

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-015-55221
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 06/07/2024

Additional Operator Remarks

Location of Well

0. SHL: NESW / 2210 FSL / 1552 FWL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2892814 / LONG: -103.855284 (TVD: 0 feet, MD: 0 feet)
PPP: SENW / 2540 FNL / 1356 FWL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.290762 / LONG: -103.8559683 (TVD: 11349 feet, MD: 11655 feet)
PPP: SESW / 1 FSL / 1356 FWL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3122853 / LONG: -103.8559064 (TVD: 11350 feet, MD: 19476 feet)
PPP: SESW / 1 FSL / 1356 FWL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977435 / LONG: -103.8559683 (TVD: 11350 feet, MD: 14196 feet)
BHL: NENW / 50 FNL / 1356 FWL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.32669 / LONG: -103.8558987 (TVD: 11350 feet, MD: 24725 feet)

BLM Point of Contact

Name: JANET D ESTES
Title: ADJUDICATOR
Phone: (575) 234-6233
Email: JESTES@BLM.GOV

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazon Road, Artec, NM 87410
District IV
1220 S. St Francis Dr., NM 87505
Phone: (505) 476-3460 Fax (505) 476-3462

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

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 55221	² Pool Code 98358 96597	³ Pool Name Los Medanos WC23S30E; Wolfcamp (Gas)
⁴ Property Code 336009	⁵ Property Name THUNDERDOME FED COM	
⁷ OGRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁶ Well Number 703H ⁹ Elevation 3,250.36'

¹⁰ Surface Location

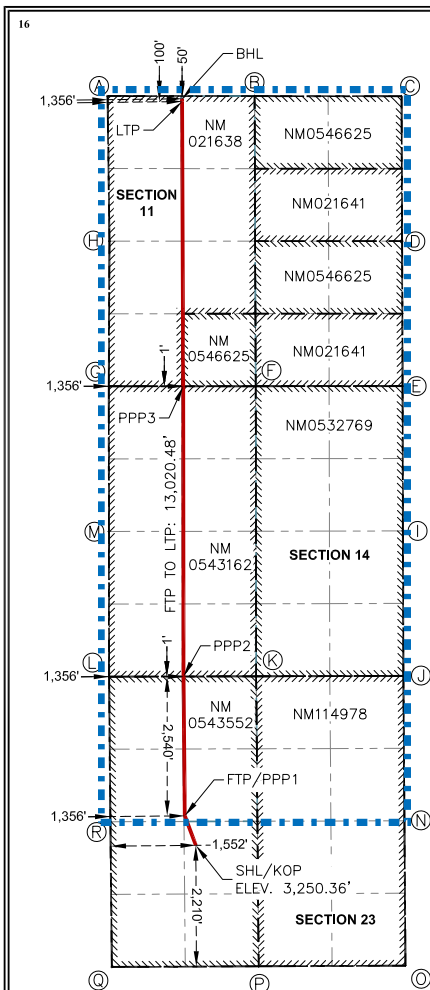
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	23	23-S	30-E		2,210'	SOUTH	1,552'	WEST	EDDY

"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
C	11	23-S	30-E		50'	NORTH	1,356'	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
1600		Com	

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.



SURFACE HOLE LOCATION /

KICK OFF POINT
2,210' FSL & 1,552' FWL
NEW MEXICO EAST-NAD 83
NORTH:469,302.49'
EAST:689,060.66'
LAT:32.28928141
LONG:-103.85528405

**FIRST TAKE POINT /
PENETRATION POINT 1**

PENETRATION POINT 1
2,540' FNL & 1,356' FWL
NEW MEXICO EAST-NAD 83
NORTH:469,840.25'
EAST:688,859.33'
LAT:32.29076206
LONG:-103.85592779

PENETRATION POINT 2
11/5/81 8:13 AM

1° FSL & 1,356° FWL
NEW MEXICO EAST-NAD 83
NORTH:472,379.99'
EAST:688,835.50'
LAT:32.29774354
LONG:-103.85596834

PENETRATION POINT 3

1' FSL & 1,356' FWL
NEW MEXICO EAST-NAD 83
NORTH:477,670.26'
EAST:688,831.07'
LAT:32.31228536
LONG:-103.85590643

LAST TAKE POINT

100' FNL & 1,356' FWL
NEW MEXICO EAST-NAD 83
NORTH:482,860.57'
EAST:688,810.72'
LAT:32.32655259
LONG:-103.85589744

BOTTOM HOLE LOCATION

50' FNL & 1,356' FWL
NEW MEXICO EAST-NAD 83
NORTH:482,910.57'
EAST:688,810.11'
LAT:32.32669003
LONG:-103.85589870

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.

Signature

10/10/2023

Signature _____

Date _____

Stan Wagner

Printed Name

Date _____

Email Address

Date _____

18 **SURVEYOR CERTIFICATION**

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

Date: 9/29/23



MARK J. MURRAY P.L.S. NO. 12177

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description **Effective May 25, 2021**

I. Operator: ConocoPhillips Company

OGRID: 217817

Date: 10/10/2023

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Thunderdome Federal Com 701H	30-015-	K-23-23S-30E	2210 FSL & 1492 FWL	± 1135	± 3485	± 4339
Thunderdome Federal Com 702H	30-015-	K-23-23S-30E	2210 FSL & 1522 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 703H	30-015-	K-23-23S-30E	2210 FSL & 1552 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 704H	30-015-	K-23-23S-30E	2210 FSL & 1582 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 705H	30-015-	K-23-23S-30E	2210 FSL & 1612 FWL	± 1091	± 3230	± 4172

IV. Central Delivery Point Name: TBD CTB NENW 23-23S-30E [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Thunderdome Federal Com	Pending	± 10/1/2024	± 25 days from spud	TBD	TBD	TBD
701H, 702H, 703H, 704H, 705H						

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

If Operator checks this box, Operator will select one of the following:

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

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

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

Section 4 - Notices

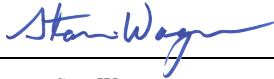
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 10/10/2023
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

All ConocoPhillips production facility equipment will be sized per industry standards (API 12J) with adequate retention time to effectively separate all phases of production. Each project will take into consideration the number of wells and type curves for each formation pool to ensure adequate facility capacity. Design considerations will also include review of all piping, tanks, VRU's and associated equipment to ensure optimized gas capture minimized risk of release.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

- During drilling, flare stacks will be located a minimum of 100 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety, and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

C. Completion Operations

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- Individual well test separators will be set to properly separate gas and liquids. A temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline.

D. Venting and flaring during production operations

- During each phase of well life (drilling, completion and production) of a ConocoPhillips well, COP personnel will follow all necessary procedures to ensure both the operation and the equipment are within the NMAC 19.15.27.8 Subsection D guidelines.
- During well operations that require unloading of the well to atmospheric pressure, all reasonable actions will be taken to minimize vented gas
- Through the life of the well all flaring shall be measured, and venting events quantified using the data available and industry best practice.

E. Performance standards for separation, storage tank and flare equipment

- All storage tanks and separation equipment are designed minimize risk of liquid or vapor release and optimize gas capture. This includes automation for automatic gauging and pressure monitoring.

- All flare stacks are equipped with auto ignition devices and/or continuous pilots and are designed to operate at maximum combustion efficiency pursuant NMAC 19.15.27.8 Subsection E. Flares will follow COP spacing guidelines to ensure they are a safe distance from combustibles and operations equipment.
- COP personnel will conduct routine AVO inspections on a regular basis per NMAC 19.15.27.8 Subsection E guidelines.

F. Measurement of vented and flared natural gas.

- Measurement equipment will be installed to quantify gas flared during drilling, completion and production of the well.
- All measurement devices installed will meet accuracy ratings per AGA and API standards.
- Measurement devices will be installed without manifolds that allow diversion of gas around the metering element, except for the sole purpose of inspection of servicing the measurement device.

VIII. Best Management Practices

- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize blowdowns to atmosphere
- When feasible, Operator will use electric or air actuated equipment to reduce bleed emissions

COG Operating, LLC - Thunderdome Fed Com #703H

1. Geologic Formations

TVD of target	11,350' EOL	Pilot hole depth	NA
MD at TD:	24,725'	Deepest expected fresh water:	103'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	375	Water	
Top of Salt	483	Salt	
Base of Salt	3562	Salt	
Lamar	3784	Salt Water	
Bell Canyon	3800	Salt Water	
Brushy Canyon	5186	Oil/Gas	
Bone Spring Lime	7689	Oil/Gas	
1st Bone Spring Sand	8688	Oil/Gas	
2nd Bone Spring Sand	9348	Oil/Gas	
3rd Bone Spring Sand	10626	Oil/Gas	
Wolfcamp A	11187	Target	
Wolfcamp B	11505	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	400	13.375"	54.5	J55	BTC	6.17	19.09	39.13	41.70
12.25"	0	3795	10.75"	45.5	J55	BTC	1.25	1.84	6.35	6.02
9.875"	0	7400	7.625"	29.7	L80-ICY	BTC	1.74	1.17	3.30	3.34
8.750"	7400	10650	7.625"	29.7	P110 ICY	W513	1.30	1.52	2.97	1.76
6.75"	0	10150	5.5"	23	P110 CY	BTC	2.20	2.60	3.12	3.10
6.75"	10150	24,725	5.5"	23	P110 CY	W441	1.97	2.33	2.79	2.71
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

The 5 1/2" wedge casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

COG Operating, LLC - Thunderdome Fed Com #703H

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

COG Operating, LLC - Thunderdome Fed Com #703H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf	238	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter 1	474	12.4	2.26	12.84	12	Lead: Class C + 5% Gel + 1% CaCl ₂
	250	14.8	1.2	5.35	8	50:50 Class H Premium
Inter 2						
	528	14.8	1.35	6.6	8	Tail: Class H - Single Slurry
Prod						
	1371	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend Single Slurry

Intermediate #1 Salt string cemented to surface. Drill out to wait for 500PSI compressive strength.

Intermediate #2 long string cemented Tail single slurry leaving Brushy Canyon Delaware Mountain group open as a relieve zone. Section to be monitored during completions, and then Bradenhead cemented after completion is complete. Drill out of intermediate to wait for 500psi compressive strength.

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1st Intermediate	0'	50%
2nd Intermediate	7,100'	0%
Production	9,650'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #703H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12 1/4"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Thunderdome Fed Com #703H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	9.8 - 10	28-34	N/C
Surf csg	10 3/4" Int 1 shoe	Saturated Brine	10	28-34	N/C
10 3/4" Int1 shoe	7-5/8" Int 2 shoe	Cut Brine	8.4 - 9.3	28-34	N/C
7-5/8" Int 2 shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

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

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Thunderdome Fed Com #703H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7380 psi at 11350' TVD
Abnormal Temperature	NO 170 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

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

N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
Y	Is casing pre-set?

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

703H

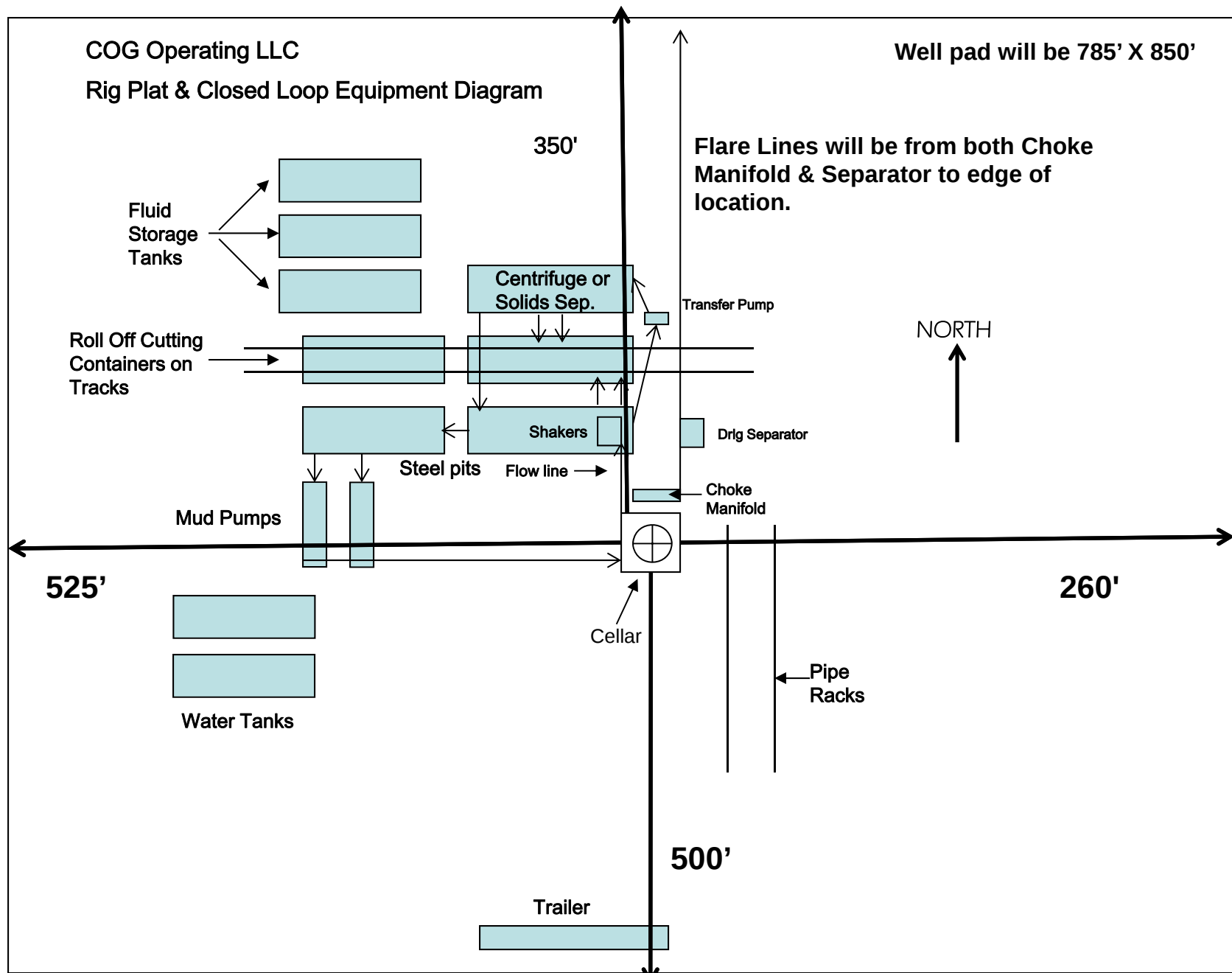


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-W)

THUNDERDOME PROJECT

***THUNDERDOME FED COM #703H**

OWB

PWP0

Anticollision Report

10 July, 2023

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,000.0usft	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program		Date	7/10/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	24,725.0	PWP0 (OWB)	r.5 MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction rev.5	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #521H - OWB - PWP0	1,800.0	1,800.0	161.6	149.0	12.852	CC, ES
*THUNDERDOME FED COM #521H - OWB - PWP0	24,725.4	23,541.5	1,578.8	1,348.0	6.840	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	3,427.6	3,579.5	1,249.1	1,230.3	66.382	CC, ES
*THUNDERDOME FED COM #522H - OWB - PWP0	24,725.4	23,466.8	1,757.5	1,555.2	8.688	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	1,800.0	1,800.0	1,526.2	1,513.6	121.361	CC, ES
*THUNDERDOME FED COM #523H - OWB - PWP0	4,000.0	3,514.5	1,995.8	1,975.7	99.079	SF
*THUNDERDOME FED COM #701H - OWB - PWP0	1,500.0	1,500.0	60.0	48.3	5.117	CC, ES
*THUNDERDOME FED COM #701H - OWB - PWP0	24,725.4	24,843.7	1,026.0	814.1	4.842	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	2,500.0	2,500.0	29.9	15.5	2.078	CC, ES, SF
*THUNDERDOME FED COM #704H - OWB - PWP0	2,500.0	2,500.0	30.0	15.6	2.080	CC, ES, SF
*THUNDERDOME FED COM #705H - OWB - PWP0	1,800.0	1,800.0	60.0	47.4	4.769	CC, ES
*THUNDERDOME FED COM #705H - OWB - PWP0	1,900.0	1,898.9	60.9	48.0	4.741	SF
*THUNDERDOME FED COM #706H - OWB - PWP0	3,000.0	3,000.0	1,391.9	1,376.2	89.053	CC, ES
*THUNDERDOME FED COM #706H - OWB - PWP0	24,725.4	24,469.4	1,626.0	1,420.8	7.924	SF
*THUNDERDOME FED COM #707H - OWB - PWP0	2,000.0	2,000.0	1,421.8	1,408.7	108.408	CC, ES
*THUNDERDOME FED COM #707H - OWB - PWP0	5,200.0	4,937.8	1,990.6	1,962.9	72.113	SF
*THUNDERDOME FED COM #708H - OWB - PWP0	2,500.0	2,500.0	1,451.8	1,437.4	100.776	CC, ES
*THUNDERDOME FED COM #708H - OWB - PWP0	4,900.0	4,506.7	1,982.5	1,958.5	82.513	SF
*THUNDERDOME FED COM #709H - OWB - PWP0	2,200.0	2,200.0	1,481.7	1,468.1	108.625	CC, ES
*THUNDERDOME FED COM #709H - OWB - PWP0	4,400.0	3,942.2	1,995.6	1,973.8	91.603	SF
*THUNDERDOME FED COM #710H - OWB - PWP0	1,800.0	1,800.0	1,511.7	1,499.1	120.210	CC, ES
*THUNDERDOME FED COM #710H - OWB - PWP0	4,100.0	3,681.7	1,997.7	1,976.4	93.790	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	2,472.2	2,475.7	140.2	126.0	9.904	CC, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	24,725.4	23,195.6	1,921.8	1,689.8	8.285	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	3,789.4	3,796.7	31.7	13.4	1.731	Advise and Monitor, CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	3,800.0	3,807.1	31.7	13.4	1.731	Advise and Monitor, SF
*THUNDERDOME FED COM 503H - OWB - PWP0	9,347.9	9,366.8	1,283.2	1,249.5	38.112	CC, ES
*THUNDERDOME FED COM 503H - OWB - PWP0	9,600.0	9,566.9	1,289.1	1,255.0	37.795	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,800.0	1,800.0	1,466.9	1,454.3	116.643	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	4,500.0	4,173.3	1,999.8	1,975.7	82.911	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,800.0	1,800.0	1,496.5	1,483.9	119.002	CC, ES
*THUNDERDOME FED COM 505H - OWB - PWP0	4,000.0	3,519.4	1,979.0	1,958.4	96.449	SF

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

TD Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #521H - OWB - PWP0	24,725.4	23,541.5	1,578.8	1,348.0	6.840	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	24,725.4	23,466.8	1,757.5	1,555.2	8.688	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	24,725.4	23,558.2				Out of Range @TD
*THUNDERDOME FED COM #701H - OWB - PWP0	24,725.4	24,843.7	1,026.0	814.1	4.842	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	24,725.4	24,628.9	540.4	322.5	2.479	
*THUNDERDOME FED COM #704H - OWB - PWP0	24,725.4	24,574.2	540.4	331.5	2.587	
*THUNDERDOME FED COM #705H - OWB - PWP0	24,725.4	24,799.9	1,026.0	816.5	4.897	
*THUNDERDOME FED COM #706H - OWB - PWP0	24,725.4	24,469.4	1,626.0	1,420.8	7.924	SF
*THUNDERDOME FED COM #707H - OWB - PWP0	24,725.4	24,750.1				Out of Range @TD
*THUNDERDOME FED COM #708H - OWB - PWP0	24,725.4	24,486.5				Out of Range @TD
*THUNDERDOME FED COM #709H - OWB - PWP0	24,725.4	24,802.4				Out of Range @TD
*THUNDERDOME FED COM #710H - OWB - PWP0	24,725.4	24,734.5				Out of Range @TD
*THUNDERDOME FED COM 501H - OWB - PWP0	24,725.4	23,195.6	1,921.8	1,689.8	8.285	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	24,725.4	23,110.8	1,630.1	1,414.7	7.567	
*THUNDERDOME FED COM 503H - OWB - PWP0	24,725.4	23,140.7				Out of Range @TD
*THUNDERDOME FED COM 504H - OWB - PWP0	24,725.4	22,854.8				Out of Range @TD
*THUNDERDOME FED COM 505H - OWB - PWP0	24,725.4	23,061.6				Out of Range @TD

