
6,000.0	5,991.8	19,030.0	11,592.2	21.2	132.6	48.23	133.0	7.1	5,690.8	5,624.3	66.43	85.660		
6,100.0	6,091.8	19,030.0	11,592.2	21.5	132.6	48.23	133.0	7.1	5,590.8	5,524.3	66.57	83.986		
6,200.0	6,191.8	19,030.0	11,592.2	21.9	132.6	48.23	133.0	7.1	5,490.9	5,424.2	66.71	82.314		
6,300.0	6,291.8	19,030.0	11,592.2	22.3	132.6	48.23	133.0	7.1	5,391.0	5,324.1	66.85	80.643		
6,400.0	6,391.8	19,030.0	11,592.2	22.6	132.6	48.23	133.0	7.1	5,291.0	5,224.0	67.00	78.975		
6,500.0	6,491.8	19,030.0	11,592.2	23.0	132.6	48.23	133.0	7.1	5,191.1	5,124.0	67.15	77.310		
6,600.0	6,591.8	19,030.0	11,592.2	23.3	132.6	48.23	133.0	7.1	5,091.2	5,023.9	67.30	75.648		
6,700.0	6,691.8	19,030.0	11,592.2	23.7	132.6	48.23	133.0	7.1	4,991.3	4,923.8	67.46	73.990		
6,800.0	6,791.8	19,030.0	11,592.2	24.0	132.6	48.23	133.0	7.1	4,891.4	4,823.8	67.62	72.335		
6,900.0	6,891.8	19,030.0	11,592.2	24.4	132.6	48.23	133.0	7.1	4,791.5	4,723.7	67.79	70.684		
7,000.0	6,991.8	19,030.0	11,592.2	24.7	132.6	48.23	133.0	7.1	4,691.6	4,623.6	67.96	69.038		
7,100.0	7,091.8	19,030.0	11,592.2	25.1	132.6	48.23	133.0	7.1	4,591.7	4,523.5	68.13	67.396		
7,200.0	7,191.8	19,030.0	11,592.2	25.5	132.6	48.23	133.0	7.1	4,491.8	4,423.5	68.31	65.759		
7,300.0	7,291.8	19,030.0	11,592.2	25.8	132.6	48.23	133.0	7.1	4,391.9	4,323.4	68.49	64.127		
7,400.0	7,391.8	19,030.0	11,592.2	26.2	132.6	48.23	133.0	7.1	4,292.0	4,223.3	68.67	62.501		
7,500.0	7,491.8	19,030.0	11,592.2	26.5	132.6	48.23	133.0	7.1	4,192.1	4,123.3	68.86	60.880		
7,600.0	7,591.8	19,030.0	11,592.2	26.9	132.6	48.23	133.0	7.1	4,092.3	4,023.2	69.05	59.265		
7,700.0	7,691.8	19,030.0	11,592.2	27.2	132.6	48.23	133.0	7.1	3,992.4	3,923.1	69.25	57.656		
7,800.0	7,791.8	19,030.0	11,592.2	27.6	132.6	48.23	133.0	7.1	3,892.5	3,823.1	69.44	56.052		
7,900.0	7,891.8	19,030.0	11,592.2	28.0	132.6	48.23	133.0	7.1	3,792.7	3,723.0	69.65	54.455		
8,000.0	7,991.8	19,030.0	11,592.2	28.3	132.6	48.23	133.0	7.1	3,692.8	3,623.0	69.85	52.865		
8,100.0	8,091.8	19,030.0	11,592.2	28.7	132.6	48.23	133.0	7.1	3,593.0	3,522.9	70.07	51.281		
8,200.0	8,191.8	19,030.0	11,592.2	29.0	132.6	48.23	133.0	7.1	3,493.2	3,422.9	70.28	49.704		
8,300.0	8,291.8	19,030.0	11,592.2	29.4	132.6	48.23	133.0	7.1	3,393.4	3,322.9	70.50	48.133		
8,400.0	8,391.8	19,030.0	11,592.2	29.7	132.6	48.23	133.0	7.1	3,293.5	3,222.8	70.72	46.570		
8,500.0	8,491.8	19,030.0	11,592.2	30.1	132.6	48.23	133.0	7.1	3,193.8	3,122.8	70.95	45.013		
8,600.0	8,591.8	19,030.0	11,592.2	30.4	132.6	48.23	133.0	7.1	3,094.0	3,022.8	71.18	43.464		
8,700.0	8,691.8	19,030.0	11,592.2	30.8	132.6	48.23	133.0	7.1	2,994.2	2,922.8	71.42	41.922		
8,800.0	8,791.8	19,030.0	11,592.2	31.2	132.6	48.23	133.0	7.1	2,894.5	2,822.8	71.67	40.388		
8,900.0	8,891.8	19,030.0	11,592.2	31.5	132.6	48.23	133.0	7.1	2,794.7	2,722.8	71.92	38.861		
9,000.0	8,991.8	19,030.0	11,592.2	31.9	132.6	48.23	133.0	7.1	2,695.0	2,622.9	72.17	37.342		
9,100.0	9,091.8	19,030.0	11,592.2	32.2	132.6	48.23	133.0	7.1	2,595.3	2,522.9	72.43	35.830		
9,200.0	9,191.8	19,030.0	11,592.2	32.6	132.6	48.23	133.0	7.1	2,495.7	2,423.0	72.70	34.326		
9,300.0	9,291.8	19,030.0	11,592.2	32.9	132.6	48.23	133.0	7.1	2,396.0	2,323.1	72.98	32.830		
9,400.0	9,391.8	19,030.0	11,592.2	33.3	132.6	48.23	133.0	7.1	2,296.4	2,223.2	73.27	31.341		
9,500.0	9,491.8	19,030.0	11,592.2	33.7	132.6	48.23	133.0	7.1	2,196.9	2,123.3	73.57	29.861		
9,600.0	9,591.8	19,030.0	11,592.2	34.0	132.6	48.23	133.0	7.1	2,097.3	2,023.5	73.88	28.388		
9,700.0	9,691.8	19,030.0	11,592.2	34.4	132.6	48.23	133.0	7.1	1,997.9	1,923.7	74.21	26.923		
9,800.0	9,791.8	19,030.0	11,592.2	34.7	132.6	48.23	133.0	7.1	1,898.4	1,823.9	74.55	25.466		
9,900.0	9,891.8	19,030.0	11,592.2	35.1	132.6	48.23	133.0	7.1	1,799.1	1,724.2	74.91	24.016		
10,000.0	9,991.8	19,030.0	11,592.2	35.4	132.6	48.23	133.0	7.1	1,699.8	1,624.5	75.30	22.574		
10,100.0	10,091.8	19,030.0	11,592.2	35.8	132.6	48.23	133.0	7.1	1,600.6	1,524.9	75.71	21.140		