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
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)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-21.80	150.1	-60.0	161.6	155.2	6.43	25.140	
100.0	100.0	100.0	100.0	3.2	3.2	-21.80	150.1	-60.0	161.6	154.7	6.89	23.449	
200.0	200.0	200.0	200.0	3.5	3.5	-21.80	150.1	-60.0	161.6	154.3	7.33	22.055	
300.0	300.0	300.0	300.0	3.7	3.7	-21.80	150.1	-60.0	161.6	153.9	7.74	20.878	
400.0	400.0	400.0	400.0	3.9	3.9	-21.80	150.1	-60.0	161.6	153.5	8.14	19.866	
500.0	500.0	500.0	500.0	4.1	4.1	-21.80	150.1	-60.0	161.6	153.1	8.51	18.984	
600.0	600.0	600.0	600.0	4.2	4.2	-21.80	150.1	-60.0	161.6	152.7	8.88	18.205	
700.0	700.0	700.0	700.0	4.4	4.4	-21.80	150.1	-60.0	161.6	152.4	9.23	17.511	
800.0	800.0	800.0	800.0	4.6	4.6	-21.80	150.1	-60.0	161.6	152.1	9.57	16.887	
900.0	900.0	900.0	900.0	4.8	4.8	-21.80	150.1	-60.0	161.6	151.7	9.90	16.322	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-21.80	150.1	-60.0	161.6	151.4	10.22	15.807	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-21.80	150.1	-60.0	161.6	151.1	10.54	15.335	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-21.80	150.1	-60.0	161.6	150.8	10.85	14.899	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-21.80	150.1	-60.0	161.6	150.5	11.15	14.497	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-21.80	150.1	-60.0	161.6	150.2	11.44	14.122	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-21.80	150.1	-60.0	161.6	149.9	11.73	13.773	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-21.80	150.1	-60.0	161.6	149.6	12.02	13.447	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-21.80	150.1	-60.0	161.6	149.3	12.30	13.140	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-21.80	150.1	-60.0	161.6	149.0	12.58	12.852 CC, ES	
1,900.0	1,900.0	1,898.7	1,898.7	6.3	6.3	-22.23	150.0	-61.3	162.0	149.2	12.84	12.620	
2,000.0	2,000.0	1,997.3	1,997.2	6.4	6.4	-23.51	149.7	-65.1	163.3	150.2	13.09	12.473	
2,100.0	2,100.0	2,095.6	2,095.3	6.5	6.6	-25.57	149.3	-71.4	165.5	152.2	13.34	12.407	
2,200.0	2,200.0	2,193.5	2,192.8	6.7	6.8	-28.36	148.6	-80.2	169.1	155.5	13.60	12.432	
2,300.0	2,300.0	2,290.9	2,289.5	6.8	7.0	-31.74	147.9	-91.5	174.2	160.3	13.86	12.562	
2,400.0	2,400.0	2,387.7	2,385.3	6.9	7.2	-35.56	146.9	-105.0	181.2	167.0	14.14	12.811	
2,500.0	2,500.0	2,483.7	2,480.0	7.0	7.5	-39.67	145.8	-120.9	190.5	176.0	14.44	13.189	
2,600.0	2,600.0	2,578.8	2,573.4	7.2	7.8	-43.87	144.5	-139.0	202.3	187.5	14.76	13.703	
2,700.0	2,700.0	2,675.9	2,668.4	7.3	8.0	-48.01	143.1	-159.0	216.3	201.2	15.12	14.305	
2,800.0	2,800.0	2,773.7	2,764.1	7.4	8.3	-51.68	141.7	-179.3	231.4	215.9	15.51	14.918	
2,900.0	2,900.0	2,871.5	2,859.8	7.5	8.6	-54.90	140.3	-199.6	247.3	231.4	15.92	15.529	
3,000.0	3,000.0	2,969.3	2,955.4	7.7	8.9	-57.72	138.9	-219.9	263.9	247.5	16.36	16.128	
3,100.0	3,100.0	3,067.4	3,051.4	7.8	9.2	30.79	137.5	-240.2	279.9	263.1	16.82	16.640	
3,200.0	3,199.9	3,166.0	3,147.8	7.9	9.6	28.82	136.0	-260.7	294.1	276.8	17.29	17.008	
3,300.0	3,299.7	3,264.9	3,244.6	8.1	9.9	27.27	134.6	-281.2	306.3	288.5	17.79	17.218	
3,400.0	3,399.3	3,364.2	3,341.7	8.2	10.3	26.06	133.2	-301.8	316.3	298.0	18.31	17.274	
3,500.0	3,498.6	3,463.8	3,439.1	8.4	10.7	25.13	131.7	-322.5	324.1	305.2	18.86	17.186	
3,600.0	3,597.6	3,563.5	3,536.7	8.6	11.1	24.42	130.3	-343.1	330.0	310.7	19.37	17.039	
3,700.0	3,696.6	3,663.3	3,634.2	8.7	11.4	23.77	128.8	-363.8	335.9	316.0	19.95	16.839	
3,800.0	3,795.7	3,763.0	3,731.8	9.0	11.8	23.13	127.4	-384.5	341.9	321.3	20.55	16.633	
3,900.0	3,894.7	3,862.8	3,829.4	9.2	12.2	22.52	125.9	-405.2	347.9	326.7	21.15	16.448	
4,000.0	3,993.8	3,962.5	3,926.9	9.4	12.6	21.90	124.5	-425.9	354.5	332.7	21.81	16.259	
4,100.0	4,093.0	4,062.1	4,024.4	9.7	13.0	21.25	123.0	-446.6	362.0	339.5	22.47	16.109	
4,200.0	4,192.4	4,161.7	4,121.7	9.9	13.5	20.59	121.6	-467.2	370.4	347.2	23.16	15.993	
4,300.0	4,291.8	4,261.2	4,219.0	10.2	13.9	19.91	120.1	-487.8	379.6	355.7	23.86	15.910	
4,400.0	4,391.3	4,360.5	4,316.2	10.4	14.3	19.22	118.7	-508.4	389.6	365.1	24.57	15.860	
4,500.0	4,490.9	4,459.8	4,413.3	10.7	14.7	18.53	117.3	-529.0	400.6	375.3	25.29	15.841	
4,600.0	4,590.6	4,559.0	4,510.3	11.0	15.1	17.84	115.8	-549.6	412.4	386.4	26.02	15.852	
4,700.0	4,690.3	4,658.0	4,607.2	11.3	15.6	17.16	114.4	-570.1	425.2	398.4	26.75	15.892	
4,800.0	4,790.1	4,757.0	4,704.0	11.6	16.0	16.48	113.0	-590.7	438.8	411.3	27.49	15.960	
4,900.0	4,890.0	4,855.8	4,800.7	11.8	16.4	15.82	111.5	-611.2	453.3	425.1	28.24	16.055	
5,000.0	4,989.9	4,954.4	4,897.2	12.1	16.9	15.17	110.1	-631.6	468.7	439.7	28.98	16.176	
5,100.0	5,089.8	5,053.0	4,993.5	12.4	17.3	14.54	108.7	-652.1	485.0	455.3	29.71	16.323	
5,200.0	5,189.8	5,151.3	5,089.7	12.6	17.7	13.92	107.2	-672.5	502.2	471.7	30.44	16.496	
5,300.0	5,289.8	5,249.5	5,185.8	12.8	18.2	13.33	105.8	-692.8	520.3	489.1	31.17	16.694	
5,400.0	5,389.7	5,347.6	5,281.7	13.0	18.6	12.76	104.4	-713.2	539.2	507.4	31.87	16.920	
5,500.0	5,489.7	5,445.4	5,377.4	13.1	19.0	-78.80	103.0	-733.5	559.1	526.6	32.49	17.210	
5,600.0	5,589.7	5,543.2	5,473.1	13.2	19.5	-79.34	101.6	-753.7	579.2	546.1	33.09	17.504	
5,700.0	5,689.7	5,641.1	5,568.8	13.3	19.9	-79.84	100.1	-774.0	599.4	565.7	33.69	17.789	
5,800.0	5,789.7	5,738.9	5,664.4	13.4	20.4	-80.31	98.7	-794.3	619.6	585.3	34.29	18.066	
5,900.0	5,889.7	5,836.7	5,760.1	13.4	20.8	-80.75	97.3	-814.6	639.8	604.9	34.90	18.332	
6,000.0	5,989.7	5,934.5	5,855.8	13.5	21.2	-81.16	95.9	-834.9	660.1	624.6	35.51	18.590	
6,100.0	6,089.7	6,032.3	5,951.5	13.6	21.7	-81.55	94.5	-855.2	680.4	644.3	36.12	18.839	
6,200.0	6,189.7	6,130.1	6,047.2	13.6	22.1	-81.92	93.0	-875.5	700.7	664.0	36.73	19.080	
6,300.0	6,289.7	6,227.9	6,142.8	13.7	22.6	-82.26	91.6	-895.8	721.1	683.7	37.34	19.312	
6,400.0	6,389.7	6,325.8	6,238.5	13.8	23.0	-82.59	90.2	-916.0	741.5	703.5	37.95	19.537	
6,500.0	6,489.7	6,423.6	6,334.2	13.9	23.5	-82.90	88.8	-936.3	761.9	723.3	38.57	19.755	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,600.0	6,589.7	6,521.4	6,429.9	13.9	23.9	-83.19	87.4	-956.6	782.3	743.1	39.18	19.966	
6,700.0	6,689.7	6,623.4	6,529.6	14.0	24.4	-83.48	85.9	-977.7	802.7	762.9	39.83	20.152	
6,800.0	6,789.7	6,737.4	6,641.5	14.1	24.9	-83.76	84.4	-999.6	821.7	781.1	40.57	20.254	
6,900.0	6,889.7	6,852.3	6,754.7	14.2	25.4	-84.01	83.0	-1,019.5	838.8	797.5	41.25	20.332	
7,000.0	6,989.7	6,967.9	6,868.9	14.2	25.9	-84.22	81.7	-1,037.2	853.9	812.0	41.91	20.373	
7,100.0	7,089.7	7,084.3	6,984.2	14.3	26.4	-84.39	80.6	-1,052.7	867.0	824.5	42.54	20.381	
7,200.0	7,189.7	7,201.2	7,100.4	14.4	26.9	-84.54	79.7	-1,065.9	878.2	835.1	43.14	20.358	
7,300.0	7,289.7	7,318.6	7,217.3	14.4	27.3	-84.66	79.0	-1,076.8	887.4	843.7	43.69	20.309	
7,400.0	7,389.7	7,436.4	7,334.8	14.5	27.8	-84.74	78.4	-1,085.3	894.5	850.3	44.21	20.236	
7,500.0	7,489.7	7,554.6	7,452.8	14.6	28.2	-84.81	77.9	-1,091.4	899.7	855.0	44.67	20.142	
7,600.0	7,589.7	7,672.9	7,571.1	14.7	28.5	-84.84	77.7	-1,095.1	902.8	857.7	45.06	20.036	
7,700.0	7,689.7	7,791.3	7,689.5	14.7	28.7	-84.86	77.6	-1,096.4	903.8	858.5	45.25	19.972	
7,800.0	7,789.7	7,891.6	7,789.7	14.8	28.8	-84.86	77.6	-1,096.4	903.8	858.4	45.37	19.922	
7,900.0	7,889.7	7,991.6	7,889.7	14.9	28.8	-84.86	77.6	-1,096.4	903.8	858.3	45.45	19.884	
8,000.0	7,989.7	8,091.6	7,989.7	15.0	28.8	-84.86	77.6	-1,096.4	903.8	858.3	45.54	19.848	
8,100.0	8,089.7	8,191.6	8,089.7	15.0	28.9	-84.86	77.6	-1,096.4	903.8	858.2	45.62	19.811	
8,200.0	8,189.7	8,291.6	8,189.7	15.1	28.9	-84.86	77.6	-1,096.4	903.8	858.1	45.71	19.774	
8,300.0	8,289.7	8,391.6	8,289.7	15.2	28.9	-84.86	77.6	-1,096.4	903.8	858.0	45.79	19.738	
8,400.0	8,389.7	8,491.6	8,389.7	15.2	29.0	-84.86	77.6	-1,096.4	903.8	857.9	45.88	19.701	
8,500.0	8,489.7	8,591.6	8,489.7	15.3	29.0	-84.86	77.6	-1,096.4	903.8	857.8	45.96	19.664	
8,600.0	8,589.7	8,691.6	8,589.7	15.4	29.0	-84.86	77.6	-1,096.4	903.8	857.8	46.05	19.627	
8,700.0	8,689.7	8,791.6	8,689.7	15.5	29.1	-84.86	77.6	-1,096.4	903.8	857.7	46.14	19.590	
8,800.0	8,789.7	8,891.6	8,789.7	15.5	29.1	-84.86	77.6	-1,096.4	903.8	857.6	46.22	19.553	
8,900.0	8,889.7	8,991.6	8,889.7	15.6	29.1	-84.86	77.6	-1,096.4	903.8	857.5	46.31	19.516	
9,000.0	8,989.7	9,091.6	8,989.7	15.7	29.2	-84.86	77.6	-1,096.4	903.8	857.4	46.40	19.479	
9,100.0	9,089.7	9,191.6	9,089.7	15.8	29.2	-84.86	77.6	-1,096.4	903.8	857.3	46.49	19.442	
9,200.0	9,189.7	9,291.6	9,189.7	15.8	29.2	-84.86	77.6	-1,096.4	903.8	857.2	46.58	19.405	
9,300.0	9,289.7	9,391.6	9,289.7	15.9	29.2	-84.86	77.6	-1,096.4	903.8	857.1	46.66	19.368	
9,400.0	9,389.7	9,491.6	9,389.7	16.0	29.3	-84.86	77.6	-1,096.4	903.8	857.0	46.75	19.331	
9,500.0	9,489.7	9,591.6	9,489.7	16.1	29.3	-84.86	77.6	-1,096.4	903.8	857.0	46.84	19.294	
9,511.8	9,501.5	9,603.4	9,501.5	16.1	29.3	-84.86	77.6	-1,096.4	903.8	856.9	46.85	19.290	
9,600.0	9,589.7	9,688.0	9,586.1	16.1	29.3	-84.85	77.7	-1,096.4	903.8	856.9	46.95	19.252	
9,700.0	9,689.7	9,759.2	9,657.1	16.2	29.4	-84.51	83.1	-1,097.3	905.8	858.6	47.20	19.191	
9,800.0	9,789.7	9,828.1	9,724.5	16.3	29.4	-83.68	96.7	-1,099.5	911.2	863.7	47.44	19.208	
9,900.0	9,889.7	9,900.0	9,792.7	16.4	29.5	-82.30	119.2	-1,103.2	920.4	872.7	47.63	19.322	
10,000.0	9,989.7	9,950.0	9,838.1	16.4	29.5	-81.06	139.7	-1,106.6	933.9	886.1	47.85	19.516	
10,100.0	10,089.7	10,000.0	9,881.6	16.5	29.6	-79.62	164.1	-1,110.6	952.6	904.6	48.02	19.836	
10,200.0	10,189.7	10,050.0	9,922.7	16.6	29.6	-77.99	192.1	-1,115.1	976.7	928.6	48.15	20.285	
10,300.0	10,289.7	10,100.0	9,961.2	16.7	29.6	-76.20	223.6	-1,120.3	1,006.7	958.4	48.24	20.868	
10,400.0	10,389.7	10,134.0	9,985.7	16.7	29.7	-74.91	246.8	-1,124.1	1,042.5	994.2	48.30	21.583	
10,500.0	10,489.7	10,167.1	10,008.3	16.8	29.7	-73.60	270.8	-1,128.0	1,084.1	1,035.8	48.33	22.429	
10,600.0	10,589.7	10,200.0	10,029.2	16.9	29.7	-72.27	295.8	-1,132.1	1,131.2	1,082.9	48.36	23.394	
10,700.0	10,689.7	10,222.3	10,042.5	17.0	29.8	-71.35	313.4	-1,135.0	1,183.5	1,135.1	48.36	24.473	
10,800.0	10,789.7	10,250.0	10,058.1	17.0	29.8	-69.10	336.0	-1,138.7	1,240.4	1,192.0	48.37	25.642	
10,900.0	10,889.0	10,269.1	10,068.3	17.1	29.8	-61.99	352.0	-1,141.3	1,298.2	1,249.8	48.47	26.784	
11,000.0	10,984.9	10,300.0	10,083.4	17.1	29.8	-55.55	378.6	-1,145.7	1,353.3	1,304.6	48.70	27.786	
11,100.0	11,074.4	10,323.3	10,093.9	17.2	29.8	-50.46	399.1	-1,149.0	1,403.8	1,354.8	49.00	28.649	
11,200.0	11,155.0	10,350.0	10,104.9	17.3	29.9	-46.41	423.1	-1,153.0	1,448.4	1,399.0	49.37	29.339	
11,300.0	11,224.0	10,382.8	10,116.8	17.4	29.9	-43.32	453.3	-1,157.9	1,485.9	1,436.1	49.80	29.836	
11,400.0	11,279.4	10,400.0	10,122.3	17.5	29.9	-41.16	469.4	-1,160.5	1,515.7	1,465.5	50.17	30.210	
11,500.0	11,319.6	10,450.0	10,135.5	17.6	30.0	-39.79	516.9	-1,168.3	1,536.6	1,485.9	50.74	30.284	
11,600.0	11,343.3	10,476.7	10,140.9	17.7	30.0	-39.11	542.7	-1,172.6	1,548.8	1,497.7	51.17	30.271	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
11,700.0	11,350.0	10,500.0	10,144.5	17.8	30.0	-39.05	565.5	-1,176.3	1,552.2	1,500.6	51.53	30.122	
11,800.0	11,350.0	10,550.0	10,149.2	18.0	30.0	-39.38	614.6	-1,184.3	1,554.7	1,502.7	52.05	29.871	
11,900.0	11,350.0	10,578.8	10,150.0	18.1	30.1	-39.53	643.0	-1,189.0	1,561.6	1,509.3	52.36	29.825	
12,000.0	11,350.0	10,696.9	10,150.0	18.3	30.2	-39.98	759.9	-1,205.6	1,570.6	1,517.2	53.42	29.402	
12,100.0	11,350.0	10,851.4	10,150.0	18.5	30.4	-40.37	913.6	-1,220.2	1,576.4	1,521.6	54.77	28.782	
12,200.0	11,350.0	11,006.9	10,150.0	18.8	30.7	-40.53	1,069.1	-1,226.4	1,578.7	1,522.6	56.10	28.141	
12,300.0	11,350.0	11,116.0	10,150.0	19.1	30.9	-40.53	1,178.1	-1,226.9	1,578.8	1,521.7	57.11	27.643	
12,400.0	11,350.0	11,216.0	10,150.0	19.4	31.1	-40.53	1,278.1	-1,227.4	1,578.8	1,520.7	58.10	27.175	
12,500.0	11,350.0	11,316.0	10,150.0	19.8	31.3	-40.53	1,378.1	-1,227.8	1,578.8	1,519.7	59.10	26.712	
12,600.0	11,350.0	11,416.0	10,150.0	20.1	31.6	-40.53	1,478.1	-1,228.2	1,578.8	1,518.7	60.13	26.254	
12,700.0	11,350.0	11,516.0	10,150.0	20.5	31.8	-40.53	1,578.1	-1,228.6	1,578.8	1,517.6	61.19	25.803	
12,800.0	11,350.0	11,616.0	10,150.0	20.9	32.1	-40.53	1,678.1	-1,229.0	1,578.8	1,516.5	62.26	25.359	
12,900.0	11,350.0	11,716.0	10,150.0	21.4	32.4	-40.53	1,778.1	-1,229.4	1,578.8	1,515.4	63.35	24.923	
13,000.0	11,350.0	11,816.0	10,150.0	21.8	32.7	-40.53	1,878.1	-1,229.8	1,578.8	1,514.3	64.46	24.494	
13,100.0	11,350.0	11,916.0	10,150.0	22.3	33.0	-40.53	1,978.1	-1,230.2	1,578.8	1,513.2	65.58	24.074	
13,200.0	11,350.0	12,016.0	10,150.0	22.8	33.3	-40.53	2,078.1	-1,230.6	1,578.8	1,512.1	66.72	23.662	
13,300.0	11,350.0	12,116.0	10,150.0	23.3	33.7	-40.53	2,178.1	-1,231.0	1,578.8	1,510.9	67.88	23.259	
13,400.0	11,350.0	12,216.0	10,150.0	23.8	34.1	-40.53	2,278.1	-1,231.4	1,578.8	1,509.7	69.05	22.864	
13,500.0	11,350.0	12,316.0	10,150.0	24.4	34.4	-40.53	2,378.1	-1,231.8	1,578.8	1,508.6	70.24	22.478	
13,600.0	11,350.0	12,416.0	10,150.0	24.9	34.8	-40.53	2,478.1	-1,232.2	1,578.8	1,507.4	71.44	22.101	
13,700.0	11,350.0	12,516.0	10,150.0	25.5	35.2	-40.53	2,578.1	-1,232.6	1,578.8	1,506.1	72.65	21.732	
13,800.0	11,350.0	12,616.0	10,150.0	26.0	35.7	-40.53	2,678.1	-1,233.0	1,578.8	1,504.9	73.87	21.372	
13,900.0	11,350.0	12,716.0	10,150.0	26.6	36.1	-40.53	2,778.1	-1,233.4	1,578.8	1,503.7	75.11	21.021	
14,000.0	11,350.0	12,816.0	10,150.0	27.2	36.5	-40.53	2,878.1	-1,233.8	1,578.8	1,502.4	76.35	20.678	
14,100.0	11,350.0	12,916.0	10,150.0	27.8	37.0	-40.53	2,978.1	-1,234.2	1,578.8	1,501.2	77.61	20.343	
14,200.0	11,350.0	13,016.0	10,150.0	28.4	37.4	-40.53	3,078.1	-1,234.6	1,578.8	1,499.9	78.87	20.017	
14,300.0	11,350.0	13,116.0	10,150.0	29.0	37.9	-40.53	3,178.1	-1,235.0	1,578.8	1,498.6	80.15	19.698	
14,400.0	11,350.0	13,216.0	10,150.0	29.6	38.4	-40.53	3,278.1	-1,235.4	1,578.8	1,497.4	81.43	19.388	
14,500.0	11,350.0	13,316.0	10,150.0	30.3	38.9	-40.53	3,378.1	-1,235.8	1,578.8	1,496.1	82.73	19.085	
14,600.0	11,350.0	13,416.0	10,150.0	30.9	39.4	-40.53	3,478.1	-1,236.2	1,578.8	1,494.8	84.03	18.789	
14,700.0	11,350.0	13,516.0	10,150.0	31.5	39.9	-40.53	3,578.1	-1,236.6	1,578.8	1,493.5	85.33	18.501	
14,800.0	11,350.0	13,616.0	10,150.0	32.2	40.4	-40.53	3,678.1	-1,237.0	1,578.8	1,492.1	86.65	18.221	
14,900.0	11,350.0	13,716.0	10,150.0	32.8	40.9	-40.53	3,778.1	-1,237.4	1,578.8	1,490.8	87.97	17.947	
15,000.0	11,350.0	13,816.0	10,150.0	33.5	41.4	-40.53	3,878.1	-1,237.9	1,578.8	1,489.5	89.30	17.679	
15,100.0	11,350.0	13,916.0	10,150.0	34.2	42.0	-40.53	3,978.1	-1,238.3	1,578.8	1,488.2	90.64	17.419	
15,200.0	11,350.0	14,016.0	10,150.0	34.8	42.5	-40.53	4,078.1	-1,238.7	1,578.8	1,486.8	91.98	17.165	
15,300.0	11,350.0	14,116.0	10,150.0	35.5	43.1	-40.53	4,178.1	-1,239.1	1,578.8	1,485.5	93.33	16.917	
15,400.0	11,350.0	14,216.0	10,150.0	36.2	43.6	-40.53	4,278.1	-1,239.5	1,578.8	1,484.1	94.68	16.675	
15,500.0	11,350.0	14,316.0	10,150.0	36.8	44.2	-40.53	4,378.1	-1,239.9	1,578.8	1,482.8	96.04	16.439	
15,600.0	11,350.0	14,416.0	10,150.0	37.5	44.8	-40.53	4,478.1	-1,240.3	1,578.8	1,481.4	97.40	16.209	
15,700.0	11,350.0	14,516.0	10,150.0	38.2	45.3	-40.53	4,578.1	-1,240.7	1,578.8	1,480.0	98.77	15.984	
15,800.0	11,350.0	14,616.0	10,150.0	38.9	45.9	-40.53	4,678.1	-1,241.1	1,578.8	1,478.7	100.14	15.765	
15,900.0	11,350.0	14,716.0	10,150.0	39.6	46.5	-40.53	4,778.1	-1,241.5	1,578.8	1,477.3	101.52	15.551	
16,000.0	11,350.0	14,816.0	10,150.0	40.3	47.1	-40.53	4,878.1	-1,241.9	1,578.8	1,475.9	102.91	15.342	
16,100.0	11,350.0	14,916.0	10,150.0	41.0	47.7	-40.53	4,978.1	-1,242.3	1,578.8	1,474.5	104.29	15.138	
16,200.0	11,350.0	15,016.0	10,150.0	41.7	48.3	-40.53	5,078.1	-1,242.7	1,578.8	1,473.1	105.68	14.939	
16,300.0	11,350.0	15,116.0	10,150.0	42.3	48.9	-40.53	5,178.1	-1,243.1	1,578.8	1,471.7	107.08	14.745	
16,400.0	11,350.0	15,216.0	10,150.0	43.1	49.5	-40.53	5,278.1	-1,243.5	1,578.8	1,470.3	108.47	14.555	
16,500.0	11,350.0	15,316.0	10,150.0	43.8	50.1	-40.53	5,378.1	-1,243.9	1,578.8	1,468.9	109.88	14.369	
16,600.0	11,350.0	15,416.0	10,150.0	44.5	50.7	-40.53	5,478.1	-1,244.3	1,578.8	1,467.5	111.28	14.187	
16,700.0	11,350.0	15,516.0	10,150.0	45.2	51.3	-40.53	5,578.1	-1,244.7	1,578.8	1,466.1	112.69	14.010	
16,800.0	11,350.0	15,616.0	10,150.0	45.9	52.0	-40.53	5,678.1	-1,245.1	1,578.8	1,464.7	114.10	13.837	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,900.0	11,350.0	15,716.0	10,150.0	46.6	52.6	-40.53	5,778.1	-1,245.5	1,578.8	1,463.3	115.52	13.667		
17,000.0	11,350.0	15,816.0	10,150.0	47.3	53.2	-40.53	5,878.1	-1,245.9	1,578.8	1,461.9	116.93	13.502		
17,100.0	11,350.0	15,916.0	10,150.0	48.0	53.9	-40.53	5,978.1	-1,246.3	1,578.8	1,460.4	118.35	13.340		
17,200.0	11,350.0	16,016.0	10,150.0	48.7	54.5	-40.53	6,078.1	-1,246.7	1,578.8	1,459.0	119.78	13.181		
17,300.0	11,350.0	16,116.0	10,150.0	49.5	55.2	-40.53	6,178.1	-1,247.1	1,578.8	1,457.6	121.20	13.026		
17,400.0	11,350.0	16,216.0	10,150.0	50.2	55.8	-40.53	6,278.1	-1,247.5	1,578.8	1,456.2	122.63	12.874		
17,500.0	11,350.0	16,316.0	10,150.0	50.9	56.4	-40.53	6,378.1	-1,247.9	1,578.8	1,454.7	124.06	12.726		
17,600.0	11,350.0	16,416.0	10,150.0	51.6	57.1	-40.53	6,478.1	-1,248.3	1,578.8	1,453.3	125.50	12.581		
17,700.0	11,350.0	16,516.0	10,150.0	52.3	57.8	-40.53	6,578.1	-1,248.8	1,578.8	1,451.9	126.93	12.438		
17,800.0	11,350.0	16,616.0	10,150.0	53.1	58.4	-40.53	6,678.1	-1,249.2	1,578.8	1,450.4	128.37	12.299		
17,900.0	11,350.0	16,716.0	10,150.0	53.8	59.1	-40.53	6,778.1	-1,249.6	1,578.8	1,449.0	129.81	12.162		
18,000.0	11,350.0	16,816.0	10,150.0	54.5	59.7	-40.53	6,878.1	-1,250.0	1,578.8	1,447.6	131.25	12.029		
18,100.0	11,350.0	16,916.0	10,150.0	55.2	60.4	-40.53	6,978.1	-1,250.4	1,578.8	1,446.1	132.70	11.898		
18,200.0	11,350.0	17,016.0	10,150.0	56.0	61.1	-40.53	7,078.1	-1,250.8	1,578.8	1,444.7	134.14	11.770		
18,300.0	11,350.0	17,116.0	10,150.0	56.7	61.7	-40.53	7,178.1	-1,251.2	1,578.8	1,443.2	135.59	11.644		
18,400.0	11,350.0	17,216.0	10,150.0	57.4	62.4	-40.53	7,278.1	-1,251.6	1,578.8	1,441.8	137.04	11.521		
18,500.0	11,350.0	17,316.0	10,150.0	58.2	63.1	-40.53	7,378.1	-1,252.0	1,578.8	1,440.3	138.49	11.400		
18,600.0	11,350.0	17,416.0	10,150.0	58.9	63.7	-40.53	7,478.1	-1,252.4	1,578.8	1,438.9	139.94	11.282		
18,700.0	11,350.0	17,516.0	10,150.0	59.6	64.4	-40.53	7,578.1	-1,252.8	1,578.8	1,437.4	141.40	11.166		
18,800.0	11,350.0	17,616.0	10,150.0	60.4	65.1	-40.53	7,678.1	-1,253.2	1,578.8	1,436.0	142.85	11.052		
18,900.0	11,350.0	17,716.0	10,150.0	61.1	65.8	-40.53	7,778.1	-1,253.6	1,578.8	1,434.5	144.31	10.940		
19,000.0	11,350.0	17,816.0	10,150.0	61.8	66.5	-40.53	7,878.1	-1,254.0	1,578.8	1,433.0	145.77	10.831		
19,100.0	11,350.0	17,916.0	10,150.0	62.6	67.2	-40.53	7,978.1	-1,254.4	1,578.8	1,431.6	147.23	10.723		
19,200.0	11,350.0	18,016.0	10,150.0	63.3	67.8	-40.53	8,078.1	-1,254.8	1,578.8	1,430.1	148.70	10.618		
19,300.0	11,350.0	18,116.0	10,150.0	64.0	68.5	-40.53	8,178.1	-1,255.2	1,578.8	1,428.7	150.16	10.514		
19,400.0	11,350.0	18,216.0	10,150.0	64.8	69.2	-40.53	8,278.1	-1,255.6	1,578.8	1,427.2	151.62	10.413		
19,500.0	11,350.0	18,316.0	10,150.0	65.5	69.9	-40.53	8,378.1	-1,256.0	1,578.8	1,425.7	153.09	10.313		
19,600.0	11,350.0	18,416.0	10,150.0	66.3	70.6	-40.53	8,478.1	-1,256.4	1,578.8	1,424.3	154.56	10.215		
19,700.0	11,350.0	18,516.0	10,150.0	67.0	71.3	-40.53	8,578.1	-1,256.8	1,578.8	1,422.8	156.03	10.119		
19,800.0	11,350.0	18,616.0	10,150.0	67.7	72.0	-40.53	8,678.1	-1,257.2	1,578.8	1,421.3	157.50	10.024		
19,900.0	11,350.0	18,716.0	10,150.0	68.5	72.7	-40.53	8,778.1	-1,257.6	1,578.8	1,419.8	158.97	9.932		
20,000.0	11,350.0	18,816.0	10,150.0	69.2	73.4	-40.53	8,878.1	-1,258.0	1,578.8	1,418.4	160.44	9.841		
20,100.0	11,350.0	18,916.0	10,150.0	70.0	74.1	-40.53	8,978.1	-1,258.4	1,578.8	1,416.9	161.91	9.751		
20,200.0	11,350.0	19,016.0	10,150.0	70.7	74.8	-40.53	9,078.1	-1,258.8	1,578.8	1,415.4	163.39	9.663		
20,300.0	11,350.0	19,116.0	10,150.0	71.5	75.5	-40.53	9,178.1	-1,259.3	1,578.8	1,414.0	164.86	9.576		
20,400.0	11,350.0	19,216.0	10,150.0	72.2	76.2	-40.53	9,278.1	-1,259.7	1,578.8	1,412.5	166.34	9.491		
20,500.0	11,350.0	19,316.0	10,150.0	72.9	76.9	-40.53	9,378.1	-1,260.1	1,578.8	1,411.0	167.82	9.408		
20,600.0	11,350.0	19,416.0	10,150.0	73.7	77.6	-40.53	9,478.1	-1,260.5	1,578.8	1,409.5	169.30	9.326		
20,700.0	11,350.0	19,516.0	10,150.0	74.4	78.3	-40.53	9,578.1	-1,260.9	1,578.8	1,408.0	170.78	9.245		
20,800.0	11,350.0	19,616.0	10,150.0	75.2	79.0	-40.53	9,678.1	-1,261.3	1,578.8	1,406.6	172.26	9.166		
20,900.0	11,350.0	19,716.0	10,150.0	75.9	79.7	-40.53	9,778.1	-1,261.7	1,578.8	1,405.1	173.74	9.087		
21,000.0	11,350.0	19,816.0	10,150.0	76.7	80.4	-40.53	9,878.1	-1,262.1	1,578.8	1,403.6	175.22	9.011		
21,100.0	11,350.0	19,916.0	10,150.0	77.4	81.1	-40.53	9,978.1	-1,262.5	1,578.8	1,402.1	176.70	8.935		
21,200.0	11,350.0	20,016.0	10,150.0	78.2	81.9	-40.53	10,078.1	-1,262.9	1,578.8	1,400.6	178.19	8.861		
21,300.0	11,350.0	20,116.0	10,150.0	78.9	82.6	-40.53	10,178.1	-1,263.3	1,578.8	1,399.1	179.67	8.787		
21,400.0	11,350.0	20,216.0	10,150.0	79.7	83.3	-40.53	10,278.1	-1,263.7	1,578.8	1,397.7	181.16	8.715		
21,500.0	11,350.0	20,316.0	10,150.0	80.4	84.0	-40.53	10,378.1	-1,264.1	1,578.8	1,396.2	182.64	8.644		
21,600.0	11,350.0	20,416.0	10,150.0	81.2	84.7	-40.53	10,478.1	-1,264.5	1,578.8	1,394.7	184.13	8.575		
21,700.0	11,350.0	20,516.0	10,150.0	81.9	85.4	-40.53	10,578.1	-1,264.9	1,578.8	1,393.2	185.62	8.506		
21,800.0	11,350.0	20,616.0	10,150.0	82.7	86.2	-40.53	10,678.1	-1,265.3	1,578.8	1,391.7	187.10	8.438		
21,900.0	11,350.0	20,716.0	10,150.0	83.4	86.9	-40.53	10,778.1	-1,265.7	1,578.8	1,390.2	188.59	8.372		
22,000.0	11,350.0	20,816.0	10,150.0	84.2	87.6	-40.53	10,878.1	-1,266.1	1,578.8	1,388.7	190.08	8.306		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
22,100.0	11,350.0	20,916.0	10,150.0	84.9	88.3	-40.53	10,978.1	-1,266.5	1,578.8	1,387.2	191.57	8.241		
22,200.0	11,350.0	21,016.0	10,150.0	85.7	89.0	-40.53	11,078.1	-1,266.9	1,578.8	1,385.8	193.06	8.178		
22,300.0	11,350.0	21,116.0	10,150.0	86.4	89.7	-40.53	11,178.1	-1,267.3	1,578.8	1,384.3	194.56	8.115		
22,400.0	11,350.0	21,216.0	10,150.0	87.2	90.5	-40.53	11,278.1	-1,267.7	1,578.8	1,382.8	196.05	8.053		
22,500.0	11,350.0	21,316.0	10,150.0	87.9	91.2	-40.53	11,378.1	-1,268.1	1,578.8	1,381.3	197.54	7.992		
22,600.0	11,350.0	21,416.0	10,150.0	88.7	91.9	-40.53	11,478.0	-1,268.5	1,578.8	1,379.8	199.03	7.932		
22,700.0	11,350.0	21,516.0	10,150.0	89.4	92.6	-40.53	11,578.0	-1,268.9	1,578.8	1,378.3	200.53	7.873		
22,800.0	11,350.0	21,616.0	10,150.0	90.2	93.4	-40.53	11,678.0	-1,269.3	1,578.8	1,376.8	202.02	7.815		
22,900.0	11,350.0	21,716.0	10,150.0	90.9	94.1	-40.53	11,778.0	-1,269.7	1,578.8	1,375.3	203.52	7.758		
23,000.0	11,350.0	21,816.0	10,150.0	91.7	94.8	-40.53	11,878.0	-1,270.2	1,578.8	1,373.8	205.01	7.701		
23,100.0	11,350.0	21,916.0	10,150.0	92.4	95.5	-40.53	11,978.0	-1,270.6	1,578.8	1,372.3	206.51	7.645		
23,200.0	11,350.0	22,016.0	10,150.0	93.2	96.3	-40.53	12,078.0	-1,271.0	1,578.8	1,370.8	208.01	7.590		
23,300.0	11,350.0	22,116.0	10,150.0	93.9	97.0	-40.53	12,178.0	-1,271.4	1,578.8	1,369.3	209.50	7.536		
23,400.0	11,350.0	22,216.0	10,150.0	94.7	97.7	-40.53	12,278.0	-1,271.8	1,578.8	1,367.8	211.00	7.483		
23,500.0	11,350.0	22,316.0	10,150.0	95.4	98.5	-40.53	12,378.0	-1,272.2	1,578.8	1,366.3	212.50	7.430		
23,600.0	11,350.0	22,416.0	10,150.0	96.2	99.2	-40.53	12,478.0	-1,272.6	1,578.8	1,364.8	214.00	7.378		
23,700.0	11,350.0	22,516.0	10,150.0	96.9	99.9	-40.53	12,578.0	-1,273.0	1,578.8	1,363.3	215.50	7.326		
23,800.0	11,350.0	22,616.0	10,150.0	97.7	100.6	-40.53	12,678.0	-1,273.4	1,578.8	1,361.8	216.99	7.276		
23,900.0	11,350.0	22,716.0	10,150.0	98.5	101.4	-40.53	12,778.0	-1,273.8	1,578.8	1,360.3	218.49	7.226		
24,000.0	11,350.0	22,816.0	10,150.0	99.2	102.1	-40.53	12,878.0	-1,274.2	1,578.8	1,358.8	219.99	7.177		
24,100.0	11,350.0	22,916.0	10,150.0	100.0	102.8	-40.53	12,978.0	-1,274.6	1,578.8	1,357.3	221.50	7.128		
24,200.0	11,350.0	23,016.0	10,150.0	100.7	103.6	-40.53	13,078.0	-1,275.0	1,578.8	1,355.8	223.00	7.080		
24,300.0	11,350.0	23,116.0	10,150.0	101.5	104.3	-40.53	13,178.0	-1,275.4	1,578.8	1,354.3	224.50	7.033		
24,400.0	11,350.0	23,216.0	10,150.0	102.2	105.0	-40.53	13,278.0	-1,275.8	1,578.8	1,352.8	226.00	6.986		
24,500.0	11,350.0	23,316.0	10,150.0	103.0	105.8	-40.53	13,378.0	-1,276.2	1,578.8	1,351.3	227.50	6.940		
24,600.0	11,350.0	23,416.0	10,150.0	103.7	106.5	-40.53	13,478.0	-1,276.6	1,578.8	1,349.8	229.01	6.894		
24,700.0	11,350.0	23,516.0	10,150.0	104.5	107.2	-40.53	13,578.0	-1,277.0	1,578.8	1,348.3	230.51	6.849		
24,725.4	11,350.0	23,541.5	10,150.0	104.6	107.4	-40.53	13,603.5	-1,277.1	1,578.8	1,348.0	230.82	6.840 SF		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program:		0-r.5 MWD+IFR1+MS		Rule Assigned:								Offset Well Error:	3.0 usft
Reference	Offset	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
0.0	0.0	0.0	0.0	3.0	3.0	80.94	221.6	1,390.0	1,407.6	1,401.1	6.43	218.944	
100.0	100.0	100.0	100.0	3.2	3.2	80.94	221.6	1,390.0	1,407.6	1,400.7	6.89	204.222	
200.0	200.0	200.0	200.0	3.5	3.5	80.94	221.6	1,390.0	1,407.6	1,400.2	7.33	192.077	
300.0	300.0	300.0	300.0	3.7	3.7	80.94	221.6	1,390.0	1,407.6	1,399.8	7.74	181.825	
400.0	400.0	400.0	400.0	3.9	3.9	80.94	221.6	1,390.0	1,407.6	1,399.4	8.14	173.015	
500.0	500.0	500.0	500.0	4.1	4.1	80.94	221.6	1,390.0	1,407.6	1,399.1	8.51	165.333	
600.0	600.0	600.0	600.0	4.2	4.2	80.94	221.6	1,390.0	1,407.6	1,398.7	8.88	158.553	
700.0	700.0	700.0	700.0	4.4	4.4	80.94	221.6	1,390.0	1,407.6	1,398.3	9.23	152.508	
800.0	800.0	800.0	800.0	4.6	4.6	80.94	221.6	1,390.0	1,407.6	1,398.0	9.57	147.074	
900.0	900.0	900.0	900.0	4.8	4.8	80.94	221.6	1,390.0	1,407.6	1,397.7	9.90	142.151	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	80.94	221.6	1,390.0	1,407.6	1,397.3	10.22	137.664	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	80.94	221.6	1,390.0	1,407.6	1,397.0	10.54	133.550	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	80.94	221.6	1,390.0	1,407.6	1,396.7	10.85	129.759	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	80.94	221.6	1,390.0	1,407.6	1,396.4	11.15	126.251	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	80.94	221.6	1,390.0	1,407.6	1,396.1	11.44	122.991	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	80.94	221.6	1,390.0	1,407.6	1,395.8	11.73	119.952	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	80.94	221.6	1,390.0	1,407.6	1,395.6	12.02	117.108	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	80.94	221.6	1,390.0	1,407.6	1,395.3	12.30	114.440	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	80.94	221.6	1,390.0	1,407.6	1,395.0	12.58	111.929	
1,900.0	1,900.0	1,951.3	1,951.2	6.3	6.3	80.99	220.1	1,387.5	1,405.7	1,392.8	12.93	108.742	
2,000.0	2,000.0	2,102.1	2,101.8	6.4	6.6	81.13	215.3	1,379.9	1,400.3	1,387.0	13.27	105.498	
2,100.0	2,100.0	2,252.0	2,250.9	6.5	6.9	81.37	207.5	1,367.4	1,391.2	1,377.6	13.65	101.956	
2,200.0	2,200.0	2,378.2	2,376.1	6.7	7.1	81.65	198.6	1,353.2	1,379.0	1,365.0	13.95	98.848	
2,300.0	2,300.0	2,477.3	2,474.1	6.8	7.3	81.88	191.3	1,341.5	1,366.2	1,351.9	14.27	95.722	
2,400.0	2,400.0	2,576.3	2,572.2	6.9	7.6	82.12	184.0	1,329.8	1,353.5	1,338.9	14.62	92.584	
2,500.0	2,500.0	2,675.3	2,670.3	7.0	7.8	82.36	176.7	1,318.1	1,340.8	1,325.8	14.98	89.514	
2,600.0	2,600.0	2,774.3	2,768.3	7.2	8.1	82.61	169.4	1,306.4	1,328.1	1,312.7	15.35	86.521	
2,700.0	2,700.0	2,873.4	2,866.4	7.3	8.4	82.86	162.1	1,294.7	1,315.4	1,299.7	15.73	83.612	
2,800.0	2,800.0	2,972.4	2,964.5	7.4	8.6	83.12	154.8	1,283.1	1,302.8	1,286.7	16.12	80.794	
2,900.0	2,900.0	3,071.4	3,062.5	7.5	9.0	83.38	147.5	1,271.4	1,290.2	1,273.6	16.53	78.069	
3,000.0	3,000.0	3,170.5	3,160.6	7.7	9.3	83.65	140.2	1,259.7	1,277.6	1,260.7	16.94	75.439	
3,100.0	3,100.0	3,269.6	3,258.8	7.8	9.6	174.94	132.9	1,248.0	1,266.3	1,249.0	17.36	72.929	
3,200.0	3,199.9	3,369.0	3,357.2	7.9	9.9	175.25	125.6	1,236.2	1,257.7	1,239.9	17.80	70.674	
3,300.0	3,299.7	3,463.6	3,450.9	8.1	10.2	175.54	118.6	1,225.2	1,251.8	1,233.6	18.24	68.646	
3,400.0	3,399.3	3,554.5	3,541.0	8.2	10.6	175.82	112.3	1,215.1	1,249.2	1,230.5	18.69	66.843	
3,427.6	3,426.7	3,579.5	3,565.8	8.3	10.6	175.89	110.7	1,212.4	1,249.1	1,230.3	18.82	66.382 CC, ES	
3,500.0	3,498.6	3,645.4	3,631.2	8.4	10.9	176.08	106.4	1,205.6	1,250.0	1,230.8	19.15	65.270	
3,600.0	3,597.6	3,736.3	3,721.5	8.6	11.2	176.34	100.9	1,196.8	1,253.5	1,233.9	19.57	64.054	
3,700.0	3,696.6	3,827.2	3,811.9	8.7	11.5	176.58	95.7	1,188.5	1,257.9	1,237.8	20.04	62.768	
3,800.0	3,795.7	3,918.1	3,902.3	9.0	11.8	176.80	90.9	1,180.8	1,263.0	1,242.5	20.52	61.543	
3,900.0	3,894.7	4,008.9	3,992.7	9.2	12.1	177.01	86.5	1,173.8	1,268.8	1,247.8	20.98	60.467	
4,000.0	3,993.8	4,100.0	4,083.5	9.4	12.4	177.20	82.5	1,167.4	1,274.7	1,253.2	21.49	59.321	
4,100.0	4,093.0	4,190.5	4,173.8	9.7	12.7	177.37	78.9	1,161.5	1,280.5	1,258.5	21.99	58.230	
4,200.0	4,192.4	4,281.4	4,264.4	9.9	13.0	177.53	75.6	1,156.3	1,286.1	1,263.6	22.49	57.174	
4,300.0	4,291.8	4,372.2	4,355.1	10.2	13.3	177.66	72.7	1,151.7	1,291.5	1,268.5	23.00	56.158	
4,400.0	4,391.3	4,463.0	4,445.8	10.4	13.6	177.78	70.2	1,147.7	1,296.8	1,273.3	23.50	55.185	
4,500.0	4,490.9	4,553.8	4,536.5	10.7	13.9	177.88	68.1	1,144.3	1,301.8	1,277.9	23.99	54.257	
4,600.0	4,590.6	4,644.6	4,627.3	11.0	14.1	177.96	66.4	1,141.6	1,306.8	1,282.3	24.48	53.376	
4,700.0	4,690.3	4,735.4	4,718.0	11.3	14.4	178.02	65.0	1,139.4	1,311.5	1,286.5	24.96	52.546	
4,800.0	4,790.1	4,826.2	4,808.8	11.6	14.6	178.07	64.1	1,137.9	1,316.0	1,290.6	25.42	51.772	
4,900.0	4,890.0	4,917.0	4,899.6	11.8	14.9	178.10	63.5	1,136.9	1,320.4	1,294.6	25.86	51.067	
5,000.0	4,989.9	5,007.8	4,990.3	12.1	15.0	178.12	63.3	1,136.6	1,324.6	1,298.4	26.25	50.468	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,089.8	5,107.2	5,089.8	12.4	15.1	178.13	63.3	1,136.6	1,328.3	1,301.8	26.55	50.028	
5,200.0	5,189.8	5,207.2	5,189.8	12.6	15.1	178.13	63.3	1,136.6	1,331.2	1,304.3	26.84	49.600	
5,300.0	5,289.8	5,307.2	5,289.8	12.8	15.2	178.13	63.3	1,136.6	1,333.1	1,306.0	27.11	49.170	
5,400.0	5,389.7	5,407.2	5,389.7	13.0	15.2	178.13	63.3	1,136.6	1,334.2	1,306.9	27.37	48.754	
5,500.0	5,489.7	5,507.2	5,489.7	13.1	15.3	87.13	63.3	1,136.6	1,334.5	1,307.0	27.51	48.509	
5,600.0	5,589.7	5,607.2	5,589.7	13.2	15.3	87.13	63.3	1,136.6	1,334.5	1,306.8	27.64	48.287	
5,700.0	5,689.7	5,707.2	5,689.7	13.3	15.4	87.13	63.3	1,136.6	1,334.5	1,306.7	27.76	48.073	
5,800.0	5,789.7	5,807.2	5,789.7	13.4	15.4	87.13	63.3	1,136.6	1,334.5	1,306.6	27.88	47.860	
5,900.0	5,889.7	5,907.2	5,889.7	13.4	15.5	87.13	63.3	1,136.6	1,334.5	1,306.5	28.01	47.649	
6,000.0	5,989.7	6,007.2	5,989.7	13.5	15.5	87.13	63.3	1,136.6	1,334.5	1,306.3	28.13	47.439	
6,100.0	6,089.7	6,107.2	6,089.7	13.6	15.6	87.13	63.3	1,136.6	1,334.5	1,306.2	28.25	47.230	
6,200.0	6,189.7	6,207.2	6,189.7	13.6	15.6	87.13	63.3	1,136.6	1,334.5	1,306.1	28.38	47.022	
6,300.0	6,289.7	6,307.2	6,289.7	13.7	15.7	87.13	63.3	1,136.6	1,334.5	1,306.0	28.50	46.815	
6,400.0	6,389.7	6,407.2	6,389.7	13.8	15.7	87.13	63.3	1,136.6	1,334.5	1,305.8	28.63	46.610	
6,500.0	6,489.7	6,507.2	6,489.7	13.9	15.8	87.13	63.3	1,136.6	1,334.5	1,305.7	28.76	46.406	
6,600.0	6,589.7	6,607.2	6,589.7	13.9	15.9	87.13	63.3	1,136.6	1,334.5	1,305.6	28.88	46.203	
6,700.0	6,689.7	6,707.2	6,689.7	14.0	15.9	87.13	63.3	1,136.6	1,334.5	1,305.5	29.01	46.001	
6,800.0	6,789.7	6,807.2	6,789.7	14.1	16.0	87.13	63.3	1,136.6	1,334.5	1,305.3	29.14	45.801	
6,900.0	6,889.7	6,907.2	6,889.7	14.2	16.0	87.13	63.3	1,136.6	1,334.5	1,305.2	29.26	45.601	
7,000.0	6,989.7	7,007.2	6,989.7	14.2	16.1	87.13	63.3	1,136.6	1,334.5	1,305.1	29.39	45.403	
7,100.0	7,089.7	7,107.2	7,089.7	14.3	16.1	87.13	63.3	1,136.6	1,334.5	1,304.9	29.52	45.207	
7,200.0	7,189.7	7,207.2	7,189.7	14.4	16.2	87.13	63.3	1,136.6	1,334.5	1,304.8	29.65	45.011	
7,300.0	7,289.7	7,307.2	7,289.7	14.4	16.2	87.13	63.3	1,136.6	1,334.5	1,304.7	29.78	44.816	
7,400.0	7,389.7	7,407.2	7,389.7	14.5	16.3	87.13	63.3	1,136.6	1,334.5	1,304.6	29.91	44.623	
7,500.0	7,489.7	7,507.2	7,489.7	14.6	16.3	87.13	63.3	1,136.6	1,334.5	1,304.4	30.03	44.431	
7,600.0	7,589.7	7,607.2	7,589.7	14.7	16.4	87.13	63.3	1,136.6	1,334.5	1,304.3	30.16	44.240	
7,700.0	7,689.7	7,707.2	7,689.7	14.7	16.5	87.13	63.3	1,136.6	1,334.5	1,304.2	30.29	44.051	
7,800.0	7,789.7	7,807.2	7,789.7	14.8	16.5	87.13	63.3	1,136.6	1,334.5	1,304.0	30.42	43.862	
7,900.0	7,889.7	7,907.2	7,889.7	14.9	16.6	87.13	63.3	1,136.6	1,334.5	1,303.9	30.55	43.675	
8,000.0	7,989.7	8,007.2	7,989.7	15.0	16.6	87.13	63.3	1,136.6	1,334.5	1,303.8	30.69	43.489	
8,100.0	8,089.7	8,107.2	8,089.7	15.0	16.7	87.13	63.3	1,136.6	1,334.5	1,303.6	30.82	43.304	
8,200.0	8,189.7	8,207.2	8,189.7	15.1	16.7	87.13	63.3	1,136.6	1,334.5	1,303.5	30.95	43.120	
8,300.0	8,289.7	8,307.2	8,289.7	15.2	16.8	87.13	63.3	1,136.6	1,334.5	1,303.4	31.08	42.937	
8,400.0	8,389.7	8,407.2	8,389.7	15.2	16.9	87.13	63.3	1,136.6	1,334.5	1,303.3	31.21	42.756	
8,500.0	8,489.7	8,507.2	8,489.7	15.3	16.9	87.13	63.3	1,136.6	1,334.5	1,303.1	31.34	42.575	
8,600.0	8,589.7	8,607.2	8,589.7	15.4	17.0	87.13	63.3	1,136.6	1,334.5	1,303.0	31.48	42.396	
8,700.0	8,689.7	8,707.2	8,689.7	15.5	17.0	87.13	63.3	1,136.6	1,334.5	1,302.9	31.61	42.218	
8,800.0	8,789.7	8,807.2	8,789.7	15.5	17.1	87.13	63.3	1,136.6	1,334.5	1,302.7	31.74	42.041	
8,900.0	8,889.7	8,907.2	8,889.7	15.6	17.1	87.13	63.3	1,136.6	1,334.5	1,302.6	31.88	41.866	
9,000.0	8,989.7	9,007.2	8,989.7	15.7	17.2	87.13	63.3	1,136.6	1,334.5	1,302.5	32.01	41.691	
9,100.0	9,089.7	9,107.2	9,089.7	15.8	17.3	87.13	63.3	1,136.6	1,334.5	1,302.3	32.14	41.517	
9,200.0	9,189.7	9,207.2	9,189.7	15.8	17.3	87.13	63.3	1,136.6	1,334.5	1,302.2	32.28	41.345	
9,300.0	9,289.7	9,307.2	9,289.7	15.9	17.4	87.13	63.3	1,136.6	1,334.5	1,302.1	32.41	41.174	
9,400.0	9,389.7	9,407.2	9,389.7	16.0	17.4	87.13	63.3	1,136.6	1,334.5	1,301.9	32.55	41.003	
9,500.0	9,489.7	9,507.2	9,489.7	16.1	17.5	87.13	63.3	1,136.6	1,334.5	1,301.8	32.68	40.835	
9,600.0	9,589.7	9,608.0	9,590.6	16.1	17.5	87.13	63.4	1,136.6	1,334.5	1,301.6	32.81	40.671	
9,700.0	9,689.7	9,713.0	9,694.7	16.2	17.5	86.61	75.5	1,135.6	1,334.2	1,301.2	32.96	40.476	
9,786.5	9,776.2	9,797.9	9,776.2	16.3	17.4	85.60	98.9	1,133.8	1,334.0	1,300.9	33.09	40.316	
9,800.0	9,789.7	9,810.5	9,788.0	16.3	17.4	85.41	103.4	1,133.5	1,334.0	1,300.9	33.11	40.294	
9,900.0	9,889.7	9,896.5	9,865.3	16.4	17.3	83.79	140.8	1,130.6	1,334.9	1,301.6	33.23	40.172	
10,000.0	9,989.7	9,969.8	9,926.1	16.4	17.2	82.05	181.5	1,127.5	1,338.1	1,304.8	33.32	40.158	
10,100.0	10,089.7	10,031.1	9,972.6	16.5	17.2	80.34	221.3	1,124.4	1,344.7	1,311.3	33.39	40.272	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0													Offset Site Error:	0.0 usft	
Survey Program:		0-r.5 MWD+IFR1+MS								Rule Assigned:				Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,200.0	10,189.7	10,082.0	10,007.8	16.6	17.2	78.78	257.9	1,121.6	1,355.7	1,322.3	33.46	40.517			
10,300.0	10,289.7	10,124.4	10,034.5	16.7	17.1	77.40	290.7	1,119.1	1,371.7	1,338.2	33.55	40.884			
10,400.0	10,389.7	10,150.0	10,049.5	16.7	17.1	76.52	311.4	1,117.5	1,393.1	1,359.4	33.69	41.345			
10,500.0	10,489.7	10,200.0	10,076.0	16.8	17.1	74.75	353.7	1,114.2	1,419.9	1,386.0	33.85	41.948			
10,600.0	10,589.7	10,215.0	10,083.2	16.9	17.1	74.21	366.8	1,113.2	1,452.0	1,417.9	34.11	42.565			
10,700.0	10,689.7	10,250.0	10,098.6	17.0	17.1	72.92	398.2	1,110.8	1,489.6	1,455.3	34.39	43.318			
10,800.0	10,789.7	10,250.0	10,098.6	17.0	17.1	72.55	398.2	1,110.8	1,532.0	1,497.2	34.79	44.032			
10,900.0	10,889.0	10,275.9	10,108.8	17.1	17.1	67.04	421.9	1,109.0	1,576.1	1,541.0	35.14	44.855			
11,000.0	10,984.9	10,300.0	10,117.3	17.1	17.1	62.11	444.4	1,107.2	1,618.4	1,582.9	35.49	45.598			
11,100.0	11,074.4	10,325.7	10,125.3	17.2	17.1	57.81	468.7	1,105.4	1,657.5	1,621.6	35.85	46.229			
11,200.0	11,155.0	10,350.0	10,131.9	17.3	17.1	54.27	492.1	1,103.6	1,691.9	1,655.7	36.21	46.727			
11,300.0	11,224.0	10,383.4	10,139.2	17.4	17.2	51.35	524.5	1,101.1	1,720.5	1,684.0	36.52	47.109			
11,400.0	11,279.4	10,400.0	10,142.2	17.5	17.2	49.38	540.8	1,099.8	1,742.7	1,705.9	36.83	47.313			
11,500.0	11,319.6	10,450.0	10,148.2	17.6	17.2	47.81	590.3	1,096.0	1,757.3	1,720.2	37.05	47.430			
11,600.0	11,343.3	10,477.4	10,149.7	17.7	17.3	47.14	617.6	1,093.9	1,764.2	1,727.0	37.24	47.369			
11,700.0	11,350.0	10,526.8	10,150.0	17.8	17.3	47.05	666.8	1,090.3	1,763.1	1,725.7	37.35	47.207			
11,800.0	11,350.0	10,600.0	10,150.0	18.0	17.5	46.97	739.9	1,086.5	1,759.5	1,722.0	37.41	47.032			
11,900.0	11,350.0	10,664.7	10,150.0	18.1	17.6	46.94	804.6	1,084.6	1,757.6	1,720.1	37.53	46.836			
11,958.8	11,350.0	10,706.4	10,150.0	18.2	17.7	46.93	846.3	1,084.2	1,757.3	1,719.7	37.61	46.724			
12,000.0	11,350.0	10,747.5	10,150.0	18.3	17.8	46.93	887.4	1,084.0	1,757.3	1,719.7	37.67	46.650			
12,100.0	11,350.0	10,847.5	10,150.0	18.5	18.0	46.93	987.4	1,083.6	1,757.3	1,719.5	37.86	46.415			
12,200.0	11,350.0	10,947.5	10,150.0	18.8	18.3	46.93	1,087.4	1,083.2	1,757.3	1,719.2	38.11	46.107			
12,300.0	11,350.0	11,047.5	10,150.0	19.1	18.6	46.93	1,187.4	1,082.8	1,757.3	1,718.9	38.43	45.732			
12,400.0	11,350.0	11,147.5	10,150.0	19.4	18.9	46.93	1,287.4	1,082.4	1,757.3	1,718.5	38.80	45.294			
12,500.0	11,350.0	11,247.5	10,150.0	19.8	19.2	46.93	1,387.4	1,082.0	1,757.3	1,718.1	39.23	44.799			
12,600.0	11,350.0	11,347.5	10,150.0	20.1	19.6	46.93	1,487.4	1,081.6	1,757.3	1,717.6	39.71	44.254			
12,700.0	11,350.0	11,447.5	10,150.0	20.5	19.9	46.93	1,587.4	1,081.2	1,757.3	1,717.1	40.25	43.663			
12,800.0	11,350.0	11,547.5	10,150.0	20.9	20.4	46.93	1,687.4	1,080.8	1,757.3	1,716.5	40.84	43.035			
12,900.0	11,350.0	11,647.5	10,150.0	21.4	20.8	46.93	1,787.4	1,080.4	1,757.3	1,715.9	41.47	42.374			
13,000.0	11,350.0	11,747.5	10,150.0	21.8	21.2	46.93	1,887.4	1,080.0	1,757.3	1,715.2	42.15	41.688			
13,100.0	11,350.0	11,847.5	10,150.0	22.3	21.7	46.93	1,987.4	1,079.6	1,757.3	1,714.5	42.88	40.981			
13,200.0	11,350.0	11,947.5	10,150.0	22.8	22.2	46.93	2,087.4	1,079.2	1,757.3	1,713.7	43.65	40.258			
13,300.0	11,350.0	12,047.5	10,150.0	23.3	22.7	46.93	2,187.4	1,078.8	1,757.3	1,712.9	44.46	39.526			
13,400.0	11,350.0	12,147.5	10,150.0	23.8	23.2	46.93	2,287.4	1,078.4	1,757.3	1,712.0	45.31	38.787			
13,500.0	11,350.0	12,247.5	10,150.0	24.4	23.7	46.93	2,387.4	1,078.0	1,757.3	1,711.2	46.19	38.046			
13,600.0	11,350.0	12,347.5	10,150.0	24.9	24.2	46.93	2,487.4	1,077.6	1,757.3	1,710.2	47.11	37.306			
13,700.0	11,350.0	12,447.5	10,150.0	25.5	24.8	46.93	2,587.4	1,077.2	1,757.3	1,709.3	48.05	36.570			
13,800.0	11,350.0	12,547.5	10,150.0	26.0	25.3	46.93	2,687.4	1,076.8	1,757.3	1,708.3	49.03	35.841			
13,900.0	11,350.0	12,647.5	10,150.0	26.6	25.9	46.93	2,787.4	1,076.4	1,757.3	1,707.3	50.04	35.121			
14,000.0	11,350.0	12,747.5	10,150.0	27.2	26.5	46.93	2,887.4	1,076.0	1,757.3	1,706.3	51.07	34.411			
14,100.0	11,350.0	12,847.5	10,150.0	27.8	27.1	46.93	2,987.4	1,075.6	1,757.3	1,705.2	52.13	33.713			
14,200.0	11,350.0	12,947.5	10,150.0	28.4	27.7	46.93	3,087.4	1,075.2	1,757.4	1,704.1	53.21	33.029			
14,300.0	11,350.0	13,047.5	10,150.0	29.0	28.3	46.93	3,187.4	1,074.8	1,757.4	1,703.0	54.31	32.359			
14,400.0	11,350.0	13,147.5	10,150.0	29.6	28.9	46.93	3,287.4	1,074.4	1,757.4	1,701.9	55.43	31.704			
14,500.0	11,350.0	13,247.5	10,150.0	30.3	29.5	46.93	3,387.4	1,074.0	1,757.4	1,700.8	56.57	31.064			
14,600.0	11,350.0	13,347.5	10,150.0	30.9	30.2	46.93	3,487.4	1,073.6	1,757.4	1,699.6	57.73	30.440			
14,700.0	11,350.0	13,447.5	10,150.0	31.5	30.8	46.93	3,587.4	1,073.2	1,757.4	1,698.4	58.91	29.832			
14,800.0	11,350.0	13,547.5	10,150.0	32.2	31.4	46.93	3,687.4	1,072.8	1,757.4	1,697.3	60.10	29.240			
14,900.0	11,350.0	13,647.5	10,150.0	32.8	32.1	46.93	3,787.4	1,072.4	1,757.4	1,696.0	61.31	28.663			
15,000.0	11,350.0	13,747.5	10,150.0	33.5	32.7	46.93	3,887.4	1,072.0	1,757.4	1,694.8	62.53	28.103			
15,100.0	11,350.0	13,847.5	10,150.0	34.2	33.4	46.93	3,987.4	1,071.6	1,757.4	1,693.6	63.77	27.559			
15,200.0	11,350.0	13,947.5	10,150.0	34.8	34.1	46.93	4,087.4	1,071.2	1,757.4	1,692.3	65.02	27.029			

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,300.0	11,350.0	14,047.5	10,150.0	35.5	34.7	46.93	4,187.4	1,070.8	1,757.4	1,691.1	66.28	26.515	
15,400.0	11,350.0	14,147.5	10,150.0	36.2	35.4	46.93	4,287.4	1,070.4	1,757.4	1,689.8	67.55	26.016	
15,500.0	11,350.0	14,247.5	10,150.0	36.8	36.1	46.93	4,387.4	1,070.0	1,757.4	1,688.5	68.83	25.532	
15,600.0	11,350.0	14,347.5	10,150.0	37.5	36.8	46.93	4,487.4	1,069.5	1,757.4	1,687.2	70.12	25.061	
15,700.0	11,350.0	14,447.5	10,150.0	38.2	37.4	46.93	4,587.4	1,069.1	1,757.4	1,685.9	71.42	24.604	
15,800.0	11,350.0	14,547.5	10,150.0	38.9	38.1	46.93	4,687.4	1,068.7	1,757.4	1,684.6	72.74	24.161	
15,900.0	11,350.0	14,647.5	10,150.0	39.6	38.8	46.93	4,787.4	1,068.3	1,757.4	1,683.3	74.05	23.731	
16,000.0	11,350.0	14,747.5	10,150.0	40.3	39.5	46.93	4,887.4	1,067.9	1,757.4	1,682.0	75.38	23.313	
16,100.0	11,350.0	14,847.5	10,150.0	41.0	40.2	46.93	4,987.4	1,067.5	1,757.4	1,680.7	76.72	22.907	
16,200.0	11,350.0	14,947.5	10,150.0	41.7	40.9	46.93	5,087.4	1,067.1	1,757.4	1,679.3	78.06	22.513	
16,300.0	11,350.0	15,047.5	10,150.0	42.3	41.6	46.93	5,187.4	1,066.7	1,757.4	1,678.0	79.41	22.131	
16,400.0	11,350.0	15,147.5	10,150.0	43.1	42.3	46.93	5,287.4	1,066.3	1,757.4	1,676.6	80.76	21.760	
16,500.0	11,350.0	15,247.5	10,150.0	43.8	43.0	46.93	5,387.4	1,065.9	1,757.4	1,675.2	82.13	21.399	
16,600.0	11,350.0	15,347.5	10,150.0	44.5	43.7	46.93	5,487.4	1,065.5	1,757.4	1,673.9	83.49	21.048	
16,700.0	11,350.0	15,447.5	10,150.0	45.2	44.4	46.93	5,587.4	1,065.1	1,757.4	1,672.5	84.87	20.708	
16,800.0	11,350.0	15,547.5	10,150.0	45.9	45.1	46.93	5,687.4	1,064.7	1,757.4	1,671.1	86.24	20.377	
16,900.0	11,350.0	15,647.5	10,150.0	46.6	45.8	46.93	5,787.4	1,064.3	1,757.4	1,669.8	87.63	20.055	
17,000.0	11,350.0	15,747.5	10,150.0	47.3	46.5	46.93	5,887.4	1,063.9	1,757.4	1,668.4	89.02	19.742	
17,100.0	11,350.0	15,847.5	10,150.0	48.0	47.3	46.93	5,987.4	1,063.5	1,757.4	1,667.0	90.41	19.438	
17,200.0	11,350.0	15,947.5	10,150.0	48.7	48.0	46.93	6,087.4	1,063.1	1,757.4	1,665.6	91.81	19.142	
17,300.0	11,350.0	16,047.5	10,150.0	49.5	48.7	46.93	6,187.4	1,062.7	1,757.4	1,664.2	93.21	18.854	
17,400.0	11,350.0	16,147.5	10,150.0	50.2	49.4	46.93	6,287.4	1,062.3	1,757.4	1,662.8	94.61	18.574	
17,500.0	11,350.0	16,247.5	10,150.0	50.9	50.1	46.93	6,387.4	1,061.9	1,757.4	1,661.4	96.02	18.302	
17,600.0	11,350.0	16,347.5	10,150.0	51.6	50.9	46.93	6,487.4	1,061.5	1,757.4	1,659.9	97.44	18.036	
17,700.0	11,350.0	16,447.5	10,150.0	52.3	51.6	46.93	6,587.4	1,061.1	1,757.4	1,658.5	98.85	17.778	
17,800.0	11,350.0	16,547.5	10,150.0	53.1	52.3	46.93	6,687.4	1,060.7	1,757.4	1,657.1	100.27	17.526	
17,900.0	11,350.0	16,647.5	10,150.0	53.8	53.0	46.93	6,787.4	1,060.3	1,757.4	1,655.7	101.70	17.281	
18,000.0	11,350.0	16,747.5	10,150.0	54.5	53.8	46.93	6,887.4	1,059.9	1,757.4	1,654.3	103.12	17.042	
18,100.0	11,350.0	16,847.5	10,150.0	55.2	54.5	46.93	6,987.4	1,059.5	1,757.4	1,652.8	104.55	16.809	
18,200.0	11,350.0	16,947.5	10,150.0	56.0	55.2	46.93	7,087.4	1,059.1	1,757.4	1,651.4	105.98	16.582	
18,300.0	11,350.0	17,047.5	10,150.0	56.7	55.9	46.93	7,187.4	1,058.7	1,757.4	1,650.0	107.42	16.360	
18,400.0	11,350.0	17,147.5	10,150.0	57.4	56.7	46.93	7,287.4	1,058.3	1,757.4	1,648.5	108.86	16.144	
18,500.0	11,350.0	17,247.5	10,150.0	58.2	57.4	46.93	7,387.4	1,057.9	1,757.4	1,647.1	110.30	15.933	
18,600.0	11,350.0	17,347.5	10,150.0	58.9	58.1	46.93	7,487.4	1,057.5	1,757.4	1,645.7	111.74	15.728	
18,700.0	11,350.0	17,447.5	10,150.0	59.6	58.9	46.93	7,587.4	1,057.1	1,757.4	1,644.2	113.18	15.527	
18,800.0	11,350.0	17,547.5	10,150.0	60.4	59.6	46.94	7,687.4	1,056.7	1,757.4	1,642.8	114.63	15.331	
18,900.0	11,350.0	17,647.5	10,150.0	61.1	60.3	46.94	7,787.4	1,056.3	1,757.4	1,641.3	116.08	15.140	
19,000.0	11,350.0	17,747.5	10,150.0	61.8	61.1	46.94	7,887.4	1,055.9	1,757.4	1,639.9	117.53	14.953	
19,100.0	11,350.0	17,847.5	10,150.0	62.6	61.8	46.94	7,987.4	1,055.5	1,757.4	1,638.4	118.98	14.770	
19,200.0	11,350.0	17,947.5	10,150.0	63.3	62.6	46.94	8,087.4	1,055.1	1,757.4	1,637.0	120.44	14.592	
19,300.0	11,350.0	18,047.5	10,150.0	64.0	63.3	46.94	8,187.4	1,054.7	1,757.4	1,635.5	121.90	14.417	
19,400.0	11,350.0	18,147.5	10,150.0	64.8	64.0	46.94	8,287.4	1,054.3	1,757.4	1,634.0	123.36	14.247	
19,500.0	11,350.0	18,247.5	10,150.0	65.5	64.8	46.94	8,387.4	1,053.9	1,757.4	1,632.6	124.82	14.080	
19,600.0	11,350.0	18,347.5	10,150.0	66.3	65.5	46.94	8,487.4	1,053.5	1,757.4	1,631.1	126.28	13.917	
19,700.0	11,350.0	18,447.5	10,150.0	67.0	66.3	46.94	8,587.4	1,053.1	1,757.4	1,629.7	127.74	13.758	
19,800.0	11,350.0	18,547.5	10,150.0	67.7	67.0	46.94	8,687.4	1,052.7	1,757.4	1,628.2	129.21	13.601	
19,900.0	11,350.0	18,647.5	10,150.0	68.5	67.7	46.94	8,787.4	1,052.3	1,757.4	1,626.7	130.67	13.449	
20,000.0	11,350.0	18,747.5	10,150.0	69.2	68.5	46.94	8,887.4	1,051.9	1,757.4	1,625.3	132.14	13.299	
20,100.0	11,350.0	18,847.5	10,150.0	70.0	69.2	46.94	8,987.4	1,051.5	1,757.4	1,623.8	133.61	13.153	
20,200.0	11,350.0	18,947.5	10,150.0	70.7	70.0	46.94	9,087.4	1,051.1	1,757.4	1,622.3	135.08	13.010	
20,300.0	11,350.0	19,047.5	10,150.0	71.5	70.7	46.94	9,187.4	1,050.7	1,757.4	1,620.9	136.56	12.870	
20,400.0	11,350.0	19,147.5	10,150.0	72.2	71.5	46.94	9,287.4	1,050.3	1,757.4	1,619.4	138.03	12.732	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,500.0	11,350.0	19,247.5	10,150.0	72.9	72.2	46.94	9,387.4	1,049.9	1,757.4	1,617.9	139.50	12.598	
20,600.0	11,350.0	19,347.5	10,150.0	73.7	72.9	46.94	9,487.4	1,049.5	1,757.4	1,616.4	140.98	12.466	
20,700.0	11,350.0	19,447.5	10,150.0	74.4	73.7	46.94	9,587.4	1,049.1	1,757.4	1,615.0	142.46	12.336	
20,800.0	11,350.0	19,547.5	10,150.0	75.2	74.4	46.94	9,687.4	1,048.7	1,757.4	1,613.5	143.94	12.210	
20,900.0	11,350.0	19,647.5	10,150.0	75.9	75.2	46.94	9,787.4	1,048.2	1,757.4	1,612.0	145.41	12.086	
21,000.0	11,350.0	19,747.5	10,150.0	76.7	75.9	46.94	9,887.4	1,047.8	1,757.4	1,610.5	146.90	11.964	
21,100.0	11,350.0	19,847.5	10,150.0	77.4	76.7	46.94	9,987.4	1,047.4	1,757.4	1,609.0	148.38	11.844	
21,200.0	11,350.0	19,947.5	10,150.0	78.2	77.4	46.94	10,087.4	1,047.0	1,757.4	1,607.6	149.86	11.727	
21,300.0	11,350.0	20,047.5	10,150.0	78.9	78.2	46.94	10,187.4	1,046.6	1,757.4	1,606.1	151.34	11.612	
21,400.0	11,350.0	20,147.5	10,150.0	79.7	78.9	46.94	10,287.4	1,046.2	1,757.4	1,604.6	152.83	11.499	
21,500.0	11,350.0	20,247.5	10,150.0	80.4	79.7	46.94	10,387.4	1,045.8	1,757.4	1,603.1	154.31	11.389	
21,600.0	11,350.0	20,347.5	10,150.0	81.2	80.4	46.94	10,487.4	1,045.4	1,757.4	1,601.6	155.80	11.280	
21,700.0	11,350.0	20,447.5	10,150.0	81.9	81.2	46.94	10,587.4	1,045.0	1,757.4	1,600.1	157.29	11.174	
21,800.0	11,350.0	20,547.5	10,150.0	82.7	81.9	46.94	10,687.4	1,044.6	1,757.4	1,598.7	158.77	11.069	
21,900.0	11,350.0	20,647.5	10,150.0	83.4	82.7	46.94	10,787.4	1,044.2	1,757.4	1,597.2	160.26	10.966	
22,000.0	11,350.0	20,747.5	10,150.0	84.2	83.4	46.94	10,887.4	1,043.8	1,757.4	1,595.7	161.75	10.865	
22,100.0	11,350.0	20,847.5	10,150.0	84.9	84.2	46.94	10,987.4	1,043.4	1,757.4	1,594.2	163.24	10.766	
22,200.0	11,350.0	20,947.5	10,150.0	85.7	84.9	46.94	11,087.4	1,043.0	1,757.4	1,592.7	164.73	10.668	
22,300.0	11,350.0	21,047.5	10,150.0	86.4	85.7	46.94	11,187.4	1,042.6	1,757.4	1,591.2	166.22	10.573	
22,400.0	11,350.0	21,147.5	10,150.0	87.2	86.4	46.94	11,287.4	1,042.2	1,757.4	1,589.7	167.72	10.479	
22,500.0	11,350.0	21,247.5	10,150.0	87.9	87.2	46.94	11,387.4	1,041.8	1,757.4	1,588.2	169.21	10.386	
22,600.0	11,350.0	21,347.5	10,150.0	88.7	87.9	46.94	11,487.4	1,041.4	1,757.4	1,586.7	170.70	10.295	
22,700.0	11,350.0	21,447.5	10,150.0	89.4	88.7	46.94	11,587.4	1,041.0	1,757.4	1,585.2	172.20	10.206	
22,800.0	11,350.0	21,547.5	10,150.0	90.2	89.4	46.94	11,687.4	1,040.6	1,757.4	1,583.7	173.69	10.118	
22,900.0	11,350.0	21,647.5	10,150.0	90.9	90.2	46.94	11,787.4	1,040.2	1,757.4	1,582.3	175.19	10.032	
23,000.0	11,350.0	21,747.5	10,150.0	91.7	90.9	46.94	11,887.3	1,039.8	1,757.4	1,580.8	176.68	9.947	
23,100.0	11,350.0	21,847.5	10,150.0	92.4	91.7	46.94	11,987.3	1,039.4	1,757.4	1,579.3	178.18	9.863	
23,200.0	11,350.0	21,947.5	10,150.0	93.2	92.4	46.94	12,087.3	1,039.0	1,757.4	1,577.8	179.68	9.781	
23,300.0	11,350.0	22,047.5	10,150.0	93.9	93.2	46.94	12,187.3	1,038.6	1,757.4	1,576.3	181.18	9.700	
23,400.0	11,350.0	22,147.5	10,150.0	94.7	94.0	46.94	12,287.3	1,038.2	1,757.4	1,574.8	182.67	9.621	
23,500.0	11,350.0	22,247.5	10,150.0	95.4	94.7	46.94	12,387.3	1,037.8	1,757.4	1,573.3	184.17	9.542	
23,600.0	11,350.0	22,347.5	10,150.0	96.2	95.5	46.94	12,487.3	1,037.4	1,757.4	1,571.8	185.67	9.465	
23,700.0	11,350.0	22,447.5	10,150.0	96.9	96.2	46.94	12,587.3	1,037.0	1,757.5	1,570.3	187.17	9.389	
23,800.0	11,350.0	22,547.5	10,150.0	97.7	97.0	46.94	12,687.3	1,036.6	1,757.5	1,568.8	188.67	9.315	
23,900.0	11,350.0	22,647.5	10,150.0	98.5	97.7	46.94	12,787.3	1,036.2	1,757.5	1,567.3	190.17	9.241	
24,000.0	11,350.0	22,747.5	10,150.0	99.2	98.5	46.94	12,887.3	1,035.8	1,757.5	1,565.8	191.68	9.169	
24,100.0	11,350.0	22,847.5	10,150.0	100.0	99.2	46.94	12,987.3	1,035.4	1,757.5	1,564.3	193.18	9.098	
24,200.0	11,350.0	22,947.5	10,150.0	100.7	100.0	46.94	13,087.3	1,035.0	1,757.5	1,562.8	194.68	9.027	
24,300.0	11,350.0	23,047.5	10,150.0	101.5	100.7	46.94	13,187.3	1,034.6	1,757.5	1,561.3	196.18	8.958	
24,400.0	11,350.0	23,147.5	10,150.0	102.2	101.5	46.94	13,287.3	1,034.2	1,757.5	1,559.8	197.69	8.890	
24,500.0	11,350.0	23,247.5	10,150.0	103.0	102.3	46.94	13,387.3	1,033.8	1,757.5	1,558.3	199.19	8.823	
24,600.0	11,350.0	23,347.5	10,150.0	103.7	103.0	46.94	13,487.3	1,033.4	1,757.5	1,556.8	200.69	8.757	
24,700.0	11,350.0	23,447.5	10,150.0	104.5	103.7	46.94	13,587.3	1,033.0	1,757.5	1,555.4	202.07	8.697	
24,700.1	11,350.0	23,447.6	10,150.0	104.5	103.7	46.94	13,587.4	1,033.0	1,757.5	1,555.4	202.07	8.697	
24,725.4	11,350.0	23,466.8	10,150.0	104.6	103.8	46.94	13,606.6	1,032.9	1,757.5	1,555.2	202.29	8.688 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+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	3.0	3.0	81.65	221.6	1,510.0	1,526.2	1,519.8	6.43	237.395	
100.0	100.0	100.0	100.0	3.2	3.2	81.65	221.6	1,510.0	1,526.2	1,519.3	6.89	221.432	
200.0	200.0	200.0	200.0	3.5	3.5	81.65	221.6	1,510.0	1,526.2	1,518.9	7.33	208.263	
300.0	300.0	300.0	300.0	3.7	3.7	81.65	221.6	1,510.0	1,526.2	1,518.4	7.74	197.148	
400.0	400.0	400.0	400.0	3.9	3.9	81.65	221.6	1,510.0	1,526.2	1,518.1	8.14	187.596	
500.0	500.0	500.0	500.0	4.1	4.1	81.65	221.6	1,510.0	1,526.2	1,517.7	8.51	179.266	
600.0	600.0	600.0	600.0	4.2	4.2	81.65	221.6	1,510.0	1,526.2	1,517.3	8.88	171.914	
700.0	700.0	700.0	700.0	4.4	4.4	81.65	221.6	1,510.0	1,526.2	1,517.0	9.23	165.361	
800.0	800.0	800.0	800.0	4.6	4.6	81.65	221.6	1,510.0	1,526.2	1,516.6	9.57	159.468	
900.0	900.0	900.0	900.0	4.8	4.8	81.65	221.6	1,510.0	1,526.2	1,516.3	9.90	154.131	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.65	221.6	1,510.0	1,526.2	1,516.0	10.22	149.265	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.65	221.6	1,510.0	1,526.2	1,515.6	10.54	144.804	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.65	221.6	1,510.0	1,526.2	1,515.3	10.85	140.694	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.65	221.6	1,510.0	1,526.2	1,515.0	11.15	136.891	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.65	221.6	1,510.0	1,526.2	1,514.7	11.44	133.356	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.65	221.6	1,510.0	1,526.2	1,514.5	11.73	130.060	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	81.65	221.6	1,510.0	1,526.2	1,514.2	12.02	126.977	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	81.65	221.6	1,510.0	1,526.2	1,513.9	12.30	124.084	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	81.65	221.6	1,510.0	1,526.2	1,513.6	12.58	121.361	CC, ES
1,900.0	1,900.0	1,874.0	1,874.0	6.3	6.2	81.66	221.4	1,510.7	1,527.0	1,514.2	12.82	119.108	
2,000.0	2,000.0	1,947.9	1,947.9	6.4	6.3	81.70	220.7	1,512.7	1,529.6	1,516.5	13.06	117.144	
2,100.0	2,100.0	2,021.7	2,021.6	6.5	6.5	81.76	219.4	1,516.1	1,533.9	1,520.6	13.29	115.404	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	81.86	217.6	1,521.1	1,539.8	1,526.3	13.54	113.757	
2,300.0	2,300.0	2,168.8	2,168.2	6.8	6.7	81.96	215.6	1,526.7	1,547.5	1,533.7	13.77	112.388	
2,400.0	2,400.0	2,241.9	2,240.9	6.9	6.9	82.10	212.9	1,534.0	1,556.9	1,542.8	14.01	111.091	
2,500.0	2,500.0	2,314.8	2,313.2	7.0	7.0	82.26	209.8	1,542.6	1,567.9	1,553.7	14.25	110.037	
2,600.0	2,600.0	2,385.8	2,383.5	7.2	7.1	82.42	206.6	1,552.1	1,580.7	1,566.3	14.45	109.376	
2,700.0	2,700.0	2,456.1	2,452.9	7.3	7.3	82.57	203.8	1,562.8	1,595.3	1,580.6	14.70	108.527	
2,800.0	2,800.0	2,526.0	2,521.7	7.4	7.5	82.71	201.4	1,574.7	1,611.7	1,596.7	14.96	107.721	
2,900.0	2,900.0	2,600.0	2,594.5	7.5	7.7	82.84	199.4	1,588.5	1,629.8	1,614.6	15.25	106.875	
3,000.0	3,000.0	2,664.5	2,657.6	7.7	7.9	82.95	198.1	1,601.6	1,649.7	1,634.2	15.52	106.319	
3,100.0	3,100.0	2,732.8	2,724.2	7.8	8.1	174.02	197.1	1,616.6	1,672.6	1,656.8	15.82	105.724	
3,200.0	3,199.9	2,800.0	2,789.5	7.9	8.3	174.07	196.5	1,632.4	1,699.7	1,683.6	16.13	105.401	
3,300.0	3,299.7	2,867.2	2,854.6	8.1	8.5	174.11	196.3	1,649.3	1,730.9	1,714.5	16.42	105.403	
3,400.0	3,399.3	2,961.0	2,945.2	8.2	8.8	174.19	196.3	1,673.6	1,765.3	1,748.4	16.88	104.563	
3,500.0	3,498.6	3,053.9	3,034.9	8.4	9.1	174.26	196.3	1,697.7	1,802.1	1,784.8	17.39	103.630	
3,600.0	3,597.6	3,146.0	3,123.9	8.6	9.4	174.38	196.3	1,721.5	1,840.9	1,823.0	17.87	103.023	
3,700.0	3,696.6	3,238.1	3,212.8	8.7	9.7	174.51	196.3	1,745.3	1,879.8	1,861.4	18.41	102.120	
3,800.0	3,795.7	3,330.1	3,301.7	9.0	10.1	174.63	196.3	1,769.1	1,918.6	1,899.7	18.97	101.133	
3,900.0	3,894.7	3,422.2	3,390.7	9.2	10.4	174.76	196.3	1,793.0	1,957.5	1,938.0	19.53	100.227	
4,000.0	3,993.8	3,514.5	3,479.8	9.4	10.8	174.89	196.3	1,816.9	1,995.8	1,975.7	20.14	99.079	SF