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-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	10,191.8	19,030.0	11,592.2	36.2	132.6	48.23	133.0	7.1	1,501.5	1,425.3	76.17	19.713	
10,300.0	10,291.8	19,030.0	11,592.2	36.5	132.6	48.23	133.0	7.1	1,402.6	1,325.9	76.67	18.293	
10,400.0	10,391.8	19,030.0	11,592.2	36.9	132.6	48.23	133.0	7.1	1,303.8	1,226.5	77.24	16.880	
10,500.0	10,491.8	19,030.0	11,592.2	37.2	132.6	48.23	133.0	7.1	1,205.1	1,127.3	77.88	15.474	
10,600.0	10,591.8	19,030.0	11,592.2	37.6	132.6	48.23	133.0	7.1	1,106.8	1,028.2	78.64	14.074	
10,700.0	10,691.8	19,030.0	11,592.2	37.9	132.6	48.23	133.0	7.1	1,008.8	929.2	79.55	12.681	
10,800.0	10,791.8	19,030.0	11,592.2	38.3	132.6	48.23	133.0	7.1	911.2	830.5	80.68	11.293	
10,900.0	10,891.8	19,030.0	11,592.2	38.7	132.6	48.23	133.0	7.1	814.1	732.0	82.13	9.913	
11,005.2	10,997.0	19,030.0	11,592.2	39.0	132.6	48.23	133.0	7.1	712.9	628.8	84.19	8.468	
11,050.0	11,041.7	19,030.0	11,592.2	39.2	132.6	-140.51	133.0	7.1	670.7	585.4	85.32	7.860	
11,100.0	11,091.3	19,030.0	11,592.2	39.4	132.6	-147.06	133.0	7.1	625.1	538.3	86.86	7.197	
11,150.0	11,140.2	19,030.0	11,592.2	39.5	132.6	-151.39	133.0	7.1	582.2	493.4	88.74	6.560	
11,200.0	11,188.0	19,030.0	11,592.2	39.7	132.6	-154.34	133.0	7.1	542.7	451.7	90.99	5.964	
11,250.0	11,234.4	19,030.0	11,592.2	39.8	132.6	-156.37	133.0	7.1	507.9	414.2	93.60	5.426	
11,300.0	11,278.9	19,030.0	11,592.2	39.9	132.6	-157.75	133.0	7.1	479.0	382.5	96.47	4.965	
11,350.0	11,321.3	19,030.0	11,592.2	40.1	132.6	-158.64	133.0	7.1	457.5	358.1	99.39	4.603	
11,400.0	11,361.3	19,030.0	11,592.2	40.2	132.6	-159.13	133.0	7.1	444.6	342.6	102.01	4.358	
11,443.0	11,393.4	19,030.0	11,592.2	40.3	132.6	-159.26	133.0	7.1	441.0	337.2	103.77	4.250 CC	
11,450.0	11,398.4	19,030.0	11,592.2	40.3	132.6	-159.25	133.0	7.1	441.1	337.1	104.00	4.241 ES, SF	
11,500.0	11,432.5	19,030.0	11,592.2	40.5	132.6	-159.03	133.0	7.1	447.3	342.2	105.13	4.255	
11,550.0	11,463.3	19,030.0	11,592.2	40.6	132.6	-158.44	133.0	7.1	462.7	357.4	105.36	4.392	
11,600.0	11,490.6	19,030.0	11,592.2	40.8	132.6	-157.42	133.0	7.1	486.4	381.6	104.86	4.639	
11,650.0	11,514.0	19,030.0	11,592.2	40.9	132.6	-155.88	133.0	7.1	517.1	413.2	103.88	4.978	
11,700.0	11,533.6	19,030.0	11,592.2	41.1	132.6	-153.62	133.0	7.1	553.3	450.7	102.65	5.391	
11,750.0	11,549.1	19,030.0	11,592.2	41.3	132.6	-150.34	133.0	7.1	593.9	492.6	101.33	5.861	
11,800.0	11,560.3	19,030.0	11,592.2	41.4	132.6	-145.49	133.0	7.1	637.7	537.7	100.03	6.375	
11,850.0	11,567.3	19,030.0	11,592.2	41.6	132.6	-138.09	133.0	7.1	683.8	585.0	98.82	6.920	
11,900.0	11,569.9	19,030.0	11,592.2	41.8	132.6	-126.41	133.0	7.1	731.5	633.8	97.71	7.486	
11,905.2	11,570.0	19,030.0	11,592.2	41.8	132.6	-124.84	133.0	7.1	736.5	638.9	97.60	7.546	
11,912.4	11,570.0	19,030.0	11,592.2	41.8	132.6	-124.54	133.0	7.1	743.5	646.0	97.45	7.630	
12,000.0	11,570.0	19,030.0	11,592.2	42.2	132.6	-124.54	133.0	7.1	828.4	732.5	95.84	8.643	
12,100.0	11,570.0	19,030.0	11,592.2	42.6	132.6	-124.54	133.0	7.1	925.9	831.5	94.43	9.806	
12,200.0	11,570.0	19,030.0	11,592.2	43.1	132.6	-124.54	133.0	7.1	1,024.0	930.7	93.33	10.972	
12,300.0	11,570.0	19,030.0	11,592.2	43.7	132.6	-124.54	133.0	7.1	1,122.4	1,029.9	92.45	12.140	
12,400.0	11,570.0	19,030.0	11,592.2	44.3	132.6	-124.54	133.0	7.1	1,221.0	1,129.3	91.75	13.308	
12,500.0	11,570.0	19,030.0	11,592.2	45.0	132.6	-124.54	133.0	7.1	1,319.9	1,228.7	91.17	14.477	
12,600.0	11,570.0	19,030.0	11,592.2	45.7	132.6	-124.54	133.0	7.1	1,418.9	1,328.2	90.69	15.645	
12,700.0	11,570.0	19,030.0	11,592.2	46.5	132.6	-124.54	133.0	7.1	1,518.0	1,427.7	90.29	16.813	
12,800.0	11,570.0	19,030.0	11,592.2	47.3	132.6	-124.54	133.0	7.1	1,617.3	1,527.3	89.95	17.980	
12,900.0	11,570.0	19,030.0	11,592.2	48.2	132.6	-124.54	133.0	7.1	1,716.6	1,627.0	89.66	19.146	
13,000.0	11,570.0	19,030.0	11,592.2	49.1	132.6	-124.54	133.0	7.1	1,816.0	1,726.6	89.41	20.311	
13,100.0	11,570.0	19,030.0	11,592.2	50.0	132.6	-124.54	133.0	7.1	1,915.5	1,826.3	89.19	21.476	
13,200.0	11,570.0	19,030.0	11,592.2	51.0	132.6	-124.54	133.0	7.1	2,015.0	1,926.0	89.01	22.639	
13,300.0	11,570.0	19,030.0	11,592.2	52.0	132.6	-124.54	133.0	7.1	2,114.6	2,025.7	88.84	23.802	
13,400.0	11,570.0	19,030.0	11,592.2	53.0	132.6	-124.54	133.0	7.1	2,214.2	2,125.5	88.70	24.963	
13,500.0	11,570.0	19,030.0	11,592.2	54.1	132.6	-124.54	133.0	7.1	2,313.8	2,225.3	88.57	26.123	
13,600.0	11,570.0	19,030.0	11,592.2	55.2	132.6	-124.54	133.0	7.1	2,413.5	2,325.0	88.46	27.282	
13,700.0	11,570.0	19,030.0	11,592.2	56.3	132.6	-124.54	133.0	7.1	2,513.2	2,424.8	88.37	28.440	
13,800.0	11,570.0	19,030.0	11,592.2	57.5	132.6	-124.54	133.0	7.1	2,612.9	2,524.6	88.28	29.597	
13,900.0	11,570.0	19,030.0	11,592.2	58.7	132.6	-124.54	133.0	7.1	2,712.7	2,624.4	88.21	30.752	
14,000.0	11,570.0	19,030.0	11,592.2	59.9	132.6	-124.54	133.0	7.1	2,812.4	2,724.3	88.15	31.906	
14,100.0	11,570.0	19,030.0	11,592.2	61.1	132.6	-124.54	133.0	7.1	2,912.2	2,824.1	88.09	33.059	