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.0	0.0	3.0	3.0	-90.07	-0.1	-60.0	60.0	53.6	6.43	9.339		
100.0	100.0	100.0	100.0	3.2	3.2	-90.07	-0.1	-60.0	60.0	53.1	6.89	8.711		
200.0	200.0	200.0	200.0	3.5	3.5	-90.07	-0.1	-60.0	60.0	52.7	7.33	8.193		
300.0	300.0	300.0	300.0	3.7	3.7	-90.07	-0.1	-60.0	60.0	52.3	7.74	7.756		
400.0	400.0	400.0	400.0	3.9	3.9	-90.07	-0.1	-60.0	60.0	51.9	8.14	7.380		
500.0	500.0	500.0	500.0	4.1	4.1	-90.07	-0.1	-60.0	60.0	51.5	8.51	7.052		
600.0	600.0	600.0	600.0	4.2	4.2	-90.07	-0.1	-60.0	60.0	51.2	8.88	6.763		
700.0	700.0	700.0	700.0	4.4	4.4	-90.07	-0.1	-60.0	60.0	50.8	9.23	6.505		
800.0	800.0	800.0	800.0	4.6	4.6	-90.07	-0.1	-60.0	60.0	50.5	9.57	6.273		
900.0	900.0	900.0	900.0	4.8	4.8	-90.07	-0.1	-60.0	60.0	50.1	9.90	6.063		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.07	-0.1	-60.0	60.0	49.8	10.22	5.872		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.07	-0.1	-60.0	60.0	49.5	10.54	5.697		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.07	-0.1	-60.0	60.0	49.2	10.85	5.535		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.07	-0.1	-60.0	60.0	48.9	11.15	5.385		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.07	-0.1	-60.0	60.0	48.6	11.44	5.246		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.07	-0.1	-60.0	60.0	48.3	11.73	5.117 CC, ES		
1,600.0	1,600.0	1,598.7	1,598.7	5.8	5.9	-90.75	-0.8	-61.1	61.1	49.1	12.03	5.081		
1,700.0	1,700.0	1,697.3	1,697.2	6.0	6.0	-92.67	-3.0	-64.2	64.3	52.0	12.31	5.229		
1,800.0	1,800.0	1,795.6	1,795.3	6.1	6.2	-95.46	-6.6	-69.4	69.9	57.3	12.59	5.549		
1,900.0	1,900.0	1,893.5	1,892.8	6.3	6.4	-98.67	-11.7	-76.6	77.8	65.0	12.90	6.037		
2,000.0	2,000.0	1,992.8	1,991.6	6.4	6.6	-101.71	-17.6	-85.1	87.3	74.1	13.21	6.611		
2,100.0	2,100.0	2,092.3	2,090.5	6.5	6.8	-104.15	-23.6	-93.6	97.0	83.5	13.55	7.163		
2,200.0	2,200.0	2,191.8	2,189.4	6.7	7.0	-106.14	-29.6	-102.2	106.9	93.0	13.90	7.690		
2,300.0	2,300.0	2,291.2	2,288.3	6.8	7.2	-107.80	-35.5	-110.7	116.8	102.6	14.26	8.190		
2,400.0	2,400.0	2,390.7	2,387.2	6.9	7.5	-109.19	-41.5	-119.2	126.9	112.2	14.65	8.661		
2,500.0	2,500.0	2,490.1	2,486.1	7.0	7.8	-110.38	-47.5	-127.7	136.9	121.9	15.04	9.105		
2,600.0	2,600.0	2,589.6	2,585.1	7.2	8.0	-111.41	-53.4	-136.2	147.1	131.6	15.45	9.518		
2,700.0	2,700.0	2,687.0	2,681.9	7.3	8.3	-112.02	-58.8	-145.3	157.8	141.9	15.85	9.955		
2,800.0	2,800.0	2,783.8	2,778.0	7.4	8.6	-111.89	-62.8	-156.4	170.0	153.7	16.26	10.454		
2,900.0	2,900.0	2,880.2	2,873.5	7.5	8.9	-111.14	-65.6	-169.5	183.7	167.0	16.68	11.013		
3,000.0	3,000.0	2,976.0	2,968.1	7.7	9.2	-109.95	-67.0	-184.6	198.9	181.8	17.10	11.633		
3,100.0	3,100.0	3,071.4	3,062.0	7.8	9.5	-17.46	-67.1	-201.5	214.6	197.0	17.52	12.248		
3,200.0	3,199.9	3,169.9	3,158.6	7.9	9.8	-16.03	-66.5	-220.3	228.8	210.8	17.99	12.721		
3,300.0	3,299.7	3,269.1	3,256.0	8.1	10.2	-14.93	-65.8	-239.2	240.7	222.2	18.50	13.012		
3,400.0	3,399.3	3,368.5	3,353.6	8.2	10.5	-14.08	-65.2	-258.2	250.1	231.1	19.03	13.143		
3,500.0	3,498.6	3,468.3	3,451.5	8.4	10.9	-13.44	-64.5	-277.2	257.1	237.5	19.60	13.119		
3,600.0	3,597.6	3,568.1	3,549.5	8.6	11.3	-12.95	-63.8	-296.2	262.1	241.9	20.13	13.019		
3,700.0	3,696.6	3,668.0	3,647.5	8.7	11.6	-12.49	-63.2	-315.3	266.9	246.2	20.73	12.879		
3,800.0	3,795.7	3,767.8	3,745.6	9.0	12.0	-12.05	-62.5	-334.3	271.8	250.5	21.34	12.735		
3,900.0	3,894.7	3,867.7	3,843.6	9.2	12.4	-11.62	-61.8	-353.3	276.7	254.8	21.95	12.607		
4,000.0	3,993.8	3,967.5	3,941.6	9.4	12.8	-11.19	-61.2	-372.4	282.3	259.7	22.61	12.486		
4,100.0	4,093.0	4,067.3	4,039.5	9.7	13.2	-10.74	-60.5	-391.4	288.7	265.4	23.27	12.404		
4,200.0	4,192.4	4,167.0	4,137.4	9.9	13.6	-10.28	-59.9	-410.4	296.0	272.0	23.95	12.358		
4,300.0	4,291.8	4,266.6	4,235.2	10.2	14.0	-9.82	-59.2	-429.4	304.1	279.5	24.64	12.345		
4,400.0	4,391.3	4,366.2	4,332.9	10.4	14.4	-9.36	-58.5	-448.4	313.2	287.9	25.33	12.364		
4,500.0	4,490.9	4,465.7	4,430.6	10.7	14.8	-8.90	-57.9	-467.4	323.1	297.1	26.03	12.412		
4,600.0	4,590.6	4,565.0	4,528.1	11.0	15.2	-8.44	-57.2	-486.3	333.9	307.2	26.74	12.489		
4,700.0	4,690.3	4,664.3	4,625.6	11.3	15.6	-7.99	-56.5	-505.3	345.6	318.2	27.45	12.593		
4,800.0	4,790.1	4,763.5	4,722.9	11.6	16.0	-7.56	-55.9	-524.2	358.2	330.0	28.15	12.722		
4,900.0	4,890.0	4,862.5	4,820.2	11.8	16.5	-7.14	-55.2	-543.1	371.6	342.7	28.86	12.875		
5,000.0	4,989.9	4,961.5	4,917.3	12.1	16.9	-6.73	-54.6	-561.9	385.9	356.4	29.57	13.052		
5,100.0	5,089.8	5,060.3	5,014.3	12.4	17.3	-6.34	-53.9	-580.8	401.1	370.9	30.27	13.252		

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,189.8	5,158.9	5,111.1	12.6	17.7	-5.97	-53.2	-599.6	417.2	386.2	30.96	13.473	
5,300.0	5,289.8	5,257.5	5,207.8	12.8	18.2	-5.61	-52.6	-618.4	434.1	402.5	31.65	13.718	
5,400.0	5,389.7	5,355.8	5,304.4	13.0	18.6	-5.27	-51.9	-637.1	451.9	419.6	32.31	13.986	
5,500.0	5,489.7	5,454.0	5,400.8	13.1	19.0	-95.94	-51.3	-655.9	470.6	437.7	32.89	14.308	
5,600.0	5,589.7	5,552.2	5,497.1	13.2	19.4	-95.64	-50.6	-674.6	489.5	456.1	33.46	14.631	
5,700.0	5,689.7	5,650.4	5,593.5	13.3	19.9	-95.35	-50.0	-693.3	508.4	474.4	34.02	14.944	
5,800.0	5,789.7	5,748.5	5,689.9	13.4	20.3	-95.08	-49.3	-712.0	527.4	492.8	34.59	15.246	
5,900.0	5,889.7	5,846.7	5,786.2	13.4	20.7	-94.84	-48.7	-730.7	546.3	511.2	35.16	15.537	
6,000.0	5,989.7	5,944.8	5,882.6	13.5	21.2	-94.61	-48.0	-749.4	565.3	529.5	35.74	15.818	
6,100.0	6,089.7	6,043.0	5,978.9	13.6	21.6	-94.39	-47.4	-768.2	584.2	547.9	36.31	16.088	
6,200.0	6,189.7	6,141.2	6,075.3	13.6	22.0	-94.19	-46.7	-786.9	603.2	566.3	36.89	16.349	
6,300.0	6,289.7	6,239.3	6,171.7	13.7	22.5	-94.00	-46.1	-805.6	622.2	584.7	37.48	16.601	
6,400.0	6,389.7	6,337.5	6,268.0	13.8	22.9	-93.82	-45.4	-824.3	641.2	603.1	38.06	16.844	
6,500.0	6,489.7	6,435.7	6,364.4	13.9	23.3	-93.66	-44.7	-843.0	660.2	621.5	38.65	17.079	
6,600.0	6,589.7	6,533.8	6,460.7	13.9	23.8	-93.50	-44.1	-861.8	679.1	639.9	39.24	17.306	
6,700.0	6,689.7	6,632.0	6,557.1	14.0	24.2	-93.35	-43.4	-880.5	698.1	658.3	39.84	17.526	
6,800.0	6,789.7	6,730.1	6,653.5	14.1	24.7	-93.20	-42.8	-899.2	717.1	676.7	40.43	17.738	
6,900.0	6,889.7	6,828.3	6,749.8	14.2	25.1	-93.07	-42.1	-917.9	736.2	695.1	41.03	17.943	
7,000.0	6,989.7	6,926.5	6,846.2	14.2	25.5	-92.94	-41.5	-936.6	755.2	713.5	41.63	18.141	
7,100.0	7,089.7	7,024.6	6,942.5	14.3	26.0	-92.82	-40.8	-955.4	774.2	732.0	42.23	18.333	
7,200.0	7,189.7	7,122.8	7,038.9	14.4	26.4	-92.70	-40.2	-974.1	793.2	750.4	42.83	18.519	
7,300.0	7,289.7	7,221.0	7,135.3	14.4	26.9	-92.59	-39.5	-992.8	812.2	768.8	43.44	18.699	
7,400.0	7,389.7	7,319.1	7,231.6	14.5	27.3	-92.49	-38.9	-1,011.5	831.2	787.2	44.04	18.874	
7,500.0	7,489.7	7,417.3	7,328.0	14.6	27.8	-92.39	-38.2	-1,030.2	850.3	805.6	44.65	19.043	
7,600.0	7,589.7	7,515.4	7,424.3	14.7	28.2	-92.29	-37.6	-1,048.9	869.3	824.0	45.26	19.207	
7,700.0	7,689.7	7,613.6	7,520.7	14.7	28.6	-92.20	-36.9	-1,067.7	888.3	842.5	45.87	19.366	
7,800.0	7,789.7	7,711.8	7,617.0	14.8	29.1	-92.11	-36.2	-1,086.4	907.4	860.9	46.48	19.520	
7,900.0	7,889.7	7,809.9	7,713.4	14.9	29.5	-92.03	-35.6	-1,105.1	926.4	879.3	47.10	19.670	
8,000.0	7,989.7	7,914.1	7,815.7	15.0	30.0	-91.94	-34.9	-1,124.9	945.3	897.6	47.74	19.803	
8,100.0	8,089.7	8,032.2	7,931.9	15.0	30.5	-91.86	-34.2	-1,145.4	962.7	914.3	48.46	19.868	
8,200.0	8,189.7	8,151.1	8,049.4	15.1	31.0	-91.78	-33.5	-1,163.7	978.1	929.0	49.15	19.902	
8,300.0	8,289.7	8,270.7	8,168.0	15.2	31.5	-91.72	-33.0	-1,179.7	991.4	941.6	49.80	19.907	
8,400.0	8,389.7	8,390.9	8,287.4	15.2	32.0	-91.67	-32.5	-1,193.2	1,002.7	952.3	50.42	19.885	
8,500.0	8,489.7	8,511.7	8,407.7	15.3	32.5	-91.63	-32.1	-1,204.3	1,011.8	960.8	51.00	19.840	
8,600.0	8,589.7	8,632.9	8,528.6	15.4	32.9	-91.60	-31.8	-1,212.9	1,018.9	967.4	51.53	19.774	
8,700.0	8,689.7	8,754.4	8,649.9	15.5	33.4	-91.58	-31.6	-1,218.9	1,023.8	971.8	52.00	19.691	
8,800.0	8,789.7	8,876.1	8,771.6	15.5	33.7	-91.57	-31.5	-1,222.3	1,026.7	974.3	52.39	19.598	
8,900.0	8,889.7	8,994.3	8,889.7	15.6	33.9	-91.56	-31.5	-1,223.2	1,027.4	974.9	52.54	19.553	
9,000.0	8,989.7	9,094.3	8,989.7	15.7	33.9	-91.56	-31.5	-1,223.2	1,027.4	974.8	52.62	19.525	
9,100.0	9,089.7	9,194.3	9,089.7	15.8	33.9	-91.56	-31.5	-1,223.2	1,027.4	974.7	52.69	19.498	
9,200.0	9,189.7	9,294.3	9,189.7	15.8	34.0	-91.56	-31.5	-1,223.2	1,027.4	974.6	52.77	19.471	
9,300.0	9,289.7	9,394.3	9,289.7	15.9	34.0	-91.56	-31.5	-1,223.2	1,027.4	974.6	52.84	19.443	
9,400.0	9,389.7	9,494.3	9,389.7	16.0	34.0	-91.56	-31.5	-1,223.2	1,027.4	974.5	52.92	19.416	
9,500.0	9,489.7	9,594.3	9,489.7	16.1	34.0	-91.56	-31.5	-1,223.2	1,027.4	974.4	52.99	19.388	
9,600.0	9,589.7	9,694.3	9,589.7	16.1	34.0	-91.56	-31.5	-1,223.2	1,027.4	974.3	53.07	19.361	
9,700.0	9,689.7	9,794.3	9,689.7	16.2	34.1	-91.56	-31.5	-1,223.2	1,027.4	974.3	53.14	19.333	
9,800.0	9,789.7	9,894.3	9,789.7	16.3	34.1	-91.56	-31.5	-1,223.2	1,027.4	974.2	53.22	19.305	
9,900.0	9,889.7	9,994.3	9,889.7	16.4	34.1	-91.56	-31.5	-1,223.2	1,027.4	974.1	53.30	19.278	
10,000.0	9,989.7	10,094.3	9,989.7	16.4	34.1	-91.56	-31.5	-1,223.2	1,027.4	974.0	53.37	19.250	
10,100.0	10,089.7	10,194.3	10,089.7	16.5	34.2	-91.56	-31.5	-1,223.2	1,027.4	974.0	53.45	19.222	
10,200.0	10,189.7	10,294.3	10,189.7	16.6	34.2	-91.56	-31.5	-1,223.2	1,027.4	973.9	53.53	19.194	
10,300.0	10,289.7	10,394.3	10,289.7	16.7	34.2	-91.56	-31.5	-1,223.2	1,027.4	973.8	53.61	19.166	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	10,389.7	10,494.3	10,389.7	16.7	34.2	-91.56	-31.5	-1,223.2	1,027.4	973.7	53.68	19.138	
10,500.0	10,489.7	10,594.3	10,489.7	16.8	34.3	-91.56	-31.5	-1,223.2	1,027.4	973.6	53.76	19.110	
10,600.0	10,589.7	10,694.3	10,589.7	16.9	34.3	-91.56	-31.5	-1,223.2	1,027.4	973.6	53.84	19.082	
10,700.0	10,689.7	10,794.3	10,689.7	17.0	34.3	-91.56	-31.5	-1,223.2	1,027.4	973.5	53.92	19.053	
10,800.0	10,789.7	10,894.8	10,790.3	17.0	34.3	-91.33	-31.3	-1,223.2	1,027.4	973.4	53.98	19.032	
10,900.0	10,889.0	10,999.2	10,893.8	17.1	34.3	-91.31	-19.4	-1,223.3	1,027.4	973.4	54.00	19.027	
11,000.0	10,984.9	11,103.3	10,993.3	17.1	34.4	-91.24	10.9	-1,223.4	1,027.4	973.4	54.00	19.026	
11,100.0	11,074.4	11,207.2	11,085.4	17.2	34.4	-91.13	58.6	-1,223.6	1,027.3	973.3	54.00	19.025	
11,200.0	11,155.0	11,310.6	11,167.1	17.3	34.4	-90.99	121.8	-1,223.9	1,027.3	973.3	54.01	19.018	
11,300.0	11,224.0	11,413.5	11,235.8	17.4	34.4	-90.82	198.2	-1,224.2	1,027.2	973.2	54.06	19.002	
11,400.0	11,279.4	11,515.7	11,289.4	17.5	34.5	-90.62	285.1	-1,224.5	1,027.2	973.0	54.14	18.974	
11,500.0	11,319.6	11,617.3	11,326.6	17.6	34.5	-90.40	379.5	-1,224.9	1,027.1	972.9	54.26	18.930	
11,600.0	11,343.3	11,718.1	11,346.5	17.7	34.6	-90.17	478.2	-1,225.3	1,027.1	972.7	54.43	18.869	
11,700.0	11,350.0	11,818.3	11,350.0	17.8	34.6	-90.00	578.2	-1,225.7	1,027.1	972.4	54.64	18.796	
11,800.0	11,350.0	11,918.3	11,350.0	18.0	34.7	-90.00	678.2	-1,226.0	1,027.1	972.2	54.88	18.715	
11,900.0	11,350.0	12,018.3	11,350.0	18.1	34.9	-90.00	778.2	-1,226.4	1,027.1	971.9	55.16	18.621	
12,000.0	11,350.0	12,118.3	11,350.0	18.3	35.0	-90.00	878.2	-1,226.8	1,027.1	971.6	55.47	18.515	
12,100.0	11,350.0	12,218.3	11,350.0	18.5	35.1	-90.00	978.2	-1,227.2	1,027.0	971.2	55.83	18.397	
12,200.0	11,350.0	12,318.3	11,350.0	18.8	35.3	-90.00	1,078.2	-1,227.6	1,027.0	970.8	56.22	18.267	
12,300.0	11,350.0	12,418.3	11,350.0	19.1	35.5	-90.00	1,178.2	-1,228.0	1,027.0	970.4	56.66	18.127	
12,400.0	11,350.0	12,518.3	11,350.0	19.4	35.7	-90.00	1,278.2	-1,228.4	1,027.0	969.9	57.13	17.978	
12,500.0	11,350.0	12,618.3	11,350.0	19.8	35.9	-90.00	1,378.2	-1,228.8	1,027.0	969.4	57.63	17.820	
12,600.0	11,350.0	12,718.3	11,350.0	20.1	36.1	-90.00	1,478.2	-1,229.2	1,027.0	968.8	58.17	17.654	
12,700.0	11,350.0	12,818.3	11,350.0	20.5	36.4	-90.00	1,578.2	-1,229.6	1,027.0	968.2	58.75	17.481	
12,800.0	11,350.0	12,918.3	11,350.0	20.9	36.6	-90.00	1,678.2	-1,230.0	1,027.0	967.6	59.36	17.302	
12,900.0	11,350.0	13,018.3	11,350.0	21.4	36.9	-90.00	1,778.2	-1,230.4	1,027.0	967.0	60.00	17.117	
13,000.0	11,350.0	13,118.3	11,350.0	21.8	37.2	-90.00	1,878.2	-1,230.8	1,027.0	966.3	60.67	16.927	
13,100.0	11,350.0	13,218.3	11,350.0	22.3	37.5	-90.00	1,978.2	-1,231.2	1,027.0	965.6	61.37	16.733	
13,200.0	11,350.0	13,318.3	11,350.0	22.8	37.8	-90.00	2,078.2	-1,231.6	1,027.0	964.9	62.10	16.536	
13,300.0	11,350.0	13,418.3	11,350.0	23.3	38.2	-90.00	2,178.2	-1,232.0	1,026.9	964.1	62.86	16.336	
13,400.0	11,350.0	13,518.3	11,350.0	23.8	38.5	-90.00	2,278.2	-1,232.4	1,026.9	963.3	63.65	16.134	
13,500.0	11,350.0	13,618.3	11,350.0	24.4	38.9	-90.00	2,378.2	-1,232.8	1,026.9	962.5	64.46	15.931	
13,600.0	11,350.0	13,718.3	11,350.0	24.9	39.2	-90.00	2,478.2	-1,233.2	1,026.9	961.6	65.30	15.726	
13,700.0	11,350.0	13,818.3	11,350.0	25.5	39.6	-90.00	2,578.2	-1,233.6	1,026.9	960.8	66.16	15.521	
13,800.0	11,350.0	13,918.3	11,350.0	26.0	40.0	-90.00	2,678.2	-1,234.0	1,026.9	959.9	67.05	15.316	
13,900.0	11,350.0	14,018.3	11,350.0	26.6	40.4	-90.00	2,778.2	-1,234.3	1,026.9	958.9	67.95	15.112	
14,000.0	11,350.0	14,118.3	11,350.0	27.2	40.8	-90.00	2,878.2	-1,234.7	1,026.9	958.0	68.88	14.908	
14,100.0	11,350.0	14,218.3	11,350.0	27.8	41.2	-90.00	2,978.2	-1,235.1	1,026.9	957.0	69.83	14.705	
14,200.0	11,350.0	14,318.3	11,350.0	28.4	41.7	-90.00	3,078.2	-1,235.5	1,026.9	956.1	70.80	14.504	
14,300.0	11,350.0	14,418.3	11,350.0	29.0	42.1	-90.00	3,178.2	-1,235.9	1,026.9	955.1	71.79	14.304	
14,400.0	11,350.0	14,518.3	11,350.0	29.6	42.5	-90.00	3,278.2	-1,236.3	1,026.9	954.1	72.79	14.106	
14,500.0	11,350.0	14,618.3	11,350.0	30.3	43.0	-90.00	3,378.2	-1,236.7	1,026.8	953.0	73.82	13.911	
14,600.0	11,350.0	14,718.3	11,350.0	30.9	43.5	-90.00	3,478.2	-1,237.1	1,026.8	952.0	74.86	13.717	
14,700.0	11,350.0	14,818.3	11,350.0	31.5	43.9	-90.00	3,578.2	-1,237.5	1,026.8	950.9	75.91	13.526	
14,800.0	11,350.0	14,918.3	11,350.0	32.2	44.4	-90.00	3,678.2	-1,237.9	1,026.8	949.8	76.98	13.338	
14,900.0	11,350.0	15,018.3	11,350.0	32.8	44.9	-90.00	3,778.2	-1,238.3	1,026.8	948.7	78.07	13.153	
15,000.0	11,350.0	15,118.3	11,350.0	33.5	45.4	-90.00	3,878.2	-1,238.7	1,026.8	947.6	79.17	12.970	
15,100.0	11,350.0	15,218.3	11,350.0	34.2	45.9	-90.00	3,978.2	-1,239.1	1,026.8	946.5	80.28	12.790	
15,200.0	11,350.0	15,318.3	11,350.0	34.8	46.4	-90.00	4,078.2	-1,239.5	1,026.8	945.4	81.41	12.613	
15,300.0	11,350.0	15,418.3	11,350.0	35.5	47.0	-90.00	4,178.2	-1,239.9	1,026.8	944.2	82.55	12.439	
15,400.0	11,350.0	15,518.3	11,350.0	36.2	47.5	-90.00	4,278.2	-1,240.3	1,026.8	943.1	83.70	12.267	
15,500.0	11,350.0	15,618.3	11,350.0	36.8	48.0	-90.00	4,378.2	-1,240.7	1,026.8	941.9	84.86	12.099	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,600.0	11,350.0	15,718.3	11,350.0	37.5	48.6	-90.00	4,478.2	-1,241.1	1,026.8	940.7	86.03	11.934	
15,700.0	11,350.0	15,818.3	11,350.0	38.2	49.1	-90.00	4,578.2	-1,241.5	1,026.8	939.5	87.22	11.772	
15,800.0	11,350.0	15,918.3	11,350.0	38.9	49.7	-90.00	4,678.2	-1,241.9	1,026.7	938.3	88.41	11.613	
15,900.0	11,350.0	16,018.3	11,350.0	39.6	50.2	-90.00	4,778.2	-1,242.2	1,026.7	937.1	89.61	11.457	
16,000.0	11,350.0	16,118.3	11,350.0	40.3	50.8	-90.00	4,878.2	-1,242.6	1,026.7	935.9	90.83	11.304	
16,100.0	11,350.0	16,218.3	11,350.0	41.0	51.3	-90.00	4,978.2	-1,243.0	1,026.7	934.7	92.05	11.154	
16,200.0	11,350.0	16,318.3	11,350.0	41.7	51.9	-90.00	5,078.2	-1,243.4	1,026.7	933.4	93.28	11.007	
16,300.0	11,350.0	16,418.3	11,350.0	42.3	52.5	-90.00	5,178.2	-1,243.8	1,026.7	932.2	94.52	10.863	
16,400.0	11,350.0	16,518.3	11,350.0	43.1	53.1	-90.00	5,278.2	-1,244.2	1,026.7	930.9	95.76	10.721	
16,500.0	11,350.0	16,618.3	11,350.0	43.8	53.7	-90.00	5,378.2	-1,244.6	1,026.7	929.7	97.01	10.583	
16,600.0	11,350.0	16,718.3	11,350.0	44.5	54.3	-90.00	5,478.2	-1,245.0	1,026.7	928.4	98.28	10.447	
16,700.0	11,350.0	16,818.3	11,350.0	45.2	54.9	-90.00	5,578.2	-1,245.4	1,026.7	927.1	99.54	10.314	
16,800.0	11,350.0	16,918.3	11,350.0	45.9	55.5	-90.00	5,678.2	-1,245.8	1,026.7	925.8	100.82	10.183	
16,900.0	11,350.0	17,018.3	11,350.0	46.6	56.1	-90.00	5,778.2	-1,246.2	1,026.7	924.6	102.10	10.055	
17,000.0	11,350.0	17,118.3	11,350.0	47.3	56.7	-90.00	5,878.2	-1,246.6	1,026.6	923.3	103.39	9.930	
17,100.0	11,350.0	17,218.3	11,350.0	48.0	57.3	-90.00	5,978.2	-1,247.0	1,026.6	922.0	104.68	9.807	
17,200.0	11,350.0	17,318.3	11,350.0	48.7	57.9	-90.00	6,078.2	-1,247.4	1,026.6	920.6	105.98	9.687	
17,300.0	11,350.0	17,418.3	11,350.0	49.5	58.5	-90.00	6,178.2	-1,247.8	1,026.6	919.3	107.28	9.569	
17,400.0	11,350.0	17,518.3	11,350.0	50.2	59.1	-90.00	6,278.2	-1,248.2	1,026.6	918.0	108.59	9.454	
17,500.0	11,350.0	17,618.3	11,350.0	50.9	59.8	-90.00	6,378.2	-1,248.6	1,026.6	916.7	109.91	9.340	
17,600.0	11,350.0	17,718.3	11,350.0	51.6	60.4	-90.00	6,478.2	-1,249.0	1,026.6	915.4	111.23	9.229	
17,700.0	11,350.0	17,818.3	11,350.0	52.3	61.0	-90.00	6,578.2	-1,249.4	1,026.6	914.0	112.56	9.121	
17,800.0	11,350.0	17,918.3	11,350.0	53.1	61.7	-90.00	6,678.2	-1,249.8	1,026.6	912.7	113.89	9.014	
17,900.0	11,350.0	18,018.3	11,350.0	53.8	62.3	-90.00	6,778.2	-1,250.2	1,026.6	911.3	115.22	8.910	
18,000.0	11,350.0	18,118.3	11,350.0	54.5	62.9	-90.00	6,878.2	-1,250.5	1,026.6	910.0	116.56	8.807	
18,100.0	11,350.0	18,218.3	11,350.0	55.2	63.6	-90.00	6,978.2	-1,250.9	1,026.6	908.7	117.90	8.707	
18,200.0	11,350.0	18,318.3	11,350.0	56.0	64.2	-90.00	7,078.2	-1,251.3	1,026.5	907.3	119.25	8.608	
18,300.0	11,350.0	18,418.3	11,350.0	56.7	64.9	-90.00	7,178.2	-1,251.7	1,026.5	905.9	120.60	8.512	
18,400.0	11,350.0	18,518.3	11,350.0	57.4	65.5	-90.00	7,278.2	-1,252.1	1,026.5	904.6	121.95	8.417	
18,500.0	11,350.0	18,618.3	11,350.0	58.2	66.2	-90.00	7,378.2	-1,252.5	1,026.5	903.2	123.31	8.325	
18,600.0	11,350.0	18,718.3	11,350.0	58.9	66.8	-90.00	7,478.2	-1,252.9	1,026.5	901.8	124.67	8.234	
18,700.0	11,350.0	18,818.3	11,350.0	59.6	67.5	-90.00	7,578.2	-1,253.3	1,026.5	900.5	126.04	8.144	
18,800.0	11,350.0	18,918.3	11,350.0	60.4	68.2	-90.00	7,678.2	-1,253.7	1,026.5	899.1	127.41	8.057	
18,900.0	11,350.0	19,018.3	11,350.0	61.1	68.8	-90.00	7,778.2	-1,254.1	1,026.5	897.7	128.78	7.971	
19,000.0	11,350.0	19,118.3	11,350.0	61.8	69.5	-90.00	7,878.2	-1,254.5	1,026.5	896.3	130.16	7.887	
19,100.0	11,350.0	19,218.3	11,350.0	62.6	70.2	-90.00	7,978.2	-1,254.9	1,026.5	894.9	131.53	7.804	
19,200.0	11,350.0	19,318.3	11,350.0	63.3	70.8	-90.00	8,078.2	-1,255.3	1,026.5	893.5	132.91	7.723	
19,300.0	11,350.0	19,418.3	11,350.0	64.0	71.5	-90.00	8,178.2	-1,255.7	1,026.5	892.2	134.30	7.643	
19,400.0	11,350.0	19,518.3	11,350.0	64.8	72.2	-90.00	8,278.2	-1,256.1	1,026.4	890.8	135.69	7.565	
19,500.0	11,350.0	19,618.3	11,350.0	65.5	72.8	-90.00	8,378.2	-1,256.5	1,026.4	889.4	137.07	7.488	
19,600.0	11,350.0	19,718.3	11,350.0	66.3	73.5	-90.00	8,478.2	-1,256.9	1,026.4	888.0	138.47	7.413	
19,700.0	11,350.0	19,818.3	11,350.0	67.0	74.2	-90.00	8,578.2	-1,257.3	1,026.4	886.6	139.86	7.339	
19,800.0	11,350.0	19,918.3	11,350.0	67.7	74.9	-90.00	8,678.2	-1,257.7	1,026.4	885.2	141.26	7.266	
19,900.0	11,350.0	20,018.3	11,350.0	68.5	75.6	-90.00	8,778.2	-1,258.1	1,026.4	883.7	142.66	7.195	
20,000.0	11,350.0	20,118.3	11,350.0	69.2	76.2	-90.00	8,878.2	-1,258.4	1,026.4	882.3	144.06	7.125	
20,100.0	11,350.0	20,218.3	11,350.0	70.0	76.9	-90.00	8,978.2	-1,258.8	1,026.4	880.9	145.46	7.056	
20,200.0	11,350.0	20,318.3	11,350.0	70.7	77.6	-90.00	9,078.2	-1,259.2	1,026.4	879.5	146.87	6.989	
20,300.0	11,350.0	20,418.3	11,350.0	71.5	78.3	-90.00	9,178.2	-1,259.6	1,026.4	878.1	148.27	6.922	
20,400.0	11,350.0	20,518.3	11,350.0	72.2	79.0	-90.00	9,278.2	-1,260.0	1,026.4	876.7	149.68	6.857	
20,500.0	11,350.0	20,618.3	11,350.0	72.9	79.7	-90.00	9,378.2	-1,260.4	1,026.4	875.3	151.10	6.793	
20,600.0	11,350.0	20,718.3	11,350.0	73.7	80.4	-90.00	9,478.1	-1,260.8	1,026.3	873.8	152.51	6.730	
20,700.0	11,350.0	20,818.3	11,350.0	74.4	81.1	-90.00	9,578.1	-1,261.2	1,026.3	872.4	153.93	6.668	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,800.0	11,350.0	20,918.3	11,350.0	75.2	81.8	-90.00	9,678.1	-1,261.6	1,026.3	871.0	155.34	6.607	
20,900.0	11,350.0	21,018.3	11,350.0	75.9	82.5	-90.00	9,778.1	-1,262.0	1,026.3	869.6	156.76	6.547	
21,000.0	11,350.0	21,118.3	11,350.0	76.7	83.2	-90.00	9,878.1	-1,262.4	1,026.3	868.1	158.18	6.488	
21,100.0	11,350.0	21,218.3	11,350.0	77.4	83.8	-90.00	9,978.1	-1,262.8	1,026.3	866.7	159.61	6.430	
21,200.0	11,350.0	21,318.3	11,350.0	78.2	84.5	-90.00	10,078.1	-1,263.2	1,026.3	865.3	161.03	6.373	
21,300.0	11,350.0	21,418.3	11,350.0	78.9	85.2	-90.00	10,178.1	-1,263.6	1,026.3	863.8	162.46	6.317	
21,400.0	11,350.0	21,518.3	11,350.0	79.7	86.0	-90.00	10,278.1	-1,264.0	1,026.3	862.4	163.88	6.262	
21,500.0	11,350.0	21,618.3	11,350.0	80.4	86.7	-90.00	10,378.1	-1,264.4	1,026.3	861.0	165.31	6.208	
21,600.0	11,350.0	21,718.3	11,350.0	81.2	87.4	-90.00	10,478.1	-1,264.8	1,026.3	859.5	166.74	6.155	
21,700.0	11,350.0	21,818.3	11,350.0	81.9	88.1	-90.00	10,578.1	-1,265.2	1,026.3	858.1	168.17	6.102	
21,800.0	11,350.0	21,918.3	11,350.0	82.7	88.8	-90.00	10,678.1	-1,265.6	1,026.2	856.6	169.61	6.051	
21,900.0	11,350.0	22,018.3	11,350.0	83.4	89.5	-90.00	10,778.1	-1,266.0	1,026.2	855.2	171.04	6.000	
22,000.0	11,350.0	22,118.3	11,350.0	84.2	90.2	-90.00	10,878.1	-1,266.4	1,026.2	853.8	172.48	5.950	
22,100.0	11,350.0	22,218.3	11,350.0	84.9	90.9	-90.00	10,978.1	-1,266.7	1,026.2	852.3	173.91	5.901	
22,200.0	11,350.0	22,318.3	11,350.0	85.7	91.6	-90.00	11,078.1	-1,267.1	1,026.2	850.9	175.35	5.852	
22,300.0	11,350.0	22,418.3	11,350.0	86.4	92.3	-90.00	11,178.1	-1,267.5	1,026.2	849.4	176.79	5.805	
22,400.0	11,350.0	22,518.3	11,350.0	87.2	93.0	-90.00	11,278.1	-1,267.9	1,026.2	848.0	178.23	5.758	
22,500.0	11,350.0	22,618.3	11,350.0	87.9	93.7	-90.00	11,378.1	-1,268.3	1,026.2	846.5	179.67	5.711	
22,600.0	11,350.0	22,718.3	11,350.0	88.7	94.4	-90.00	11,478.1	-1,268.7	1,026.2	845.1	181.12	5.666	
22,700.0	11,350.0	22,818.3	11,350.0	89.4	95.2	-90.00	11,578.1	-1,269.1	1,026.2	843.6	182.56	5.621	
22,800.0	11,350.0	22,918.3	11,350.0	90.2	95.9	-90.00	11,678.1	-1,269.5	1,026.2	842.2	184.01	5.577	
22,900.0	11,350.0	23,018.3	11,350.0	90.9	96.6	-90.00	11,778.1	-1,269.9	1,026.2	840.7	185.45	5.533	
23,000.0	11,350.0	23,118.3	11,350.0	91.7	97.3	-90.00	11,878.1	-1,270.3	1,026.2	839.3	186.90	5.490	
23,100.0	11,350.0	23,218.3	11,350.0	92.4	98.0	-90.00	11,978.1	-1,270.7	1,026.1	837.8	188.35	5.448	
23,200.0	11,350.0	23,318.3	11,350.0	93.2	98.7	-90.00	12,078.1	-1,271.1	1,026.1	836.3	189.80	5.406	
23,300.0	11,350.0	23,418.3	11,350.0	93.9	99.5	-90.00	12,178.1	-1,271.5	1,026.1	834.9	191.25	5.365	
23,400.0	11,350.0	23,518.3	11,350.0	94.7	100.2	-90.00	12,278.1	-1,271.9	1,026.1	833.4	192.70	5.325	
23,500.0	11,350.0	23,618.3	11,350.0	95.4	100.9	-90.00	12,378.1	-1,272.3	1,026.1	832.0	194.15	5.285	
23,600.0	11,350.0	23,718.3	11,350.0	96.2	101.6	-90.00	12,478.1	-1,272.7	1,026.1	830.5	195.61	5.246	
23,700.0	11,350.0	23,818.3	11,350.0	96.9	102.3	-90.00	12,578.1	-1,273.1	1,026.1	829.0	197.06	5.207	
23,800.0	11,350.0	23,918.3	11,350.0	97.7	103.1	-90.00	12,678.1	-1,273.5	1,026.1	827.6	198.51	5.169	
23,900.0	11,350.0	24,018.3	11,350.0	98.5	103.8	-90.00	12,778.1	-1,273.9	1,026.1	826.1	199.97	5.131	
24,000.0	11,350.0	24,118.3	11,350.0	99.2	104.5	-90.00	12,878.1	-1,274.3	1,026.1	824.6	201.43	5.094	
24,100.0	11,350.0	24,218.3	11,350.0	100.0	105.2	-90.00	12,978.1	-1,274.6	1,026.1	823.2	202.88	5.057	
24,200.0	11,350.0	24,318.3	11,350.0	100.7	106.0	-90.00	13,078.1	-1,275.0	1,026.1	821.7	204.34	5.021	
24,300.0	11,350.0	24,418.3	11,350.0	101.5	106.7	-90.00	13,178.1	-1,275.4	1,026.0	820.2	205.80	4.986	
24,400.0	11,350.0	24,518.3	11,350.0	102.2	107.4	-90.00	13,278.1	-1,275.8	1,026.0	818.8	207.26	4.950	
24,500.0	11,350.0	24,618.3	11,350.0	103.0	108.1	-90.00	13,378.1	-1,276.2	1,026.0	817.3	208.72	4.916	
24,600.0	11,350.0	24,718.3	11,350.0	103.7	108.9	-90.00	13,478.1	-1,276.6	1,026.0	815.8	210.18	4.882	
24,700.0	11,350.0	24,818.3	11,350.0	104.5	109.6	-90.00	13,578.1	-1,277.0	1,026.0	814.4	211.61	4.849	
24,725.4	11,350.0	24,843.7	11,350.0	104.6	109.7	-90.00	13,603.6	-1,277.1	1,026.0	814.1	211.90	4.842 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:		THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0											Offset Site Error:		0.0 usft
Survey Program:		0-r.5 MWD+IFR1+MS				Rule Assigned:				Offset Well Error:		3.0 usft			
Measured Depth	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor			
0.0	0.0	0.0	0.0	3.0	3.0	-89.98	0.0	-29.9	29.9	23.5	6.43	4.657			
100.0	100.0	100.0	100.0	3.2	3.2	-89.98	0.0	-29.9	29.9	23.0	6.89	4.344			
200.0	200.0	200.0	200.0	3.5	3.5	-89.98	0.0	-29.9	29.9	22.6	7.33	4.086			
300.0	300.0	300.0	300.0	3.7	3.7	-89.98	0.0	-29.9	29.9	22.2	7.74	3.868			
400.0	400.0	400.0	400.0	3.9	3.9	-89.98	0.0	-29.9	29.9	21.8	8.14	3.680			
500.0	500.0	500.0	500.0	4.1	4.1	-89.98	0.0	-29.9	29.9	21.4	8.51	3.517			
600.0	600.0	600.0	600.0	4.2	4.2	-89.98	0.0	-29.9	29.9	21.1	8.88	3.373			
700.0	700.0	700.0	700.0	4.4	4.4	-89.98	0.0	-29.9	29.9	20.7	9.23	3.244			
800.0	800.0	800.0	800.0	4.6	4.6	-89.98	0.0	-29.9	29.9	20.4	9.57	3.128			
900.0	900.0	900.0	900.0	4.8	4.8	-89.98	0.0	-29.9	29.9	20.0	9.90	3.024			
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-89.98	0.0	-29.9	29.9	19.7	10.22	2.928			
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-89.98	0.0	-29.9	29.9	19.4	10.54	2.841			
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-89.98	0.0	-29.9	29.9	19.1	10.85	2.760			
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-89.98	0.0	-29.9	29.9	18.8	11.15	2.685			
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-89.98	0.0	-29.9	29.9	18.5	11.44	2.616			
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-89.98	0.0	-29.9	29.9	18.2	11.73	2.551			
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-89.98	0.0	-29.9	29.9	17.9	12.02	2.491			
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-89.98	0.0	-29.9	29.9	17.6	12.30	2.434			
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-89.98	0.0	-29.9	29.9	17.4	12.58	2.381			
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-89.98	0.0	-29.9	29.9	17.1	12.85	2.330			
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-89.98	0.0	-29.9	29.9	16.8	13.12	2.283			
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-89.98	0.0	-29.9	29.9	16.6	13.38	2.238			
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-89.98	0.0	-29.9	29.9	16.3	13.64	2.195			
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-89.98	0.0	-29.9	29.9	16.0	13.90	2.154			
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-89.98	0.0	-29.9	29.9	15.8	14.15	2.115			
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-89.98	0.0	-29.9	29.9	15.5	14.41	2.078 CC, ES, SF			
2,600.0	2,600.0	2,599.2	2,599.2	7.2	7.2	-90.11	-0.1	-31.2	31.2	16.6	14.67	2.130			
2,700.0	2,700.0	2,698.3	2,698.2	7.3	7.3	-90.42	-0.3	-35.1	35.1	20.2	14.92	2.355			
2,800.0	2,800.0	2,797.1	2,796.8	7.4	7.5	-90.82	-0.6	-41.5	41.6	26.4	15.17	2.742			
2,900.0	2,900.0	2,896.3	2,895.6	7.5	7.6	-91.19	-1.0	-49.9	50.1	34.8	15.38	3.259			
3,000.0	3,000.0	2,995.9	2,994.9	7.7	7.7	-91.46	-1.5	-58.6	58.8	43.2	15.66	3.757			
3,100.0	3,100.0	3,095.6	3,094.2	7.8	7.9	-0.67	-1.9	-67.3	66.3	50.3	15.97	4.148			
3,200.0	3,199.9	3,195.5	3,193.7	7.9	8.1	-0.87	-2.4	-76.0	71.1	54.8	16.29	4.361			
3,300.0	3,299.7	3,295.5	3,293.3	8.1	8.3	-1.08	-2.9	-84.7	73.2	56.6	16.64	4.400			
3,400.0	3,399.3	3,395.5	3,392.9	8.2	8.5	-1.33	-3.3	-93.4	72.8	55.8	17.02	4.276			
3,500.0	3,498.6	3,495.4	3,492.5	8.4	8.8	-1.64	-3.8	-102.1	69.7	52.3	17.43	4.001			
3,600.0	3,597.6	3,595.3	3,592.0	8.6	9.0	-2.03	-4.2	-110.8	64.7	46.9	17.81	3.631			
3,700.0	3,696.6	3,695.2	3,691.5	8.7	9.3	-2.51	-4.7	-119.5	59.4	41.2	18.26	3.256			
3,800.0	3,795.7	3,795.0	3,790.9	9.0	9.5	-3.07	-5.1	-128.2	54.2	35.5	18.73	2.895			
3,900.0	3,894.7	3,893.3	3,888.7	9.2	9.8	-3.69	-5.7	-138.1	50.5	31.2	19.20	2.627			
3,943.9	3,938.3	3,936.5	3,931.6	9.3	10.0	-3.94	-5.9	-143.5	50.0	30.6	19.44	2.574			
4,000.0	3,993.8	3,991.6	3,986.1	9.4	10.2	-4.20	-6.4	-151.4	50.7	31.0	19.75	2.569			
4,100.0	4,093.0	4,089.9	4,083.0	9.7	10.5	-4.46	-7.2	-167.9	55.3	35.0	20.26	2.728			
4,200.0	4,192.4	4,189.7	4,181.1	9.9	10.8	-4.56	-8.2	-186.1	62.0	41.2	20.86	2.974			
4,300.0	4,291.8	4,289.4	4,279.1	10.2	11.2	-4.59	-9.1	-204.2	69.7	48.2	21.47	3.246			
4,400.0	4,391.3	4,389.0	4,377.1	10.4	11.5	-4.56	-10.1	-222.4	78.2	56.1	22.10	3.539			
4,500.0	4,490.9	4,488.6	4,475.0	10.7	11.9	-4.49	-11.0	-240.5	87.6	64.9	22.73	3.853			
4,600.0	4,590.6	4,588.0	4,572.8	11.0	12.2	-4.40	-12.0	-258.6	97.8	74.4	23.37	4.185			
4,700.0	4,690.3	4,687.4	4,670.5	11.3	12.6	-4.29	-12.9	-276.7	108.9	84.9	24.02	4.535			
4,800.0	4,790.1	4,786.7	4,768.1	11.6	13.0	-4.17	-13.9	-294.7	120.9	96.2	24.68	4.900			
4,900.0	4,890.0	4,885.9	4,865.6	11.8	13.3	-4.05	-14.8	-312.8	133.7	108.4	25.33	5.280			
5,000.0	4,989.9	4,984.9	4,963.0	12.1	13.7	-3.92	-15.8	-330.8	147.4	121.5	25.99	5.674			

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,089.8	5,083.9	5,060.3	12.4	14.1	-3.80	-16.7	-348.8	162.0	135.4	26.64	6.081	
5,200.0	5,189.8	5,182.7	5,157.5	12.6	14.5	-3.68	-17.6	-366.8	177.4	150.1	27.29	6.502	
5,300.0	5,289.8	5,281.3	5,254.5	12.8	14.9	-3.56	-18.6	-384.8	193.7	165.8	27.93	6.937	
5,400.0	5,389.7	5,379.8	5,351.3	13.0	15.3	-3.45	-19.5	-402.7	210.9	182.3	28.55	7.387	
5,500.0	5,489.7	5,478.2	5,448.1	13.1	15.7	-94.34	-20.5	-420.6	228.8	199.8	29.07	7.873	
5,600.0	5,589.7	5,576.5	5,544.7	13.2	16.1	-94.24	-21.4	-438.5	247.1	217.5	29.58	8.354	
5,700.0	5,689.7	5,674.9	5,641.4	13.3	16.5	-94.16	-22.3	-456.4	265.3	235.2	30.09	8.817	
5,800.0	5,789.7	5,773.2	5,738.1	13.4	16.9	-94.08	-23.3	-474.3	283.5	252.9	30.60	9.264	
5,900.0	5,889.7	5,871.5	5,834.8	13.4	17.3	-94.02	-24.2	-492.2	301.7	270.6	31.12	9.694	
6,000.0	5,989.7	5,969.8	5,931.5	13.5	17.7	-93.96	-25.2	-510.1	319.9	288.3	31.65	10.109	
6,100.0	6,089.7	6,068.2	6,028.1	13.6	18.1	-93.91	-26.1	-527.9	338.2	306.0	32.18	10.508	
6,200.0	6,189.7	6,166.5	6,124.8	13.6	18.5	-93.86	-27.0	-545.8	356.4	323.7	32.72	10.893	
6,300.0	6,289.7	6,264.8	6,221.5	13.7	19.0	-93.82	-28.0	-563.7	374.6	341.3	33.26	11.264	
6,400.0	6,389.7	6,363.1	6,318.2	13.8	19.4	-93.78	-28.9	-581.6	392.8	359.0	33.80	11.622	
6,500.0	6,489.7	6,461.5	6,414.8	13.9	19.8	-93.75	-29.8	-599.5	411.0	376.7	34.35	11.967	
6,600.0	6,589.7	6,562.0	6,513.7	13.9	20.2	-93.72	-30.8	-617.7	429.2	394.3	34.90	12.298	
6,700.0	6,689.7	6,668.7	6,618.9	14.0	20.7	-93.69	-31.7	-635.7	446.0	410.5	35.50	12.564	
6,800.0	6,789.7	6,776.1	6,725.1	14.1	21.1	-93.66	-32.6	-651.7	461.0	424.9	36.09	12.773	
6,900.0	6,889.7	6,884.0	6,832.1	14.2	21.5	-93.64	-33.3	-665.8	474.1	437.4	36.66	12.931	
7,000.0	6,989.7	6,992.5	6,939.8	14.2	22.0	-93.63	-34.0	-678.0	485.3	448.1	37.21	13.042	
7,100.0	7,089.7	7,101.4	7,048.2	14.3	22.4	-93.61	-34.5	-688.1	494.6	456.9	37.73	13.109	
7,200.0	7,189.7	7,210.6	7,157.2	14.4	22.8	-93.60	-34.9	-696.2	502.1	463.9	38.22	13.136	
7,300.0	7,289.7	7,320.1	7,266.5	14.4	23.1	-93.60	-35.2	-702.3	507.6	468.9	38.68	13.125	
7,400.0	7,389.7	7,429.8	7,376.1	14.5	23.5	-93.59	-35.4	-706.3	511.2	472.2	39.08	13.082	
7,500.0	7,489.7	7,539.6	7,485.9	14.6	23.7	-93.59	-35.5	-708.2	513.0	473.6	39.38	13.027	
7,600.0	7,589.7	7,643.4	7,589.7	14.7	23.8	-93.59	-35.5	-708.3	513.1	473.6	39.50	12.989	
7,700.0	7,689.7	7,743.4	7,689.7	14.7	23.8	-93.59	-35.5	-708.3	513.1	473.5	39.61	12.955	
7,800.0	7,789.7	7,843.4	7,789.7	14.8	23.9	-93.59	-35.5	-708.3	513.1	473.4	39.71	12.923	
7,900.0	7,889.7	7,943.4	7,889.7	14.9	23.9	-93.59	-35.5	-708.3	513.1	473.3	39.80	12.891	
8,000.0	7,989.7	8,043.4	7,989.7	15.0	24.0	-93.59	-35.5	-708.3	513.1	473.2	39.90	12.859	
8,100.0	8,089.7	8,143.4	8,089.7	15.0	24.0	-93.59	-35.5	-708.3	513.1	473.1	40.00	12.826	
8,200.0	8,189.7	8,243.4	8,189.7	15.1	24.0	-93.59	-35.5	-708.3	513.1	473.0	40.10	12.794	
8,300.0	8,289.7	8,343.4	8,289.7	15.2	24.1	-93.59	-35.5	-708.3	513.1	472.9	40.20	12.762	
8,400.0	8,389.7	8,443.4	8,389.7	15.2	24.1	-93.59	-35.5	-708.3	513.1	472.8	40.31	12.730	
8,500.0	8,489.7	8,543.4	8,489.7	15.3	24.2	-93.59	-35.5	-708.3	513.1	472.7	40.41	12.699	
8,600.0	8,589.7	8,643.4	8,589.7	15.4	24.2	-93.59	-35.5	-708.3	513.1	472.6	40.51	12.667	
8,700.0	8,689.7	8,743.4	8,689.7	15.5	24.2	-93.59	-35.5	-708.3	513.1	472.5	40.61	12.635	
8,800.0	8,789.7	8,843.4	8,789.7	15.5	24.3	-93.59	-35.5	-708.3	513.1	472.4	40.71	12.603	
8,900.0	8,889.7	8,943.4	8,889.7	15.6	24.3	-93.59	-35.5	-708.3	513.1	472.3	40.82	12.571	
9,000.0	8,989.7	9,043.4	8,989.7	15.7	24.4	-93.59	-35.5	-708.3	513.1	472.2	40.92	12.539	
9,100.0	9,089.7	9,143.4	9,089.7	15.8	24.4	-93.59	-35.5	-708.3	513.1	472.1	41.02	12.508	
9,200.0	9,189.7	9,243.4	9,189.7	15.8	24.4	-93.59	-35.5	-708.3	513.1	472.0	41.13	12.476	
9,300.0	9,289.7	9,343.4	9,289.7	15.9	24.5	-93.59	-35.5	-708.3	513.1	471.9	41.23	12.445	
9,400.0	9,389.7	9,443.4	9,389.7	16.0	24.5	-93.59	-35.5	-708.3	513.1	471.8	41.34	12.413	
9,500.0	9,489.7	9,543.4	9,489.7	16.1	24.6	-93.59	-35.5	-708.3	513.1	471.7	41.44	12.381	
9,600.0	9,589.7	9,643.4	9,589.7	16.1	24.6	-93.59	-35.5	-708.3	513.1	471.6	41.55	12.350	
9,700.0	9,689.7	9,743.4	9,689.7	16.2	24.6	-93.59	-35.5	-708.3	513.1	471.4	41.65	12.319	
9,800.0	9,789.7	9,843.4	9,789.7	16.3	24.7	-93.59	-35.5	-708.3	513.1	471.3	41.76	12.287	
9,900.0	9,889.7	9,943.4	9,889.7	16.4	24.7	-93.59	-35.5	-708.3	513.1	471.2	41.87	12.256	
10,000.0	9,989.7	10,043.4	9,989.7	16.4	24.8	-93.59	-35.5	-708.3	513.1	471.1	41.97	12.225	
10,100.0	10,089.7	10,143.4	10,089.7	16.5	24.8	-93.59	-35.5	-708.3	513.1	471.0	42.08	12.194	
10,200.0	10,189.7	10,243.4	10,189.7	16.6	24.9	-93.59	-35.5	-708.3	513.1	470.9	42.19	12.163	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0													Offset Site Error:	0.0 usft	
Survey Program:		0-r.5 MWD+IFR1+MS		Offset			Semi Major Axis			Offset Wellbore Centre		Rule Assigned:		Offset Well Error:	3.0 usft
Measured Depth (usft)	Reference Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,300.0	10,289.7	10,343.4	10,289.7	16.7	24.9	-93.59	-35.5	-708.3	513.1	470.8	42.29	12.132			
10,400.0	10,389.7	10,443.4	10,389.7	16.7	24.9	-93.59	-35.5	-708.3	513.1	470.7	42.40	12.101			
10,500.0	10,489.7	10,543.4	10,489.7	16.8	25.0	-93.59	-35.5	-708.3	513.1	470.6	42.51	12.070			
10,600.0	10,589.7	10,643.4	10,589.7	16.9	25.0	-93.59	-35.5	-708.3	513.1	470.5	42.61	12.041			
10,700.0	10,689.7	10,747.3	10,693.3	17.0	25.0	-92.86	-29.0	-708.3	512.8	470.1	42.68	12.015			
10,800.0	10,789.7	10,846.8	10,789.8	17.0	25.0	-90.03	-5.6	-708.4	512.2	469.5	42.76	11.978			
10,804.4	10,794.2	10,851.0	10,793.8	17.0	25.0	-89.89	-4.2	-708.4	512.2	469.5	42.77	11.977			
10,900.0	10,889.0	10,940.0	10,875.4	17.1	25.1	-86.89	31.2	-708.6	513.0	470.2	42.88	11.964			
11,000.0	10,984.9	11,029.4	10,950.8	17.1	25.1	-83.90	79.0	-708.8	515.4	472.3	43.07	11.966			
11,100.0	11,074.4	11,115.5	11,015.5	17.2	25.1	-81.11	135.7	-709.0	518.9	475.5	43.35	11.969			
11,200.0	11,155.0	11,200.0	11,070.1	17.3	25.2	-78.58	200.1	-709.3	523.0	479.3	43.73	11.961			
11,300.0	11,224.0	11,280.4	11,112.8	17.4	25.2	-76.41	268.2	-709.6	527.5	483.3	44.20	11.934			
11,400.0	11,279.4	11,360.2	11,145.3	17.5	25.3	-74.59	341.0	-709.9	531.8	487.1	44.72	11.890			
11,500.0	11,319.6	11,438.8	11,167.0	17.6	25.3	-73.16	416.5	-710.2	535.5	490.2	45.25	11.833			
11,600.0	11,343.3	11,516.5	11,178.3	17.7	25.4	-72.14	493.3	-710.5	538.3	492.6	45.75	11.768			
11,700.0	11,350.0	11,603.5	11,180.0	17.8	25.4	-71.64	580.2	-710.8	539.7	493.5	46.22	11.678			
11,800.0	11,350.0	11,703.5	11,180.0	18.0	25.6	-71.64	680.2	-711.2	539.7	493.0	46.77	11.540			
11,900.0	11,350.0	11,803.5	11,180.0	18.1	25.7	-71.64	780.2	-711.7	539.7	492.4	47.37	11.395			
12,000.0	11,350.0	11,903.5	11,180.0	18.3	25.9	-71.64	880.2	-712.1	539.7	491.7	48.00	11.244			
12,100.0	11,350.0	12,003.5	11,180.0	18.5	26.1	-71.64	980.2	-712.5	539.8	491.1	48.68	11.088			
12,200.0	11,350.0	12,103.5	11,180.0	18.8	26.3	-71.64	1,080.2	-712.9	539.8	490.4	49.39	10.929			
12,300.0	11,350.0	12,203.5	11,180.0	19.1	26.5	-71.64	1,180.2	-713.3	539.8	489.6	50.14	10.766			
12,400.0	11,350.0	12,303.5	11,180.0	19.4	26.8	-71.64	1,280.2	-713.7	539.8	488.8	50.92	10.600			
12,500.0	11,350.0	12,403.5	11,180.0	19.8	27.0	-71.64	1,380.2	-714.1	539.8	488.0	51.74	10.433			
12,600.0	11,350.0	12,503.5	11,180.0	20.1	27.3	-71.64	1,480.2	-714.5	539.8	487.2	52.58	10.265			
12,700.0	11,350.0	12,603.5	11,180.0	20.5	27.6	-71.64	1,580.2	-714.9	539.8	486.3	53.46	10.097			
12,800.0	11,350.0	12,703.5	11,180.0	20.9	28.0	-71.64	1,680.2	-715.3	539.8	485.4	54.37	9.929			
12,900.0	11,350.0	12,803.5	11,180.0	21.4	28.3	-71.64	1,780.2	-715.7	539.8	484.5	55.30	9.762			
13,000.0	11,350.0	12,903.5	11,180.0	21.8	28.7	-71.64	1,880.2	-716.2	539.8	483.5	56.26	9.596			
13,100.0	11,350.0	13,003.5	11,180.0	22.3	29.0	-71.64	1,980.2	-716.6	539.8	482.6	57.24	9.431			
13,200.0	11,350.0	13,103.5	11,180.0	22.8	29.4	-71.64	2,080.2	-717.0	539.8	481.6	58.24	9.268			
13,300.0	11,350.0	13,203.5	11,180.0	23.3	29.9	-71.64	2,180.2	-717.4	539.8	480.5	59.27	9.108			
13,400.0	11,350.0	13,303.5	11,180.0	23.8	30.3	-71.64	2,280.2	-717.8	539.8	479.5	60.32	8.950			
13,500.0	11,350.0	13,403.5	11,180.0	24.4	30.7	-71.64	2,380.2	-718.2	539.8	478.4	61.38	8.794			
13,600.0	11,350.0	13,503.5	11,180.0	24.9	31.2	-71.64	2,480.2	-718.6	539.8	477.4	62.47	8.642			
13,700.0	11,350.0	13,603.5	11,180.0	25.5	31.6	-71.64	2,580.2	-719.0	539.8	476.3	63.57	8.492			
13,800.0	11,350.0	13,703.5	11,180.0	26.0	32.1	-71.64	2,680.2	-719.4	539.8	475.2	64.69	8.345			
13,900.0	11,350.0	13,803.5	11,180.0	26.6	32.6	-71.65	2,780.2	-719.8	539.8	474.0	65.83	8.201			
14,000.0	11,350.0	13,903.5	11,180.0	27.2	33.1	-71.65	2,880.2	-720.2	539.9	472.9	66.98	8.060			
14,100.0	11,350.0	14,003.5	11,180.0	27.8	33.6	-71.65	2,980.2	-720.7	539.9	471.7	68.14	7.922			
14,200.0	11,350.0	14,103.5	11,180.0	28.4	34.1	-71.65	3,080.2	-721.1	539.9	470.5	69.32	7.788			
14,300.0	11,350.0	14,203.5	11,180.0	29.0	34.6	-71.65	3,180.2	-721.5	539.9	469.4	70.52	7.656			
14,400.0	11,350.0	14,303.5	11,180.0	29.6	35.2	-71.65	3,280.2	-721.9	539.9	468.2	71.72	7.528			
14,500.0	11,350.0	14,403.5	11,180.0	30.3	35.7	-71.65	3,380.2	-722.3	539.9	466.9	72.94	7.402			
14,600.0	11,350.0	14,503.5	11,180.0	30.9	36.2	-71.65	3,480.2	-722.7	539.9	465.7	74.16	7.280			
14,700.0	11,350.0	14,603.5	11,180.0	31.5	36.8	-71.65	3,580.2	-723.1	539.9	464.5	75.40	7.160			
14,800.0	11,350.0	14,703.5	11,180.0	32.2	37.4	-71.65	3,680.2	-723.5	539.9	463.3	76.65	7.044			
14,900.0	11,350.0	14,803.5	11,180.0	32.8	37.9	-71.65	3,780.2	-723.9	539.9	462.0	77.90	6.930			
15,000.0	11,350.0	14,903.5	11,180.0	33.5	38.5	-71.65	3,880.2	-724.3	539.9	460.7	79.17	6.820			
15,100.0	11,350.0	15,003.5	11,180.0	34.2	39.1	-71.65	3,980.2	-724.7	539.9	459.5	80.44	6.712			
15,200.0	11,350.0	15,103.5	11,180.0	34.8	39.7	-71.65	4,080.2	-725.2	539.9	458.2	81.73	6.606			
15,300.0	11,350.0	15,203.5	11,180.0	35.5	40.3	-71.65	4,180.2	-725.6	539.9	456.9	83.02	6.504			