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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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: 284-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
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	Warning
14,200.0	11,570.0	19,030.0	11,592.2	62.3	132.6	-124.54	133.0	7.1	3,012.0	2,923.9	88.04	34.211	
14,300.0	11,570.0	19,030.0	11,592.2	63.6	132.6	-124.54	133.0	7.1	3,111.8	3,023.8	88.00	35.361	
14,400.0	11,570.0	19,030.0	11,592.2	64.9	132.6	-124.54	133.0	7.1	3,211.6	3,123.6	87.97	36.510	
14,500.0	11,570.0	19,030.0	11,592.2	66.2	132.6	-124.54	133.0	7.1	3,311.4	3,223.5	87.94	37.657	
14,600.0	11,570.0	19,030.0	11,592.2	67.5	132.6	-124.54	133.0	7.1	3,411.3	3,323.3	87.91	38.803	
14,700.0	11,570.0	19,030.0	11,592.2	68.8	132.6	-124.54	133.0	7.1	3,511.1	3,423.2	87.89	39.948	
14,800.0	11,570.0	19,030.0	11,592.2	70.1	132.6	-124.54	133.0	7.1	3,611.0	3,523.1	87.88	41.090	
14,900.0	11,570.0	19,030.0	11,592.2	71.5	132.6	-124.54	133.0	7.1	3,710.8	3,623.0	87.87	42.232	
15,000.0	11,570.0	19,030.0	11,592.2	72.9	132.6	-124.54	133.0	7.1	3,810.7	3,722.8	87.86	43.372	
15,100.0	11,570.0	19,030.0	11,592.2	74.2	132.6	-124.54	133.0	7.1	3,910.6	3,822.7	87.86	44.510	
15,200.0	11,570.0	19,030.0	11,592.2	75.6	132.6	-124.54	133.0	7.1	4,010.5	3,922.6	87.86	45.646	
15,300.0	11,570.0	19,030.0	11,592.2	77.0	132.6	-124.54	133.0	7.1	4,110.3	4,022.5	87.86	46.781	
15,400.0	11,570.0	19,030.0	11,592.2	78.4	132.6	-124.54	133.0	7.1	4,210.2	4,122.4	87.87	47.914	
15,500.0	11,570.0	19,030.0	11,592.2	79.9	132.6	-124.54	133.0	7.1	4,310.1	4,222.3	87.88	49.045	
15,600.0	11,570.0	19,030.0	11,592.2	81.3	132.6	-124.54	133.0	7.1	4,410.0	4,322.1	87.89	50.175	
15,700.0	11,570.0	19,030.0	11,592.2	82.7	132.6	-124.54	133.0	7.1	4,509.9	4,422.0	87.91	51.303	
15,800.0	11,570.0	19,030.0	11,592.2	84.2	132.6	-124.54	133.0	7.1	4,609.9	4,521.9	87.93	52.429	
15,900.0	11,570.0	19,030.0	11,592.2	85.6	132.6	-124.54	133.0	7.1	4,709.8	4,621.8	87.95	53.553	
16,000.0	11,570.0	19,030.0	11,592.2	87.1	132.6	-124.54	133.0	7.1	4,809.7	4,721.7	87.97	54.675	
16,100.0	11,570.0	19,030.0	11,592.2	88.6	132.6	-124.54	133.0	7.1	4,909.6	4,821.6	87.99	55.795	
16,200.0	11,570.0	19,030.0	11,592.2	90.0	132.6	-124.54	133.0	7.1	5,009.5	4,921.5	88.02	56.913	
16,300.0	11,570.0	19,030.0	11,592.2	91.5	132.6	-124.54	133.0	7.1	5,109.5	5,021.4	88.05	58.029	
16,400.0	11,570.0	19,030.0	11,592.2	93.0	132.6	-124.54	133.0	7.1	5,209.4	5,121.3	88.08	59.144	
16,500.0	11,570.0	19,030.0	11,592.2	94.5	132.6	-124.54	133.0	7.1	5,309.3	5,221.2	88.11	60.256	
16,600.0	11,570.0	19,030.0	11,592.2	96.0	132.6	-124.54	133.0	7.1	5,409.3	5,321.1	88.15	61.366	
16,700.0	11,570.0	19,030.0	11,592.2	97.5	132.6	-124.54	133.0	7.1	5,509.2	5,421.0	88.18	62.474	
16,800.0	11,570.0	19,030.0	11,592.2	99.0	132.6	-124.54	133.0	7.1	5,609.1	5,520.9	88.22	63.579	
16,900.0	11,570.0	19,030.0	11,592.2	100.5	132.6	-124.54	133.0	7.1	5,709.1	5,620.8	88.26	64.683	
17,000.0	11,570.0	19,030.0	11,592.2	102.0	132.6	-124.54	133.0	7.1	5,809.0	5,720.7	88.30	65.785	
17,100.0	11,570.0	19,030.0	11,592.2	103.6	132.6	-124.54	133.0	7.1	5,909.0	5,820.6	88.35	66.884	
17,200.0	11,570.0	19,030.0	11,592.2	105.1	132.6	-124.54	133.0	7.1	6,008.9	5,920.5	88.39	67.981	
17,300.0	11,570.0	19,030.0	11,592.2	106.6	132.6	-124.54	133.0	7.1	6,108.9	6,020.4	88.44	69.075	
17,400.0	11,570.0	19,030.0	11,592.2	108.2	132.6	-124.54	133.0	7.1	6,208.8	6,120.3	88.49	70.168	
17,500.0	11,570.0	19,030.0	11,592.2	109.7	132.6	-124.54	133.0	7.1	6,308.8	6,220.2	88.53	71.258	
17,600.0	11,570.0	19,030.0	11,592.2	111.2	132.6	-124.54	133.0	7.1	6,408.7	6,320.2	88.59	72.345	
17,700.0	11,570.0	19,030.0	11,592.2	112.8	132.6	-124.54	133.0	7.1	6,508.7	6,420.1	88.64	73.431	
17,800.0	11,570.0	19,030.0	11,592.2	114.3	132.6	-124.54	133.0	7.1	6,608.6	6,520.0	88.69	74.514	
17,834.0	11,570.0	19,030.0	11,592.2	114.8	132.6	-124.54	133.0	7.1	6,642.7	6,554.0	88.71	74.882	