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	11,350.0	15,303.5	11,180.0	36.2	40.9	-71.65	4,280.2	-726.0	539.9	455.6	84.32	6.404	
15,500.0	11,350.0	15,403.5	11,180.0	36.8	41.5	-71.65	4,380.2	-726.4	539.9	454.3	85.62	6.306	
15,600.0	11,350.0	15,503.5	11,180.0	37.5	42.1	-71.65	4,480.1	-726.8	539.9	453.0	86.93	6.211	
15,700.0	11,350.0	15,603.5	11,180.0	38.2	42.7	-71.65	4,580.1	-727.2	539.9	451.7	88.25	6.118	
15,800.0	11,350.0	15,703.5	11,180.0	38.9	43.4	-71.65	4,680.1	-727.6	540.0	450.4	89.58	6.028	
15,900.0	11,350.0	15,803.5	11,180.0	39.6	44.0	-71.65	4,780.1	-728.0	540.0	449.0	90.91	5.940	
16,000.0	11,350.0	15,903.5	11,180.0	40.3	44.6	-71.65	4,880.1	-728.4	540.0	447.7	92.24	5.854	
16,100.0	11,350.0	16,003.5	11,180.0	41.0	45.3	-71.65	4,980.1	-728.8	540.0	446.4	93.59	5.770	
16,200.0	11,350.0	16,103.5	11,180.0	41.7	45.9	-71.65	5,080.1	-729.2	540.0	445.0	94.93	5.688	
16,300.0	11,350.0	16,203.5	11,180.0	42.3	46.5	-71.65	5,180.1	-729.7	540.0	443.7	96.29	5.608	
16,400.0	11,350.0	16,303.5	11,180.0	43.1	47.2	-71.65	5,280.1	-730.1	540.0	442.3	97.64	5.530	
16,500.0	11,350.0	16,403.5	11,180.0	43.8	47.8	-71.65	5,380.1	-730.5	540.0	441.0	99.00	5.454	
16,600.0	11,350.0	16,503.5	11,180.0	44.5	48.5	-71.65	5,480.1	-730.9	540.0	439.6	100.37	5.380	
16,700.0	11,350.0	16,603.5	11,180.0	45.2	49.2	-71.65	5,580.1	-731.3	540.0	438.3	101.74	5.308	
16,800.0	11,350.0	16,703.5	11,180.0	45.9	49.8	-71.65	5,680.1	-731.7	540.0	436.9	103.11	5.237	
16,900.0	11,350.0	16,803.5	11,180.0	46.6	50.5	-71.65	5,780.1	-732.1	540.0	435.5	104.49	5.168	
17,000.0	11,350.0	16,903.5	11,180.0	47.3	51.2	-71.65	5,880.1	-732.5	540.0	434.1	105.87	5.101	
17,100.0	11,350.0	17,003.5	11,180.0	48.0	51.8	-71.65	5,980.1	-732.9	540.0	432.8	107.26	5.035	
17,200.0	11,350.0	17,103.5	11,180.0	48.7	52.5	-71.65	6,080.1	-733.3	540.0	431.4	108.65	4.970	
17,300.0	11,350.0	17,203.5	11,180.0	49.5	53.2	-71.65	6,180.1	-733.7	540.0	430.0	110.04	4.908	
17,400.0	11,350.0	17,303.5	11,180.0	50.2	53.8	-71.65	6,280.1	-734.2	540.0	428.6	111.44	4.846	
17,500.0	11,350.0	17,403.5	11,180.0	50.9	54.5	-71.65	6,380.1	-734.6	540.0	427.2	112.83	4.786	
17,600.0	11,350.0	17,503.5	11,180.0	51.6	55.2	-71.65	6,480.1	-735.0	540.0	425.8	114.24	4.728	
17,700.0	11,350.0	17,603.5	11,180.0	52.3	55.9	-71.65	6,580.1	-735.4	540.1	424.4	115.64	4.670	
17,800.0	11,350.0	17,703.5	11,180.0	53.1	56.6	-71.65	6,680.1	-735.8	540.1	423.0	117.05	4.614	
17,900.0	11,350.0	17,803.5	11,180.0	53.8	57.3	-71.65	6,780.1	-736.2	540.1	421.6	118.46	4.559	
18,000.0	11,350.0	17,903.5	11,180.0	54.5	58.0	-71.65	6,880.1	-736.6	540.1	420.2	119.87	4.506	
18,100.0	11,350.0	18,003.5	11,180.0	55.2	58.6	-71.65	6,980.1	-737.0	540.1	418.8	121.28	4.453	
18,200.0	11,350.0	18,103.5	11,180.0	56.0	59.3	-71.65	7,080.1	-737.4	540.1	417.4	122.70	4.402	
18,300.0	11,350.0	18,203.5	11,180.0	56.7	60.0	-71.65	7,180.1	-737.8	540.1	416.0	124.12	4.351	
18,400.0	11,350.0	18,303.5	11,180.0	57.4	60.7	-71.65	7,280.1	-738.2	540.1	414.6	125.54	4.302	
18,500.0	11,350.0	18,403.5	11,180.0	58.2	61.4	-71.65	7,380.1	-738.7	540.1	413.1	126.97	4.254	
18,600.0	11,350.0	18,503.5	11,180.0	58.9	62.1	-71.65	7,480.1	-739.1	540.1	411.7	128.39	4.207	
18,700.0	11,350.0	18,603.5	11,180.0	59.6	62.8	-71.65	7,580.1	-739.5	540.1	410.3	129.82	4.160	
18,800.0	11,350.0	18,703.5	11,180.0	60.4	63.5	-71.65	7,680.1	-739.9	540.1	408.9	131.25	4.115	
18,900.0	11,350.0	18,803.5	11,180.0	61.1	64.2	-71.65	7,780.1	-740.3	540.1	407.4	132.68	4.071	
19,000.0	11,350.0	18,903.5	11,180.0	61.8	64.9	-71.65	7,880.1	-740.7	540.1	406.0	134.11	4.027	
19,100.0	11,350.0	19,003.5	11,180.0	62.6	65.7	-71.65	7,980.1	-741.1	540.1	404.6	135.55	3.985	
19,200.0	11,350.0	19,103.5	11,180.0	63.3	66.4	-71.66	8,080.1	-741.5	540.1	403.2	136.99	3.943	
19,300.0	11,350.0	19,203.5	11,180.0	64.0	67.1	-71.66	8,180.1	-741.9	540.1	401.7	138.43	3.902	
19,400.0	11,350.0	19,303.5	11,180.0	64.8	67.8	-71.66	8,280.1	-742.3	540.1	400.3	139.87	3.862	
19,500.0	11,350.0	19,403.5	11,180.0	65.5	68.5	-71.66	8,380.1	-742.7	540.2	398.8	141.31	3.823	
19,600.0	11,350.0	19,503.5	11,180.0	66.3	69.2	-71.66	8,480.1	-743.2	540.2	397.4	142.75	3.784	
19,700.0	11,350.0	19,603.5	11,180.0	67.0	69.9	-71.66	8,580.1	-743.6	540.2	396.0	144.20	3.746	
19,800.0	11,350.0	19,703.5	11,180.0	67.7	70.6	-71.66	8,680.1	-744.0	540.2	394.5	145.64	3.709	
19,900.0	11,350.0	19,803.5	11,180.0	68.5	71.4	-71.66	8,780.1	-744.4	540.2	393.1	147.09	3.672	
20,000.0	11,350.0	19,903.5	11,180.0	69.2	72.1	-71.66	8,880.1	-744.8	540.2	391.6	148.54	3.637	
20,100.0	11,350.0	20,003.5	11,180.0	70.0	72.8	-71.66	8,980.1	-745.2	540.2	390.2	149.99	3.602	
20,200.0	11,350.0	20,103.5	11,180.0	70.7	73.5	-71.66	9,080.1	-745.6	540.2	388.8	151.44	3.567	
20,300.0	11,350.0	20,203.5	11,180.0	71.5	74.2	-71.66	9,180.1	-746.0	540.2	387.3	152.89	3.533	
20,400.0	11,350.0	20,303.5	11,180.0	72.2	75.0	-71.66	9,280.1	-746.4	540.2	385.9	154.35	3.500	
20,500.0	11,350.0	20,403.5	11,180.0	72.9	75.7	-71.66	9,380.1	-746.8	540.2	384.4	155.80	3.467	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,350.0	20,503.5	11,180.0	73.7	76.4	-71.66	9,480.1	-747.2	540.2	383.0	157.26	3.435	
20,700.0	11,350.0	20,603.5	11,180.0	74.4	77.1	-71.66	9,580.1	-747.7	540.2	381.5	158.71	3.404	
20,800.0	11,350.0	20,703.5	11,180.0	75.2	77.9	-71.66	9,680.1	-748.1	540.2	380.1	160.17	3.373	
20,900.0	11,350.0	20,803.5	11,180.0	75.9	78.6	-71.66	9,780.1	-748.5	540.2	378.6	161.63	3.342	
21,000.0	11,350.0	20,903.5	11,180.0	76.7	79.3	-71.66	9,880.1	-748.9	540.2	377.1	163.09	3.312	
21,100.0	11,350.0	21,003.5	11,180.0	77.4	80.0	-71.66	9,980.1	-749.3	540.2	375.7	164.55	3.283	
21,200.0	11,350.0	21,103.5	11,180.0	78.2	80.8	-71.66	10,080.1	-749.7	540.2	374.2	166.02	3.254	
21,300.0	11,350.0	21,203.5	11,180.0	78.9	81.5	-71.66	10,180.1	-750.1	540.3	372.8	167.48	3.226	
21,400.0	11,350.0	21,303.5	11,180.0	79.7	82.2	-71.66	10,280.1	-750.5	540.3	371.3	168.94	3.198	
21,500.0	11,350.0	21,403.5	11,180.0	80.4	82.9	-71.66	10,380.1	-750.9	540.3	369.9	170.41	3.170	
21,600.0	11,350.0	21,503.5	11,180.0	81.2	83.7	-71.66	10,480.1	-751.3	540.3	368.4	171.87	3.143	
21,700.0	11,350.0	21,603.5	11,180.0	81.9	84.4	-71.66	10,580.1	-751.7	540.3	366.9	173.34	3.117	
21,800.0	11,350.0	21,703.5	11,180.0	82.7	85.1	-71.66	10,680.1	-752.2	540.3	365.5	174.81	3.091	
21,900.0	11,350.0	21,803.5	11,180.0	83.4	85.9	-71.66	10,780.1	-752.6	540.3	364.0	176.28	3.065	
22,000.0	11,350.0	21,903.5	11,180.0	84.2	86.6	-71.66	10,880.1	-753.0	540.3	362.5	177.75	3.040	
22,100.0	11,350.0	22,003.5	11,180.0	84.9	87.3	-71.66	10,980.1	-753.4	540.3	361.1	179.22	3.015	
22,200.0	11,350.0	22,103.5	11,180.0	85.7	88.1	-71.66	11,080.1	-753.8	540.3	359.6	180.69	2.990	
22,300.0	11,350.0	22,203.5	11,180.0	86.4	88.8	-71.66	11,180.1	-754.2	540.3	358.1	182.16	2.966	
22,400.0	11,350.0	22,303.5	11,180.0	87.2	89.5	-71.66	11,280.1	-754.6	540.3	356.7	183.63	2.942	
22,500.0	11,350.0	22,403.5	11,180.0	87.9	90.3	-71.66	11,380.1	-755.0	540.3	355.2	185.10	2.919	
22,600.0	11,350.0	22,503.5	11,180.0	88.7	91.0	-71.66	11,480.1	-755.4	540.3	353.7	186.57	2.896	
22,700.0	11,350.0	22,603.5	11,180.0	89.4	91.8	-71.66	11,580.1	-755.8	540.3	352.3	188.05	2.873	
22,800.0	11,350.0	22,703.5	11,180.0	90.2	92.5	-71.66	11,680.1	-756.2	540.3	350.8	189.52	2.851	
22,900.0	11,350.0	22,803.5	11,180.0	90.9	93.2	-71.66	11,780.1	-756.7	540.3	349.3	191.00	2.829	
23,000.0	11,350.0	22,903.5	11,180.0	91.7	94.0	-71.66	11,880.1	-757.1	540.3	347.9	192.47	2.807	
23,100.0	11,350.0	23,003.5	11,180.0	92.4	94.7	-71.66	11,980.1	-757.5	540.3	346.4	193.95	2.786	
23,200.0	11,350.0	23,103.5	11,180.0	93.2	95.4	-71.66	12,080.1	-757.9	540.4	344.9	195.43	2.765	
23,300.0	11,350.0	23,203.5	11,180.0	93.9	96.2	-71.66	12,180.1	-758.3	540.4	343.5	196.91	2.744	
23,400.0	11,350.0	23,303.5	11,180.0	94.7	96.9	-71.66	12,280.1	-758.7	540.4	342.0	198.38	2.724	
23,500.0	11,350.0	23,403.5	11,180.0	95.4	97.7	-71.66	12,380.1	-759.1	540.4	340.5	199.86	2.704	
23,600.0	11,350.0	23,503.5	11,180.0	96.2	98.4	-71.66	12,480.1	-759.5	540.4	339.0	201.34	2.684	
23,700.0	11,350.0	23,603.5	11,180.0	96.9	99.1	-71.66	12,580.1	-759.9	540.4	337.6	202.82	2.664	
23,800.0	11,350.0	23,703.5	11,180.0	97.7	99.9	-71.66	12,680.1	-760.3	540.4	336.1	204.30	2.645	
23,900.0	11,350.0	23,803.5	11,180.0	98.5	100.6	-71.66	12,780.1	-760.7	540.4	334.6	205.78	2.626	
24,000.0	11,350.0	23,903.5	11,180.0	99.2	101.4	-71.66	12,880.1	-761.2	540.4	333.1	207.26	2.607	
24,100.0	11,350.0	24,003.5	11,180.0	100.0	102.1	-71.66	12,980.1	-761.6	540.4	331.7	208.74	2.589	
24,200.0	11,350.0	24,103.5	11,180.0	100.7	102.9	-71.66	13,080.1	-762.0	540.4	330.2	210.23	2.571	
24,300.0	11,350.0	24,203.5	11,180.0	101.5	103.6	-71.66	13,180.1	-762.4	540.4	328.7	211.71	2.553	
24,400.0	11,350.0	24,303.5	11,180.0	102.2	104.3	-71.67	13,280.1	-762.8	540.4	327.2	213.19	2.535	
24,500.0	11,350.0	24,403.5	11,180.0	103.0	105.1	-71.67	13,380.1	-763.2	540.4	325.8	214.68	2.517	
24,600.0	11,350.0	24,503.5	11,180.0	103.7	105.8	-71.67	13,480.1	-763.6	540.4	324.3	216.16	2.500	
24,700.0	11,350.0	24,603.5	11,180.0	104.5	106.6	-71.67	13,580.1	-764.0	540.4	322.8	217.64	2.483	
24,725.4	11,350.0	24,628.9	11,180.0	104.6	106.8	-71.67	13,605.5	-764.1	540.4	322.5	217.97	2.479	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
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)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	89.90	0.0	30.0	30.0	23.5	6.43	4.660		
100.0	100.0	100.0	100.0	3.2	3.2	89.90	0.0	30.0	30.0	23.1	6.89	4.347		
200.0	200.0	200.0	200.0	3.5	3.5	89.90	0.0	30.0	30.0	22.6	7.33	4.088		
300.0	300.0	300.0	300.0	3.7	3.7	89.90	0.0	30.0	30.0	22.2	7.74	3.870		
400.0	400.0	400.0	400.0	3.9	3.9	89.90	0.0	30.0	30.0	21.8	8.14	3.683		
500.0	500.0	500.0	500.0	4.1	4.1	89.90	0.0	30.0	30.0	21.4	8.51	3.519		
600.0	600.0	600.0	600.0	4.2	4.2	89.90	0.0	30.0	30.0	21.1	8.88	3.375		
700.0	700.0	700.0	700.0	4.4	4.4	89.90	0.0	30.0	30.0	20.7	9.23	3.246		
800.0	800.0	800.0	800.0	4.6	4.6	89.90	0.0	30.0	30.0	20.4	9.57	3.130		
900.0	900.0	900.0	900.0	4.8	4.8	89.90	0.0	30.0	30.0	20.1	9.90	3.026		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.90	0.0	30.0	30.0	19.7	10.22	2.930		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.90	0.0	30.0	30.0	19.4	10.54	2.843		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.90	0.0	30.0	30.0	19.1	10.85	2.762		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.90	0.0	30.0	30.0	18.8	11.15	2.687		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.90	0.0	30.0	30.0	18.5	11.44	2.618		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.90	0.0	30.0	30.0	18.2	11.73	2.553		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	89.90	0.0	30.0	30.0	17.9	12.02	2.493		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	89.90	0.0	30.0	30.0	17.7	12.30	2.436		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	89.90	0.0	30.0	30.0	17.4	12.58	2.382		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	89.90	0.0	30.0	30.0	17.1	12.85	2.332		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	89.90	0.0	30.0	30.0	16.8	13.12	2.284		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	89.90	0.0	30.0	30.0	16.6	13.38	2.239		
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	89.90	0.0	30.0	30.0	16.3	13.64	2.196		
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	89.90	0.0	30.0	30.0	16.1	13.90	2.156		
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	89.90	0.0	30.0	30.0	15.8	14.15	2.117		
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	89.90	0.0	30.0	30.0	15.6	14.41	2.080 CC, ES, SF		
2,600.0	2,600.0	2,599.2	2,599.2	7.2	7.2	90.03	0.0	31.2	31.3	16.6	14.67	2.131		
2,700.0	2,700.0	2,698.3	2,698.2	7.3	7.3	90.36	-0.2	35.1	35.1	20.2	14.92	2.356		
2,800.0	2,800.0	2,797.1	2,796.8	7.4	7.5	90.77	-0.6	41.5	41.6	26.4	15.17	2.743		
2,900.0	2,900.0	2,895.5	2,894.8	7.5	7.7	91.16	-1.0	50.4	50.7	35.2	15.44	3.282		
3,000.0	3,000.0	2,993.4	2,992.0	7.7	7.8	91.50	-1.6	61.7	62.3	46.6	15.72	3.962		
3,100.0	3,100.0	3,091.5	3,089.2	7.8	8.0	-177.27	-2.3	75.2	77.3	61.3	15.98	4.836		
3,200.0	3,199.9	3,189.9	3,186.7	7.9	8.2	-177.18	-3.0	88.8	95.1	78.7	16.31	5.828		
3,300.0	3,299.7	3,287.8	3,283.6	8.1	8.4	-177.18	-3.7	102.5	115.4	98.7	16.67	6.921		
3,400.0	3,399.3	3,385.2	3,380.0	8.2	8.6	-177.23	-4.5	116.0	138.3	121.2	17.07	8.104		
3,500.0	3,498.6	3,481.9	3,475.8	8.4	8.9	-177.30	-5.2	129.4	163.8	146.3	17.49	9.362		
3,600.0	3,597.6	3,578.1	3,571.0	8.6	9.1	-177.39	-5.9	142.8	191.2	173.3	17.88	10.688		
3,700.0	3,696.6	3,674.2	3,666.2	8.7	9.4	-177.47	-6.6	156.1	218.7	200.4	18.34	11.923		
3,800.0	3,795.7	3,770.3	3,761.4	9.0	9.7	-177.53	-7.3	169.5	246.3	227.4	18.83	13.080		
3,900.0	3,894.7	3,866.5	3,856.6	9.2	10.0	-177.57	-8.0	182.9	273.8	254.5	19.30	14.182		
4,000.0	3,993.8	3,962.8	3,952.0	9.4	10.3	-177.61	-8.7	196.3	300.7	280.9	19.84	15.156		
4,100.0	4,093.0	4,059.3	4,047.6	9.7	10.6	-177.64	-9.4	209.7	326.8	306.4	20.39	16.027		
4,200.0	4,192.4	4,156.1	4,143.4	9.9	10.9	-177.65	-10.1	223.1	352.0	331.0	20.95	16.799		
4,300.0	4,291.8	4,253.0	4,239.4	10.2	11.2	-177.66	-10.8	236.6	376.4	354.9	21.53	17.479		
4,400.0	4,391.3	4,350.2	4,335.7	10.4	11.5	-177.67	-11.5	250.1	399.9	377.8	22.13	18.075		
4,500.0	4,490.9	4,449.4	4,433.9	10.7	11.9	-177.66	-12.2	263.8	422.6	399.9	22.73	18.596		
4,600.0	4,590.6	4,555.3	4,538.9	11.0	12.2	-177.66	-12.9	277.1	443.1	419.7	23.38	18.953		
4,700.0	4,690.3	4,662.1	4,645.1	11.3	12.6	-177.66	-13.5	288.6	461.0	436.9	24.04	19.178		
4,800.0	4,790.1	4,769.7	4,752.3	11.6	12.9	-177.67	-14.0	298.1	476.1	451.4	24.68	19.291		
4,900.0	4,890.0	4,878.1	4,860.4	11.8	13.3	-177.67	-14.4	305.7	488.5	463.2	25.31	19.306		
5,000.0	4,989.9	4,987.0	4,969.2	12.1	13.6	-177.68	-14.7	311.3	498.2	472.3	25.90	19.235		
5,100.0	5,089.8	5,096.3	5,078.5	12.4	13.9	-177.69	-14.9	314.8	505.1	478.7	26.46	19.091		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,189.8	5,205.9	5,188.1	12.6	14.1	-177.70	-15.0	316.2	509.2	482.3	26.94	18.905	
5,300.0	5,289.8	5,307.6	5,289.8	12.8	14.2	-177.71	-15.0	316.2	511.2	484.0	27.21	18.786	
5,400.0	5,389.7	5,407.6	5,389.7	13.0	14.3	-177.71	-15.0	316.2	512.3	484.8	27.48	18.645	
5,500.0	5,489.7	5,507.6	5,489.7	13.1	14.3	91.29	-15.0	316.2	512.6	484.9	27.63	18.551	
5,600.0	5,589.7	5,607.6	5,589.7	13.2	14.4	91.29	-15.0	316.2	512.6	484.8	27.77	18.460	
5,700.0	5,689.7	5,707.6	5,689.7	13.3	14.5	91.29	-15.0	316.2	512.6	484.7	27.90	18.372	
5,800.0	5,789.7	5,807.6	5,789.7	13.4	14.5	91.29	-15.0	316.2	512.6	484.5	28.03	18.285	
5,900.0	5,889.7	5,907.6	5,889.7	13.4	14.6	91.29	-15.0	316.2	512.6	484.4	28.17	18.198	
6,000.0	5,989.7	6,007.6	5,989.7	13.5	14.7	91.29	-15.0	316.2	512.6	484.3	28.30	18.112	
6,100.0	6,089.7	6,107.6	6,089.7	13.6	14.7	91.29	-15.0	316.2	512.6	484.1	28.43	18.027	
6,200.0	6,189.7	6,207.6	6,189.7	13.6	14.8	91.29	-15.0	316.2	512.6	484.0	28.57	17.942	
6,300.0	6,289.7	6,307.6	6,289.7	13.7	14.8	91.29	-15.0	316.2	512.6	483.9	28.70	17.858	
6,400.0	6,389.7	6,407.6	6,389.7	13.8	14.9	91.29	-15.0	316.2	512.6	483.7	28.84	17.775	
6,500.0	6,489.7	6,507.6	6,489.7	13.9	15.0	91.29	-15.0	316.2	512.6	483.6	28.97	17.692	
6,600.0	6,589.7	6,607.6	6,589.7	13.9	15.0	91.29	-15.0	316.2	512.6	483.5	29.11	17.610	
6,700.0	6,689.7	6,707.6	6,689.7	14.0	15.1	91.29	-15.0	316.2	512.6	483.3	29.24	17.528	
6,800.0	6,789.7	6,807.6	6,789.7	14.1	15.2	91.29	-15.0	316.2	512.6	483.2	29.38	17.447	
6,900.0	6,889.7	6,907.6	6,889.7	14.2	15.2	91.29	-15.0	316.2	512.6	483.1	29.51	17.367	
7,000.0	6,989.7	7,007.6	6,989.7	14.2	15.3	91.29	-15.0	316.2	512.6	482.9	29.65	17.287	
7,100.0	7,089.7	7,107.6	7,089.7	14.3	15.4	91.29	-15.0	316.2	512.6	482.8	29.79	17.208	
7,200.0	7,189.7	7,207.6	7,189.7	14.4	15.4	91.29	-15.0	316.2	512.6	482.6	29.92	17.129	
7,300.0	7,289.7	7,307.6	7,289.7	14.4	15.5	91.29	-15.0	316.2	512.6	482.5	30.06	17.051	
7,400.0	7,389.7	7,407.6	7,389.7	14.5	15.6	91.29	-15.0	316.2	512.6	482.4	30.20	16.974	
7,500.0	7,489.7	7,507.6	7,489.7	14.6	15.6	91.29	-15.0	316.2	512.6	482.2	30.34	16.897	
7,600.0	7,589.7	7,607.6	7,589.7	14.7	15.7	91.29	-15.0	316.2	512.6	482.1	30.47	16.821	
7,700.0	7,689.7	7,707.6	7,689.7	14.7	15.8	91.29	-15.0	316.2	512.6	482.0	30.61	16.745	
7,800.0	7,789.7	7,807.6	7,789.7	14.8	15.8	91.29	-15.0	316.2	512.6	481.8	30.75	16.670	
7,900.0	7,889.7	7,907.6	7,889.7	14.9	15.9	91.29	-15.0	316.2	512.6	481.7	30.89	16.595	
8,000.0	7,989.7	8,007.6	7,989.7	15.0	16.0	91.29	-15.0	316.2	512.6	481.5	31.03	16.521	
8,100.0	8,089.7	8,107.6	8,089.7	15.0	16.0	91.29	-15.0	316.2	512.6	481.4	31.16	16.447	
8,200.0	8,189.7	8,207.6	8,189.7	15.1	16.1	91.29	-15.0	316.2	512.6	481.3	31.30	16.374	
8,300.0	8,289.7	8,307.6	8,289.7	15.2	16.2	91.29	-15.0	316.2	512.6	481.1	31.44	16.302	
8,400.0	8,389.7	8,407.6	8,389.7	15.2	16.2	91.29	-15.0	316.2	512.6	481.0	31.58	16.230	
8,500.0	8,489.7	8,507.6	8,489.7	15.3	16.3	91.29	-15.0	316.2	512.6	480.9	31.72	16.158	
8,600.0	8,589.7	8,607.6	8,589.7	15.4	16.4	91.29	-15.0	316.2	512.6	480.7	31.86	16.087	
8,700.0	8,689.7	8,707.6	8,689.7	15.5	16.4	91.29	-15.0	316.2	512.6	480.6	32.00	16.017	
8,800.0	8,789.7	8,807.6	8,789.7	15.5	16.5	91.29	-15.0	316.2	512.6	480.4	32.14	15.947	
8,900.0	8,889.7	8,907.6	8,889.7	15.6	16.6	91.29	-15.0	316.2	512.6	480.3	32.28	15.877	
9,000.0	8,989.7	9,007.6	8,989.7	15.7	16.6	91.29	-15.0	316.2	512.6	480.1	32.42	15.809	
9,100.0	9,089.7	9,107.6	9,089.7	15.8	16.7	91.29	-15.0	316.2	512.6	480.0	32.56	15.740	
9,200.0	9,189.7	9,207.6	9,189.7	15.8	16.8	91.29	-15.0	316.2	512.6	479.9	32.71	15.672	
9,300.0	9,289.7	9,307.6	9,289.7	15.9	16.9	91.29	-15.0	316.2	512.6	479.7	32.85	15.605	
9,400.0	9,389.7	9,407.6	9,389.7	16.0	16.9	91.29	-15.0	316.2	512.6	479.6	32.99	15.538	
9,500.0	9,489.7	9,507.6	9,489.7	16.1	17.0	91.29	-15.0	316.2	512.6	479.4	33.13	15.472	
9,600.0	9,589.7	9,607.6	9,589.7	16.1	17.1	91.29	-15.0	316.2	512.6	479.3	33.27	15.406	
9,700.0	9,689.7	9,707.6	9,689.7	16.2	17.1	91.29	-15.0	316.2	512.6	479.2	33.41	15.340	
9,800.0	9,789.7	9,807.6	9,789.7	16.3	17.2	91.29	-15.0	316.2	512.6	479.0	33.56	15.275	
9,900.0	9,889.7	9,907.6	9,889.7	16.4	17.3	91.29	-15.0	316.2	512.6	478.9	33.70	15.211	
10,000.0	9,989.7	10,007.6	9,989.7	16.4	17.3	91.29	-15.0	316.2	512.6	478.7	33.84	15.147	
10,100.0	10,089.7	10,107.6	10,089.7	16.5	17.4	91.29	-15.0	316.2	512.6	478.6	33.98	15.083	
10,200.0	10,189.7	10,207.6	10,189.7	16.6	17.5	91.29	-15.0	316.2	512.6	478.4	34.13	15.020	
10,300.0	10,289.7	10,307.6	10,289.7	16.7	17.6	91.29	-15.0	316.2	512.6	478.3	34.27	14.957	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	10,389.7	10,407.6	10,389.7	16.7	17.6	91.29	-15.0	316.2	512.6	478.2	34.41	14.895	
10,500.0	10,489.7	10,507.6	10,489.7	16.8	17.7	91.29	-15.0	316.2	512.6	478.0	34.56	14.833	
10,600.0	10,589.7	10,607.6	10,589.7	16.9	17.8	91.29	-15.0	316.2	512.6	477.9	34.70	14.773	
10,700.0	10,689.7	10,709.0	10,690.8	17.0	17.8	90.60	-8.8	316.2	512.4	477.6	34.81	14.723	
10,742.1	10,731.8	10,750.7	10,731.8	17.0	17.8	90.00	-1.2	316.2	512.4	477.5	34.85	14.703	
10,800.0	10,789.7	10,805.8	10,785.0	17.0	17.8	88.36	13.4	316.1	512.6	477.7	34.91	14.685	
10,900.0	10,889.0	10,897.1	10,869.1	17.1	17.9	85.32	48.5	316.0	514.2	479.2	35.00	14.693	
11,000.0	10,984.9	10,984.8	10,943.7	17.1	17.9	82.46	94.4	315.8	517.2	482.1	35.12	14.727	
11,100.0	11,074.4	11,069.6	11,008.4	17.2	18.0	79.85	149.2	315.6	521.0	485.7	35.30	14.759	
11,200.0	11,155.0	11,150.0	11,061.6	17.3	18.0	77.57	209.3	315.3	525.3	489.7	35.58	14.765	
11,300.0	11,224.0	11,232.9	11,107.1	17.4	18.1	75.55	278.5	315.1	529.6	493.7	35.91	14.748	
11,400.0	11,279.4	11,312.2	11,140.9	17.5	18.2	73.95	350.1	314.8	533.5	497.2	36.30	14.697	
11,500.0	11,319.6	11,390.4	11,164.3	17.6	18.3	72.75	424.8	314.5	536.7	500.0	36.70	14.625	
11,600.0	11,343.3	11,468.0	11,177.1	17.7	18.4	71.97	501.2	314.2	538.9	501.9	37.07	14.540	
11,700.0	11,350.0	11,551.2	11,180.0	17.8	18.4	71.65	584.3	313.8	539.9	502.5	37.37	14.446	
11,800.0	11,350.0	11,651.2	11,180.0	18.0	18.6	71.65	684.3	313.4	539.9	502.2	37.72	14.312	
11,900.0	11,350.0	11,751.2	11,180.0	18.1	18.8	71.65	784.3	313.0	539.9	501.8	38.13	14.159	
12,000.0	11,350.0	11,851.2	11,180.0	18.3	19.0	71.65	884.3	312.6	539.9	501.3	38.60	13.988	
12,100.0	11,350.0	11,951.2	11,180.0	18.5	19.2	71.65	984.3	312.2	539.9	500.8	39.12	13.803	
12,200.0	11,350.0	12,051.2	11,180.0	18.8	19.5	71.65	1,084.3	311.8	539.9	500.2	39.69	13.604	
12,300.0	11,350.0	12,151.2	11,180.0	19.1	19.8	71.65	1,184.3	311.4	539.9	499.6	40.31	13.395	
12,400.0	11,350.0	12,251.2	11,180.0	19.4	20.1	71.65	1,284.3	311.0	539.9	498.9	40.97	13.177	
12,500.0	11,350.0	12,351.2	11,180.0	19.8	20.4	71.65	1,384.3	310.6	539.9	498.2	41.69	12.952	
12,600.0	11,350.0	12,451.2	11,180.0	20.1	20.8	71.65	1,484.3	310.2	539.9	497.5	42.44	12.721	
12,700.0	11,350.0	12,551.2	11,180.0	20.5	21.2	71.65	1,584.3	309.8	539.9	496.7	43.24	12.487	
12,800.0	11,350.0	12,651.2	11,180.0	20.9	21.6	71.65	1,684.3	309.4	539.9	495.9	44.07	12.251	
12,900.0	11,350.0	12,751.2	11,180.0	21.4	22.0	71.65	1,784.3	309.0	539.9	495.0	44.94	12.014	
13,000.0	11,350.0	12,851.2	11,180.0	21.8	22.5	71.65	1,884.3	308.6	539.9	494.1	45.85	11.777	
13,100.0	11,350.0	12,951.2	11,180.0	22.3	22.9	71.65	1,984.3	308.2	539.9	493.2	46.78	11.541	
13,200.0	11,350.0	13,051.2	11,180.0	22.8	23.4	71.65	2,084.3	307.8	539.9	492.2	47.75	11.308	
13,300.0	11,350.0	13,151.2	11,180.0	23.3	23.9	71.65	2,184.3	307.4	540.0	491.2	48.74	11.077	
13,400.0	11,350.0	13,251.2	11,180.0	23.8	24.4	71.65	2,284.3	307.1	540.0	490.2	49.77	10.850	
13,500.0	11,350.0	13,351.2	11,180.0	24.4	24.9	71.65	2,384.3	306.7	540.0	489.1	50.81	10.626	
13,600.0	11,350.0	13,451.2	11,180.0	24.9	25.5	71.65	2,484.3	306.3	540.0	488.1	51.88	10.407	
13,700.0	11,350.0	13,551.2	11,180.0	25.5	26.0	71.65	2,584.3	305.9	540.0	487.0	52.97	10.193	
13,800.0	11,350.0	13,651.2	11,180.0	26.0	26.6	71.65	2,684.3	305.5	540.0	485.9	54.09	9.983	
13,900.0	11,350.0	13,751.2	11,180.0	26.6	27.2	71.65	2,784.3	305.1	540.0	484.8	55.22	9.779	
14,000.0	11,350.0	13,851.2	11,180.0	27.2	27.7	71.65	2,884.3	304.7	540.0	483.6	56.37	9.579	
14,100.0	11,350.0	13,951.2	11,180.0	27.8	28.3	71.65	2,984.3	304.3	540.0	482.4	57.54	9.385	
14,200.0	11,350.0	14,051.2	11,180.0	28.4	28.9	71.65	3,084.3	303.9	540.0	481.3	58.72	9.196	
14,300.0	11,350.0	14,151.2	11,180.0	29.0	29.5	71.65	3,184.3	303.5	540.0	480.1	59.92	9.012	
14,400.0	11,350.0	14,251.2	11,180.0	29.6	30.2	71.65	3,284.3	303.1	540.0	478.9	61.13	8.833	
14,500.0	11,350.0	14,351.2	11,180.0	30.3	30.8	71.65	3,384.3	302.7	540.0	477.6	62.36	8.660	
14,600.0	11,350.0	14,451.2	11,180.0	30.9	31.4	71.65	3,484.3	302.3	540.0	476.4	63.60	8.491	
14,700.0	11,350.0	14,551.2	11,180.0	31.5	32.0	71.65	3,584.3	301.9	540.0	475.2	64.85	8.328	
14,800.0	11,350.0	14,651.2	11,180.0	32.2	32.7	71.65	3,684.3	301.5	540.0	473.9	66.11	8.169	
14,900.0	11,350.0	14,751.2	11,180.0	32.8	33.3	71.65	3,784.3	301.1	540.0	472.6	67.38	8.014	
15,000.0	11,350.0	14,851.2	11,180.0	33.5	34.0	71.65	3,884.3	300.7	540.0	471.4	68.66	7.865	
15,100.0	11,350.0	14,951.2	11,180.0	34.2	34.6	71.65	3,984.3	300.3	540.0	470.1	69.96	7.720	
15,200.0	11,350.0	15,051.2	11,180.0	34.8	35.3	71.65	4,084.3	299.9	540.0	468.8	71.26	7.579	
15,300.0	11,350.0	15,151.2	11,180.0	35.5	35.9	71.65	4,184.3	299.5	540.0	467.5	72.57	7.442	
15,400.0	11,350.0	15,251.2	11,180.0	36.2	36.6	71.65	4,284.3	299.1	540.0	466.2	73.88	7.309	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	11,350.0	15,351.2	11,180.0	36.8	37.3	71.65	4,384.3	298.7	540.0	464.8	75.21	7.181	
15,600.0	11,350.0	15,451.2	11,180.0	37.5	37.9	71.65	4,484.3	298.3	540.0	463.5	76.54	7.056	
15,700.0	11,350.0	15,551.2	11,180.0	38.2	38.6	71.65	4,584.3	297.9	540.1	462.2	77.88	6.935	
15,800.0	11,350.0	15,651.2	11,180.0	38.9	39.3	71.65	4,684.3	297.5	540.1	460.8	79.22	6.817	
15,900.0	11,350.0	15,751.2	11,180.0	39.6	40.0	71.65	4,784.3	297.1	540.1	459.5	80.57	6.703	
16,000.0	11,350.0	15,851.2	11,180.0	40.3	40.7	71.65	4,884.3	296.7	540.1	458.1	81.93	6.592	
16,100.0	11,350.0	15,951.2	11,180.0	41.0	41.4	71.65	4,984.3	296.3	540.1	456.8	83.29	6.484	
16,200.0	11,350.0	16,051.2	11,180.0	41.7	42.1	71.65	5,084.3	295.9	540.1	455.4	84.66	6.379	
16,300.0	11,350.0	16,151.2	11,180.0	42.3	42.8	71.65	5,184.3	295.5	540.1	454.0	86.03	6.277	
16,400.0	11,350.0	16,251.2	11,180.0	43.1	43.5	71.65	5,284.3	295.1	540.1	452.7	87.41	6.179	
16,500.0	11,350.0	16,351.2	11,180.0	43.8	44.2	71.65	5,384.3	294.7	540.1	451.3	88.79	6.082	
16,600.0	11,350.0	16,451.2	11,180.0	44.5	44.9	71.65	5,484.3	294.3	540.1	449.9	90.18	5.989	
16,700.0	11,350.0	16,551.2	11,180.0	45.2	45.6	71.65	5,584.3	293.9	540.1	448.5	91.57	5.898	
16,800.0	11,350.0	16,651.2	11,180.0	45.9	46.3	71.65	5,684.3	293.5	540.1	447.1	92.97	5.810	
16,900.0	11,350.0	16,751.2	11,180.0	46.6	47.0	71.65	5,784.3	293.1	540.1	445.7	94.36	5.724	
17,000.0	11,350.0	16,851.2	11,180.0	47.3	47.7	71.65	5,884.3	292.7	540.1	444.3	95.77	5.640	
17,100.0	11,350.0	16,951.2	11,180.0	48.0	48.4	71.65	5,984.3	292.3	540.1	442.9	97.17	5.558	
17,200.0	11,350.0	17,051.2	11,180.0	48.7	49.1	71.65	6,084.3	291.9	540.1	441.5	98.58	5.479	
17,300.0	11,350.0	17,151.2	11,180.0	49.5	49.8	71.65	6,184.3	291.5	540.1	440.1	99.99	5.402	
17,400.0	11,350.0	17,251.2	11,180.0	50.2	50.5	71.65	6,284.3	291.1	540.1	438.7	101.41	5.326	
17,500.0	11,350.0	17,351.2	11,180.0	50.9	51.3	71.65	6,384.3	290.7	540.1	437.3	102.83	5.253	
17,600.0	11,350.0	17,451.2	11,180.0	51.6	52.0	71.66	6,484.3	290.3	540.1	435.9	104.25	5.181	
17,700.0	11,350.0	17,551.2	11,180.0	52.3	52.7	71.66	6,584.3	289.9	540.1	434.5	105.67	5.112	
17,800.0	11,350.0	17,651.2	11,180.0	53.1	53.4	71.66	6,684.3	289.5	540.1	433.0	107.10	5.044	
17,900.0	11,350.0	17,751.2	11,180.0	53.8	54.1	71.66	6,784.3	289.1	540.1	431.6	108.52	4.977	
18,000.0	11,350.0	17,851.2	11,180.0	54.5	54.9	71.66	6,884.3	288.7	540.2	430.2	109.95	4.912	
18,100.0	11,350.0	17,951.2	11,180.0	55.2	55.6	71.66	6,984.3	288.3	540.2	428.8	111.39	4.849	
18,200.0	11,350.0	18,051.2	11,180.0	56.0	56.3	71.66	7,084.3	287.9	540.2	427.3	112.82	4.788	
18,300.0	11,350.0	18,151.2	11,180.0	56.7	57.0	71.66	7,184.3	287.5	540.2	425.9	114.26	4.727	
18,400.0	11,350.0	18,251.2	11,180.0	57.4	57.8	71.66	7,284.3	287.1	540.2	424.5	115.70	4.669	
18,500.0	11,350.0	18,351.2	11,180.0	58.2	58.5	71.66	7,384.3	286.7	540.2	423.0	117.14	4.611	
18,600.0	11,350.0	18,451.2	11,180.0	58.9	59.2	71.66	7,484.3	286.3	540.2	421.6	118.58	4.555	
18,700.0	11,350.0	18,551.2	11,180.0	59.6	60.0	71.66	7,584.3	285.9	540.2	420.2	120.03	4.500	
18,800.0	11,350.0	18,651.2	11,180.0	60.4	60.7	71.66	7,684.3	285.5	540.2	418.7	121.48	4.447	
18,900.0	11,350.0	18,751.2	11,180.0	61.1	61.4	71.66	7,784.3	285.1	540.2	417.3	122.92	4.395	
19,000.0	11,350.0	18,851.2	11,180.0	61.8	62.2	71.66	7,884.3	284.7	540.2	415.8	124.37	4.343	
19,100.0	11,350.0	18,951.2	11,180.0	62.6	62.9	71.66	7,984.3	284.3	540.2	414.4	125.83	4.293	
19,200.0	11,350.0	19,051.2	11,180.0	63.3	63.6	71.66	8,084.3	283.9	540.2	412.9	127.28	4.244	
19,300.0	11,350.0	19,151.2	11,180.0	64.0	64.4	71.66	8,184.3	283.5	540.2	411.5	128.73	4.196	
19,400.0	11,350.0	19,251.2	11,180.0	64.8	65.1	71.66	8,284.3	283.1	540.2	410.0	130.19	4.149	
19,500.0	11,350.0	19,351.2	11,180.0	65.5	65.8	71.66	8,384.3	282.7	540.2	408.6	131.65	4.104	
19,600.0	11,350.0	19,451.2	11,180.0	66.3	66.6	71.66	8,484.3	282.3	540.2	407.1	133.11	4.059	
19,700.0	11,350.0	19,551.2	11,180.0	67.0	67.3	71.66	8,584.3	281.9	540.2	405.7	134.57	4.015	
19,800.0	11,350.0	19,651.2	11,180.0	67.7	68.0	71.66	8,684.3	281.5	540.2	404.2	136.03	3.971	
19,900.0	11,350.0	19,751.2	11,180.0	68.5	68.8	71.66	8,784.3	281.1	540.2	402.7	137.49	3.929	
20,000.0	11,350.0	19,851.2	11,180.0	69.2	69.5	71.66	8,884.3	280.7	540.2	401.3	138.95	3.888	
20,100.0	11,350.0	19,951.2	11,180.0	70.0	70.3	71.66	8,984.3	280.3	540.2	399.8	140.42	3.847	
20,200.0	11,350.0	20,051.2	11,180.0	70.7	71.0	71.66	9,084.3	279.9	540.2	398.4	141.88	3.808	
20,300.0	11,350.0	20,151.2	11,180.0	71.5	71.7	71.66	9,184.3	279.5	540.2	396.9	143.35	3.769	
20,400.0	11,350.0	20,251.2	11,180.0	72.2	72.5	71.66	9,284.3	279.1	540.3	395.4	144.82	3.731	
20,500.0	11,350.0	20,351.2	11,180.0	72.9	73.2	71.66	9,384.3	278.7	540.3	394.0	146.29	3.693	
20,600.0	11,350.0	20,451.2	11,180.0	73.7	74.0	71.66	9,484.3	278.3	540.3	392.5	147.76	3.656	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,350.0	20,551.2	11,180.0	74.4	74.7	71.66	9,584.2	277.9	540.3	391.0	149.23	3.620	
20,800.0	11,350.0	20,651.2	11,180.0	75.2	75.5	71.66	9,684.2	277.5	540.3	389.6	150.70	3.585	
20,900.0	11,350.0	20,751.2	11,180.0	75.9	76.2	71.66	9,784.2	277.1	540.3	388.1	152.17	3.550	
21,000.0	11,350.0	20,851.2	11,180.0	76.7	77.0	71.66	9,884.2	276.7	540.3	386.6	153.64	3.516	
21,100.0	11,350.0	20,951.2	11,180.0	77.4	77.7	71.66	9,984.2	276.3	540.3	385.2	155.12	3.483	
21,200.0	11,350.0	21,051.2	11,180.0	78.2	78.4	71.66	10,084.2	275.9	540.3	383.7	156.59	3.450	
21,300.0	11,350.0	21,151.2	11,180.0	78.9	79.2	71.66	10,184.2	275.5	540.3	382.2	158.07	3.418	
21,400.0	11,350.0	21,251.2	11,180.0	79.7	79.9	71.66	10,284.2	275.1	540.3	380.8	159.55	3.386	
21,500.0	11,350.0	21,351.2	11,180.0	80.4	80.7	71.66	10,384.2	274.7	540.3	379.3	161.02	3.355	
21,600.0	11,350.0	21,451.2	11,180.0	81.2	81.4	71.66	10,484.2	274.3	540.3	377.8	162.50	3.325	
21,700.0	11,350.0	21,551.2	11,180.0	81.9	82.2	71.66	10,584.2	273.9	540.3	376.3	163.98	3.295	
21,800.0	11,350.0	21,651.2	11,180.0	82.7	82.9	71.66	10,684.2	273.5	540.3	374.9	165.46	3.266	
21,900.0	11,350.0	21,751.2	11,180.0	83.4	83.7	71.66	10,784.2	273.1	540.3	373.4	166.94	3.237	
22,000.0	11,350.0	21,851.2	11,180.0	84.2	84.4	71.66	10,884.2	272.8	540.3	371.9	168.42	3.208	
22,100.0	11,350.0	21,951.2	11,180.0	84.9	85.2	71.66	10,984.2	272.4	540.3	370.4	169.90	3.180	
22,200.0	11,350.0	22,051.2	11,180.0	85.7	85.9	71.66	11,084.2	272.0	540.3	368.9	171.38	3.153	
22,300.0	11,350.0	22,151.2	11,180.0	86.4	86.7	71.66	11,184.2	271.6	540.3	367.5	172.87	3.126	
22,400.0	11,350.0	22,251.2	11,180.0	87.2	87.4	71.66	11,284.2	271.2	540.3	366.0	174.35	3.099	
22,500.0	11,350.0	22,351.2	11,180.0	87.9	88.2	71.66	11,384.2	270.8	540.3	364.5	175.83	3.073	
22,600.0	11,350.0	22,451.2	11,180.0	88.7	88.9	71.66	11,484.2	270.4	540.3	363.0	177.32	3.047	
22,700.0	11,350.0	22,551.2	11,180.0	89.4	89.7	71.66	11,584.2	270.0	540.4	361.5	178.80	3.022	
22,800.0	11,350.0	22,651.2	11,180.0	90.2	90.4	71.66	11,684.2	269.6	540.4	360.1	180.29	2.997	
22,900.0	11,350.0	22,751.2	11,180.0	90.9	91.2	71.66	11,784.2	269.2	540.4	358.6	181.77	2.973	
23,000.0	11,350.0	22,851.2	11,180.0	91.7	91.9	71.66	11,884.2	268.8	540.4	357.1	183.26	2.949	
23,100.0	11,350.0	22,951.2	11,180.0	92.4	92.7	71.66	11,984.2	268.4	540.4	355.6	184.75	2.925	
23,200.0	11,350.0	23,051.2	11,180.0	93.2	93.4	71.66	12,084.2	268.0	540.4	354.1	186.23	2.902	
23,300.0	11,350.0	23,151.2	11,180.0	93.9	94.2	71.66	12,184.2	267.6	540.4	352.7	187.72	2.879	
23,400.0	11,350.0	23,251.2	11,180.0	94.7	94.9	71.66	12,284.2	267.2	540.4	351.2	189.21	2.856	
23,500.0	11,350.0	23,351.2	11,180.0	95.4	95.7	71.66	12,384.2	266.8	540.4	349.7	190.70	2.834	
23,600.0	11,350.0	23,451.2	11,180.0	96.2	96.4	71.66	12,484.2	266.4	540.4	348.2	192.19	2.812	
23,700.0	11,350.0	23,551.2	11,180.0	96.9	97.2	71.66	12,584.2	266.0	540.4	346.7	193.68	2.790	
23,800.0	11,350.0	23,651.2	11,180.0	97.7	97.9	71.66	12,684.2	265.6	540.4	345.2	195.17	2.769	
23,900.0	11,350.0	23,751.2	11,180.0	98.5	98.7	71.66	12,784.2	265.2	540.4	343.7	196.66	2.748	
24,000.0	11,350.0	23,851.2	11,180.0	99.2	99.5	71.66	12,884.2	264.8	540.4	342.3	198.15	2.727	
24,100.0	11,350.0	23,951.2	11,180.0	100.0	100.2	71.66	12,984.2	264.4	540.4	340.8	199.64	2.707	
24,200.0	11,350.0	24,051.2	11,180.0	100.7	101.0	71.66	13,084.2	264.0	540.4	339.3	201.13	2.687	
24,300.0	11,350.0	24,151.2	11,180.0	101.5	101.7	71.67	13,184.2	263.6	540.4	337.8	202.62	2.667	
24,400.0	11,350.0	24,251.2	11,180.0	102.2	102.5	71.67	13,284.2	263.2	540.4	336.3	204.12	2.648	
24,500.0	11,350.0	24,351.2	11,180.0	103.0	103.2	71.67	13,384.2	262.8	540.4	334.8	205.61	2.628	
24,600.0	11,350.0	24,451.2	11,180.0	103.7	104.0	71.67	13,484.2	262.4	540.4	333.3	207.10	2.610	
24,700.0	11,350.0	24,551.2	11,180.0	104.5	104.7	71.67	13,584.2	262.0	540.4	331.8	208.59	2.591	
24,701.8	11,350.0	24,553.0	11,180.0	104.5	104.7	71.67	13,586.0	262.0	540.4	331.8	208.62	2.591	
24,725.4	11,350.0	24,574.2	11,180.0	104.6	104.9	71.67	13,607.2	261.9	540.4	331.5	208.91	2.587	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		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	3.0	3.0	89.94	0.1	60.0	60.0	53.5	6.43	9.328	
100.0	100.0	100.0	100.0	3.2	3.2	89.94	0.1	60.0	60.0	53.1	6.89	8.701	
200.0	200.0	200.0	200.0	3.5	3.5	89.94	0.1	60.0	60.0	52.6	7.33	8.183	
300.0	300.0	300.0	300.0	3.7	3.7	89.94	0.1	60.0	60.0	52.2	7.74	7.747	
400.0	400.0	400.0	400.0	3.9	3.9	89.94	0.1	60.0	60.0	51.8	8.14	7.371	
500.0	500.0	500.0	500.0	4.1	4.1	89.94	0.1	60.0	60.0	51.5	8.51	7.044	
600.0	600.0	600.0	600.0	4.2	4.2	89.94	0.1	60.0	60.0	51.1	8.88	6.755	
700.0	700.0	700.0	700.0	4.4	4.4	89.94	0.1	60.0	60.0	50.7	9.23	6.498	
800.0	800.0	800.0	800.0	4.6	4.6	89.94	0.1	60.0	60.0	50.4	9.57	6.266	
900.0	900.0	900.0	900.0	4.8	4.8	89.94	0.1	60.0	60.0	50.1	9.90	6.056	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.94	0.1	60.0	60.0	49.7	10.22	5.865	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.94	0.1	60.0	60.0	49.4	10.54	5.690	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.94	0.1	60.0	60.0	49.1	10.85	5.528	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.94	0.1	60.0	60.0	48.8	11.15	5.379	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.94	0.1	60.0	60.0	48.5	11.44	5.240	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.94	0.1	60.0	60.0	48.2	11.73	5.111	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	89.94	0.1	60.0	60.0	48.0	12.02	4.989	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	89.94	0.1	60.0	60.0	47.7	12.30	4.876	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	89.94	0.1	60.0	60.0	47.4	12.58	4.769 CC, ES	
1,900.0	1,900.0	1,898.9	1,898.9	6.3	6.3	90.80	-0.8	60.9	60.9	48.0	12.84	4.741 SF	
2,000.0	2,000.0	1,997.6	1,997.5	6.4	6.4	93.20	-3.6	63.6	63.7	50.6	13.10	4.865	
2,100.0	2,100.0	2,096.1	2,095.8	6.5	6.6	96.75	-8.1	68.1	68.7	55.3	13.36	5.140	
2,200.0	2,200.0	2,194.2	2,193.5	6.7	6.8	100.90	-14.3	74.3	76.0	62.3	13.64	5.571	
2,300.0	2,300.0	2,293.6	2,292.3	6.8	6.9	104.85	-21.7	81.7	84.9	70.9	13.93	6.090	
2,400.0	2,400.0	2,393.0	2,391.2	6.9	7.1	108.04	-29.0	89.0	94.0	79.8	14.24	6.602	
2,500.0	2,500.0	2,492.5	2,490.1	7.0	7.3	110.67	-36.4	96.4	103.5	88.9	14.57	7.100	
2,600.0	2,600.0	2,591.9	2,589.0	7.2	7.6	112.85	-43.7	103.7	113.1	98.2	14.92	7.580	
2,700.0	2,700.0	2,691.4	2,687.9	7.3	7.8	114.68	-51.1	111.1	122.8	107.6	15.29	8.036	
2,800.0	2,800.0	2,789.2	2,785.2	7.4	8.1	115.72	-57.5	119.3	133.2	117.6	15.64	8.517	
2,900.0	2,900.0	2,886.5	2,881.8	7.5	8.3	115.40	-61.7	130.0	145.1	129.0	16.01	9.059	
3,000.0	3,000.0	2,983.4	2,977.8	7.7	8.6	114.05	-63.9	143.1	158.3	141.9	16.39	9.658	
3,100.0	3,100.0	3,079.3	3,072.5	7.8	8.8	-157.12	-63.9	158.6	174.4	157.7	16.75	10.414	
3,200.0	3,199.9	3,177.1	3,168.7	7.9	9.1	-159.63	-63.0	175.6	193.9	176.8	17.14	11.316	
3,300.0	3,299.7	3,274.2	3,264.4	8.1	9.4	-161.88	-62.0	192.4	216.2	198.7	17.56	12.312	
3,400.0	3,399.3	3,370.7	3,359.4	8.2	9.6	-163.86	-61.1	209.1	241.2	223.2	18.01	13.393	
3,500.0	3,498.6	3,466.4	3,453.7	8.4	9.9	-165.59	-60.1	225.7	268.9	250.5	18.49	14.545	
3,600.0	3,597.6	3,561.6	3,547.4	8.6	10.2	-167.15	-59.2	242.2	298.8	279.8	18.94	15.775	
3,700.0	3,696.6	3,656.7	3,641.0	8.7	10.6	-168.46	-58.2	258.7	328.9	309.4	19.45	16.911	
3,800.0	3,795.7	3,751.8	3,734.7	9.0	10.9	-169.55	-57.3	275.2	359.1	339.2	19.98	17.972	
3,900.0	3,894.7	3,846.9	3,828.4	9.2	11.2	-170.47	-56.4	291.7	389.5	369.0	20.51	18.987	
4,000.0	3,993.8	3,942.2	3,922.2	9.4	11.6	-171.27	-55.4	308.2	419.3	398.2	21.10	19.876	
4,100.0	4,093.0	4,037.8	4,016.4	9.7	11.9	-171.95	-54.5	324.8	448.4	426.7	21.69	20.669	
4,200.0	4,192.4	4,133.6	4,110.7	9.9	12.2	-172.53	-53.5	341.4	476.6	454.3	22.30	21.370	
4,300.0	4,291.8	4,229.7	4,205.3	10.2	12.6	-173.04	-52.6	358.0	504.1	481.2	22.93	21.986	
4,400.0	4,391.3	4,326.0	4,300.2	10.4	13.0	-173.48	-51.6	374.7	530.8	507.2	23.57	22.524	
4,500.0	4,490.9	4,422.5	4,395.2	10.7	13.3	-173.87	-50.7	391.5	556.6	532.4	24.21	22.990	
4,600.0	4,590.6	4,519.3	4,490.5	11.0	13.7	-174.21	-49.7	408.3	581.7	556.8	24.87	23.393	
4,700.0	4,690.3	4,616.2	4,586.0	11.3	14.1	-174.52	-48.8	425.1	605.9	580.4	25.53	23.736	
4,800.0	4,790.1	4,713.4	4,681.7	11.6	14.5	-174.80	-47.8	441.9	629.3	603.1	26.19	24.027	
4,900.0	4,890.0	4,810.8	4,777.7	11.8	14.9	-175.05	-46.9	458.8	651.8	625.0	26.86	24.270	
5,000.0	4,989.9	4,908.4	4,873.8	12.1	15.3	-175.27	-45.9	475.7	673.6	646.0	27.53	24.470	
5,100.0	5,089.8	5,006.2	4,970.0	12.4	15.7	-175.48	-45.0	492.7	694.4	666.2	28.19	24.633	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,189.8	5,104.1	5,066.5	12.6	16.1	-175.67	-44.0	509.7	714.5	685.6	28.85	24.762	
5,300.0	5,289.8	5,202.2	5,163.1	12.8	16.5	-175.85	-43.0	526.7	733.6	704.1	29.51	24.863	
5,400.0	5,389.7	5,300.5	5,259.9	13.0	16.9	-176.01	-42.1	543.7	752.0	721.8	30.15	24.945	
5,500.0	5,489.7	5,399.0	5,356.9	13.1	17.3	92.85	-41.1	560.8	769.5	738.8	30.69	25.071	
5,600.0	5,589.7	5,497.4	5,453.8	13.2	17.7	92.71	-40.1	577.8	786.8	755.5	31.23	25.193	
5,700.0	5,689.7	5,595.9	5,550.8	13.3	18.1	92.59	-39.1	594.9	804.0	772.3	31.77	25.310	
5,800.0	5,789.7	5,694.4	5,647.8	13.4	18.5	92.46	-38.2	612.0	821.3	789.0	32.31	25.421	
5,900.0	5,889.7	5,792.9	5,744.8	13.4	18.9	92.34	-37.2	629.1	838.6	805.7	32.85	25.525	
6,000.0	5,989.7	5,891.4	5,841.8	13.5	19.3	92.23	-36.2	646.1	855.9	822.5	33.40	25.622	
6,100.0	6,089.7	5,989.8	5,938.8	13.6	19.8	92.12	-35.3	663.2	873.2	839.2	33.96	25.714	
6,200.0	6,189.7	6,088.3	6,035.8	13.6	20.2	92.02	-34.3	680.3	890.5	856.0	34.51	25.801	
6,300.0	6,289.7	6,186.8	6,132.7	13.7	20.6	91.92	-33.3	697.4	907.8	872.7	35.07	25.883	
6,400.0	6,389.7	6,285.3	6,229.7	13.8	21.0	91.82	-32.4	714.4	925.1	889.4	35.63	25.960	
6,500.0	6,489.7	6,383.8	6,326.7	13.9	21.4	91.73	-31.4	731.5	942.4	906.2	36.20	26.032	
6,600.0	6,589.7	6,489.1	6,430.5	13.9	21.9	91.63	-30.4	749.6	959.5	922.7	36.79	26.080	
6,700.0	6,689.7	6,607.9	6,547.8	14.0	22.4	91.54	-29.3	768.2	975.1	937.6	37.47	26.023	
6,800.0	6,789.7	6,727.3	6,666.1	14.1	22.9	91.46	-28.4	784.4	988.7	950.5	38.13	25.930	
6,900.0	6,889.7	6,847.5	6,785.4	14.2	23.3	91.39	-27.6	798.2	1,000.1	961.4	38.76	25.806	
7,000.0	6,989.7	6,968.1	6,905.6	14.2	23.8	91.34	-27.0	809.5	1,009.5	970.2	39.35	25.655	
7,100.0	7,089.7	7,089.2	7,026.3	14.3	24.2	91.30	-26.5	818.3	1,016.8	976.9	39.90	25.482	
7,200.0	7,189.7	7,210.6	7,147.5	14.4	24.7	91.27	-26.1	824.6	1,022.0	981.6	40.40	25.294	
7,300.0	7,289.7	7,332.2	7,269.1	14.4	25.0	91.26	-25.9	828.4	1,025.1	984.2	40.83	25.103	
7,400.0	7,389.7	7,452.9	7,389.7	14.5	25.2	91.25	-25.8	829.6	1,026.0	984.9	41.10	24.963	
7,500.0	7,489.7	7,552.9	7,489.7	14.6	25.3	91.25	-25.8	829.6	1,026.0	984.8	41.18	24.914	
7,600.0	7,589.7	7,652.9	7,589.7	14.7	25.3	91.25	-25.8	829.6	1,026.0	984.7	41.27	24.859	
7,700.0	7,689.7	7,752.9	7,689.7	14.7	25.3	91.25	-25.8	829.6	1,026.0	984.7	41.36	24.805	
7,800.0	7,789.7	7,852.9	7,789.7	14.8	25.4	91.25	-25.8	829.6	1,026.0	984.6	41.46	24.750	
7,900.0	7,889.7	7,952.9	7,889.7	14.9	25.4	91.25	-25.8	829.6	1,026.0	984.5	41.55	24.695	
8,000.0	7,989.7	8,052.9	7,989.7	15.0	25.4	91.25	-25.8	829.6	1,026.0	984.4	41.64	24.640	
8,100.0	8,089.7	8,152.9	8,089.7	15.0	25.5	91.25	-25.8	829.6	1,026.0	984.3	41.73	24.585	
8,200.0	8,189.7	8,252.9	8,189.7	15.1	25.5	91.25	-25.8	829.6	1,026.0	984.2	41.83	24.530	
8,300.0	8,289.7	8,352.9	8,289.7	15.2	25.5	91.25	-25.8	829.6	1,026.0	984.1	41.92	24.476	
8,400.0	8,389.7	8,452.9	8,389.7	15.2	25.6	91.25	-25.8	829.6	1,026.0	984.0	42.01	24.421	
8,500.0	8,489.7	8,552.9	8,489.7	15.3	25.6	91.25	-25.8	829.6	1,026.0	983.9	42.11	24.366	
8,600.0	8,589.7	8,652.9	8,589.7	15.4	25.6	91.25	-25.8	829.6	1,026.0	983.8	42.20	24.311	
8,700.0	8,689.7	8,752.9	8,689.7	15.5	25.7	91.25	-25.8	829.6	1,026.0	983.7	42.30	24.256	
8,800.0	8,789.7	8,852.9	8,789.7	15.5	25.7	91.25	-25.8	829.6	1,026.0	983.6	42.39	24.202	
8,900.0	8,889.7	8,952.9	8,889.7	15.6	25.7	91.25	-25.8	829.6	1,026.0	983.5	42.49	24.147	
9,000.0	8,989.7	9,052.9	8,989.7	15.7	25.8	91.25	-25.8	829.6	1,026.0	983.4	42.59	24.092	
9,100.0	9,089.7	9,152.9	9,089.7	15.8	25.8	91.25	-25.8	829.6	1,026.0	983.3	42.68	24.038	
9,200.0	9,189.7	9,252.9	9,189.7	15.8	25.8	91.25	-25.8	829.6	1,026.0	983.2	42.78	23.983	
9,300.0	9,289.7	9,352.9	9,289.7	15.9	25.9	91.25	-25.8	829.6	1,026.0	983.1	42.88	23.928	
9,400.0	9,389.7	9,452.9	9,389.7	16.0	25.9	91.25	-25.8	829.6	1,026.0	983.0	42.98	23.874	
9,500.0	9,489.7	9,552.9	9,489.7	16.1	26.0	91.25	-25.8	829.6	1,026.0	982.9	43.08	23.819	
9,600.0	9,589.7	9,652.9	9,589.7	16.1	26.0	91.25	-25.8	829.6	1,026.0	982.8	43.17	23.765	
9,700.0	9,689.7	9,752.9	9,689.7	16.2	26.0	91.25	-25.8	829.6	1,026.0	982.7	43.27	23.710	
9,800.0	9,789.7	9,852.9	9,789.7	16.3	26.1	91.25	-25.8	829.6	1,026.0	982.6	43.37	23.656	
9,900.0	9,889.7	9,952.9	9,889.7	16.4	26.1	91.25	-25.8	829.6	1,026.0	982.5	43.47	23.601	
10,000.0	9,989.7	10,052.9	9,989.7	16.4	26.1	91.25	-25.8	829.6	1,026.0	982.4	43.57	23.547	
10,100.0	10,089.7	10,152.9	10,089.7	16.5	26.2	91.25	-25.8	829.6	1,026.0	982.3	43.67	23.493	
10,200.0	10,189.7	10,252.9	10,189.7	16.6	26.2	91.25	-25.8	829.6	1,026.0	982.2	43.78	23.438	
10,300.0	10,289.7	10,352.9	10,289.7	16.7	26.3	91.25	-25.8	829.6	1,026.0	982.1	43.88	23.384	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	10,389.7	10,452.9	10,389.7	16.7	26.3	91.25	-25.8	829.6	1,026.0	982.0	43.98	23.330	
10,500.0	10,489.7	10,552.9	10,489.7	16.8	26.3	91.25	-25.8	829.6	1,026.0	981.9	44.08	23.276	
10,600.0	10,589.7	10,652.9	10,589.7	16.9	26.4	91.25	-25.8	829.6	1,026.0	981.8	44.18	23.222	
10,700.0	10,689.7	10,752.9	10,689.7	17.0	26.4	91.25	-25.8	829.6	1,026.0	981.7	44.29	23.168	
10,800.0	10,789.7	10,853.5	10,790.4	17.0	26.4	91.48	-25.7	829.6	1,026.0	981.7	44.37	23.126	
10,900.0	10,889.0	10,958.3	10,894.3	17.1	26.5	91.45	-13.7	829.5	1,026.0	981.6	44.41	23.101	
11,000.0	10,984.9	11,062.9	10,994.2	17.1	26.5	91.38	17.0	829.4	1,026.0	981.5	44.44	23.086	
11,100.0	11,074.4	11,167.2	11,086.6	17.2	26.5	91.26	65.0	829.2	1,025.9	981.5	44.47	23.071	
11,200.0	11,155.0	11,271.0	11,168.4	17.3	26.5	91.10	128.7	828.9	1,025.9	981.4	44.50	23.054	
11,300.0	11,224.0	11,374.1	11,237.0	17.4	26.5	90.91	205.6	828.6	1,025.8	981.3	44.55	23.025	
11,400.0	11,279.4	11,476.6	11,290.4	17.5	26.6	90.68	292.8	828.3	1,025.8	981.1	44.64	22.979	
11,500.0	11,319.6	11,578.3	11,327.3	17.6	26.7	90.44	387.5	827.9	1,025.7	980.9	44.77	22.910	
11,600.0	11,343.3	11,679.2	11,346.7	17.7	26.7	90.19	486.4	827.5	1,025.7	980.7	44.95	22.818	
11,657.0	11,349.5	11,736.3	11,349.9	17.8	26.8	90.02	543.4	827.3	1,025.7	980.6	45.08	22.753	
11,700.0	11,350.0	11,779.4	11,350.0	17.8	26.8	90.00	586.4	827.1	1,025.7	980.5	45.18	22.705	
11,800.0	11,350.0	11,879.4	11,350.0	18.0	26.9	90.00	686.4	826.7	1,025.7	980.2	45.45	22.566	
11,900.0	11,350.0	11,979.4	11,350.0	18.1	27.1	90.00	786.4	826.3	1,025.7	979.9	45.78	22.405	
12,000.0	11,350.0	12,079.4	11,350.0	18.3	27.3	90.00	886.4	825.9	1,025.7	979.5	46.15	22.224	
12,100.0	11,350.0	12,179.4	11,350.0	18.5	27.4	90.00	986.4	825.5	1,025.7	979.1	46.57	22.023	
12,200.0	11,350.0	12,279.4	11,350.0	18.8	27.7	90.00	1,086.4	825.1	1,025.7	978.7	47.04	21.804	
12,300.0	11,350.0	12,379.4	11,350.0	19.1	27.9	90.00	1,186.4	824.7	1,025.7	978.2	47.55	21.570	
12,400.0	11,350.0	12,479.4	11,350.0	19.4	28.1	90.00	1,286.4	824.3	1,025.7	977.6	48.10	21.323	
12,500.0	11,350.0	12,579.4	11,350.0	19.8	28.4	90.00	1,386.4	823.9	1,025.7	977.0	48.70	21.062	
12,600.0	11,350.0	12,679.4	11,350.0	20.1	28.7	90.00	1,486.4	823.5	1,025.7	976.4	49.33	20.792	
12,700.0	11,350.0	12,779.4	11,350.0	20.5	29.0	90.00	1,586.4	823.1	1,025.7	975.7	50.00	20.513	
12,800.0	11,350.0	12,879.4	11,350.0	20.9	29.3	90.00	1,686.4	822.7	1,025.7	975.0	50.71	20.226	
12,900.0	11,350.0	12,979.4	11,350.0	21.4	29.6	90.00	1,786.4	822.3	1,025.7	974.3	51.46	19.934	