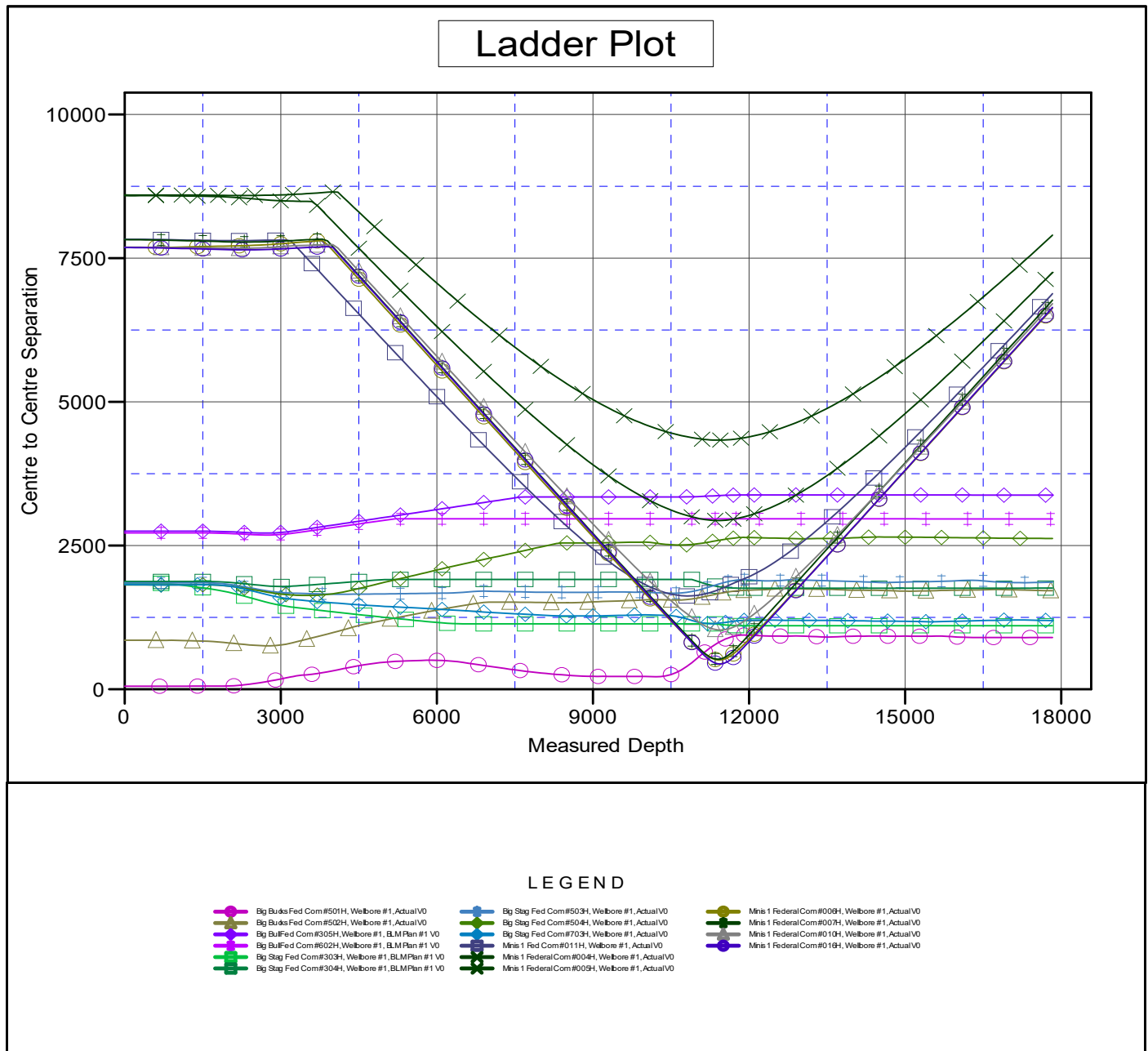
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Matador Production Company	Local Co-ordinate Reference:	Well Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 @ 3839.5usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Big Bucks Fed Com #601H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.38°