13,000.0	11,350.0	13,079.4	11,350.0	21.8	30.0	90.00	1,886.4	821.9	1,025.7	973.5	52.23	19.638	
13,100.0	11,350.0	13,179.4	11,350.0	22.3	30.4	90.00	1,986.4	821.5	1,025.7	972.7	53.04	19.338	
13,200.0	11,350.0	13,279.4	11,350.0	22.8	30.7	90.00	2,086.4	821.1	1,025.7	971.8	53.88	19.037	
13,300.0	11,350.0	13,379.4	11,350.0	23.3	31.1	90.00	2,186.4	820.7	1,025.7	971.0	54.75	18.735	
13,400.0	11,350.0	13,479.4	11,350.0	23.8	31.6	90.00	2,286.4	820.3	1,025.7	970.1	55.64	18.434	
13,500.0	11,350.0	13,579.4	11,350.0	24.4	32.0	90.00	2,386.4	819.9	1,025.7	969.2	56.57	18.133	
13,600.0	11,350.0	13,679.4	11,350.0	24.9	32.4	90.00	2,486.4	819.5	1,025.7	968.2	57.52	17.834	
13,700.0	11,350.0	13,779.4	11,350.0	25.5	32.9	90.00	2,586.4	819.1	1,025.7	967.3	58.49	17.538	
13,800.0	11,350.0	13,879.4	11,350.0	26.0	33.3	90.00	2,686.4	818.7	1,025.7	966.3	59.48	17.245	
13,900.0	11,350.0	13,979.4	11,350.0	26.6	33.8	90.00	2,786.4	818.3	1,025.7	965.2	60.50	16.955	
14,000.0	11,350.0	14,079.4	11,350.0	27.2	34.3	90.00	2,886.4	817.9	1,025.7	964.2	61.53	16.669	
14,100.0	11,350.0	14,179.4	11,350.0	27.8	34.8	90.00	2,986.4	817.5	1,025.7	963.2	62.59	16.388	
14,200.0	11,350.0	14,279.4	11,350.0	28.4	35.3	90.00	3,086.4	817.1	1,025.8	962.1	63.67	16.112	
14,300.0	11,350.0	14,379.4	11,350.0	29.0	35.8	90.00	3,186.4	816.7	1,025.8	961.0	64.76	15.840	
14,400.0	11,350.0	14,479.4	11,350.0	29.6	36.3	90.00	3,286.4	816.3	1,025.8	959.9	65.87	15.573	
14,500.0	11,350.0	14,579.4	11,350.0	30.3	36.8	90.00	3,386.4	815.9	1,025.8	958.8	66.99	15.312	
14,600.0	11,350.0	14,679.4	11,350.0	30.9	37.4	90.00	3,486.4	815.5	1,025.8	957.6	68.13	15.056	
14,700.0	11,350.0	14,779.4	11,350.0	31.5	37.9	90.00	3,586.4	815.1	1,025.8	956.5	69.29	14.805	
14,800.0	11,350.0	14,879.4	11,350.0	32.2	38.5	90.00	3,686.4	814.7	1,025.8	955.3	70.45	14.559	
14,900.0	11,350.0	14,979.4	11,350.0	32.8	39.0	90.00	3,786.4	814.3	1,025.8	954.1	71.64	14.319	
15,000.0	11,350.0	15,079.4	11,350.0	33.5	39.6	90.00	3,886.4	813.9	1,025.8	952.9	72.83	14.085	
15,100.0	11,350.0	15,179.4	11,350.0	34.2	40.2	90.00	3,986.4	813.5	1,025.8	951.7	74.03	13.856	
15,200.0	11,350.0	15,279.4	11,350.0	34.8	40.8	90.00	4,086.4	813.1	1,025.8	950.5	75.25	13.632	
15,300.0	11,350.0	15,379.4	11,350.0	35.5	41.3	90.00	4,186.4	812.7	1,025.8	949.3	76.48	13.413	
15,400.0	11,350.0	15,479.4	11,350.0	36.2	41.9	90.00	4,286.4	812.3	1,025.8	948.1	77.71	13.200	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	11,350.0	15,579.4	11,350.0	36.8	42.5	90.00	4,386.4	811.9	1,025.8	946.8	78.96	12.991	
15,600.0	11,350.0	15,679.4	11,350.0	37.5	43.1	90.00	4,486.4	811.5	1,025.8	945.6	80.21	12.788	
15,700.0	11,350.0	15,779.4	11,350.0	38.2	43.7	90.00	4,586.4	811.1	1,025.8	944.3	81.48	12.590	
15,800.0	11,350.0	15,879.4	11,350.0	38.9	44.4	90.00	4,686.4	810.7	1,025.8	943.0	82.75	12.396	
15,900.0	11,350.0	15,979.4	11,350.0	39.6	45.0	90.00	4,786.4	810.3	1,025.8	941.8	84.03	12.207	
16,000.0	11,350.0	16,079.4	11,350.0	40.3	45.6	90.00	4,886.4	809.9	1,025.8	940.5	85.32	12.023	
16,100.0	11,350.0	16,179.4	11,350.0	41.0	46.2	90.00	4,986.4	809.5	1,025.8	939.2	86.62	11.843	
16,200.0	11,350.0	16,279.4	11,350.0	41.7	46.9	90.00	5,086.4	809.1	1,025.8	937.9	87.92	11.668	
16,300.0	11,350.0	16,379.4	11,350.0	42.3	47.5	90.00	5,186.4	808.7	1,025.8	936.6	89.23	11.496	
16,400.0	11,350.0	16,479.4	11,350.0	43.1	48.1	90.00	5,286.4	808.3	1,025.8	935.3	90.54	11.329	
16,500.0	11,350.0	16,579.4	11,350.0	43.8	48.8	90.00	5,386.4	807.9	1,025.8	933.9	91.87	11.166	
16,600.0	11,350.0	16,679.4	11,350.0	44.5	49.4	90.00	5,486.3	807.5	1,025.8	932.6	93.19	11.007	
16,700.0	11,350.0	16,779.4	11,350.0	45.2	50.1	90.00	5,586.3	807.1	1,025.8	931.3	94.53	10.852	
16,800.0	11,350.0	16,879.4	11,350.0	45.9	50.7	90.00	5,686.3	806.7	1,025.8	930.0	95.86	10.701	
16,900.0	11,350.0	16,979.4	11,350.0	46.6	51.4	90.00	5,786.3	806.3	1,025.8	928.6	97.21	10.553	
17,000.0	11,350.0	17,079.4	11,350.0	47.3	52.0	90.00	5,886.3	805.8	1,025.8	927.3	98.56	10.409	
17,100.0	11,350.0	17,179.4	11,350.0	48.0	52.7	90.00	5,986.3	805.4	1,025.8	925.9	99.91	10.268	
17,200.0	11,350.0	17,279.4	11,350.0	48.7	53.4	90.00	6,086.3	805.0	1,025.8	924.6	101.27	10.130	
17,300.0	11,350.0	17,379.4	11,350.0	49.5	54.0	90.00	6,186.3	804.6	1,025.8	923.2	102.63	9.996	
17,400.0	11,350.0	17,479.4	11,350.0	50.2	54.7	90.00	6,286.3	804.2	1,025.8	921.8	103.99	9.864	
17,500.0	11,350.0	17,579.4	11,350.0	50.9	55.4	90.00	6,386.3	803.8	1,025.8	920.5	105.36	9.736	
17,600.0	11,350.0	17,679.4	11,350.0	51.6	56.0	90.00	6,486.3	803.4	1,025.8	919.1	106.74	9.611	
17,700.0	11,350.0	17,779.4	11,350.0	52.3	56.7	90.00	6,586.3	803.0	1,025.8	917.7	108.12	9.488	
17,800.0	11,350.0	17,879.4	11,350.0	53.1	57.4	90.00	6,686.3	802.6	1,025.8	916.3	109.50	9.369	
17,900.0	11,350.0	17,979.4	11,350.0	53.8	58.1	90.00	6,786.3	802.2	1,025.8	915.0	110.88	9.252	
18,000.0	11,350.0	18,079.4	11,350.0	54.5	58.8	90.00	6,886.3	801.8	1,025.8	913.6	112.27	9.137	
18,100.0	11,350.0	18,179.4	11,350.0	55.2	59.4	90.00	6,986.3	801.4	1,025.8	912.2	113.66	9.026	
18,200.0	11,350.0	18,279.4	11,350.0	56.0	60.1	90.00	7,086.3	801.0	1,025.8	910.8	115.05	8.916	
18,300.0	11,350.0	18,379.4	11,350.0	56.7	60.8	90.00	7,186.3	800.6	1,025.9	909.4	116.45	8.809	
18,400.0	11,350.0	18,479.4	11,350.0	57.4	61.5	90.00	7,286.3	800.2	1,025.9	908.0	117.85	8.705	
18,500.0	11,350.0	18,579.4	11,350.0	58.2	62.2	90.00	7,386.3	799.8	1,025.9	906.6	119.25	8.602	
18,600.0	11,350.0	18,679.4	11,350.0	58.9	62.9	90.00	7,486.3	799.4	1,025.9	905.2	120.66	8.502	
18,700.0	11,350.0	18,779.4	11,350.0	59.6	63.6	90.00	7,586.3	799.0	1,025.9	903.8	122.07	8.404	
18,800.0	11,350.0	18,879.4	11,350.0	60.4	64.3	90.00	7,686.3	798.6	1,025.9	902.4	123.48	8.308	
18,900.0	11,350.0	18,979.4	11,350.0	61.1	65.0	90.00	7,786.3	798.2	1,025.9	901.0	124.89	8.214	
19,000.0	11,350.0	19,079.4	11,350.0	61.8	65.7	90.00	7,886.3	797.8	1,025.9	899.6	126.30	8.122	
19,100.0	11,350.0	19,179.4	11,350.0	62.6	66.4	90.00	7,986.3	797.4	1,025.9	898.1	127.72	8.032	
19,200.0	11,350.0	19,279.4	11,350.0	63.3	67.1	90.00	8,086.3	797.0	1,025.9	896.7	129.14	7.944	
19,300.0	11,350.0	19,379.4	11,350.0	64.0	67.8	90.00	8,186.3	796.6	1,025.9	895.3	130.56	7.857	
19,400.0	11,350.0	19,479.4	11,350.0	64.8	68.5	90.00	8,286.3	796.2	1,025.9	893.9	131.98	7.773	
19,500.0	11,350.0	19,579.4	11,350.0	65.5	69.2	90.00	8,386.3	795.8	1,025.9	892.5	133.41	7.690	
19,600.0	11,350.0	19,679.4	11,350.0	66.3	69.9	90.00	8,486.3	795.4	1,025.9	891.0	134.84	7.608	
19,700.0	11,350.0	19,779.4	11,350.0	67.0	70.6	90.00	8,586.3	795.0	1,025.9	889.6	136.27	7.529	
19,800.0	11,350.0	19,879.4	11,350.0	67.7	71.3	90.00	8,686.3	794.6	1,025.9	888.2	137.70	7.450	
19,900.0	11,350.0	19,979.4	11,350.0	68.5	72.1	90.00	8,786.3	794.2	1,025.9	886.8	139.13	7.374	
20,000.0	11,350.0	20,079.4	11,350.0	69.2	72.8	90.00	8,886.3	793.8	1,025.9	885.3	140.56	7.298	
20,100.0	11,350.0	20,179.4	11,350.0	70.0	73.5	90.00	8,986.3	793.4	1,025.9	883.9	142.00	7.225	
20,200.0	11,350.0	20,279.4	11,350.0	70.7	74.2	90.00	9,086.3	793.0	1,025.9	882.5	143.44	7.152	
20,300.0	11,350.0	20,379.4	11,350.0	71.5	74.9	90.00	9,186.3	792.6	1,025.9	881.0	144.88	7.081	
20,400.0	11,350.0	20,479.4	11,350.0	72.2	75.6	90.00	9,286.3	792.2	1,025.9	879.6	146.32	7.012	
20,500.0	11,350.0	20,579.4	11,350.0	72.9	76.3	90.00	9,386.3	791.8	1,025.9	878.1	147.76	6.943	
20,600.0	11,350.0	20,679.4	11,350.0	73.7	77.1	90.00	9,486.3	791.4	1,025.9	876.7	149.20	6.876	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,350.0	20,779.4	11,350.0	74.4	77.8	90.00	9,586.3	791.0	1,025.9	875.3	150.65	6.810	
20,800.0	11,350.0	20,879.4	11,350.0	75.2	78.5	90.00	9,686.3	790.6	1,025.9	873.8	152.09	6.745	
20,900.0	11,350.0	20,979.4	11,350.0	75.9	79.2	90.00	9,786.3	790.2	1,025.9	872.4	153.54	6.682	
21,000.0	11,350.0	21,079.4	11,350.0	76.7	79.9	90.00	9,886.3	789.8	1,025.9	870.9	154.99	6.619	
21,100.0	11,350.0	21,179.4	11,350.0	77.4	80.7	90.00	9,986.3	789.4	1,025.9	869.5	156.44	6.558	
21,200.0	11,350.0	21,279.4	11,350.0	78.2	81.4	90.00	10,086.3	789.0	1,025.9	868.0	157.89	6.498	
21,300.0	11,350.0	21,379.4	11,350.0	78.9	82.1	90.00	10,186.3	788.6	1,025.9	866.6	159.34	6.439	
21,400.0	11,350.0	21,479.4	11,350.0	79.7	82.8	90.00	10,286.3	788.2	1,025.9	865.1	160.79	6.380	
21,500.0	11,350.0	21,579.4	11,350.0	80.4	83.6	90.00	10,386.3	787.8	1,025.9	863.7	162.25	6.323	
21,600.0	11,350.0	21,679.4	11,350.0	81.2	84.3	90.00	10,486.3	787.4	1,025.9	862.2	163.70	6.267	
21,700.0	11,350.0	21,779.4	11,350.0	81.9	85.0	90.00	10,586.3	787.0	1,025.9	860.8	165.16	6.212	
21,800.0	11,350.0	21,879.4	11,350.0	82.7	85.8	90.00	10,686.3	786.6	1,025.9	859.3	166.62	6.158	
21,900.0	11,350.0	21,979.4	11,350.0	83.4	86.5	90.00	10,786.3	786.2	1,025.9	857.9	168.07	6.104	
22,000.0	11,350.0	22,079.4	11,350.0	84.2	87.2	90.00	10,886.3	785.8	1,025.9	856.4	169.53	6.052	
22,100.0	11,350.0	22,179.4	11,350.0	84.9	87.9	90.00	10,986.3	785.4	1,025.9	855.0	170.99	6.000	
22,200.0	11,350.0	22,279.4	11,350.0	85.7	88.7	90.00	11,086.3	785.0	1,025.9	853.5	172.45	5.949	
22,300.0	11,350.0	22,379.4	11,350.0	86.4	89.4	90.00	11,186.3	784.6	1,025.9	852.0	173.92	5.899	
22,400.0	11,350.0	22,479.4	11,350.0	87.2	90.1	90.00	11,286.3	784.2	1,026.0	850.6	175.38	5.850	
22,500.0	11,350.0	22,579.4	11,350.0	87.9	90.9	90.00	11,386.3	783.8	1,026.0	849.1	176.84	5.802	
22,600.0	11,350.0	22,679.4	11,350.0	88.7	91.6	90.00	11,486.3	783.4	1,026.0	847.7	178.31	5.754	
22,700.0	11,350.0	22,779.4	11,350.0	89.4	92.3	90.00	11,586.3	783.0	1,026.0	846.2	179.77	5.707	
22,800.0	11,350.0	22,879.4	11,350.0	90.2	93.1	90.00	11,686.3	782.6	1,026.0	844.7	181.24	5.661	
22,900.0	11,350.0	22,979.4	11,350.0	90.9	93.8	90.00	11,786.3	782.2	1,026.0	843.3	182.70	5.615	
23,000.0	11,350.0	23,079.4	11,350.0	91.7	94.5	90.00	11,886.3	781.8	1,026.0	841.8	184.17	5.571	
23,100.0	11,350.0	23,179.4	11,350.0	92.4	95.3	90.00	11,986.3	781.4	1,026.0	840.3	185.64	5.527	
23,200.0	11,350.0	23,279.4	11,350.0	93.2	96.0	90.00	12,086.3	781.0	1,026.0	838.9	187.11	5.483	
23,300.0	11,350.0	23,379.4	11,350.0	93.9	96.7	90.00	12,186.3	780.6	1,026.0	837.4	188.58	5.441	
23,400.0	11,350.0	23,479.4	11,350.0	94.7	97.5	90.00	12,286.3	780.2	1,026.0	835.9	190.05	5.399	
23,500.0	11,350.0	23,579.4	11,350.0	95.4	98.2	90.00	12,386.3	779.8	1,026.0	834.5	191.52	5.357	
23,600.0	11,350.0	23,679.4	11,350.0	96.2	99.0	90.00	12,486.3	779.4	1,026.0	833.0	192.99	5.316	
23,700.0	11,350.0	23,779.4	11,350.0	96.9	99.7	90.00	12,586.3	779.0	1,026.0	831.5	194.46	5.276	
23,800.0	11,350.0	23,879.4	11,350.0	97.7	100.4	90.00	12,686.3	778.6	1,026.0	830.1	195.93	5.236	
23,900.0	11,350.0	23,979.4	11,350.0	98.5	101.2	90.00	12,786.3	778.2	1,026.0	828.6	197.41	5.197	
24,000.0	11,350.0	24,079.4	11,350.0	99.2	101.9	90.00	12,886.3	777.8	1,026.0	827.1	198.88	5.159	
24,100.0	11,350.0	24,179.4	11,350.0	100.0	102.7	90.00	12,986.3	777.4	1,026.0	825.6	200.35	5.121	
24,200.0	11,350.0	24,279.4	11,350.0	100.7	103.4	90.00	13,086.3	777.0	1,026.0	824.2	201.83	5.084	
24,300.0	11,350.0	24,379.4	11,350.0	101.5	104.1	90.00	13,186.3	776.6	1,026.0	822.7	203.30	5.047	
24,400.0	11,350.0	24,479.4	11,350.0	102.2	104.9	90.00	13,286.3	776.2	1,026.0	821.2	204.78	5.010	
24,500.0	11,350.0	24,579.4	11,350.0	103.0	105.6	90.00	13,386.3	775.8	1,026.0	819.7	206.26	4.974	
24,600.0	11,350.0	24,679.4	11,350.0	103.7	106.4	90.00	13,486.3	775.4	1,026.0	818.3	207.73	4.939	
24,700.0	11,350.0	24,779.4	11,350.0	104.5	107.1	90.00	13,586.3	775.0	1,026.0	816.8	209.21	4.904	
24,700.7	11,350.0	24,780.1	11,350.0	104.5	107.1	90.00	13,587.0	775.0	1,026.0	816.8	209.22	4.904	
24,725.4	11,350.0	24,799.9	11,350.0	104.6	107.3	90.00	13,606.8	774.9	1,026.0	816.5	209.52	4.897	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+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	3.0	3.0	87.05	71.7	1,390.0	1,391.9	1,385.4	6.43	216.500	
100.0	100.0	100.0	100.0	3.2	3.2	87.05	71.7	1,390.0	1,391.9	1,385.0	6.89	201.942	
200.0	200.0	200.0	200.0	3.5	3.5	87.05	71.7	1,390.0	1,391.9	1,384.5	7.33	189.932	
300.0	300.0	300.0	300.0	3.7	3.7	87.05	71.7	1,390.0	1,391.9	1,384.1	7.74	179.795	
400.0	400.0	400.0	400.0	3.9	3.9	87.05	71.7	1,390.0	1,391.9	1,383.7	8.14	171.084	
500.0	500.0	500.0	500.0	4.1	4.1	87.05	71.7	1,390.0	1,391.9	1,383.3	8.51	163.487	
600.0	600.0	600.0	600.0	4.2	4.2	87.05	71.7	1,390.0	1,391.9	1,383.0	8.88	156.783	
700.0	700.0	700.0	700.0	4.4	4.4	87.05	71.7	1,390.0	1,391.9	1,382.6	9.23	150.806	
800.0	800.0	800.0	800.0	4.6	4.6	87.05	71.7	1,390.0	1,391.9	1,382.3	9.57	145.432	
900.0	900.0	900.0	900.0	4.8	4.8	87.05	71.7	1,390.0	1,391.9	1,382.0	9.90	140.564	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.05	71.7	1,390.0	1,391.9	1,381.6	10.22	136.127	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.05	71.7	1,390.0	1,391.9	1,381.3	10.54	132.059	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.05	71.7	1,390.0	1,391.9	1,381.0	10.85	128.311	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.05	71.7	1,390.0	1,391.9	1,380.7	11.15	124.842	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.05	71.7	1,390.0	1,391.9	1,380.4	11.44	121.618	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.05	71.7	1,390.0	1,391.9	1,380.1	11.73	118.613	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.05	71.7	1,390.0	1,391.9	1,379.8	12.02	115.801	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.05	71.7	1,390.0	1,391.9	1,379.6	12.30	113.162	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.05	71.7	1,390.0	1,391.9	1,379.3	12.58	110.679	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.05	71.7	1,390.0	1,391.9	1,379.0	12.85	108.338	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.05	71.7	1,390.0	1,391.9	1,378.7	13.12	106.124	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	87.05	71.7	1,390.0	1,391.9	1,378.5	13.38	104.026	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	87.05	71.7	1,390.0	1,391.9	1,378.2	13.64	102.035	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	87.05	71.7	1,390.0	1,391.9	1,378.0	13.90	100.141	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	87.05	71.7	1,390.0	1,391.9	1,377.7	14.15	98.337	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	87.05	71.7	1,390.0	1,391.9	1,377.5	14.41	96.616	
2,600.0	2,600.0	2,600.0	2,600.0	7.2	7.2	87.05	71.7	1,390.0	1,391.9	1,377.2	14.66	94.971	
2,700.0	2,700.0	2,700.0	2,700.0	7.3	7.3	87.05	71.7	1,390.0	1,391.9	1,377.0	14.90	93.398	
2,800.0	2,800.0	2,800.0	2,800.0	7.4	7.4	87.05	71.7	1,390.0	1,391.9	1,376.7	15.15	91.890	
2,900.0	2,900.0	2,900.0	2,900.0	7.5	7.5	87.05	71.7	1,390.0	1,391.9	1,376.5	15.39	90.443	
3,000.0	3,000.0	3,000.0	3,000.0	7.7	7.7	87.05	71.7	1,390.0	1,391.9	1,376.2	15.63	89.053 CC, ES	
3,100.0	3,100.0	3,100.0	3,100.0	7.8	7.8	178.05	71.7	1,390.0	1,393.2	1,377.3	15.88	87.724	
3,200.0	3,199.9	3,199.9	3,199.9	7.9	7.9	178.05	71.7	1,390.0	1,397.1	1,381.0	16.13	86.625	
3,300.0	3,299.7	3,299.7	3,299.7	8.1	8.0	178.06	71.7	1,390.0	1,403.6	1,387.2	16.39	85.650	
3,400.0	3,399.3	3,399.3	3,399.3	8.2	8.1	178.07	71.7	1,390.0	1,412.8	1,396.1	16.66	84.779	
3,500.0	3,498.6	3,498.6	3,498.6	8.4	8.3	178.08	71.7	1,390.0	1,424.5	1,407.6	16.96	84.001	
3,600.0	3,597.6	3,597.6	3,597.6	8.6	8.4	178.09	71.7	1,390.0	1,438.3	1,421.1	17.20	83.598	
3,700.0	3,696.6	3,696.6	3,696.6	8.7	8.5	178.11	71.7	1,390.0	1,452.2	1,434.7	17.51	82.931	
3,800.0	3,795.7	3,795.7	3,795.7	9.0	8.6	178.13	71.7	1,390.0	1,466.1	1,448.3	17.83	82.211	
3,900.0	3,894.7	3,894.7	3,894.7	9.2	8.7	178.15	71.7	1,390.0	1,480.0	1,461.8	18.14	81.602	
4,000.0	3,993.8	3,993.8	3,993.8	9.4	8.8	178.17	71.7	1,390.0	1,493.2	1,474.8	18.49	80.744	
4,100.0	4,093.0	4,093.0	4,093.0	9.7	8.9	178.18	71.7	1,390.0	1,505.6	1,486.8	18.86	79.852	
4,200.0	4,192.4	4,192.4	4,192.4	9.9	9.0	178.20	71.7	1,390.0	1,517.2	1,498.0	19.23	78.911	
4,300.0	4,291.8	4,291.8	4,291.8	10.2	9.2	178.21	71.7	1,390.0	1,527.8	1,508.2	19.61	77.931	
4,400.0	4,391.3	4,391.3	4,391.3	10.4	9.3	178.23	71.7	1,390.0	1,537.6	1,517.7	19.99	76.923	
4,500.0	4,490.9	4,490.9	4,490.9	10.7	9.4	178.24	71.7	1,390.0	1,546.6	1,526.2	20.38	75.895	
4,600.0	4,590.6	4,590.6	4,590.6	11.0	9.5	178.25	71.7	1,390.0	1,554.6	1,533.9	20.77	74.854	
4,700.0	4,690.3	4,690.3	4,690.3	11.3	9.6	178.26	71.7	1,390.0	1,561.8	1,540.7	21.16	73.809	
4,800.0	4,790.1	4,790.1	4,790.1	11.6	9.7	178.26	71.7	1,390.0	1,568.1	1,546.6	21.55	72.764	
4,900.0	4,890.0	4,890.0	4,890.0	11.8	9.8	178.27	71.7	1,390.0	1,573.6	1,551.7	21.94	71.727	
5,000.0	4,989.9	4,989.9	4,989.9	12.1	9.9	178.28	71.7	1,390.0	1,578.2	1,555.8	22.32	70.702	
5,100.0	5,089.8	5,089.8	5,089.8	12.4	10.0	178.28	71.7	1,390.0	1,581.9	1,559.2	22.70	69.697	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,189.8	5,189.8	5,189.8	12.6	10.1	178.29	71.7	1,390.0	1,584.7	1,561.6	23.06	68.720	
5,300.0	5,289.8	5,289.8	5,289.8	12.8	10.2	178.29	71.7	1,390.0	1,586.7	1,563.3	23.41	67.781	
5,400.0	5,389.7	5,389.7	5,389.7	13.0	10.3	178.29	71.7	1,390.0	1,587.8	1,564.0	23.73	66.906	
5,500.0	5,489.7	5,489.7	5,489.7	13.1	10.4	87.29	71.7	1,390.0	1,588.0	1,564.1	23.92	66.376	
5,600.0	5,589.7	5,589.7	5,589.7	13.2	10.5	87.29	71.7	1,390.0	1,588.0	1,563.9	24.10	65.900	
5,700.0	5,689.7	5,689.7	5,689.7	13.3	10.7	87.29	71.7	1,390.0	1,588.0	1,563.7	24.27	65.443	
5,800.0	5,789.7	5,789.7	5,789.7	13.4	10.8	87.29	71.7	1,390.0	1,588.0	1,563.6	24.43	64.992	
5,900.0	5,889.7	5,889.7	5,889.7	13.4	10.9	87.29	71.7	1,390.0	1,588.0	1,563.4	24.60	64.548	
6,000.0	5,989.7	5,989.7	5,989.7	13.5	11.0	87.29	71.7	1,390.0	1,588.0	1,563.2	24.77	64.110	
6,100.0	6,089.7	6,089.7	6,089.7	13.6	11.1	87.29	71.7	1,390.0	1,588.0	1,563.1	24.94	63.678	
6,200.0	6,189.7	6,189.7	6,189.7	13.6	11.2	87.29	71.7	1,390.0	1,588.0	1,562.9	25.11	63.252	
6,300.0	6,289.7	6,289.7	6,289.7	13.7	11.3	87.29	71.7	1,390.0	1,588.0	1,562.7	25.27	62.832	
6,400.0	6,389.7	6,389.7	6,389.7	13.8	11.4	87.29	71.7	1,390.0	1,588.0	1,562.6	25.44	62.418	
6,500.0	6,489.7	6,489.7	6,489.7	13.9	11.5	87.29	71.7	1,390.0	1,588.0	1,562.4	25.61	62.010	
6,600.0	6,589.7	6,589.7	6,589.7	13.9	11.6	87.29	71.7	1,390.0	1,588.0	1,562.2	25.78	61.607	
6,700.0	6,689.7	6,689.7	6,689.7	14.0	11.7	87.29	71.7	1,390.0	1,588.0	1,562.1	25.94	61.209	
6,800.0	6,789.7	6,789.7	6,789.7	14.1	11.8	87.29	71.7	1,390.0	1,588.0	1,561.9	26.11	60.817	
6,900.0	6,889.7	6,889.7	6,889.7	14.2	11.9	87.29	71.7	1,390.0	1,588.0	1,561.7	26.28	60.430	
7,000.0	6,989.7	6,989.7	6,989.7	14.2	12.0	87.29	71.7	1,390.0	1,588.0	1,561.6	26.45	60.048	
7,100.0	7,089.7	7,089.7	7,089.7	14.3	12.1	87.29	71.7	1,390.0	1,588.0	1,561.4	26.61	59.671	
7,200.0	7,189.7	7,189.7	7,189.7	14.4	12.2	87.29	71.7	1,390.0	1,588.0	1,561.2	26.78	59.299	
7,300.0	7,289.7	7,289.7	7,289.7	14.4	12.3	87.29	71.7	1,390.0	1,588.0	1,561.1	26.95	58.931	
7,400.0	7,389.7	7,389.7	7,389.7	14.5	12.4	87.29	71.7	1,390.0	1,588.0	1,560.9	27.11	58.569	
7,500.0	7,489.7	7,489.7	7,489.7	14.6	12.5	87.29	71.7	1,390.0	1,588.0	1,560.7	27.28	58.210	
7,600.0	7,589.7	7,589.7	7,589.7	14.7	12.6	87.29	71.7	1,390.0	1,588.0	1,560.6	27.45	57.857	
7,700.0	7,689.7	7,689.7	7,689.7	14.7	12.7	87.29	71.7	1,390.0	1,588.0	1,560.4	27.61	57.508	
7,800.0	7,789.7	7,789.7	7,789.7	14.8	12.8	87.29	71.7	1,390.0	1,588.0	1,560.2	27.78	57.163	
7,900.0	7,889.7	7,889.7	7,889.7	14.9	12.9	87.29	71.7	1,390.0	1,588.0	1,560.1	27.95	56.822	
8,000.0	7,989.7	7,989.7	7,989.7	15.0	13.0	87.29	71.7	1,390.0	1,588.0	1,559.9	28.11	56.486	
8,100.0	8,089.7	8,089.7	8,089.7	15.0	13.1	87.29	71.7	1,390.0	1,588.0	1,559.7	28.28	56.153	
8,200.0	8,189.7	8,189.7	8,189.7	15.1	13.2	87.29	71.7	1,390.0	1,588.0	1,559.6	28.45	55.825	
8,300.0	8,289.7	8,289.7	8,289.7	15.2	13.3	87.29	71.7	1,390.0	1,588.0	1,559.4	28.61	55.501	
8,400.0	8,389.7	8,389.7	8,389.7	15.2	13.3	87.29	71.7	1,390.0	1,588.0	1,559.2	28.78	55.180	
8,500.0	8,489.7	8,489.7	8,489.7	15.3	13.4	87.29	71.7	1,390.0	1,588.0	1,559.1	28.94	54.863	
8,600.0	8,589.7	8,589.7	8,589.7	15.4	13.5	87.29	71.7	1,390.0	1,588.0	1,558.9	29.11	54.550	
8,700.0	8,689.7	8,689.7	8,689.7	15.5	13.6	87.29	71.7	1,390.0	1,588.0	1,558.7	29.28	54.241	
8,800.0	8,789.7	8,789.7	8,789.7	15.5	13.7	87.29	71.7	1,390.0	1,588.0	1,558.6	29.44	53.935	
8,900.0	8,889.7	8,889.7	8,889.7	15.6	13.8	87.29	71.7	1,390.0	1,588.0	1,558.4	29.61	53.633	
9,000.0	8,989.7	8,989.7	8,989.7	15.7	13.9	87.29	71.7	1,390.0	1,588.0	1,558.2	29.77	53.334	
9,100.0	9,089.7	9,089.7	9,089.7	15.8	14.0	87.29	71.7	1,390.0	1,588.0	1,558.1	29.94	53.039	
9,200.0	9,189.7	9,189.7	9,189.7	15.8	14.1	87.29	71.7	1,390.0	1,588.0	1,557.9	30.11	52.747	
9,300.0	9,289.7	9,289.7	9,289.7	15.9	14.2	87.29	71.7	1,390.0	1,588.0	1,557.7	30.27	52.458	
9,400.0	9,389.7	9,389.7	9,389.7	16.0	14.3	87.29	71.7	1,390.0	1,588.0	1,557.6	30.44	52.173	
9,500.0	9,489.7	9,489.7	9,489.7	16.1	14.4	87.29	71.7	1,390.0	1,588.0	1,557.4	30.60	51.890	
9,600.0	9,589.7	9,589.7	9,589.7	16.1	14.5	87.29	71.7	1,390.0	1,588.0	1,557.2	30.77	51.611	
9,700.0	9,689.7	9,689.7	9,689.7	16.2	14.6	87.29	71.7	1,390.0	1,588.0	1,557.1	30.93	51.335	
9,800.0	9,789.7	9,789.7	9,789.7	16.3	14.7	87.29	71.7	1,390.0	1,588.0	1,556.9	31.10	51.062	
9,900.0	9,889.7	9,889.7	9,889.7	16.4	14.8	87.29	71.7	1,390.0	1,588.0	1,556.7	31.27	50.792	
10,000.0	9,989.7	9,989.7	9,989.7	16.4	14.9	87.29	71.7	1,390.0	1,588.0	1,556.6	31.43	50.525	
10,100.0	10,089.7	10,089.7	10,089.7	16.5	15.0	87.29	71.7	1,390.0	1,588.0	1,556.4	31.60	50.260	
10,200.0	10,189.7	10,189.7	10,189.7	16.6	15.1	87.29	71.7	1,390.0	1,588.0	1,556.2	31.76	49.999	
10,300.0	10,289.7	10,289.7	10,289.7	16.7	15.1	87.29	71.7	1,390.0	1,588.0	1,556.1	31.93	49.740	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	10,389.7	10,389.7	10,389.7	16.7	15.2	87.29	71.7	1,390.0	1,588.0	1,555.9	32.09	49.484	
10,500.0	10,489.7	10,489.7	10,489.7	16.8	15.3	87.29	71.7	1,390.0	1,588.0	1,555.8	32.26	49.231	
10,600.0	10,589.7	10,589.7	10,589.7	16.9	15.4	87.29	71.7	1,390.0	1,588.0	1,555.6	32.43	48.974	
10,700.0	10,689.7	10,673.1	10,672.9	17.0	15.6	87.15	75.5	1,390.2	1,588.4	1,555.9	32.55	48.793	
10,800.0	10,789.7	10,750.0	10,748.5	17.0	15.7	86.86	89.4	1,390.8	1,590.2	1,557.6	32.66	48.688	
10,900.0	10,889.0	10,825.5	10,820.2	17.1	15.9	86.03	112.8	1,391.7	1,593.0	1,560.2	32.74	48.656	
11,000.0	10,984.9	10,900.0	10,887.4	17.1	16.0	85.28	144.9	1,393.1	1,596.2	1,563.4	32.80	48.664	
11,100.0	11,074.4	10,972.2	10,948.0	17.2	16.2	84.64	184.1	1,394.7	1,599.7	1,566.8	32.86	48.687	
11,200.0	11,155.0	11,050.0	11,007.2	17.3	16.3	84.11	234.4	1,396.8	1,603.3	1,570.4	32.91	48.718	
11,300.0	11,224.0	11,116.7	11,052.1	17.4	16.5	83.73	283.7	1,398.9	1,606.9	1,573.9	32.98	48.719	
11,400.0	11,279.4	11,188.9	11,093.9	17.5	16.6	83.48	342.4	1,401.4	1,610.2	1,577.2	33.06	48.701	
11,500.0	11,319.6	11,261.3	11,128.1	17.6	16.7	83.38	406.1	1,404.0	1,613.4	1,580.2	33.17	48.645	
11,600.0	11,343.3	11,334.3	11,154.1	17.7	16.7	83.43	474.2	1,406.9	1,616.2	1,582.9	33.30	48.540	
11,700.0	11,350.0	11,408.3	11,171.5	17.8	16.8	83.67	546.0	1,409.9	1,618.8	1,585.3	33.46	48.381	
11,800.0	11,350.0	11,484.3	11,179.5	18.0	16.8	83.96	621.5	1,413.1	1,622.2	1,588.5	33.69	48.153	
11,900.0	11,350.0	11,651.5	11,180.0	18.1	16.9	83.99	788.6	1,416.4	1,624.8	1,590.7	34.07	47.687	
12,000.0	11,350.0	11,751.5	11,180.0	18.3	16.9	83.99	888.6	1,416.0	1,624.8	1,590.3	34.47	47.135	
12,100.0	11,350.0	11,851.5	11,180.0	18.5	16.9	83.99	988.6	1,415.7	1,624.8	1,589.8	34.93	46.511	
12,200.0	11,350.0	11,951.5	11,180.0	18.8	17.0	83.99	1,088.6	1,415.3	1,624.8	1,589.3	35.46	45.825	
12,300.0	11,350.0	12,051.5	11,180.0	19.1	17.2	83.99	1,188.6	1,414.9	1,624.8	1,588.8	36.04	45.089	
12,400.0	11,350.0	12,151.5	11,180.0	19.4	17.6	83.99	1,288.6	1,414.5	1,624.8	1,588.1	36.67	44.310	
12,500.0	11,350.0	12,251.5	11,180.0	19.8	17.9	83.99	1,388.6	1,414.1	1,624.8	1,587.5	37.35	43.498	
12,600.0	11,350.0	12,351.5	11,180.0	20.1	18.3	83.99	1,488.6	1,413.7	1,624.8	1,586.7	38.09	42.661	
12,700.0	11,350.0	12,451.5	11,180.0	20.5	18.7	83.99	1,588.6	1,413.3	1,624.8	1,586.0	38.87	41.806	
12,800.0	11,350.0	12,551.5	11,180.0	20.9	19.2	83.99	1,688.6	1,412.9	1,624.9	1,585.2	39.69	40.941	
12,900.0	11,350.0	12,651.5	11,180.0	21.4	19.6	83.99	1,788.6	1,412.5	1,624.9	1,584.3	40.55	40.071	
13,000.0	11,350.0	12,751.5	11,180.0	21.8	20.1	83.99	1,888.6	1,412.1	1,624.9	1,583.4	41.45	39.201	
13,100.0	11,350.0	12,851.5	11,180.0	22.3	20.6	83.99	1,988.6	1,411.7	1,624.9	1,582.5	42.38	38.337	
13,200.0	11,350.0	12,951.5	11,180.0	22.8	21.1	83.99	2,088.6	1,411.3	1,624.9	1,581.5	43.35	37.481	
13,300.0	11,350.0	13,051.5	11,180.0	23.3	21.6	83.99	2,188.6	1,410.9	1,624.9	1,580.5	44.35	36.637	
13,400.0	11,350.0	13,151.5	11,180.0	23.8	22.1	83.99	2,288.6	1,410.5	1,624.9	1,579.5	45.38	35.808	
13,500.0	11,350.0	13,251.5	11,180.0	24.4	22.7	83.99	2,388.6	1,410.1	1,624.9	1,578.5	46.43	34.995	
13,600.0	11,350.0	13,351.5	11,180.0	24.9	23.2	83.99	2,488.6	1,409.8	1,624.9	1,577.4	47.51	34.200	
13,700.0	11,350.0	13,451.5	11,180.0	25.5	23.8	83.99	2,588.6	1,409.4	1,624.9	1,576.3	48.62	33.424	
13,800.0	11,350.0	13,551.5	11,180.0	26.0	24.4	83.99	2,688.6	1,409.0	1,624.9	1,575.2	49.74	32.669	
13,900.0	11,350.0	13,651.5	11,180.0	26.6	25.0	83.99	2,788.6	1,408.6	1,625.0	1,574.1	50.88	31.934	
14,000.0	11,350.0	13,751.5	11,180.0	27.2	25.6	83.99	2,888.6	1,408.2	1,625.0	1,572.9	52.05	31.220	
14,100.0	11,350.0	13,851.5	11,180.0	27.8	26.2	83.99	2,988.6	1,407.8	1,625.0	1,571.7	53.23	30.527	
14,200.0	11,350.0	13,951.5	11,180.0	28.4	26.8	83.99	3,088.6	1,407.4	1,625.0	1,570.6	54.43	29.855	
14,300.0	11,350.0	14,051.5	11,180.0	29.0	27.4	83.99	3,188.6	1,407.0	1,625.0	1,569.4	55.64	29.204	
14,400.0	11,350.0	14,151.5	11,180.0	29.6	28.1	84.00	3,288.6	1,406.6	1,625.0	1,568.1	56.87	28.574	
14,500.0	11,350.0	14,251.5	11,180.0	30.3	28.7	84.00	3,388.6	1,406.2	1,625.0	1,566.9	58.11	27.964	
14,600.0	11,350.0	14,351.5	11,180.0	30.9	29.3	84.00	3,488.6	1,405.8	1,625.0	1,565.7	59.37	27.373	
14,700.0	11,350.0	14,451.5	11,180.0	31.5	30.0	84.00	3,588.6	1,405.4	1,625.0	1,564.4	60.63	26.802	
14,800.0	11,350.0	14,551.5	11,180.0	32.2	30.6	84.00	3,688.6	1,405.0	1,625.0	1,563.1	61.91	26.249	
14,900.0	11,350.0	14,651.5	11,180.0	32.8	31.3	84.00	3,788.6	1,404.6	1,625.1	1,561.9	63.20	25.714	
15,000.0	11,350.0	14,751.5	11,180.0	33.5	32.0	84.00	3,888.6	1,404.2	1,625.1	1,560.6	64.49	25.197	
15,100.0	11,350.0	14,851.5	11,180.0	34.2	32.6	84.00	3,988.6	1,403.8	1,625.1	1,559.3	65.80	24.697	
15,200.0	11,350.0	14,951.5	11,180.0	34.8	33.3	84.00	4,088.6	1,403.5	1,625.1	1,558.0	67.12	24.213	
15,300.0	11,350.0	15,051.5	11,180.0	35.5	34.0	84.00	4,188.6	1,403.1	1,625.1	1,556.7	68.44	23.745	
15,400.0	11,350.0	15,151.5	11,180.0	36.2	34.7	84.00	4,288.6	1,402.7	1,625.1	1,555.3	69.77	23.292	
15,500.0	11,350.0	15,251.5	11,180.0	36.8	35.4	84.00	4,388.6	1,402.3	1,625.1	1,554.0	71.11	22.853	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,600.0	11,350.0	15,351.5	11,180.0	37.5	36.1	84.00	4,488.6	1,401.9	1,625.1	1,552.7	72.46	22.429	
15,700.0	11,350.0	15,451.5	11,180.0	38.2	36.7	84.00	4,588.6	1,401.5	1,625.1	1,551.3	73.81	22.018	
15,800.0	11,350.0	15,551.5	11,180.0	38.9	37.4	84.00	4,688.6	1,401.1	1,625.1	1,550.0	75.17	21.621	
15,900.0	11,350.0	15,651.5	11,180.0	39.6	38.1	84.00	4,788.6	1,400.7	1,625.2	1,548.6	76.53	21.235	
16,000.0	11,350.0	15,751.5	11,180.0	40.3	38.8	84.00	4,888.6	1,400.3	1,625.2	1,547.3	77.90	20.862	
16,100.0	11,350.0	15,851.5	11,180.0	41.0	39.5	84.00	4,988.6	1,399.9	1,625.2	1,545.9	79.28	20.500	
16,200.0	11,350.0	15,951.5	11,180.0	41.7	40.2	84.00	5,088.6	1,399.5	1,625.2	1,544.5	80.66	20.150	
16,300.0	11,350.0	16,051.5	11,180.0	42.3	41.0	84.00	5,188.6	1,399.1	1,625.2	1,543.2	82.04	19.810	
16,400.0	11,350.0	16,151.5	11,180.0	43.1	41.7	84.00	5,288.6	1,398.7	1,625.2	1,541.8	83.43	19.480	
16,500.0	11,350.0	16,251.5	11,180.0	43.8	42.4	84.00	5,388.6	1,398.3	1,625.2	1,540.4	84.82	19.160	
16,600.0	11,350.0	16,351.5	11,180.0	44.5	43.1	84.00	5,488.6	1,397.9	1,625.2	1,539.0	86.22	18.850	
16,700.0	11,350.0	16,451.5	11,180.0	45.2	43.8	84.00	5,588.6	1,397.6	1,625.2	1,537.6	87.62	18.549	
16,800.0	11,350.0	16,551.5	11,180.0	45.9	44.5	84.00	5,688.6	1,397.2	1,625.2	1,536.2	89.02	18.256	
16,900.0	11,350.0	16,651.5	11,180.0	46.6	45.2	84.00	5,788.6	1,396.8	1,625.3	1,534.8	90.43	17.972	
17,000.0	11,350.0	16,751.5	11,180.0	47.3	46.0	84.00	5,888.6	1,396.4	1,625.3	1,533.4	91.84	17.696	
17,100.0	11,350.0	16,851.5	11,180.0	48.0	46.7	84.00	5,988.6	1,396.0	1,625.3	1,532.0	93.26	17.427	
17,200.0	11,350.0	16,951.5	11,180.0	48.7	47.4	84.00	6,088.6	1,395.6	1,625.3	1,530.6	94.68	17.166	
17,300.0	11,350.0	17,051.5	11,180.0	49.5	48.1	84.00	6,188.6	1,395.2	1,625.3	1,529.2	96.10	16.913	
17,400.0	11,350.0	17,151.5	11,180.0	50.2	48.8	84.00	6,288.6	1,394.8	1,625.3	1,527.8	97.52	16.666	
17,500.0	11,350.0	17,251.5	11,180.0	50.9	49.6	84.00	6,388.6	1,394.4	1,625.3	1,526.4	98.95	16.426	
17,600.0	11,350.0	17,351.5	11,180.0	51.6	50.3	84.00	6,488.6	1,394.0	1,625.3	1,524.9	100.38	16.192	
17,700.0	11,350.0	17,451.5	11,180.0	52.3	51.0	84.00	6,588.6	1,393.6	1,625.3	1,523.5	101.81	15.965	
17,800.0	11,350.0	17,551.5	11,180.0	53.1	51.8	84.00	6,688.6	1,393.2	1,625.3	1,522.1	103.24	15.743	
17,900.0	11,350.0	17,651.5	11,180.0	53.8	52.5	84.00	6,788.6	1,392.8	1,625.3	1,520.7	104.68	15.527	
18,000.0	11,350.0	17,751.5	11,180.0	54.5	53.2	84.00	6,888.6	1,392.4	1,625.4	1,519.2	106.11	15.317	
18,100.0	11,350.0	17,851.5	11,180.0	55.2	54.0	84.00	6,988.6	1,392.0	1,625.4	1,517.8	107.55	15.112	
18,200.0	11,350.0	17,951.5	11,180.0	56.0	54.7	84.00	7,088.6	1,391.6	1,625.4	1,516.4	109.00	14.912	
18,300.0	11,350.0	18,051.5	11,180.0	56.7	55.4	84.00	7,188.6	1,391.3	1,625.4	1,514.9	110.44	14.717	
18,400.0	11,350.0	18,151.5	11,180.0	57.4	56.2	84.00	7,288.6	1,390.9	1,625.4	1,513.5	111.89	14.527	
18,500.0	11,350.0	18,251.5	11,180.0	58.2	56.9	84.00	7,388.6	1,390.5	1,625.4	1,512.1	113.33	14.342	
18,600.0	11,350.0	18,351.5	11,180.0	58.9	57.6	84.00	7,488.6	1,390.1	1,625.4	1,510.6	114.78	14.161	
18,700.0	11,350.0	18,451.5	11,180.0	59.6	58.4	84.00	7,588.6	1,389.7	1,625.4	1,509.2	116.23	13.984	
18,800.0	11,350.0	18,551.5	11,180.0	60.4	59.1	84.00	7,688.6	1,389.3	1,625.4	1,507.8	117.68	13.812	
18,900.0	11,350.0	18,651.5	11,180.0	61.1	59.8	84.00	7,788.6	1,388.9	1,625.4	1,506.3	119.14	13.643	
19,000.0	11,350.0	18,751.5	11,180.0	61.8	60.6	84.00	7,888.6	1,388.5	1,625.5	1,504.9	120.59	13.479	
19,100.0	11,350.0	18,851.5	11,180.0	62.6	61.3	84.00	7,988.6	1,388.1	1,625.5	1,503.4	122.05	13.318	
19,200.0	11,350.0	18,951.5	11,180.0	63.3	62.1	84.00	8,088.6	1,387.7	1,625.5	1,502.0	123.51	13.161	
19,300.0	11,350.0	19,051.5	11,180.0	64.0	62.8	84.00	8,188.6	1,387.3	1,625.5	1,500.5	124.97	13.007	
19,400.0	11,350.0	19,151.5	11,180.0	64.8	63.6	84.00	8,288.6	1,386.9	1,625.5	1,499.1	126.43	12.857	
19,500.0	11,350.0	19,251.5	11,180.0	65.5	64.3	84.00	8,388.6	1,386.5	1,625.5	1,497.6	127.89	12.710	
19,600.0	11,350.0	19,351.5	11,180.0	66.3	65.0	84.00	8,488.6	1,386.1	1,625.5	1,496.2	129.35	12.567	
19,700.0	11,350.0	19,451.5	11,180.0	67.0	65.8	84.00	8,588.6	1,385.7	1,625.5	1,494.7	130.82	12.426	
19,800.0	11,350.0	19,551.5	11,180.0	67.7	66.5	84.00	8,688.6	1,385.4	1,625.5	1,493.3	132.28	12.288	
19,900.0	11,350.0	19,651.5	11,180.0	68.5	67.3	84.00	8,788.6	1,385.0	1,625.5	1,491.8	133.75	12.154	
20,000.0	11,350.0	19,751.5	11,180.0	69.2	68.0	84.00	8,888.6	1,384.6	1,625.6	1,490.3	135.21	12.022	
20,100.0	11,350.0	19,851.5	11,180.0	70.0	68.8	84.00	8,988.6	1,384.2	1,625.6	1,488.9	136.68	11.893	
20,200.0	11,350.0	19,951.5	11,180.0	70.7	69.5	84.00	9,088.6	1,383.8	1,625.6	1,487.4	138.15	11.767	
20,300.0	11,350.0	20,051.5	11,180.0	71.5	70.3	84.00	9,188.6	1,383.4	1,625.6	1,486.0	139.62	11.643	
20,400.0	11,350.0	20,151.5	11,180.0	72.2	71.0	84.00	9,288.6	1,383.0	1,625.6	1,484.5	141.09	11.521	
20,500.0	11,350.0	20,251.5	11,180.0	72.9	71.7	84.00	9,388.6	1,382.6	1,625.6	1,483.0	142.56	11.403	
20,600.0	11,350.0	20,351.5	11,180.0	73.7	72.5	84.00	9,488.6	1,382.2	1,625.6	1,481.6	144.04	11.286	
20,700.0	11,350.0	20,451.5	11,180.0	74.4	73.2	84.00	9,588.6	1,381.8	1,625.6	1,480.1	145.51	11.172	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,800.0	11,350.0	20,551.5	11,180.0	75.2	74.0	84.00	9,688.6	1,381.4	1,625.6	1,478.6	146.99	11.060	
20,900.0	11,350.0	20,651.5	11,180.0	75.9	74.7	84.00	9,788.6	1,381.0	1,625.6	1,477.2	148.46	10.950	
21,000.0	11,350.0	20,751.5	11,180.0	76.7	75.5	84.00	9,888.6	1,380.6	1,625.7	1,475.7	149.94	10.842	
21,100.0	11,350.0	20,851.5	11,180.0	77.4	76.2	84.00	9,988.6	1,380.2	1,625.7	1,474.2	151.41	10.737	
21,200.0	11,350.0	20,951.5	11,180.0	78.2	77.0	84.00	10,088.6	1,379.8	1,625.7	1,472.8	152.89	10.633	
21,300.0	11,350.0	21,051.5	11,180.0	78.9	77.7	84.00	10,188.6	1,379.5	1,625.7	1,471.3	154.37	10.531	
21,400.0	11,350.0	21,151.5	11,180.0	79.7	78.5	84.00	10,288.6	1,379.1	1,625.7	1,469.8	155.85	10.431	
21,500.0	11,350.0	21,251.5	11,180.0	80.4	79.2	84.00	10,388.6	1,378.7	1,625.7	1,468.4	157.33	10.333	
21,600.0	11,350.0	21,351.5	11,180.0	81.2	80.0	84.00	10,488.6	1,378.3	1,625.7	1,466.9	158.81	10.237	
21,700.0	11,350.0	21,451.5	11,180.0	81.9	80.7	84.00	10,588.6	1,377.9	1,625.7	1,465.4	160.29	10.143	
21,800.0	11,350.0	21,551.5	11,180.0	82.7	81.5	84.00	10,688.6	1,377.5	1,625.7	1,464.0	161.77	10.050	
21,900.0	11,350.0	21,651.5	11,180.0	83.4	82.3	84.00	10,788.6	1,377.1	1,625.7	1,462.5	163.25	9.959	
22,000.0	11,350.0	21,751.5	11,180.0	84.2	83.0	84.00	10,888.6	1,376.7	1,625.7	1,461.0	164.73	9.869	
22,100.0	11,350.0	21,851.5	11,180.0	84.9	83.8	84.00	10,988.6	1,376.3	1,625.8	1,459.5	166.21	9.781	
22,200.0	11,350.0	21,951.5	11,180.0	85.7	84.5	84.00	11,088.6	1,375.9	1,625.8	1,458.1	167.70	9.695	
22,300.0	11,350.0	22,051.5	11,180.0	86.4	85.3	84.00	11,188.6	1,375.5	1,625.8	1,456.6	169.18	9.610	
22,400.0	11,350.0	22,151.5	11,180.0	87.2	86.0	84.00	11,288.6	1,375.1	1,625.8	1,455.1	170.66	9.526	
22,500.0	11,350.0	22,251.5	11,180.0	87.9	86.8	84.00	11,388.6	1,374.7	1,625.8	1,453.6	172.15	9.444	
22,600.0	11,350.0	22,351.5	11,180.0	88.7	87.5	84.00	11,488.6	1,374.3	1,625.8	1,452.2	173.63	9.363	
22,700.0	11,350.0	22,451.5	11,180.0	89.4	88.3	84.00	11,588.6	1,373.9	1,625.8	1,450.7	175.12	9.284	
22,800.0	11,350.0	22,551.5	11,180.0	90.2	89.0	84.00	11,688.6	1,373.5	1,625.8	1,449.2	176.61	9.206	
22,900.0	11,350.0	22,651.5	11,180.0	90.9	89.8	84.00	11,788.5	1,373.2	1,625.8	1,447.7	178.09	9.129	
23,000.0	11,350.0	22,751.5	11,180.0	91.7	90.5	84.00	11,888.5	1,372.8	1,625.8	1,446.3	179.58	9.054	
23,100.0	11,350.0	22,851.5	11,180.0	92.4	91.3	84.00	11,988.5	1,372.4	1,625.9	1,444.8	181.07	8.979	
23,200.0	11,350.0	22,951.5	11,180.0	93.2	92.0	84.00	12,088.5	1,372.0	1,625.9	1,443.3	182.56	8.906	
23,300.0	11,350.0	23,051.5	11,180.0	93.9	92.8	84.00	12,188.5	1,371.6	1,625.9	1,441.8	184.04	8.834	
23,400.0	11,350.0	23,151.5	11,180.0	94.7	93.6	84.00	12,288.5	1,371.2	1,625.9	1,440.4	185.53	8.763	
23,500.0	11,350.0	23,251.5	11,180.0	95.4	94.3	84.00	12,388.5	1,370.8	1,625.9	1,438.9	187.02	8.694	
23,600.0	11,350.0	23,351.5	11,180.0	96.2	95.1	84.00	12,488.5	1,370.4	1,625.9	1,437.4	188.51	8.625	
23,700.0	11,350.0	23,451.5	11,180.0	96.9	95.8	84.00	12,588.5	1,370.0	1,625.9	1,435.9	190.00	8.557	
23,800.0	11,350.0	23,551.5	11,180.0	97.7	96.6	84.00	12,688.5	1,369.6	1,625.9	1,434.4	191.49	8.491	
23,900.0	11,350.0	23,651.5	11,180.0	98.5	97.3	84.00	12,788.5	1,369.2	1,625.9	1,433.0	192.98	8.425	
24,000.0	11,350.0	23,751.5	11,180.0	99.2	98.1	84.00	12,888.5	1,368.8	1,625.9	1,431.5	194.47	8.361	
24,100.0	11,350.0	23,851.5	11,180.0	100.0	98.9	84.00	12,988.5	1,368.4	1,626.0	1,430.0	195.96	8.297	
24,200.0	11,350.0	23,951.5	11,180.0	100.7	99.6	84.00	13,088.5	1,368.0	1,626.0	1,428.5	197.45	8.235	
24,300.0	11,350.0	24,051.5	11,180.0	101.5	100.4	84.00	13,188.5	1,367.6	1,626.0	1,427.0	198.95	8.173	
24,400.0	11,350.0	24,151.5	11,180.0	102.2	101.1	84.00	13,288.5	1,367.3	1,626.0	1,425.5	200.44	8.112	
24,500.0	11,350.0	24,251.5	11,180.0	103.0	101.9	84.00	13,388.5	1,366.9	1,626.0	1,424.1	201.93	8.052	
24,600.0	11,350.0	24,351.5	11,180.0	103.7	102.6	84.00	13,488.5	1,366.5	1,626.0	1,422.6	203.42	7.993	
24,700.0	11,350.0	24,451.5	11,180.0	104.5	103.4	84.00	13,588.5	1,366.1	1,626.0	1,421.1	204.92	7.935	
24,700.0	11,350.0	24,451.6	11,180.0	104.5	103.4	84.00	13,588.6	1,366.1	1,626.0	1,421.1	204.92	7.935	
24,725.4	11,350.0	24,469.4	11,180.0	104.6	103.5	84.00	13,606.4	1,366.0	1,626.0	1,420.8	205.19	7.924 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	87.11	71.7	1,420.0	1,421.8	1,415.4	6.43	221.160	
100.0	100.0	100.0	100.0	3.2	3.2	87.11	71.7	1,420.0	1,421.8	1,414.9	6.89	206.289	
200.0	200.0	200.0	200.0	3.5	3.5	87.11	71.7	1,420.0	1,421.8	1,414.5	7.33	194.021	
300.0	300.0	300.0	300.0	3.7	3.7	87.11	71.7	1,420.0	1,421.8	1,414.1	7.74	183.666	
400.0	400.0	400.0	400.0	3.9	3.9	87.11	71.7	1,420.0	1,421.8	1,413.7	8.14	174.766	
500.0	500.0	500.0	500.0	4.1	4.1	87.11	71.7	1,420.0	1,421.8	1,413.3	8.51	167.006	
600.0	600.0	600.0	600.0	4.2	4.2	87.11	71.7	1,420.0	1,421.8	1,412.9	8.88	160.158	
700.0	700.0	700.0	700.0	4.4	4.4	87.11	71.7	1,420.0	1,421.8	1,412.6	9.23	154.052	
800.0	800.0	800.0	800.0	4.6	4.6	87.11	71.7	1,420.0	1,421.8	1,412.2	9.57	148.563	
900.0	900.0	900.0	900.0	4.8	4.8	87.11	71.7	1,420.0	1,421.8	1,411.9	9.90	143.590	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.11	71.7	1,420.0	1,421.8	1,411.6	10.22	139.057	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.11	71.7	1,420.0	1,421.8	1,411.3	10.54	134.901	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.11	71.7	1,420.0	1,421.8	1,411.0	10.85	131.073	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.11	71.7	1,420.0	1,421.8	1,410.7	11.15	127.529	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.11	71.7	1,420.0	1,421.8	1,410.4	11.44	124.236	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.11	71.7	1,420.0	1,421.8	1,410.1	11.73	121.166	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.11	71.7	1,420.0	1,421.8	1,409.8	12.02	118.293	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.11	71.7	1,420.0	1,421.8	1,409.5	12.30	115.598	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.11	71.7	1,420.0	1,421.8	1,409.2	12.58	113.062	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.11	71.7	1,420.0	1,421.8	1,409.0	12.85	110.670	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.11	71.7	1,420.0	1,421.8	1,408.7	13.12	108.408 CC, ES	
2,100.0	2,100.0	2,074.5	2,074.5	6.5	6.5	87.12	71.4	1,420.7	1,422.7	1,409.4	13.35	106.534	
2,200.0	2,200.0	2,148.9	2,148.8	6.7	6.6	87.16	70.7	1,422.7	1,425.4	1,411.8	13.59	104.919	
2,300.0	2,300.0	2,223.1	2,223.0	6.8	6.7	87.21	69.4	1,426.1	1,429.9	1,416.1	13.81	103.512	
2,400.0	2,400.0	2,300.0	2,299.7	6.9	6.9	87.29	67.6	1,431.1	1,436.2	1,422.1	14.05	102.221	
2,500.0	2,500.0	2,371.2	2,370.6	7.0	7.0	87.39	65.5	1,436.9	1,444.2	1,430.0	14.28	101.126	
2,600.0	2,600.0	2,444.8	2,443.8	7.2	7.1	87.51	62.8	1,444.3	1,454.1	1,439.6	14.52	100.126	
2,700.0	2,700.0	2,518.1	2,516.5	7.3	7.3	87.65	59.7	1,453.0	1,465.7	1,451.0	14.75	99.367	
2,800.0	2,800.0	2,611.6	2,609.2	7.4	7.4	87.84	55.2	1,465.2	1,478.6	1,463.6	15.01	98.516	
2,900.0	2,900.0	2,710.7	2,707.2	7.5	7.6	88.04	50.5	1,478.1	1,491.5	1,476.2	15.34	97.252	
3,000.0	3,000.0	2,809.7	2,805.3	7.7	7.9	88.24	45.8	1,491.1	1,504.4	1,488.8	15.68	95.948	
3,100.0	3,100.0	2,908.5	2,903.2	7.8	8.1	179.43	41.1	1,504.0	1,518.7	1,502.6	16.05	94.614	
3,200.0	3,199.9	3,007.0	3,000.6	7.9	8.4	179.62	36.4	1,516.9	1,535.5	1,519.1	16.43	93.443	
3,300.0	3,299.7	3,104.9	3,097.7	8.1	8.7	179.81	31.7	1,529.7	1,555.0	1,538.1	16.84	92.340	
3,400.0	3,399.3	3,202.4	3,194.1	8.2	9.0	179.99	27.1	1,542.4	1,577.0	1,559.7	17.27	91.301	
3,500.0	3,498.6	3,299.2	3,290.0	8.4	9.3	-179.83	22.5	1,555.1	1,601.6	1,583.8	17.73	90.324	
3,600.0	3,597.6	3,395.5	3,385.3	8.6	9.6	-179.66	17.9	1,567.7	1,628.1	1,610.0	18.16	89.675	
3,700.0	3,696.6	3,491.7	3,480.7	8.7	9.9	-179.49	13.3	1,580.3	1,654.9	1,636.2	18.64	88.768	
3,800.0	3,795.7	3,588.0	3,576.0	9.0	10.2	-179.33	8.8	1,592.9	1,681.6	1,662.4	19.15	87.800	
3,900.0	3,894.7	3,684.2	3,671.3	9.2	10.5	-179.17	4.2	1,605.5	1,708.3	1,688.6	19.65	86.922	
4,000.0	3,993.8	3,780.7	3,766.8	9.4	10.8	-179.02	-0.4	1,618.1	1,734.4	1,714.2	20.21	85.826	
4,100.0	4,093.0	3,871.3	3,856.6	9.7	11.2	-178.90	-4.2	1,630.0	1,759.8	1,739.1	20.75	84.811	
4,200.0	4,192.4	3,959.6	3,944.0	9.9	11.4	-178.87	-5.3	1,642.1	1,784.8	1,763.6	21.28	83.870	
4,300.0	4,291.8	4,056.5	4,040.0	10.2	11.8	-178.88	-5.3	1,655.6	1,809.2	1,787.4	21.87	82.721	
4,400.0	4,391.3	4,153.7	4,136.2	10.4	12.1	-178.89	-5.3	1,669.1	1,832.8	1,810.3	22.49	81.495	
4,500.0	4,490.9	4,251.1	4,232.7	10.7	12.5	-178.90	-5.3	1,682.7	1,855.5	1,832.4	23.12	80.267	
4,600.0	4,590.6	4,348.7	4,329.3	11.0	12.8	-178.91	-5.3	1,696.3	1,877.4	1,853.6	23.75	79.044	
4,700.0	4,690.3	4,446.5	4,426.1	11.3	13.2	-178.92	-5.3	1,709.9	1,898.4	1,874.0	24.39	77.832	
4,800.0	4,790.1	4,544.4	4,523.1	11.6	13.5	-178.92	-5.3	1,723.5	1,918.5	1,893.5	25.03	76.637	
4,900.0	4,890.0	4,642.5	4,620.3	11.8	13.9	-178.93	-5.3	1,737.2	1,937.8	1,912.1	25.68	75.464	
5,000.0	4,989.9	4,740.8	4,717.6	12.1	14.3	-178.93	-5.3	1,750.8	1,956.3	1,929.9	26.32	74.316	
5,100.0	5,089.8	4,839.3	4,815.1	12.4	14.7	-178.94	-5.3	1,764.5	1,973.8	1,946.9	26.97	73.197	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:	THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Offset		Highside	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.0	5,189.8	4,937.8	4,912.7	12.6	15.0	-178.94	-5.3	1,778.3	1,990.6	1,962.9	27.60	72.113 SF		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #708H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
0.0	0.0	0.0	0.0	3.0	3.0	87.17	71.7	1,450.0	1,451.8	1,445.4	6.43	225.821	
100.0	100.0	100.0	100.0	3.2	3.2	87.17	71.7	1,450.0	1,451.8	1,444.9	6.89	210.636	
200.0	200.0	200.0	200.0	3.5	3.5	87.17	71.7	1,450.0	1,451.8	1,444.5	7.33	198.109	
300.0	300.0	300.0	300.0	3.7	3.7	87.17	71.7	1,450.0	1,451.8	1,444.0	7.74	187.536	
400.0	400.0	400.0	400.0	3.9	3.9	87.17	71.7	1,450.0	1,451.8	1,443.6	8.14	178.449	
500.0	500.0	500.0	500.0	4.1	4.1	87.17	71.7	1,450.0	1,451.8	1,443.3	8.51	170.526	
600.0	600.0	600.0	600.0	4.2	4.2	87.17	71.7	1,450.0	1,451.8	1,442.9	8.88	163.533	
700.0	700.0	700.0	700.0	4.4	4.4	87.17	71.7	1,450.0	1,451.8	1,442.6	9.23	157.299	
800.0	800.0	800.0	800.0	4.6	4.6	87.17	71.7	1,450.0	1,451.8	1,442.2	9.57	151.693	
900.0	900.0	900.0	900.0	4.8	4.8	87.17	71.7	1,450.0	1,451.8	1,441.9	9.90	146.616	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.17	71.7	1,450.0	1,451.8	1,441.6	10.22	141.988	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.17	71.7	1,450.0	1,451.8	1,441.2	10.54	137.744	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.17	71.7	1,450.0	1,451.8	1,440.9	10.85	133.835	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.17	71.7	1,450.0	1,451.8	1,440.6	11.15	130.216	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.17	71.7	1,450.0	1,451.8	1,440.3	11.44	126.854	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.17	71.7	1,450.0	1,451.8	1,440.0	11.73	123.719	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.17	71.7	1,450.0	1,451.8	1,439.8	12.02	120.786	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.17	71.7	1,450.0	1,451.8	1,439.5	12.30	118.034	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.17	71.7	1,450.0	1,451.8	1,439.2	12.58	115.444	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.17	71.7	1,450.0	1,451.8	1,438.9	12.85	113.002	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.17	71.7	1,450.0	1,451.8	1,438.7	13.12	110.693	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	87.17	71.7	1,450.0	1,451.8	1,438.4	13.38	108.505	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	87.17	71.7	1,450.0	1,451.8	1,438.1	13.64	106.428	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	87.17	71.7	1,450.0	1,451.8	1,437.9	13.90	104.453	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	87.17	71.7	1,450.0	1,451.8	1,437.6	14.15	102.571	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	87.17	71.7	1,450.0	1,451.8	1,437.4	14.41	100.776 CC, ES	
2,600.0	2,600.0	2,574.7	2,574.7	7.2	7.2	87.16	72.0	1,450.6	1,452.7	1,438.0	14.63	99.260	
2,700.0	2,700.0	2,649.4	2,649.3	7.3	7.3	87.12	73.1	1,452.5	1,455.3	1,440.4	14.86	97.932	