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 Big Bucks Fed Com #601H
Project:	Ranger/Arrowhead	TVD Reference:	KB @ 3839.5usft
Reference Site:	Big Game	MD Reference:	KB @ 3839.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Big Bucks Fed Com #601H	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 @ 3839.5usft

Offset Depths are relative to Offset Datum

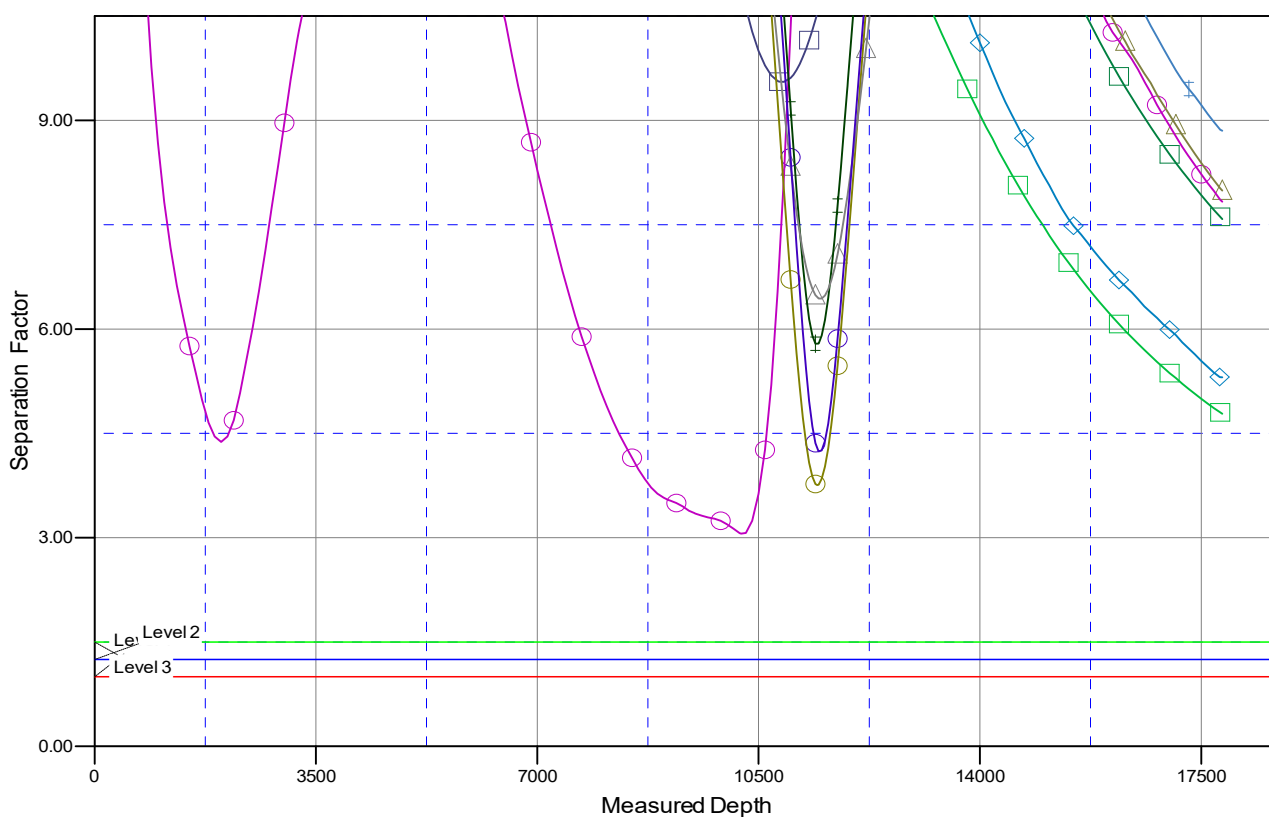
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Big Bucks Fed Com #601H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.38°

Separation Factor Plot



LEGEND

Big Bucks Fed Com #601H, Wellbore #1, Actual V0	Big Stag Fed Com #603H, Wellbore #1, Actual V0	Minis 1 Federal Com #600H, Wellbore #1, Actual V0
Big Bucks Fed Com #602H, Wellbore #1, Actual V0	Big Stag Fed Com #604H, Wellbore #1, Actual V0	Minis 1 Federal Com #601H, Wellbore #1, Actual V0
Big Bu/Fed Com #605H, Wellbore #1, BLM Plan #1 V0	Big Stag Fed Com #603H, Wellbore #1, Actual V0	Minis 1 Federal Com #604H, Wellbore #1, Actual V0
Big Bu/Fed Com #602H, Wellbore #1, BLM Plan #1 V0	Minis 1 Fed Com #601H, Wellbore #1, Actual V0	Minis 1 Federal Com #601H, Wellbore #1, Actual V0
Big Stag Fed Com #603H, Wellbore #1, BLM Plan #1 V0	Minis 1 Federal Com #604H, Wellbore #1, Actual V0	
Big Stag Fed Com #604H, Wellbore #1, BLM Plan #1 V0	Minis 1 Federal Com #605H, Wellbore #1, Actual V0	

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

Issued on: 22 Apr. 2021 by Logan Van Gorp



Connection Data Sheet

OD	Weight (lb/ft)	Wall Th.	Grade	Alt. Drift:	Connection
8 5/8 in.	Nominal: 32.00 Plain End: 31.13	0.352 in.	P110EC	7.875 in.	VAM® SPRINT-FJ

PIPE PROPERTIES		
Nominal OD	8.625	in.
Nominal ID	7.921	in.
Nominal Cross Section Area	9.149	sqin.
Grade Type	High Yield	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Ultimate Tensile Strength	135	ksi

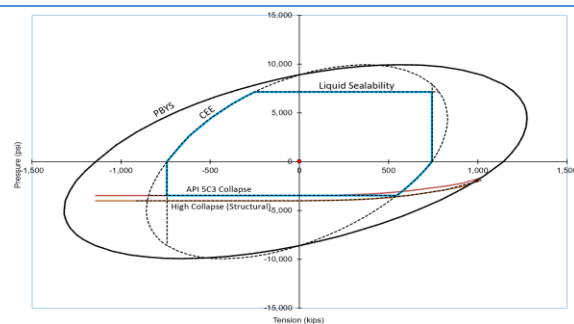
CONNECTION PROPERTIES		
Connection Type	Semi-Premium Integral Flush	
Connection OD (nom):	8.665	in.
Connection ID (nom):	7.954	in.
Make-Up Loss	2.614	in.
Critical Cross Section	6.038	sqin.
Tension Efficiency	65.0	% of pipe
Compression Efficiency	65.0	% of pipe
Internal Pressure Efficiency	80.0	% of pipe
External Pressure Efficiency	100	% of pipe

CONNECTION PERFORMANCES		
Tensile Yield Strength	744	klb
Compression Resistance	744	klb
Max. Internal Pressure	7,150	psi
Structural Collapse Resistance	4,000	psi
Max. Structural Bending	41	°/100ft
Max. Bending with Sealability	10	°/100ft

* 87.5% RBW

TORQUE VALUES		
Min. Make-up torque	15,000	ft.lb
Opt. Make-up torque	16,500	ft.lb
Max. Make-up torque	18,000	ft.lb
Max. Torque with Sealability (MTS)	48,000	ft.lb

VAM® SPRINT-FJ is a semi-premium flush connection designed for shale applications, where maximum clearance and high tension capacity are required for intermediate casing strings.



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mexico@vamfieldservice.com
brazil@vamfieldservice.com

Do you need help on this product? - Remember no one knows VAM® like VAM®

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angola@vamfieldservice.com

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australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance



Issued on: 08 Jul. 2020 by Wesley Ott

VAM® SPRINT-SF

Connection Data Sheet

OD	Weight	Wall Th.	Grade	API Drift:	Connection
5 1/2 in.	20.00 lb/ft	0.361 in.	P110EC	4.653 in.	VAM® SPRINT-SF

PIPE PROPERTIES		
Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Cross Section Area	5.828	sqin.
Grade Type	High Yield	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Ultimate Tensile Strength	135	ksi