2,800.0	2,800.0	2,723.9	2,723.8	7.4	7.4	87.05	75.0	1,455.7	1,459.6	1,444.5	15.08	96.770	
2,900.0	2,900.0	2,800.0	2,799.7	7.5	7.5	86.96	77.6	1,460.2	1,465.7	1,450.4	15.31	95.728	
3,000.0	3,000.0	2,872.5	2,871.9	7.7	7.6	86.85	80.7	1,465.7	1,473.5	1,458.0	15.54	94.836	
3,100.0	3,100.0	2,946.2	2,945.2	7.8	7.8	177.70	84.7	1,472.6	1,484.4	1,468.6	15.78	94.041	
3,200.0	3,199.9	3,019.4	3,017.8	7.9	7.9	177.54	89.3	1,480.5	1,499.6	1,483.6	16.01	93.640	
3,300.0	3,299.7	3,112.5	3,110.0	8.1	8.1	177.31	95.8	1,491.7	1,518.5	1,502.2	16.29	93.212	
3,400.0	3,399.3	3,209.9	3,206.5	8.2	8.3	177.08	102.5	1,503.5	1,540.0	1,523.4	16.64	92.538	
3,500.0	3,498.6	3,300.0	3,295.7	8.4	8.5	176.88	108.8	1,514.4	1,564.1	1,547.2	16.98	92.127	
3,600.0	3,597.6	3,367.2	3,362.2	8.6	8.7	176.76	112.8	1,523.4	1,591.5	1,574.3	17.26	92.222	
3,700.0	3,696.6	3,433.9	3,428.0	8.7	8.9	176.70	115.9	1,533.7	1,620.8	1,603.2	17.59	92.144	
3,800.0	3,795.7	3,500.0	3,493.0	9.0	9.0	176.67	118.0	1,545.1	1,651.7	1,633.8	17.93	92.099	
3,900.0	3,894.7	3,565.1	3,557.0	9.2	9.2	176.68	119.3	1,557.6	1,684.3	1,666.1	18.26	92.223	
4,000.0	3,993.8	3,646.9	3,636.9	9.4	9.5	176.73	119.9	1,574.4	1,717.8	1,699.0	18.74	91.658	
4,100.0	4,093.0	3,741.3	3,729.3	9.7	9.8	176.79	120.6	1,594.1	1,750.5	1,731.2	19.30	90.718	
4,200.0	4,192.4	3,836.1	3,822.0	9.9	10.1	176.84	121.3	1,613.7	1,782.4	1,762.6	19.83	89.865	
4,300.0	4,291.8	3,931.1	3,915.0	10.2	10.4	176.90	122.0	1,633.5	1,813.5	1,793.1	20.39	88.929	
4,400.0	4,391.3	4,026.4	4,008.2	10.4	10.7	176.94	122.7	1,653.3	1,843.7	1,822.8	20.97	87.931	
4,500.0	4,490.9	4,122.0	4,101.7	10.7	11.0	176.99	123.4	1,673.2	1,873.2	1,851.6	21.56	86.887	
4,600.0	4,590.6	4,217.8	4,195.4	11.0	11.3	177.03	124.1	1,693.1	1,901.7	1,879.6	22.16	85.812	
4,700.0	4,690.3	4,313.9	4,289.4	11.3	11.6	177.07	124.8	1,713.0	1,929.5	1,906.7	22.78	84.718	
4,800.0	4,790.1	4,410.2	4,383.6	11.6	12.0	177.11	125.5	1,733.0	1,956.4	1,933.0	23.40	83.615	
4,900.0	4,890.0	4,506.7	4,478.0	11.8	12.3	177.14	126.2	1,753.1	1,982.5	1,958.5	24.03	82.513 SF	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	87.23	71.7	1,480.0	1,481.7	1,475.3	6.43	230.482	
100.0	100.0	100.0	100.0	3.2	3.2	87.23	71.7	1,480.0	1,481.7	1,474.9	6.89	214.984	
200.0	200.0	200.0	200.0	3.5	3.5	87.23	71.7	1,480.0	1,481.7	1,474.4	7.33	202.198	
300.0	300.0	300.0	300.0	3.7	3.7	87.23	71.7	1,480.0	1,481.7	1,474.0	7.74	191.407	
400.0	400.0	400.0	400.0	3.9	3.9	87.23	71.7	1,480.0	1,481.7	1,473.6	8.14	182.133	
500.0	500.0	500.0	500.0	4.1	4.1	87.23	71.7	1,480.0	1,481.7	1,473.2	8.51	174.045	
600.0	600.0	600.0	600.0	4.2	4.2	87.23	71.7	1,480.0	1,481.7	1,472.9	8.88	166.908	
700.0	700.0	700.0	700.0	4.4	4.4	87.23	71.7	1,480.0	1,481.7	1,472.5	9.23	160.545	
800.0	800.0	800.0	800.0	4.6	4.6	87.23	71.7	1,480.0	1,481.7	1,472.2	9.57	154.824	
900.0	900.0	900.0	900.0	4.8	4.8	87.23	71.7	1,480.0	1,481.7	1,471.8	9.90	149.642	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.23	71.7	1,480.0	1,481.7	1,471.5	10.22	144.918	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.23	71.7	1,480.0	1,481.7	1,471.2	10.54	140.587	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.23	71.7	1,480.0	1,481.7	1,470.9	10.85	136.597	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.23	71.7	1,480.0	1,481.7	1,470.6	11.15	132.904	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.23	71.7	1,480.0	1,481.7	1,470.3	11.44	129.473	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.23	71.7	1,480.0	1,481.7	1,470.0	11.73	126.273	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.23	71.7	1,480.0	1,481.7	1,469.7	12.02	123.279	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.23	71.7	1,480.0	1,481.7	1,469.4	12.30	120.470	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.23	71.7	1,480.0	1,481.7	1,469.2	12.58	117.827	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.23	71.7	1,480.0	1,481.7	1,468.9	12.85	115.334	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.23	71.7	1,480.0	1,481.7	1,468.6	13.12	112.977	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	87.23	71.7	1,480.0	1,481.7	1,468.4	13.38	110.744	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	87.23	71.7	1,480.0	1,481.7	1,468.1	13.64	108.625 CC, ES	
2,300.0	2,300.0	2,272.1	2,272.1	6.8	6.8	87.23	71.7	1,480.7	1,482.7	1,468.8	13.88	106.858	
2,400.0	2,400.0	2,344.1	2,344.0	6.9	6.9	87.23	71.7	1,482.7	1,485.5	1,471.4	14.10	105.326	
2,500.0	2,500.0	2,416.0	2,415.9	7.0	7.0	87.24	71.7	1,486.1	1,490.2	1,475.9	14.33	103.998	
2,600.0	2,600.0	2,500.0	2,499.7	7.2	7.1	87.25	71.7	1,491.8	1,496.9	1,482.3	14.58	102.637	
2,700.0	2,700.0	2,559.3	2,558.8	7.3	7.2	87.26	71.7	1,496.9	1,505.3	1,490.5	14.79	101.754	
2,800.0	2,800.0	2,630.6	2,629.7	7.4	7.4	87.27	71.7	1,504.3	1,515.6	1,500.5	15.03	100.827	
2,900.0	2,900.0	2,700.0	2,698.6	7.5	7.5	87.29	71.7	1,512.7	1,527.7	1,512.5	15.27	100.058	
3,000.0	3,000.0	2,772.3	2,770.1	7.7	7.7	87.31	71.7	1,522.8	1,541.7	1,526.2	15.53	99.302	
3,100.0	3,100.0	2,842.4	2,839.3	7.8	7.8	178.32	71.7	1,533.9	1,558.8	1,543.0	15.80	98.682	
3,200.0	3,199.9	2,900.0	2,896.1	7.9	8.0	178.33	71.7	1,544.0	1,580.3	1,564.3	16.02	98.631	
3,300.0	3,299.7	2,979.8	2,974.4	8.1	8.2	178.35	71.7	1,559.3	1,606.0	1,589.7	16.36	98.158	
3,400.0	3,399.3	3,046.8	3,039.9	8.2	8.4	178.37	71.7	1,573.5	1,636.0	1,619.3	16.67	98.113	
3,500.0	3,498.6	3,112.4	3,103.8	8.4	8.6	178.38	71.7	1,588.5	1,670.1	1,653.1	16.99	98.277	
3,600.0	3,597.6	3,196.1	3,185.0	8.6	8.8	178.42	71.7	1,608.7	1,707.3	1,690.0	17.33	98.540	
3,700.0	3,696.6	3,288.8	3,274.9	8.7	9.1	178.47	71.7	1,631.1	1,744.7	1,726.9	17.80	98.022	
3,800.0	3,795.7	3,381.5	3,364.9	9.0	9.4	178.52	71.7	1,653.5	1,782.2	1,763.9	18.30	97.366	
3,900.0	3,894.7	3,474.2	3,454.9	9.2	9.7	178.56	71.7	1,675.9	1,819.6	1,800.8	18.81	96.757	
4,000.0	3,993.8	3,567.2	3,545.1	9.4	10.0	178.61	71.7	1,698.4	1,856.4	1,837.1	19.37	95.856	
4,100.0	4,093.0	3,660.5	3,635.6	9.7	10.3	178.65	71.7	1,721.0	1,892.4	1,872.5	19.94	94.886	
4,200.0	4,192.4	3,754.1	3,726.4	9.9	10.7	178.69	71.7	1,743.6	1,927.6	1,907.1	20.54	93.842	
4,300.0	4,291.8	3,848.0	3,817.5	10.2	11.0	178.73	71.7	1,766.4	1,962.0	1,940.9	21.16	92.742	
4,400.0	4,391.3	3,942.2	3,908.9	10.4	11.4	178.77	71.7	1,789.1	1,995.6	1,973.8	21.79	91.603 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #710H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	87.28	71.7	1,510.0	1,511.7	1,505.3	6.43	235.143	
100.0	100.0	100.0	100.0	3.2	3.2	87.28	71.7	1,510.0	1,511.7	1,504.8	6.89	219.331	
200.0	200.0	200.0	200.0	3.5	3.5	87.28	71.7	1,510.0	1,511.7	1,504.4	7.33	206.287	
300.0	300.0	300.0	300.0	3.7	3.7	87.28	71.7	1,510.0	1,511.7	1,504.0	7.74	195.278	
400.0	400.0	400.0	400.0	3.9	3.9	87.28	71.7	1,510.0	1,511.7	1,503.6	8.14	185.816	
500.0	500.0	500.0	500.0	4.1	4.1	87.28	71.7	1,510.0	1,511.7	1,503.2	8.51	177.565	
600.0	600.0	600.0	600.0	4.2	4.2	87.28	71.7	1,510.0	1,511.7	1,502.8	8.88	170.283	
700.0	700.0	700.0	700.0	4.4	4.4	87.28	71.7	1,510.0	1,511.7	1,502.5	9.23	163.792	
800.0	800.0	800.0	800.0	4.6	4.6	87.28	71.7	1,510.0	1,511.7	1,502.1	9.57	157.955	
900.0	900.0	900.0	900.0	4.8	4.8	87.28	71.7	1,510.0	1,511.7	1,501.8	9.90	152.668	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.28	71.7	1,510.0	1,511.7	1,501.5	10.22	147.849	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.28	71.7	1,510.0	1,511.7	1,501.2	10.54	143.430	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.28	71.7	1,510.0	1,511.7	1,500.9	10.85	139.359	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.28	71.7	1,510.0	1,511.7	1,500.6	11.15	135.592	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.28	71.7	1,510.0	1,511.7	1,500.3	11.44	132.091	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.28	71.7	1,510.0	1,511.7	1,500.0	11.73	128.826	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.28	71.7	1,510.0	1,511.7	1,499.7	12.02	125.772	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.28	71.7	1,510.0	1,511.7	1,499.4	12.30	122.906	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.28	71.7	1,510.0	1,511.7	1,499.1	12.58	120.210 CC, ES	
1,900.0	1,900.0	1,872.0	1,872.0	6.3	6.2	87.29	71.6	1,510.7	1,512.6	1,499.8	12.82	117.963	
2,000.0	2,000.0	1,943.9	1,943.8	6.4	6.3	87.30	71.3	1,512.7	1,515.4	1,502.4	13.06	115.996	
2,100.0	2,100.0	2,015.7	2,015.6	6.5	6.5	87.32	70.9	1,516.0	1,520.0	1,506.7	13.30	114.267	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	87.36	70.1	1,521.7	1,526.6	1,513.0	13.57	112.483	
2,300.0	2,300.0	2,158.8	2,158.3	6.8	6.7	87.40	69.5	1,526.7	1,534.8	1,521.0	13.79	111.284	
2,400.0	2,400.0	2,230.0	2,229.1	6.9	6.9	87.44	68.5	1,534.0	1,545.0	1,530.9	14.04	110.019	
2,500.0	2,500.0	2,300.0	2,298.6	7.0	7.0	87.50	67.4	1,542.4	1,557.0	1,542.7	14.30	108.913	
2,600.0	2,600.0	2,371.4	2,369.3	7.2	7.2	87.56	66.1	1,552.3	1,570.7	1,556.2	14.56	107.855	
2,700.0	2,700.0	2,441.6	2,438.6	7.3	7.4	87.63	64.6	1,563.3	1,586.3	1,571.5	14.83	106.943	
2,800.0	2,800.0	2,500.0	2,496.1	7.4	7.5	87.70	63.3	1,573.4	1,603.8	1,588.7	15.06	106.473	
2,900.0	2,900.0	2,580.6	2,575.2	7.5	7.8	87.79	61.3	1,588.8	1,622.8	1,607.4	15.39	105.440	
3,000.0	3,000.0	2,649.3	2,642.4	7.7	7.9	87.88	59.4	1,603.2	1,643.7	1,628.1	15.65	105.019	
3,100.0	3,100.0	2,739.1	2,729.9	7.8	8.2	178.99	56.7	1,623.2	1,667.1	1,651.1	16.01	104.106	
3,200.0	3,199.9	2,835.6	2,823.9	7.9	8.5	179.11	53.9	1,644.8	1,693.2	1,676.7	16.45	102.936	
3,300.0	3,299.7	2,931.4	2,917.2	8.1	8.8	179.23	51.1	1,666.1	1,721.7	1,704.8	16.91	101.815	
3,400.0	3,399.3	3,026.4	3,009.7	8.2	9.1	179.35	48.3	1,687.3	1,752.7	1,735.3	17.40	100.742	
3,500.0	3,498.6	3,120.5	3,101.5	8.4	9.4	179.46	45.5	1,708.3	1,786.3	1,768.4	17.91	99.723	
3,600.0	3,597.6	3,214.0	3,192.5	8.6	9.7	179.58	42.8	1,729.1	1,821.7	1,803.3	18.40	99.031	
3,700.0	3,696.6	3,307.4	3,283.5	8.7	10.1	179.69	40.1	1,750.0	1,857.3	1,838.4	18.94	98.077	
3,800.0	3,795.7	3,400.7	3,374.5	9.0	10.4	179.79	37.3	1,770.8	1,892.9	1,873.4	19.50	97.057	
3,900.0	3,894.7	3,494.1	3,465.5	9.2	10.8	179.90	34.6	1,791.6	1,928.5	1,908.4	20.06	96.122	
4,000.0	3,993.8	3,587.8	3,556.7	9.4	11.2	179.99	31.8	1,812.5	1,963.5	1,942.8	20.68	94.969	
4,100.0	4,093.0	3,681.7	3,648.3	9.7	11.5	-179.91	29.1	1,833.4	1,997.7	1,976.4	21.30	93.790 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	-11.32	150.1	-30.0	153.0	146.6	6.43	23.804	
100.0	100.0	100.0	100.0	3.2	3.2	-11.32	150.1	-30.0	153.0	146.1	6.89	22.204	
200.0	200.0	200.0	200.0	3.5	3.5	-11.32	150.1	-30.0	153.0	145.7	7.33	20.883	
300.0	300.0	300.0	300.0	3.7	3.7	-11.32	150.1	-30.0	153.0	145.3	7.74	19.769	
400.0	400.0	400.0	400.0	3.9	3.9	-11.32	150.1	-30.0	153.0	144.9	8.14	18.811	
500.0	500.0	500.0	500.0	4.1	4.1	-11.32	150.1	-30.0	153.0	144.5	8.51	17.975	
600.0	600.0	600.0	600.0	4.2	4.2	-11.32	150.1	-30.0	153.0	144.2	8.88	17.238	
700.0	700.0	700.0	700.0	4.4	4.4	-11.32	150.1	-30.0	153.0	143.8	9.23	16.581	
800.0	800.0	800.0	800.0	4.6	4.6	-11.32	150.1	-30.0	153.0	143.5	9.57	15.990	
900.0	900.0	900.0	900.0	4.8	4.8	-11.32	150.1	-30.0	153.0	143.1	9.90	15.455	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-11.32	150.1	-30.0	153.0	142.8	10.22	14.967	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-11.32	150.1	-30.0	153.0	142.5	10.54	14.520	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-11.32	150.1	-30.0	153.0	142.2	10.85	14.108	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-11.32	150.1	-30.0	153.0	141.9	11.15	13.726	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-11.32	150.1	-30.0	153.0	141.6	11.44	13.372	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-11.32	150.1	-30.0	153.0	141.3	11.73	13.041	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-11.32	150.1	-30.0	153.0	141.0	12.02	12.732	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-11.32	150.1	-30.0	153.0	140.7	12.30	12.442	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-11.32	150.1	-30.0	153.0	140.5	12.58	12.169	
1,900.0	1,900.0	1,901.6	1,901.6	6.3	6.3	-11.78	149.3	-31.1	152.5	139.7	12.84	11.878	
2,000.0	2,000.0	2,003.1	2,003.0	6.4	6.4	-13.19	147.0	-34.5	151.0	137.9	13.08	11.539	
2,100.0	2,100.0	2,104.3	2,103.9	6.5	6.6	-15.60	143.1	-40.0	148.6	135.3	13.33	11.154	
2,200.0	2,200.0	2,205.0	2,204.3	6.7	6.8	-19.06	137.8	-47.6	145.8	132.2	13.56	10.750	
2,300.0	2,300.0	2,305.2	2,303.7	6.8	7.0	-23.66	130.9	-57.4	143.0	129.2	13.80	10.365	
2,400.0	2,400.0	2,404.7	2,402.2	6.9	7.2	-29.41	122.7	-69.2	140.8	126.8	14.02	10.044	
2,472.2	2,472.2	2,475.7	2,472.2	7.0	7.4	-34.24	115.9	-78.9	140.2	126.0	14.15	9.904 CC, ES	
2,500.0	2,500.0	2,502.1	2,498.2	7.0	7.4	-36.12	113.4	-82.7	140.3	126.1	14.20	9.885	
2,600.0	2,600.0	2,597.0	2,591.6	7.2	7.7	-42.84	105.3	-97.7	143.9	129.5	14.45	9.957	
2,700.0	2,700.0	2,691.6	2,684.4	7.3	7.9	-49.09	99.0	-114.3	152.0	137.3	14.72	10.323	
2,800.0	2,800.0	2,785.7	2,776.7	7.4	8.2	-54.53	94.3	-132.4	164.2	149.2	15.02	10.934	
2,900.0	2,900.0	2,879.3	2,868.2	7.5	8.5	-59.01	91.3	-152.1	180.2	164.9	15.35	11.738	
3,000.0	3,000.0	2,975.3	2,961.7	7.7	8.8	-62.70	89.5	-173.5	198.9	183.2	15.76	12.626	
3,100.0	3,100.0	3,073.0	3,056.9	7.8	9.1	25.23	87.8	-195.4	217.3	201.1	16.22	13.403	
3,200.0	3,199.9	3,171.3	3,152.6	7.9	9.4	22.89	86.1	-217.4	233.8	217.2	16.69	14.013	
3,300.0	3,299.7	3,269.9	3,248.8	8.1	9.7	21.08	84.3	-239.6	248.2	231.0	17.19	14.441	
3,400.0	3,399.3	3,369.0	3,345.3	8.2	10.1	19.68	82.6	-261.8	260.4	242.7	17.72	14.692	
3,500.0	3,498.6	3,468.4	3,442.2	8.4	10.5	18.58	80.8	-284.1	270.2	251.9	18.29	14.775	
3,600.0	3,597.6	3,568.0	3,539.2	8.6	10.8	17.72	79.1	-306.4	278.2	259.3	18.82	14.780	
3,700.0	3,696.6	3,667.6	3,636.3	8.7	11.2	16.93	77.3	-328.7	286.0	266.6	19.42	14.725	
3,800.0	3,795.7	3,767.3	3,733.4	9.0	11.6	16.18	75.6	-351.1	294.0	273.9	20.06	14.657	
3,900.0	3,894.7	3,866.9	3,830.4	9.2	12.0	15.48	73.8	-373.4	302.0	281.3	20.68	14.601	
4,000.0	3,993.8	3,966.4	3,927.4	9.4	12.4	14.79	72.0	-395.7	310.6	289.2	21.36	14.538	
4,100.0	4,093.0	4,065.9	4,024.3	9.7	12.8	14.09	70.3	-418.1	320.1	298.1	22.06	14.511	
4,200.0	4,192.4	4,165.3	4,121.2	9.9	13.2	13.41	68.5	-440.3	330.6	307.8	22.78	14.514	
4,300.0	4,291.8	4,264.5	4,217.9	10.2	13.6	12.74	66.8	-462.6	341.9	318.4	23.50	14.547	
4,400.0	4,391.3	4,363.7	4,314.5	10.4	14.1	12.08	65.0	-484.8	354.1	329.9	24.24	14.608	
4,500.0	4,490.9	4,462.8	4,411.0	10.7	14.5	11.43	63.3	-507.1	367.2	342.2	24.98	14.697	
4,600.0	4,590.6	4,561.7	4,507.4	11.0	14.9	10.81	61.5	-529.2	381.2	355.5	25.73	14.813	
4,700.0	4,690.3	4,660.5	4,603.7	11.3	15.3	10.21	59.8	-551.4	396.1	369.6	26.49	14.953	
4,800.0	4,790.1	4,759.2	4,699.8	11.6	15.8	9.64	58.1	-573.5	411.9	384.6	27.24	15.118	
4,900.0	4,890.0	4,857.7	4,795.8	11.8	16.2	9.09	56.3	-595.6	428.5	400.5	28.00	15.306	
5,000.0	4,989.9	4,956.0	4,891.7	12.1	16.6	8.56	54.6	-617.7	446.1	417.4	28.75	15.516	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,089.8	5,054.2	4,987.4	12.4	17.1	8.07	52.8	-639.7	464.5	435.0	29.50	15.749	
5,200.0	5,189.8	5,152.3	5,082.9	12.6	17.5	7.59	51.1	-661.7	483.9	453.6	30.24	16.003	
5,300.0	5,289.8	5,250.1	5,178.2	12.8	18.0	7.14	49.4	-683.6	504.1	473.1	30.96	16.279	
5,400.0	5,389.7	5,347.8	5,273.4	13.0	18.4	6.72	47.7	-705.5	525.2	493.5	31.67	16.581	
5,500.0	5,489.7	5,445.3	5,368.4	13.1	18.8	-84.69	45.9	-727.4	547.1	514.8	32.29	16.942	
5,600.0	5,589.7	5,542.7	5,463.3	13.2	19.3	-85.08	44.2	-749.2	569.3	536.4	32.90	17.306	
5,700.0	5,689.7	5,640.2	5,558.3	13.3	19.7	-85.43	42.5	-771.1	591.5	558.0	33.50	17.657	
5,800.0	5,789.7	5,737.6	5,653.2	13.4	20.2	-85.76	40.8	-792.9	613.7	579.6	34.11	17.995	
5,900.0	5,889.7	5,835.0	5,748.1	13.4	20.6	-86.07	39.1	-814.8	636.0	601.3	34.71	18.321	
6,000.0	5,989.7	5,932.5	5,843.1	13.5	21.1	-86.36	37.3	-836.6	658.3	622.9	35.33	18.634	
6,100.0	6,089.7	6,029.9	5,938.0	13.6	21.5	-86.63	35.6	-858.5	680.6	644.6	35.94	18.936	
6,200.0	6,189.7	6,127.4	6,033.0	13.6	22.0	-86.88	33.9	-880.4	702.9	666.3	36.55	19.228	
6,300.0	6,289.7	6,224.8	6,127.9	13.7	22.4	-87.11	32.2	-902.2	725.2	688.0	37.17	19.508	
6,400.0	6,389.7	6,322.2	6,222.8	13.8	22.9	-87.33	30.5	-924.1	747.5	709.7	37.79	19.779	
6,500.0	6,489.7	6,419.7	6,317.8	13.9	23.3	-87.54	28.7	-945.9	769.8	731.4	38.41	20.040	
6,600.0	6,589.7	6,517.1	6,412.7	13.9	23.8	-87.74	27.0	-967.8	792.2	753.1	39.04	20.293	
6,700.0	6,689.7	6,614.5	6,507.7	14.0	24.2	-87.93	25.3	-989.6	814.5	774.9	39.66	20.536	
6,800.0	6,789.7	6,712.0	6,602.6	14.1	24.7	-88.10	23.6	-1,011.5	836.9	796.6	40.29	20.772	
6,900.0	6,889.7	6,818.0	6,705.9	14.2	25.1	-88.28	21.7	-1,034.9	859.0	818.0	40.96	20.974	
7,000.0	6,989.7	6,933.2	6,818.7	14.2	25.7	-88.45	19.9	-1,058.5	879.4	837.7	41.68	21.097	
7,100.0	7,089.7	7,049.4	6,932.9	14.3	26.2	-88.60	18.2	-1,080.0	897.9	855.5	42.39	21.182	
7,200.0	7,189.7	7,166.5	7,048.3	14.4	26.7	-88.73	16.7	-1,099.3	914.3	871.3	43.07	21.230	
7,300.0	7,289.7	7,284.3	7,164.9	14.4	27.2	-88.83	15.3	-1,116.4	928.8	885.1	43.72	21.245	
7,400.0	7,389.7	7,402.7	7,282.4	14.5	27.7	-88.92	14.2	-1,131.1	941.2	896.9	44.34	21.229	
7,500.0	7,489.7	7,521.7	7,400.8	14.6	28.2	-88.99	13.2	-1,143.5	951.6	906.7	44.92	21.187	
7,600.0	7,589.7	7,641.2	7,519.9	14.7	28.6	-89.05	12.4	-1,153.5	959.9	914.5	45.45	21.120	
7,700.0	7,689.7	7,761.1	7,639.5	14.7	29.1	-89.09	11.8	-1,161.0	966.2	920.2	45.94	21.031	
7,800.0	7,789.7	7,881.2	7,759.5	14.8	29.4	-89.12	11.4	-1,166.0	970.3	924.0	46.37	20.927	
7,900.0	7,889.7	8,001.5	7,879.8	14.9	29.8	-89.14	11.2	-1,168.5	972.4	925.7	46.71	20.818	
8,000.0	7,989.7	8,111.5	7,989.7	15.0	29.8	-89.14	11.2	-1,168.8	972.6	925.9	46.79	20.788	
8,100.0	8,089.7	8,211.5	8,089.7	15.0	29.9	-89.14	11.2	-1,168.8	972.6	925.8	46.87	20.753	
8,200.0	8,189.7	8,311.5	8,189.7	15.1	29.9	-89.14	11.2	-1,168.8	972.6	925.7	46.95	20.718	
8,300.0	8,289.7	8,411.5	8,289.7	15.2	29.9	-89.14	11.2	-1,168.8	972.6	925.6	47.03	20.682	
8,400.0	8,389.7	8,511.5	8,389.7	15.2	30.0	-89.14	11.2	-1,168.8	972.6	925.5	47.11	20.647	
8,500.0	8,489.7	8,611.5	8,489.7	15.3	30.0	-89.14	11.2	-1,168.8	972.6	925.5	47.19	20.611	
8,600.0	8,589.7	8,711.5	8,589.7	15.4	30.0	-89.14	11.2	-1,168.8	972.6	925.4	47.27	20.575	
8,700.0	8,689.7	8,811.5	8,689.7	15.5	30.0	-89.14	11.2	-1,168.8	972.6	925.3	47.36	20.539	
8,800.0	8,789.7	8,911.5	8,789.7	15.5	30.1	-89.14	11.2	-1,168.8	972.6	925.2	47.44	20.504	
8,900.0	8,889.7	9,011.5	8,889.7	15.6	30.1	-89.14	11.2	-1,168.8	972.6	925.1	47.52	20.468	
9,000.0	8,989.7	9,111.5	8,989.7	15.7	30.1	-89.14	11.2	-1,168.8	972.6	925.0	47.60	20.432	
9,100.0	9,089.7	9,211.5	9,089.7	15.8	30.2	-89.14	11.2	-1,168.8	972.6	925.0	47.69	20.396	
9,110.0	9,099.7	9,221.5	9,099.7	15.8	30.2	-89.14	11.2	-1,168.8	972.6	925.0	47.69	20.393	
9,200.0	9,189.7	9,306.0	9,184.3	15.8	30.2	-89.08	12.1	-1,168.8	972.8	925.0	47.79	20.354	
9,300.0	9,289.7	9,390.1	9,267.6	15.9	30.2	-88.45	22.9	-1,169.7	974.1	926.2	47.94	20.319	
9,400.0	9,389.7	9,469.4	9,343.9	16.0	30.2	-87.21	44.2	-1,171.5	977.5	929.5	48.09	20.329	
9,500.0	9,489.7	9,541.6	9,410.2	16.1	30.2	-85.56	72.5	-1,173.9	983.8	935.6	48.24	20.396	
9,600.0	9,589.7	9,600.0	9,460.9	16.1	30.2	-83.90	101.3	-1,176.3	994.1	945.7	48.41	20.533	
9,700.0	9,689.7	9,661.7	9,511.0	16.2	30.2	-81.86	137.2	-1,179.3	1,009.1	960.6	48.53	20.795	
9,800.0	9,789.7	9,710.1	9,547.4	16.3	30.2	-80.08	168.9	-1,182.0	1,029.7	981.0	48.63	21.173	
9,900.0	9,889.7	9,750.0	9,575.3	16.4	30.2	-78.51	197.4	-1,184.4	1,056.3	1,007.6	48.70	21.691	
10,000.0	9,989.7	9,787.7	9,599.7	16.4	30.2	-76.96	225.9	-1,186.8	1,089.0	1,040.3	48.71	22.358	
10,100.0	10,089.7	9,818.7	9,618.4	16.5	30.2	-75.65	250.6	-1,188.9	1,127.8	1,079.1	48.68	23.167	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,200.0	10,189.7	9,850.0	9,635.9	16.6	30.2	-74.29	276.4	-1,191.0	1,172.5	1,123.9	48.62	24.114	
10,300.0	10,289.7	9,869.2	9,645.9	16.7	30.3	-73.44	292.8	-1,192.4	1,222.6	1,174.0	48.54	25.185	
10,400.0	10,389.7	9,900.0	9,660.8	16.7	30.3	-72.07	319.6	-1,194.7	1,277.7	1,229.3	48.46	26.364	
10,500.0	10,489.7	9,900.0	9,660.8	16.8	30.3	-72.07	319.6	-1,194.7	1,337.3	1,289.0	48.35	27.658	
10,600.0	10,589.7	9,924.2	9,671.5	16.9	30.3	-70.98	341.3	-1,196.5	1,400.9	1,352.6	48.29	29.012	
10,700.0	10,689.7	9,950.0	9,681.8	17.0	30.3	-69.83	364.8	-1,198.5	1,468.3	1,420.1	48.25	30.430	
10,800.0	10,789.7	9,950.0	9,681.8	17.0	30.3	-68.38	364.8	-1,198.5	1,538.7	1,490.5	48.18	31.937	
10,900.0	10,889.0	9,950.0	9,681.8	17.1	30.3	-59.47	364.8	-1,198.5	1,609.1	1,560.9	48.19	33.392	
11,000.0	10,984.9	10,000.0	9,698.8	17.1	30.3	-50.75	411.7	-1,202.4	1,675.5	1,627.1	48.47	34.567	
11,100.0	11,074.4	10,000.0	9,698.8	17.2	30.3	-45.09	411.7	-1,202.4	1,736.1	1,687.5	48.67	35.672	
11,200.0	11,155.0	10,026.3	9,706.1	17.3	30.3	-40.40	436.9	-1,204.5	1,789.8	1,740.8	49.03	36.506	
11,300.0	11,224.0	10,050.0	9,711.6	17.4	30.4	-37.00	459.8	-1,206.4	1,835.2	1,785.7	49.42	37.131	
11,400.0	11,279.4	10,074.5	9,716.4	17.5	30.4	-34.61	483.7	-1,208.4	1,871.2	1,821.3	49.86	37.531	
11,500.0	11,319.6	10,100.0	9,720.2	17.6	30.4	-33.05	508.9	-1,210.6	1,897.1	1,846.8	50.31	37.706	
11,600.0	11,343.3	10,125.6	9,722.9	17.7	30.4	-32.21	534.3	-1,212.7	1,912.5	1,861.7	50.78	37.661	
11,700.0	11,350.0	10,150.0	9,724.5	17.8	30.4	-32.01	558.5	-1,214.7	1,917.1	1,865.9	51.22	37.426	
11,800.0	11,350.0	10,196.5	9,725.0	18.0	30.5	-32.11	604.8	-1,218.5	1,919.9	1,868.2	51.75	37.096	
11,900.0	11,350.0	10,352.0	9,725.0	18.1	30.7	-32.29	760.2	-1,226.1	1,922.3	1,869.3	53.00	36.272	
12,000.0	11,350.0	10,470.1	9,725.0	18.3	30.9	-32.30	878.2	-1,227.0	1,922.4	1,868.4	54.01	35.594	
12,100.0	11,350.0	10,570.1	9,725.0	18.5	31.0	-32.30	978.2	-1,227.4	1,922.4	1,867.5	54.94	34.990	
12,200.0	11,350.0	10,670.1	9,725.0	18.8	31.2	-32.30	1,078.2	-1,227.8	1,922.4	1,866.5	55.90	34.388	
12,300.0	11,350.0	10,770.1	9,725.0	19.1	31.4	-32.30	1,178.2	-1,228.2	1,922.4	1,865.5	56.89	33.792	
12,400.0	11,350.0	10,870.1	9,725.0	19.4	31.6	-32.30	1,278.2	-1,228.6	1,922.4	1,864.5	57.90	33.203	
12,500.0	11,350.0	10,970.1	9,725.0	19.8	31.8	-32.30	1,378.2	-1,229.0	1,922.4	1,863.5	58.93	32.620	
12,600.0	11,350.0	11,070.1	9,725.0	20.1	32.1	-32.30	1,478.2	-1,229.4	1,922.4	1,862.4	59.99	32.047	
12,700.0	11,350.0	11,170.1	9,725.0	20.5	32.4	-32.30	1,578.2	-1,229.8	1,922.4	1,861.3	61.06	31.482	
12,800.0	11,350.0	11,270.1	9,725.0	20.9	32.6	-32.30	1,678.2	-1,230.1	1,922.4	1,860.2	62.16	30.928	
12,900.0	11,350.0	11,370.1	9,725.0	21.4	32.9	-32.30	1,778.2	-1,230.5	1,922.4	1,859.1	63.27	30.383	
13,000.0	11,350.0	11,470.1	9,725.0	21.8	33.2	-32.30	1,878.2	-1,230.9	1,922.4	1,858.0	64.40	29.850	
13,100.0	11,350.0	11,570.1	9,725.0	22.3	33.6	-32.30	1,978.2	-1,231.3	1,922.4	1,856.8	65.55	29.327	
13,200.0	11,350.0	11,670.1	9,725.0	22.8	33.9	-32.30	2,078.2	-1,231.7	1,922.4	1,855.7	66.71	28.815	
13,300.0	11,350.0	11,770.1	9,725.0	23.3	34.3	-32.30	2,178.2	-1,232.1	1,922.4	1,854.5	67.89	28.315	
13,400.0	11,350.0	11,870.1	9,725.0	23.8	34.6	-32.29	2,278.2	-1,232.5	1,922.4	1,853.3	69.08	27.826	
13,500.0	11,350.0	11,970.1	9,725.0	24.4	35.0	-32.29	2,378.2	-1,232.9	1,922.4	1,852.1	70.29	27.349	
13,600.0	11,350.0	12,070.1	9,725.0	24.9	35.4	-32.29	2,478.2	-1,233.3	1,922.4	1,850.9	71.51	26.883	
13,700.0	11,350.0	12,170.1	9,725.0	25.5	35.8	-32.29	2,578.2	-1,233.7	1,922.4	1,849.6	72.74	26.428	
13,800.0	11,350.0	12,270.1	9,725.0	26.0	36.2	-32.29	2,678.2	-1,234.1	1,922.4	1,848.4	73.98	25.984	
13,900.0	11,350.0	12,370.1	9,725.0	26.6	36.7	-32.29	2,778.2	-1,234.5	1,922.3	1,847.1	75.24	25.551	
14,000.0	11,350.0	12,470.1	9,725.0	27.2	37.1	-32.29	2,878.2	-1,234.9	1,922.3	1,845.8	76.50	25.129	
14,100.0	11,350.0	12,570.1	9,725.0	27.8	37.6	-32.29	2,978.2	-1,235.3	1,922.3	1,844.6	77.77	24.717	
14,200.0	11,350.0	12,670.1	9,725.0	28.4	38.0	-32.29	3,078.2	-1,235.7	1,922.3	1,843.3	79.06	24.316	
14,300.0	11,350.0	12,770.1	9,725.0	29.0	38.5	-32.29	3,178.2	-1,236.1	1,922.3	1,842.0	80.35	23.925	
14,400.0	11,350.0	12,870.1	9,725.0	29.6	39.0	-32.29	3,278.2	-1,236.4	1,922.3	1,840.7	81.65	23.544	
14,500.0	11,350.0	12,970.1	9,725.0	30.3	39.5	-32.29	3,378.2	-1,236.8	1,922.3	1,839.4	82.96	23.173	
14,600.0	11,350.0	13,070.1	9,725.0	30.9	39.9	-32.29	3,478.2	-1,237.2	1,922.3	1,838.0	84.27	22.811	
14,700.0	11,350.0	13,170.1	9,725.0	31.5	40.5	-32.29	3,578.2	-1,237.6	1,922.3	1,836.7	85.60	22.458	
14,800.0	11,350.0	13,270.1	9,725.0	32.2	41.0	-32.29	3,678.2	-1,238.0	1,922.3	1,835.4	86.93	22.114	
14,900.0	11,350.0	13,370.1	9,725.0	32.8	41.5	-32.29	3,778.2	-1,238.4	1,922.3	1,834.0	88.26	21.779	
15,000.0	11,350.0	13,470.1	9,725.0	33.5	42.0	-32.29	3,878.2	-1,238.8	1,922.3	1,832.7	89.61	21.452	
15,100.0	11,350.0	13,570.1	9,725.0	34.2	42.5	-32.29	3,978.2	-1,239.2	1,922.3	1,831.3	90.96	21.134	
15,200.0	11,350.0	13,670.1	9,725.0	34.8	43.1	-32.29	4,078.2	-1,239.6	1,922.3	1,830.0	92.31	20.823	
15,300.0	11,350.0	13,770.1	9,725.0	35.5	43.6	-32.29	4,178.2	-1,240.0	1,922.3	1,828.6	93.68	20.521	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	11,350.0	13,870.1	9,725.0	36.2	44.2	-32.29	4,278.2	-1,240.4	1,922.3	1,827.2	95.04	20.225	
15,500.0	11,350.0	13,970.1	9,725.0	36.8	44.8	-32.29	4,378.2	-1,240.8	1,922.3	1,825.9	96.41	19.938	
15,600.0	11,350.0	14,070.1	9,725.0	37.5	45.3	-32.29	4,478.2	-1,241.2	1,922.3	1,824.5	97.79	19.657	
15,700.0	11,350.0	14,170.1	9,725.0	38.2	45.9	-32.29	4,578.2	-1,241.6	1,922.3	1,823.1	99.17	19.383	
15,800.0	11,350.0	14,270.1	9,725.0	38.9	46.5	-32.29	4,678.2	-1,242.0	1,922.3	1,821.7	100.56	19.116	
15,900.0	11,350.0	14,370.1	9,725.0	39.6	47.0	-32.29	4,778.2	-1,242.4	1,922.2	1,820.3	101.95	18.855	
16,000.0	11,350.0	14,470.1	9,725.0	40.3	47.6	-32.29	4,878.2	-1,242.8	1,922.2	1,818.9	103.34	18.600	
16,100.0	11,350.0	14,570.1	9,725.0	41.0	48.2	-32.29	4,978.2	-1,243.1	1,922.2	1,817.5	104.74	18.352	
16,200.0	11,350.0	14,670.1	9,725.0	41.7	48.8	-32.29	5,078.2	-1,243.5	1,922.2	1,816.1	106.14	18.110	
16,300.0	11,350.0	14,770.1	9,725.0	42.3	49.4	-32.29	5,178.2	-1,243.9	1,922.2	1,814.7	107.55	17.873	
16,400.0	11,350.0	14,870.1	9,725.0	43.1	50.0	-32.29	5,278.2	-1,244.3	1,922.2	1,813.3	108.96	17.641	
16,500.0	11,350.0	14,970.1	9,725.0	43.8	50.6	-32.29	5,378.2	-1,244.7	1,922.2	1,811.8	110.37	17.416	
16,600.0	11,350.0	15,070.1	9,725.0	44.5	51.3	-32.29	5,478.2	-1,245.1	1,922.2	1,810.4	111.79	17.195	
16,700.0	11,350.0	15,170.1	9,725.0	45.2	51.9	-32.29	5,578.2	-1,245.5	1,922.2	1,809.0	113.21	16.979	
16,800.0	11,350.0	15,270.1	9,725.0	45.9	52.5	-32.29	5,678.2	-1,245.9	1,922.2	1,807.6	114.63	16.769	
16,900.0	11,350.0	15,370.1	9,725.0	46.6	53.1	-32.29	5,778.2	-1,246.3	1,922.2	1,806.1	116.06	16.563	
17,000.0	11,350.0	15,470.1	9,725.0	47.3	53.8	-32.29	5,878.2	-1,246.7	1,922.2	1,804.7	117.48	16.361	
17,100.0	11,350.0	15,570.1	9,725.0	48.0	54.4	-32.29	5,978.2	-1,247.1	1,922.2	1,803.3	118.92	16.164	
17,200.0	11,350.0	15,670.1	9,725.0	48.7	55.0	-32.29	6,078.2	-1,247.5	1,922.2	1,801.8	120.35	15.972	
17,300.0	11,350.0	15,770.1	9,725.0	49.5	55.7	-32.29	6,178.2	-1,247.9	1,922.2	1,800.4	121.79	15.783	
17,400.0	11,350.0	15,870.1	9,725.0	50.2	56.3	-32.29	6,278.2	-1,248.3	1,922.2	1,798.9	123.22	15.599	
17,500.0	11,350.0	15,970.1	9,725.0	50.9	57.0	-32.29	6,378.2	-1,248.7	1,922.2	1,797.5	124.66	15.419	
17,600.0	11,350.0	16,070.1	9,725.0	51.6	57.6	-32.28	6,478.2	-1,249.1	1,922.2	1,796.1	126.11	15.242	
17,700.0	11,350.0	16,170.1	9,725.0	52.3	58.3	-32.28	6,578.2	-1,249.4	1,922.2	1,794.6	127.55	15.069	
17,800.0	11,350.0	16,270.1	9,725.0	53.1	58.9	-32.28	6,678.2	-1,249.8	1,922.2	1,793.2	129.00	14.900	
17,900.0	11,350.0	16,370.1	9,725.0	53.8	59.6	-32.28	6,778.2	-1,250.2	1,922.1	1,791.7	130.45	14.735	
18,000.0	11,350.0	16,470.1	9,725.0	54.5	60.2	-32.28	6,878.2	-1,250.6	1,922.1	1,790.2	131.90	14.573	
18,100.0	11,350.0	16,570.1	9,725.0	55.2	60.9	-32.28	6,978.2	-1,251.0	1,922.1	1,788.8	133.35	14.414	
18,200.0	11,350.0	16,670.1	9,725.0	56.0	61.5	-32.28	7,078.2	-1,251.4	1,922.1	1,787.3	134.81	14.258	
18,300.0	11,350.0	16,770.1	9,725.0	56.7	62.2	-32.28	7,178.2	-1,251.8	1,922.1	1,785.9	136.27	14.106	
18,400.0	11,350.0	16,870.1	9,725.0	57.4	62.9	-32.28	7,278.2	-1,252.2	1,922.1	1,784.4	137.72	13.956	
18,500.0	11,350.0	16,970.1	9,725.0	58.2	63.6	-32.28	7,378.2	-1,252.6	1,922.1	1,782.9	139.19	13.810	
18,600.0	11,350.0	17,070.1	9,725.0	58.9	64.2	-32.28	7,478.2	-1,253.0	1,922.1	1,781.5	140.65	13.666	
18,700.0	11,350.0	17,170.1	9,725.0	59.6	64.9	-32.28	7,578.2	-1,253.4	1,922.1	1,780.0	142.11	13.525	
18,800.0	11,350.0	17,270.1	9,725.0	60.4	65.6	-32.28	7,678.2	-1,253.8	1,922.1	1,778.5	143.58	13.387	
18,900.0	11,350.0	17,370.1	9,725.0	61.1	66.3	-32.28	7,778.2	-1,254.2	1,922.1	1,777.1	145.04	13.252	
19,000.0	11,350.0	17,470.1	9,725.0	61.8	66.9	-32.28	7,878.2	-1,254.6	1,922.1	1,775.6	146.51	13.119	
19,100.0	11,350.0	17,570.1	9,725.0	62.6	67.6	-32.28	7,978.2	-1,255.0	1,922.1	1,774.1	147.98	12.989	
19,200.0	11,350.0	17,670.1	9,725.0	63.3	68.3	-32.28	8,078.2	-1,255.4	1,922.1	1,772.6	149.45	12.861	
19,300.0	11,350.0	17,770.1	9,725.0	64.0	69.0	-32.28	8,178.2	-1,255.8	1,922.1	1,771.2	150.92	12.736	
19,400.0	11,350.0	17,870.1	9,725.0	64.8	69.7	-32.28	8,278.2	-1,256.1	1,922.1	1,769.7	152.40	12.612	
19,500.0	11,350.0	17,970.1	9,725.0	65.5	70.4	-32.28	8,378.2	-1,256.5	1,922.1	1,768.2	153.87	12.491	
19,600.0	11,350.0	18,070.1	9,725.0	66.3	71.1	-32.28	8,478.2	-1,256.9	1,922.1	1,766.7	155.35	12.373	
19,700.0	11,350.0	18,170.1	9,725.0	67.0	71.8	-32.28	8,578.2	-1,257.3	1,922.1	1,765.2	156.82	12.256	
19,800.0	11,350.0	18,270.1	9,725.0	67.7	72.4	-32.28	8,678.2	-1,257.7	1,922.0	1,763.7	158.30	12.142	
19,900.0	11,350.0	18,370.1	9,725.0	68.5	73.1	-32.28	8,778.2	-1,258.1	1,922.0	1,762.3	159.78	12.029	
20,000.0	11,350.0	18,470.1	9,725.0	69.2	73.8	-32.28	8,878.2	-1,258.5	1,922.0	1,760.8	161.26	11.919	
20,100.0	11,350.0	18,570.1	9,725.0	70.0	74.5	-32.28	8,978.2	-1,258.9	1,922.0	1,759.3	162.74	11.810	
20,200.0	11,350.0	18,670.1	9,725.0	70.7	75.2	-32.28	9,078.2	-1,259.3	1,922.0	1,757.8	164.22	11.704	
20,300.0	11,350.0	18,770.1	9,725.0	71.5	75.9	-32.28	9,178.2	-1,259.7	1,922.0	1,756.3	165.71	11.599	
20,400.0	11,350.0	18,870.1	9,725.0	72.2	76.6	-32.28	9,278.2	-1,260.1	1,922.0	1,754.8	167.19	11.496	
20,500.0	11,350.0	18,970.1	9,725.0	72.9	77.3	-32.28	9,378.2	-1,260.5	1,922.0	1,753.3	168.68	11.395	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,350.0	19,070.1	9,725.0	73.7	78.0	-32.28	9,478.2	-1,260.9	1,922.0	1,751.8	170.16	11.295	
20,700.0	11,350.0	19,170.1	9,725.0	74.4	78.8	-32.28	9,578.2	-1,261.3	1,922.0	1,750.4	171.65	11.197	
20,800.0	11,350.0	19,270.1	9,725.0	75.2	79.5	-32.28	9,678.2	-1,261.7	1,922.0	1,748.9	173.14	11.101	
20,900.0	11,350.0	19,370.1	9,725.0	75.9	80.2	-32.28	9,778.2	-1,262.1	1,922.0	1,747.4	174.63	11.006	
21,000.0	11,350.0	19,470.1	9,725.0	76.7	80.9	-32.28	9,878.2	-1,262.4	1,922.0	1,745.9	176.12	10.913	
21,100.0	11,350.0	19,570.1	9,725.0	77.4	81.6	-32.28	9,978.2	-1,262.8	1,922.0	1,744.4	177.61	10.822	
21,200.0	11,350.0	19,670.1	9,725.0	78.2	82.3	-32.28	10,078.2	-1,263.2	1,922.0	1,742.9	179.10	10.731	
21,300.0	11,350.0	19,770.1	9,725.0	78.9	83.0	-32.28	10,178.2	-1,263.6	1,922.0	1,741.4	180.59	10.643	
21,400.0	11,350.0	19,870.1	9,725.0	79.7	83.7	-32.28	10,278.2	-1,264.0	1,922.0	1,739.9	182.08	10.556	
21,500.0	11,350.0	19,970.1	9,725.0	80.4	84.4	-32.28	10,378.2	-1,264.4	1,922.0	1,738.4	183.57	10.470	
21,600.0	11,350.0	20,070.1	9,725.0	81.2	85.1	-32.28	10,478.2	-1,264.8	1,922.0	1,736.9	185.07	10.385	
21,700.0	11,350.0	20,170.1	9,725.0	81.9	85.9	-32.28	10,578.2	-1,265.2	1,922.0	1,735.4	186.56	10.302	
21,800.0	11,350.0	20,270.1	9,725.0	82.7	86.6	-32.27	10,678.2	-1,265.6	1,921.9	1,733.9	188.06	10.220	
21,900.0	11,350.0	20,370.1	9,725.0	83.4	87.3	-32.27	10,778.2	-1,266.0	1,921.9	1,732.4	189.56	10.139	
22,000.0	11,350.0	20,470.1	9,725.0	84.2	88.0	-32.27	10,878.2	-1,266.4	1,921.9	1,730.9	191.05	10.060	
22,100.0	11,350.0	20,570.1	9,725.0	84.9	88.7	-32.27	10,978.2	-1,266.8	1,921.9	1,729.4	192.55	9.982	
22,200.0	11,350.0	20,670.1	9,725.0	85.7	89.4	-32.27	11,078.2	-1,267.2	1,921.9	1,727.9	194.05	9.904	
22,300.0	11,350.0	20,770.1	9,725.0	86.4	90.2	-32.27	11,178.2	-1,267.6	1,921.9	1,726.4	195.55	9.829	
22,400.0	11,350.0	20,870.1	9,725.0	87.2	90.9	-32.27	11,278.2	-1,268.0	1,921.9	1,724.9	197.04	9.754	
22,500.0	11,350.0	20,970.1	9,725.0	87.9	91.6	-32.27	11,378.2	-1,268.4	1,921.9	1,723.4	198.54	9.680	
22,600.0	11,350.0	21,070.1	9,725.0	88.7	92.3	-32.27	11,478.2	-1,268.7	1,921.9	1,721.9	200.04	9.607	
22,700.0	11,350.0	21,170.1	9,725.0	89.4	93.1	-32.27	11,578.2	-1,269.1	1,921.9	1,720.4	201.55	9.536	
22,800.0	11,350.0	21,270.1	9,725.0	90.2	93.8	-32.27	11,678.2	-1,269.5	1,921.9	1,718.9	203.05	9.465	
22,900.0	11,350.0	21,370.1	9,725.0	90.9	94.5	-32.27	11,778.1	-1,269.9	1,921.9	1,717.3	204.55	9.396	
23,000.0	11,350.0	21,470.1	9,725.0	91.7	95.2	-32.27	11,878.1	-1,270.3	1,921.9	1,715.8	206.05	9.327	
23,100.0	11,350.0	21,570.1	9,725.0	92.4	96.0	-32.27	11,978.1	-1,270.7	1,921.9	1,714.3	207.55	9.260	
23,200.0	11,350.0	21,670.1	9,725.0	93.2	96.7	-32.27	12,078.1	-1,271.1	1,921.9	1,712.8	209.06	9.193	
23,300.0	11,350.0	21,770.1	9,725.0	93.9	97.4	-32.27	12,178.1	-1,271.5	1,921.9	1,711.3	210.56	9.127	
23,400.0	11,350.0	21,870.1	9,725.0	94.7	98.1	-32.27	12,278.1	-1,271.9	1,921.9	1,709.8	212.07	9.063	
23,500.0	11,350.0	21,970.1	9,725.0	95.4	98.9	-32.27	12,378.1	-1,272.3	1,921.9	1,708.3	213.57	8.999	
23,600.0	11,350.0	22,070.1	9,725.0	96.2	99.6	-32.27	12,478.1	-1,272.7	1,921.9	1,706.8	215.08	8.936	
23,700.0	11,350.0	22,170.1	9,725.0	96.9	100.3	-32.27	12,578.1	-1,273.1	1,921.9	1,705.3	216.58	8.874	
23,800.0	11,350.0	22,270.1	9,725.0	97.7	101.1	-32.27	12,678.1	-1,273.5	1,921.8	1,703.8	218.09	8.812	
23,900.0	11,350.0	22,370.1	9,725.0	98.5	101.8	-32.27	12,778.1	-1,273.9	1,921.8	1,702.2	219.59	8.752	
24,000.0	11,350.0	22,470.1	9,725.0	99.2	102.5	-32.27	12,878.1	-1,274.3	1,921.8	1,700.7	221.10	8.692	
24,100.0	11,350.0	22,570.1	9,725.0	100.0	103.2	-32.27	12,978.1	-1,274.7	1,921.8	1,699.2	222.61	8.633	
24,200.0	11,350.0	22,670.1	9,725.0	100.7	104.0	-32.27	13,078.1	-1,275.1	1,921.8	1,697.7	224.12	8.575	
24,300.0	11,350.0	22,770.1	9,725.0	101.5	104.7	-32.27	13,178.1	-1,275.4	1,921.8	1,696.2	225.62	8.518	
24,400.0	11,350.0	22,870.1	9,725.0	102.2	105.4	-32.27	13,278.1	-1,275.8	1,921.8	1,694.7	227.13	8.461	
24,500.0	11,350.0	22,970.1	9,725.0	103.0	106.2	-32.27	13,378.1	-1,276.2	1,921.8	1,693.2	228.64	8.405	
24,600.0	11,350.0	23,070.1	9,725.0	103.7	106.9	-32.27	13,478.1	-1,276.6	1,921.8	1,691.7	230.15	8.350	
24,700.0	11,350.0	23,170.1	9,725.0	104.5	107.6	-32.27	13,578.1	-1,277.0	1,921.8	1,690.1	231.66	8.296	
24,725.4	11,350.0	23,195.6	9,725.0	104.6	107.8	-32.27	13,603.6	-1,277.1	1,921.8	1,689.8	231.97	8.285 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		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	3.0	3.0	-0.01	150.1	0.0	150.1	143.6	6.43	23.341	
100.0	100.0	100.0	100.0	3.2	3.2	-0.01	150.1	0.0	150.1	143.2	6.89	21.772	
200.0	200.0	200.0	200.0	3.5	3.5	-0.01	150.1	0.0	150.1	142.7	7.33	20.477	
300.0	300.0	300.0	300.0	3.7	3.7	-0.01	150.1	0.0	150.1	142.3	7.74	19.384	
400.0	400.0	400.0	400.0	3.9	3.9	-0.01	150.1	0.0	150.1	141.9	8.14	18.445	
500.0	500.0	500.0	500.0	4.1	4.1	-0.01	150.1	0.0	150.1	141.5	8.51	17.626	
600.0	600.0	600.0	600.0	4.2	4.2	-0.01	150.1	0.0	150.1	141.2	8.88	16.903	
700.0	700.0	700.0	700.0	4.4	4.4	-0.01	150.1	0.0	150.1	140.8	9.23	16.259	
800.0	800.0	800.0	800.0	4.6	4.6	-0.01	150.1	0.0	150.1	140.5	9.57	15.679	
900.0	900.0	900.0	900.0	4.8	4.8	-0.01	150.1	0.0	150.1	140.2	9.90	15.155	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-0.01	150.1	0.0	150.1	139.8	10.22	14.676	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-0.01	150.1	0.0	150.1	139.5	10.54	14.238	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-0.01	150.1	0.0	150.1	139.2	10.85	13.833	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-0.01	150.1	0.0	150.1	138.9	11.15	13.459	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-0.01	150.1	0.0	150.1	138.6	11.44	13.112	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-0.01	150.1	0.0	150.1	138.3	11.73	12.788	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-0.01	150.1	0.0	150.1	138.0	12.02	12.485	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-0.01	150.1	0.0	150.1	137.8	12.30	12.200	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-0.01	150.1	0.0	150.1	137.5	12.58	11.933	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-0.01	150.1	0.0	150.1	137.2	12.85	11.680	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-0.01	150.1	0.0	150.1	136.9	13.12	11.441	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-0.01	150.1	0.0	150.1	136.7	13.38	11.215	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-0.01	150.1	0.0	150.1	136.4	13.64	11.001	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-0.01	150.1	0.0	150.1	136.2	13.90	10.796	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-0.01	150.1	0.0	150.1	135.9	14.15	10.602	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-0.01	150.1	0.0	150.1	135.7	14.41	10.416	
2,600.0	2,600.0	2,603.8	2,603.7	7.2	7.2	-0.21	148.8	-0.6	148.8	134.1	14.66	10.151	
2,700.0	2,700.0	2,707.4	2,707.3	7.3	7.3	-0.85	144.8	-2.1	145.0	130.1	14.89	9.740	
2,800.0	2,800.0	2,810.7	2,810.3	7.4	7.5	-1.97	138.4	-4.8	138.8	123.7	15.13	9.176	
2,900.0	2,900.0	2,913.5	2,912.7	7.5	7.6	-3.72	129.3	-8.4	130.2	114.8	15.37	8.471	
3,000.0	3,000.0	3,015.7	3,014.2	7.7	7.8	-6.32	117.8	-13.1	119.4	103.8	15.61	7.649	
3,100.0	3,100.0	3,115.3	3,112.8	7.8	7.9	82.03	105.0	-18.2	107.2	91.3	15.82	6.775	
3,200.0	3,199.9	3,214.5	3,211.0	7.9	8.1	80.23	92.2	-23.4	94.7	78.7	16.07	5.896	
3,300.0	3,299.7	3,313.6	3,309.2	8.1	8.3	79.64	79.4	-28.6	81.9	65.6	16.34	5.015	
3,400.0	3,399.3	3,412.7	3,407.3	8.2	8.6	80.92	66.6	-33.7	68.7	52.1	16.64	4.129	
3,500.0	3,498.6	3,511.7	3,505.3	8.4	8.8	85.44	53.9	-38.9	55.2	38.2	17.00	3.248	
3,600.0	3,597.6	3,610.0	3,602.8	8.6	9.1	95.51	41.8	-43.8	43.0	25.6	17.41	2.471	
3,700.0	3,696.6	3,708.5	3,700.5	8.7	9.3	112.52	30.9	-48.2	34.5	16.5	17.94	1.920 Advise and Monitor	
3,789.4	3,785.2	3,796.7	3,788.2	8.9	9.5	133.27	22.2	-51.7	31.7	13.4	18.30	1.731 Advise and Monitor, CC, ES	
3,800.0	3,795.7	3,807.1	3,798.6	9.0	9.6	135.84	21.2	-52.1	31.7	13.4	18.33	1.731 Advise and Monitor, SF	
3,900.0	3,894.7	3,905.9	3,896.9	9.2	9.8	157.53	12.6	-55.6	35.6	17.2	18.39	1.937 Advise and Monitor	
4,000.0	3,993.8	4,004.8	3,995.5	9.4	10.1	171.73	5.2	-58.6	43.5	25.0	18.47	2.353	
4,100.0	4,093.0	4,103.8	4,094.3	9.7	10.4	179.95	-1.0	-61.1	52.8	34.1	18.65	2.830	
4,200.0	4,192.4	4,203.0	4,193.3	9.9	10.6	-175.41	-6.1	-63.1	62.4	43.5	18.91	3.299	
4,300.0	4,291.8	4,302.2	4,292.5	10.2	10.9	-172.93	-9.9	-64.7	71.8	52.6	19.22	3.734	
4,400.0	4,391.3	4,401.6	4,391.8	10.4	11.1	-171.82	-12.6	-65.7	80.7	61.2	19.56	4.126	
4,500.0	4,490.9	4,500.9	4,491.1	10.7	11.3	-171.65	-14.1	-66.3	89.2	69.2	19.93	4.473	
4,600.0	4,590.6	4,600.4	4,590.6	11.0	11.4	-172.15	-14.4	-66.5	97.1	76.8	20.28	4.785	
4,700.0	4,690.3	4,700.1	4,690.3	11.3	11.5	-172.70	-14.4	-66.5	104.2	83.5	20.67	5.039	
4,800.0	4,790.1	4,799.9	4,790.1	11.6	11.6	-173.12	-14.4	-66.5	110.5	89.4	21.06	5.245	
4,900.0	4,890.0	4,899.8	4,890.0	11.8	11.6	-173.44	-14.4	-66.5	115.9	94.4	21.44	5.405	
5,000.0	4,989.9	4,999.7	4,989.9	12.1	11.7	-173.70	-14.4	-66.5	120.4	98.6	21.81	5.521	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:		THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0											Offset Site Error:		0.0 usft
Survey Program:		0-r.5 MWD+IFR1+MS				Rule Assigned:				Offset Well Error:		3.0 usft			
Reference	Offset	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Rule Assigned:		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
5,100.0	5,089.8	5,099.6	5,089.8	12.4	11.8	-173.89	-14.4	-66.5	124.1	101.9	22.18	5.597			
5,200.0	5,189.8	5,199.6	5,189.8	12.6	11.8	-174.02	-14.4	-66.5	126.9	104.4	22.53	5.635			
5,300.0	5,289.8	5,299.6	5,289.8	12.8	11.9	-174.12	-14.4	-66.5	128.9	106.0	22.86	5.638			
5,400.0	5,389.7	5,399.5	5,389.7	13.0	12.0	-174.17	-14.4	-66.5	130.0	106.8	23.17	5.610			
5,500.0	5,489.7	5,499.5	5,489.7	13.1	12.1	94.82	-14.4	-66.5	130.2	106.9	23.34	5.578			
5,600.0	5,589.7	5,599.5	5,589.7	13.2	12.1	94.82	-14.4	-66.5	130.2	106.7	23.50	5.542			
5,700.0	5,689.7	5,699.5	5,689.7	13.3	12.2	94.82	-14.4	-66.5	130.2	106.6	23.65	5.507			
5,800.0	5,789.7	5,799.5	5,789.7	13.4	12.3	94.82	-14.4	-66.5	130.2	106.4	23.80	5.472			
5,900.0	5,889.7	5,899.5	5,889.7	13.4	12.3	94.82	-14.4	-66.5	130.2	106.3	23.95	5.438			
6,000.0	5,989.7	5,999.5	5,989.7	13.5	12.4	94.82	-14.4	-66.5	130.2	106.1	24.10	5.404			
6,100.0	6,089.7	6,099.5	6,089.7	13.6	12.5	94.82	-14.4	-66.5	130.2	106.0	24.25	5.370			
6,200.0	6,189.7	6,199.5	6,189.7	13.6	12.5	94.82	-14.4	-66.5	130.2	105.8	24.40	5.337			
6,300.0	6,289.7	6,299.5	6,289.7	13.7	12.6	94.82	-14.4	-66.5	130.2	105.7	24.55	5.304			
6,400.0	6,389.7	6,399.5	6,389.7	13.8	12.7	94.82	-14.4	-66.5	130.2	105.5	24.70	5.272			
6,500.0	6,489.7	6,499.5	6,489.7	13.9	12.8	94.82	-14.4	-66.5	130.2	105.4	24.85	5.240			
6,600.0	6,589.7	6,599.5	6,589.7	13.9	12.8	94.82	-14.4	-66.5	130.2	105.2	25.00	5.208			
6,700.0	6,689.7	6,699.5	6,689.7	14.0	12.9	94.82	-14.4	-66.5	130.2	105.1	25.15	5.177			
6,800.0	6,789.7	6,799.5	6,789.7	14.1	13.0	94.82	-14.4	-66.5	130.2	104.9	25.30	5.146			
6,900.0	6,889.7	6,899.5	6,889.7	14.2	13.0	94.82	-14.4	-66.5	130.2	104.8	25.46	5.115			
7,000.0	6,989.7	6,999.5	6,989.7	14.2	13.1	94.82	-14.4	-66.5	130.2	104.6	25.61	5.085			
7,100.0	7,089.7	7,099.5	7,089.7	14.3	13.2	94.82	-14.4	-66.5	130.2	104.5	25.76	5.055			
7,200.0	7,189.7	7,199.5	7,189.7	14.4	13.3	94.82	-14.4	-66.5	130.2	104.3	25.91	5.026			
7,300.0	7,289.7	7,299.5	7,289.7	14.4	13.3	94.82	-14.4	-66.5	130.2	104.2	26.06	4.996			
7,400.0	7,389.7	7,399.5	7,389.7	14.5	13.4	94.82	-14.4	-66.5	130.2	104.0	26.22	4.967			
7,500.0	7,489.7	7,499.5	7,489.7	14.6	13.5	94.82	-14.4	-66.5	130.2	103.8	26.37	4.939			
7,600.0	7,589.7	7,599.5	7,589.7	14.7	13.6	94.82	-14.4	-66.5	130.2	103.7	26.52	4.910			
7,700.0	7,689.7	7,699.5	7,689.7	14.7	13.6	94.82	-14.4	-66.5	130.2	103.5	26.67	4.882			
7,800.0	7,789.7	7,799.5	7,789.7	14.8	13.7	94.82	-14.4	-66.5	130.2	103.4	26.82	4.854			
7,900.0	7,889.7	7,899.5	7,889.7	14.9	13.8	94.82	-14.4	-66.5	130.2	103.2	26.98	4.827			
8,000.0	7,989.7	7,999.5	7,989.7	15.0	13.8	94.82	-14.4	-66.5	130.2	103.1	27.13	4.800			
8,100.0	8,089.7	8,099.5	8,089.7	15.0	13.9	94.82	-14.4	-66.5	130.2	102.9	27.28	4.773			
8,200.0	8,189.7	8,199.5	8,189.7	15.1	14.0	94.82	-14.4	-66.5	130.2	102.8	27.43	4.746			
8,300.0	8,289.7	8,299.5	8,289.7	15.2	14.1	94.82	-14.4	-66.5	130.2	102.6	27.59	4.720			
8,400.0	8,389.7	8,399.5	8,389.7	15.2	14.1	94.82	-14.4	-66.5	130.2	102.5	27.74	4.694			
8,500.0	8,489.7	8,499.5	8,489.7	15.3	14.2	94.82	-14.4	-66.5	130.2	102.3	27.89	4.668			
8,600.0	8,589.7	8,599.5	8,589.7	15.4	14.3	94.82	-14.4	-66.5	130.2	102.2	28.05	4.643			
8,700.0	8,689.7	8,699.5	8,689.7	15.5	14.4	94.82	-14.4	-66.5	130.2	102.0	28.20	4.618			
8,800.0	8,789.7	8,799.5	8,789.7	15.5	14.4	94.82	-14.4	-66.5	130.2	101.9	28.35	4.593			
8,900.0	8,889.7	8,899.5	8,889.7	15.6	14.5	94.82	-14.4	-66.5	130.2	101.7	28.51	4.568			
9,000.0	8,989.7	8,999.5	8,989.7	15.7	14.6	94.82	-14.4	-66.5	130.2	101.6	28.66	4.543			
9,100.0	9,089.7	9,099.5	9,089.7	15.8	14.6	94.82	-14.4	-66.5	130.2	101.4	28.81	4.519			
9,200.0	9,189.7	9,200.3	9,190.4	15.8	14.7	94.26	-13.1	-66.5	130.1	101.2	28.96	4.493			
9,276.4	9,266.1	9,276.7	9,266.1	15.9	14.7	89.77	-2.9	-66.5	129.7	100.6	29.15	4.450			
9,300.0	9,289.7	9,299.6	9,288.5	15.9	14.7	87.55	2.1	-66.5	129.8	100.6	29.22	4.443			
9,400.0	9,389.7	9,391.3	9,375.4	16.0	14.6	75.13	31.0	-66.7	134.8	105.3	29.50	4.571			
9,500.0	9,489.7	9,472.1	9,447.3	16.1	14.6	61.24	67.6	-66.8	153.6	123.7	29.87	5.143			
9,600.0	9,589.7	9,541.2	9,504.3	16.1	14.5	49.56	106.7	-67.0	190.1	159.6	30.54	6.224			
9,700.0	9,689.7	9,600.0	9,548.7	16.2	14.5	40.98	145.2	-67.1	242.2	210.7	31.44	7.703			
9,800.0	9,789.7	9,650.0	9,583.2	16.3	14.5	34.91	181.3	-67.3	305.6	273.3	32.36	9.444			
9,900.0	9,889.7	9,689.1	9,607.9	16.4	14.5	30.93	211.6	-67.4	377.2	343.9	33.30	11.325			
10,000.0	9,989.7	9,723.5	9,627.9	16.4	14.5	27.91	239.6	-67.5	454.5	420.3	34.13	13.317			
10,100.0	10,089.7	9,750.0	9,642.2	16.5	14.4	25.86	261.9	-67.6	536.0	501.1	34.91	15.354			