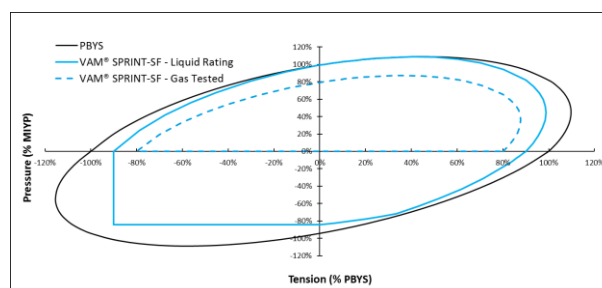
CONNECTION PROPERTIES		
Connection Type	Semi-Premium Integral Semi-Flush	
Connection OD (nom):	5.783	in.
Connection ID (nom):	4.717	in.
Make-Up Loss	5.965	in.
Critical Cross Section	5.244	sqin.
Tension Efficiency	90.0	% of pipe
Compression Efficiency	90.0	% of pipe
Internal Pressure Efficiency	100	% of pipe
External Pressure Efficiency	100	% of pipe

CONNECTION PERFORMANCES		
Tensile Yield Strength	656	klb
Compression Resistance	656	klb
Internal Yield Pressure	14,360	psi
Collapse Resistance	12,080	psi
Max. Structural Bending	89	°/100ft
Max. Bending with ISO/API Sealability	30	°/100ft

TORQUE VALUES		
Min. Make-up torque	20,000	ft.lb
Opt. Make-up torque	22,500	ft.lb
Max. Make-up torque	25,000	ft.lb
Max. Torque with Sealability (MTS)	40,000	ft.lb

* 87.5% RBW

VAM® SPRINT-SF is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.



Do you need help on this product? - Remember no one knows VAM® like VAM®

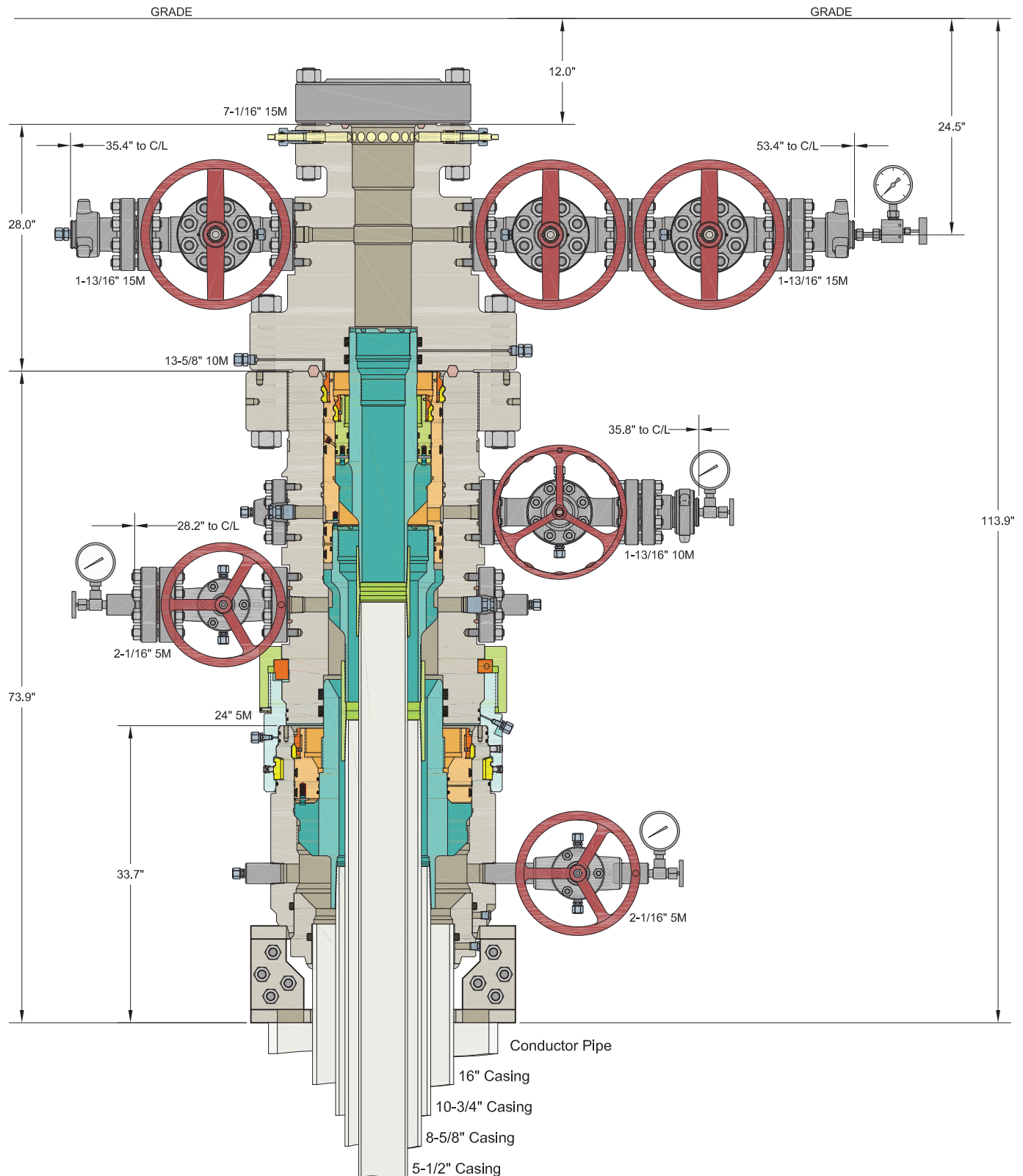
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Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance





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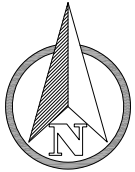
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

MATADOR PRODUCTION COMPANY
WEST TEXAS

16" x 10-3/4" x 8-5/8" x 5-1/2" CRC / MBU-3T-CFL Wellhead
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head
And 10-3/4", 8-5/8" & 5-1/2" Mandrel Casing Hangers

DRAWN	DLE	08JUL22
APPRV		
DRAWING NO.	HBE0000778	



0 50' 100'
1" = 100' FEET

SECTION 1

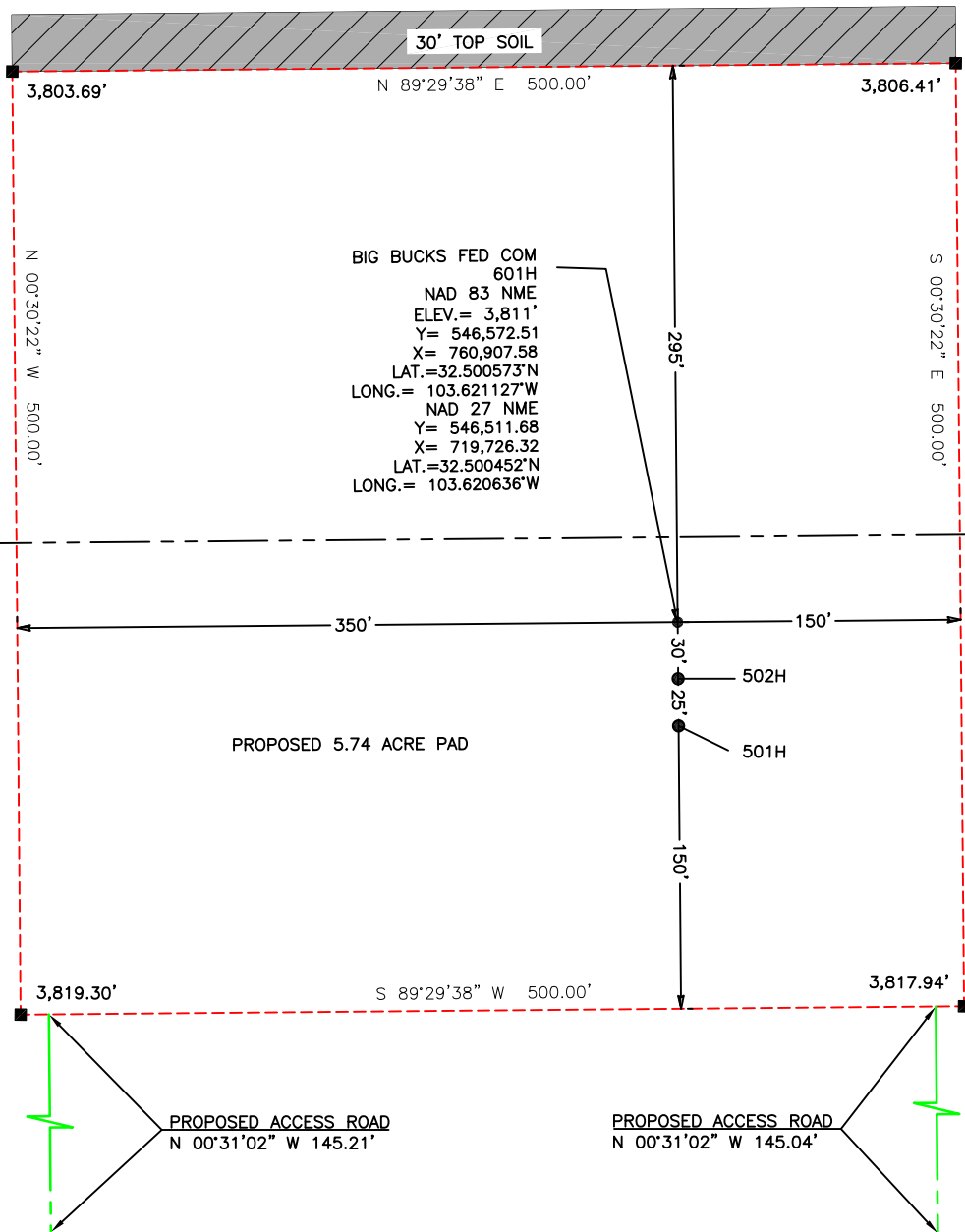
TOWNSHIP 21 SOUTH,
RANGE 32 EAST
NEW MEXICO PRIME
MERIDIAN
OWNER: U.S.A.

SE/4 SE/4

NE/4 NE/4

SECTION 12

TOWNSHIP 21 SOUTH,
RANGE 32 EAST
NEW MEXICO PRIME
MERIDIAN
OWNER: U.S.A.

**NOTE:**

- 1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP"
FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF N.M. HIGHWAY 176 AND BOOTLEG LANE,
GO SOUTH ON BOOTLEG LANE APPROX. 1.7 MILES. TURN LEFT (EAST) ON A GRAVEL
ROAD AND GO APPROX. 0.96 MILES. TURN LEFT (NORTH), THE LOCATION IS TO THE
NORTH.

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR
NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND
THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED
WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION;
THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY
MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW
MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF
MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786



FSC INC
SURVEYORS+ENGINEERS

550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

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LEGEND

- — — — — PROPOSED ACCESS RD.
- - - - - PROPOSED PAD
- - - - - SECTION LINE

**MATADOR PRODUCTION
COMPANY**

WELL SITE PLAN

BIG BUCKS FED COM 601H
LOCATED 401 FEET FROM THE EAST LINE
AND 45 FEET FROM THE NORTH LINE OF
SECTION 12, TOWNSHIP 21 SOUTH, RANGE 32
EAST, N.M.P.M. LEA COUNTY, NEW MEXICO

DATE:	10-7-2022	PROJECT NO:	2022101655
DRAWN BY:	RE	SCALE:	1" = 100'
CHECKED BY:	AR	SHEET:	1 OF 3
FIELD CREW:	RD	REVISION:	1

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 229545

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 229545
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	7/12/2023