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
10,200.0	10,189.7	9,777.6	9,655.9	16.6	14.4	23.95	285.9	-67.7	620.7	585.1	35.56	17.453		
10,300.0	10,289.7	9,800.0	9,666.2	16.7	14.4	22.56	305.8	-67.8	707.8	671.6	36.19	19.559		
10,400.0	10,389.7	9,817.8	9,673.8	16.7	14.4	21.54	321.9	-67.8	796.8	760.0	36.79	21.661		
10,500.0	10,489.7	9,834.1	9,680.3	16.8	14.4	20.66	336.8	-67.9	887.4	850.0	37.34	23.762		
10,600.0	10,589.7	9,850.0	9,686.3	16.9	14.4	19.86	351.6	-68.0	979.2	941.3	37.87	25.857		
10,700.0	10,689.7	9,850.0	9,686.3	17.0	14.4	19.86	351.6	-68.0	1,072.1	1,033.7	38.44	27.894		
10,800.0	10,789.7	9,872.6	9,694.0	17.0	14.4	17.97	372.8	-68.0	1,165.6	1,126.7	38.88	29.977		
10,900.0	10,889.0	9,900.0	9,702.3	17.1	14.4	11.90	398.9	-68.2	1,256.2	1,216.8	39.35	31.921		
11,000.0	10,984.9	9,900.0	9,702.3	17.1	14.4	9.17	398.9	-68.2	1,339.2	1,299.3	39.94	33.530		
11,100.0	11,074.4	9,922.1	9,708.0	17.2	14.4	7.39	420.3	-68.2	1,414.0	1,373.6	40.48	34.931		
11,200.0	11,155.0	9,950.0	9,714.1	17.3	14.4	6.26	447.5	-68.4	1,479.1	1,438.1	41.01	36.064		
11,300.0	11,224.0	9,950.0	9,714.1	17.4	14.4	5.59	447.5	-68.4	1,533.7	1,492.2	41.55	36.909		
11,400.0	11,279.4	10,000.0	9,721.6	17.5	14.4	5.06	496.9	-68.6	1,576.2	1,534.2	42.04	37.493		
11,500.0	11,319.6	10,000.0	9,721.6	17.6	14.4	4.79	496.9	-68.6	1,607.1	1,564.6	42.49	37.822		
11,600.0	11,343.3	10,050.0	9,724.8	17.7	14.4	4.61	546.8	-68.8	1,624.9	1,582.0	42.94	37.845		
11,700.0	11,350.0	10,086.0	9,725.0	17.8	14.5	4.56	582.8	-68.9	1,630.2	1,586.9	43.28	37.670		
11,800.0	11,350.0	10,186.0	9,725.0	18.0	14.5	4.56	682.8	-69.3	1,630.2	1,586.5	43.64	37.358		
11,900.0	11,350.0	10,286.0	9,725.0	18.1	14.6	4.56	782.8	-69.7	1,630.2	1,586.1	44.05	37.008		
12,000.0	11,350.0	10,386.0	9,725.0	18.3	14.7	4.56	882.8	-70.1	1,630.2	1,585.7	44.51	36.622		
12,100.0	11,350.0	10,486.0	9,725.0	18.5	14.8	4.56	982.8	-70.5	1,630.2	1,585.1	45.03	36.205		
12,200.0	11,350.0	10,586.0	9,725.0	18.8	15.1	4.56	1,082.8	-70.9	1,630.2	1,584.6	45.59	35.760		
12,300.0	11,350.0	10,686.0	9,725.0	19.1	15.4	4.56	1,182.8	-71.4	1,630.2	1,584.0	46.19	35.291		
12,400.0	11,350.0	10,786.0	9,725.0	19.4	15.8	4.56	1,282.8	-71.8	1,630.2	1,583.3	46.84	34.801		
12,500.0	11,350.0	10,886.0	9,725.0	19.8	16.2	4.56	1,382.8	-72.2	1,630.2	1,582.6	47.53	34.295		
12,600.0	11,350.0	10,986.0	9,725.0	20.1	16.6	4.56	1,482.8	-72.6	1,630.2	1,581.9	48.27	33.775		
12,700.0	11,350.0	11,086.0	9,725.0	20.5	17.1	4.56	1,582.8	-73.0	1,630.2	1,581.1	49.04	33.244		
12,800.0	11,350.0	11,186.0	9,725.0	20.9	17.6	4.56	1,682.8	-73.4	1,630.2	1,580.3	49.84	32.706		
12,900.0	11,350.0	11,286.0	9,725.0	21.4	18.1	4.56	1,782.8	-73.8	1,630.2	1,579.5	50.68	32.163		
13,000.0	11,350.0	11,386.0	9,725.0	21.8	18.6	4.56	1,882.8	-74.2	1,630.2	1,578.6	51.56	31.617		
13,100.0	11,350.0	11,486.0	9,725.0	22.3	19.2	4.56	1,982.8	-74.6	1,630.2	1,577.7	52.47	31.071		
13,200.0	11,350.0	11,586.0	9,725.0	22.8	19.7	4.56	2,082.8	-75.0	1,630.2	1,576.8	53.40	30.526		
13,300.0	11,350.0	11,686.0	9,725.0	23.3	20.3	4.56	2,182.8	-75.4	1,630.2	1,575.8	54.37	29.985		
13,400.0	11,350.0	11,786.0	9,725.0	23.8	20.9	4.56	2,282.8	-75.9	1,630.2	1,574.8	55.36	29.448		
13,500.0	11,350.0	11,886.0	9,725.0	24.4	21.5	4.56	2,382.8	-76.3	1,630.2	1,573.8	56.37	28.917		
13,600.0	11,350.0	11,986.0	9,725.0	24.9	22.1	4.56	2,482.8	-76.7	1,630.2	1,572.7	57.41	28.393		
13,700.0	11,350.0	12,086.0	9,725.0	25.5	22.7	4.56	2,582.8	-77.1	1,630.2	1,571.7	58.48	27.877		
13,800.0	11,350.0	12,186.0	9,725.0	26.0	23.4	4.56	2,682.8	-77.5	1,630.2	1,570.6	59.56	27.369		
13,900.0	11,350.0	12,286.0	9,725.0	26.6	24.0	4.56	2,782.8	-77.9	1,630.2	1,569.5	60.67	26.871		
14,000.0	11,350.0	12,386.0	9,725.0	27.2	24.7	4.56	2,882.8	-78.3	1,630.2	1,568.4	61.79	26.382		
14,100.0	11,350.0	12,486.0	9,725.0	27.8	25.3	4.56	2,982.8	-78.7	1,630.2	1,567.2	62.93	25.903		
14,200.0	11,350.0	12,586.0	9,725.0	28.4	26.0	4.56	3,082.8	-79.1	1,630.2	1,566.1	64.09	25.435		
14,300.0	11,350.0	12,686.0	9,725.0	29.0	26.6	4.56	3,182.8	-79.5	1,630.2	1,564.9	65.27	24.977		
14,400.0	11,350.0	12,786.0	9,725.0	29.6	27.3	4.56	3,282.8	-79.9	1,630.2	1,563.7	66.46	24.529		
14,500.0	11,350.0	12,886.0	9,725.0	30.3	28.0	4.56	3,382.8	-80.3	1,630.2	1,562.5	67.66	24.092		
14,600.0	11,350.0	12,986.0	9,725.0	30.9	28.7	4.56	3,482.8	-80.8	1,630.2	1,561.3	68.88	23.665		
14,700.0	11,350.0	13,086.0	9,725.0	31.5	29.4	4.56	3,582.8	-81.2	1,630.2	1,560.0	70.12	23.249		
14,800.0	11,350.0	13,186.0	9,725.0	32.2	30.0	4.56	3,682.8	-81.6	1,630.2	1,558.8	71.36	22.844		
14,900.0	11,350.0	13,286.0	9,725.0	32.8	30.7	4.56	3,782.8	-82.0	1,630.2	1,557.5	72.62	22.448		
15,000.0	11,350.0	13,386.0	9,725.0	33.5	31.4	4.56	3,882.8	-82.4	1,630.2	1,556.3	73.89	22.063		
15,100.0	11,350.0	13,486.0	9,725.0	34.2	32.1	4.56	3,982.8	-82.8	1,630.2	1,555.0	75.16	21.688		
15,200.0	11,350.0	13,586.0	9,725.0	34.8	32.8	4.56	4,082.8	-83.2	1,630.2	1,553.7	76.45	21.323		
15,300.0	11,350.0	13,686.0	9,725.0	35.5	33.5	4.56	4,182.8	-83.6	1,630.2	1,552.4	77.75	20.967		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	11,350.0	13,786.0	9,725.0	36.2	34.2	4.56	4,282.8	-84.0	1,630.2	1,551.1	79.06	20.620	
15,500.0	11,350.0	13,886.0	9,725.0	36.8	34.9	4.56	4,382.8	-84.4	1,630.2	1,549.8	80.37	20.282	
15,600.0	11,350.0	13,986.0	9,725.0	37.5	35.7	4.56	4,482.8	-84.8	1,630.1	1,548.5	81.70	19.954	
15,700.0	11,350.0	14,086.0	9,725.0	38.2	36.4	4.56	4,582.8	-85.2	1,630.1	1,547.1	83.03	19.634	
15,800.0	11,350.0	14,186.0	9,725.0	38.9	37.1	4.56	4,682.8	-85.7	1,630.1	1,545.8	84.37	19.322	
15,900.0	11,350.0	14,286.0	9,725.0	39.6	37.8	4.55	4,782.8	-86.1	1,630.1	1,544.4	85.71	19.019	
16,000.0	11,350.0	14,386.0	9,725.0	40.3	38.5	4.55	4,882.8	-86.5	1,630.1	1,543.1	87.07	18.723	
16,100.0	11,350.0	14,486.0	9,725.0	41.0	39.3	4.55	4,982.8	-86.9	1,630.1	1,541.7	88.43	18.435	
16,200.0	11,350.0	14,586.0	9,725.0	41.7	40.0	4.55	5,082.8	-87.3	1,630.1	1,540.4	89.79	18.155	
16,300.0	11,350.0	14,686.0	9,725.0	42.3	40.7	4.55	5,182.8	-87.7	1,630.1	1,539.0	91.16	17.882	
16,400.0	11,350.0	14,786.0	9,725.0	43.1	41.4	4.55	5,282.8	-88.1	1,630.1	1,537.6	92.54	17.616	
16,500.0	11,350.0	14,886.0	9,725.0	43.8	42.2	4.55	5,382.8	-88.5	1,630.1	1,536.2	93.92	17.356	
16,600.0	11,350.0	14,986.0	9,725.0	44.5	42.9	4.55	5,482.8	-88.9	1,630.1	1,534.8	95.31	17.104	
16,700.0	11,350.0	15,086.0	9,725.0	45.2	43.6	4.55	5,582.8	-89.3	1,630.1	1,533.4	96.70	16.857	
16,800.0	11,350.0	15,186.0	9,725.0	45.9	44.3	4.55	5,682.8	-89.7	1,630.1	1,532.0	98.10	16.617	
16,900.0	11,350.0	15,286.0	9,725.0	46.6	45.1	4.55	5,782.8	-90.2	1,630.1	1,530.6	99.50	16.383	
17,000.0	11,350.0	15,386.0	9,725.0	47.3	45.8	4.55	5,882.8	-90.6	1,630.1	1,529.2	100.91	16.155	
17,100.0	11,350.0	15,486.0	9,725.0	48.0	46.6	4.55	5,982.8	-91.0	1,630.1	1,527.8	102.32	15.932	
17,200.0	11,350.0	15,586.0	9,725.0	48.7	47.3	4.55	6,082.8	-91.4	1,630.1	1,526.4	103.73	15.715	
17,300.0	11,350.0	15,686.0	9,725.0	49.5	48.0	4.55	6,182.8	-91.8	1,630.1	1,525.0	105.15	15.503	
17,400.0	11,350.0	15,786.0	9,725.0	50.2	48.8	4.55	6,282.8	-92.2	1,630.1	1,523.6	106.57	15.296	
17,500.0	11,350.0	15,886.0	9,725.0	50.9	49.5	4.55	6,382.8	-92.6	1,630.1	1,522.1	108.00	15.094	
17,600.0	11,350.0	15,986.0	9,725.0	51.6	50.2	4.55	6,482.8	-93.0	1,630.1	1,520.7	109.42	14.897	
17,700.0	11,350.0	16,086.0	9,725.0	52.3	51.0	4.55	6,582.8	-93.4	1,630.1	1,519.3	110.86	14.705	
17,800.0	11,350.0	16,186.0	9,725.0	53.1	51.7	4.55	6,682.8	-93.8	1,630.1	1,517.8	112.29	14.517	
17,900.0	11,350.0	16,286.0	9,725.0	53.8	52.5	4.55	6,782.8	-94.2	1,630.1	1,516.4	113.73	14.334	
18,000.0	11,350.0	16,386.0	9,725.0	54.5	53.2	4.55	6,882.8	-94.6	1,630.1	1,515.0	115.17	14.154	
18,100.0	11,350.0	16,486.0	9,725.0	55.2	53.9	4.55	6,982.8	-95.1	1,630.1	1,513.5	116.61	13.979	
18,200.0	11,350.0	16,586.0	9,725.0	56.0	54.7	4.55	7,082.8	-95.5	1,630.1	1,512.1	118.06	13.808	
18,300.0	11,350.0	16,686.0	9,725.0	56.7	55.4	4.55	7,182.8	-95.9	1,630.1	1,510.6	119.51	13.640	
18,400.0	11,350.0	16,786.0	9,725.0	57.4	56.2	4.55	7,282.8	-96.3	1,630.1	1,509.2	120.96	13.477	
18,500.0	11,350.0	16,886.0	9,725.0	58.2	56.9	4.55	7,382.8	-96.7	1,630.1	1,507.7	122.41	13.317	
18,600.0	11,350.0	16,986.0	9,725.0	58.9	57.7	4.55	7,482.8	-97.1	1,630.1	1,506.3	123.87	13.160	
18,700.0	11,350.0	17,086.0	9,725.0	59.6	58.4	4.55	7,582.8	-97.5	1,630.1	1,504.8	125.33	13.007	
18,800.0	11,350.0	17,186.0	9,725.0	60.4	59.2	4.55	7,682.8	-97.9	1,630.1	1,503.4	126.79	12.857	
18,900.0	11,350.0	17,286.0	9,725.0	61.1	59.9	4.55	7,782.8	-98.3	1,630.1	1,501.9	128.25	12.711	
19,000.0	11,350.0	17,386.0	9,725.0	61.8	60.7	4.55	7,882.8	-98.7	1,630.1	1,500.4	129.71	12.567	
19,100.0	11,350.0	17,486.0	9,725.0	62.6	61.4	4.55	7,982.8	-99.1	1,630.1	1,499.0	131.18	12.427	
19,200.0	11,350.0	17,586.0	9,725.0	63.3	62.2	4.55	8,082.7	-99.5	1,630.1	1,497.5	132.65	12.289	
19,300.0	11,350.0	17,686.0	9,725.0	64.0	62.9	4.55	8,182.7	-100.0	1,630.1	1,496.0	134.12	12.155	
19,400.0	11,350.0	17,786.0	9,725.0	64.8	63.7	4.55	8,282.7	-100.4	1,630.1	1,494.5	135.59	12.023	
19,500.0	11,350.0	17,886.0	9,725.0	65.5	64.4	4.55	8,382.7	-100.8	1,630.1	1,493.1	137.06	11.893	
19,600.0	11,350.0	17,986.0	9,725.0	66.3	65.2	4.55	8,482.7	-101.2	1,630.1	1,491.6	138.54	11.767	
19,700.0	11,350.0	18,086.0	9,725.0	67.0	65.9	4.55	8,582.7	-101.6	1,630.1	1,490.1	140.01	11.643	
19,800.0	11,350.0	18,186.0	9,725.0	67.7	66.7	4.55	8,682.7	-102.0	1,630.1	1,488.6	141.49	11.521	
19,900.0	11,350.0	18,286.0	9,725.0	68.5	67.4	4.55	8,782.7	-102.4	1,630.1	1,487.2	142.97	11.402	
20,000.0	11,350.0	18,386.0	9,725.0	69.2	68.2	4.55	8,882.7	-102.8	1,630.1	1,485.7	144.45	11.285	
20,100.0	11,350.0	18,486.0	9,725.0	70.0	68.9	4.55	8,982.7	-103.2	1,630.1	1,484.2	145.93	11.170	
20,200.0	11,350.0	18,586.0	9,725.0	70.7	69.7	4.55	9,082.7	-103.6	1,630.1	1,482.7	147.42	11.058	
20,300.0	11,350.0	18,686.0	9,725.0	71.5	70.4	4.55	9,182.7	-104.0	1,630.1	1,481.2	148.90	10.948	
20,400.0	11,350.0	18,786.0	9,725.0	72.2	71.2	4.55	9,282.7	-104.5	1,630.1	1,479.7	150.39	10.839	
20,500.0	11,350.0	18,886.0	9,725.0	72.9	71.9	4.55	9,382.7	-104.9	1,630.1	1,478.3	151.88	10.733	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,350.0	18,986.0	9,725.0	73.7	72.7	4.55	9,482.7	-105.3	1,630.1	1,476.8	153.37	10.629	
20,700.0	11,350.0	19,086.0	9,725.0	74.4	73.4	4.55	9,582.7	-105.7	1,630.1	1,475.3	154.86	10.527	
20,800.0	11,350.0	19,186.0	9,725.0	75.2	74.2	4.55	9,682.7	-106.1	1,630.1	1,473.8	156.35	10.426	
20,900.0	11,350.0	19,286.0	9,725.0	75.9	74.9	4.55	9,782.7	-106.5	1,630.1	1,472.3	157.84	10.328	
21,000.0	11,350.0	19,386.0	9,725.0	76.7	75.7	4.55	9,882.7	-106.9	1,630.1	1,470.8	159.33	10.231	
21,100.0	11,350.0	19,486.0	9,725.0	77.4	76.5	4.55	9,982.7	-107.3	1,630.1	1,469.3	160.83	10.136	
21,200.0	11,350.0	19,586.0	9,725.0	78.2	77.2	4.55	10,082.7	-107.7	1,630.1	1,467.8	162.32	10.042	
21,300.0	11,350.0	19,686.0	9,725.0	78.9	78.0	4.55	10,182.7	-108.1	1,630.1	1,466.3	163.82	9.951	
21,400.0	11,350.0	19,786.0	9,725.0	79.7	78.7	4.54	10,282.7	-108.5	1,630.1	1,464.8	165.32	9.861	
21,500.0	11,350.0	19,886.0	9,725.0	80.4	79.5	4.54	10,382.7	-108.9	1,630.1	1,463.3	166.81	9.772	
21,600.0	11,350.0	19,986.0	9,725.0	81.2	80.2	4.54	10,482.7	-109.4	1,630.1	1,461.8	168.31	9.685	
21,700.0	11,350.0	20,086.0	9,725.0	81.9	81.0	4.54	10,582.7	-109.8	1,630.1	1,460.3	169.81	9.599	
21,800.0	11,350.0	20,186.0	9,725.0	82.7	81.7	4.54	10,682.7	-110.2	1,630.1	1,458.8	171.32	9.515	
21,900.0	11,350.0	20,286.0	9,725.0	83.4	82.5	4.54	10,782.7	-110.6	1,630.1	1,457.3	172.82	9.433	
22,000.0	11,350.0	20,386.0	9,725.0	84.2	83.3	4.54	10,882.7	-111.0	1,630.1	1,455.8	174.32	9.351	
22,100.0	11,350.0	20,486.0	9,725.0	84.9	84.0	4.54	10,982.7	-111.4	1,630.1	1,454.3	175.82	9.271	
22,200.0	11,350.0	20,586.0	9,725.0	85.7	84.8	4.54	11,082.7	-111.8	1,630.1	1,452.8	177.33	9.193	
22,300.0	11,350.0	20,686.0	9,725.0	86.4	85.5	4.54	11,182.7	-112.2	1,630.1	1,451.3	178.83	9.115	
22,400.0	11,350.0	20,786.0	9,725.0	87.2	86.3	4.54	11,282.7	-112.6	1,630.1	1,449.8	180.34	9.039	
22,500.0	11,350.0	20,886.0	9,725.0	87.9	87.0	4.54	11,382.7	-113.0	1,630.1	1,448.3	181.84	8.964	
22,600.0	11,350.0	20,986.0	9,725.0	88.7	87.8	4.54	11,482.7	-113.4	1,630.1	1,446.8	183.35	8.891	
22,700.0	11,350.0	21,086.0	9,725.0	89.4	88.6	4.54	11,582.7	-113.8	1,630.1	1,445.3	184.86	8.818	
22,800.0	11,350.0	21,186.0	9,725.0	90.2	89.3	4.54	11,682.7	-114.3	1,630.1	1,443.8	186.37	8.747	
22,900.0	11,350.0	21,286.0	9,725.0	90.9	90.1	4.54	11,782.7	-114.7	1,630.1	1,442.2	187.88	8.677	
23,000.0	11,350.0	21,386.0	9,725.0	91.7	90.8	4.54	11,882.7	-115.1	1,630.1	1,440.7	189.39	8.607	
23,100.0	11,350.0	21,486.0	9,725.0	92.4	91.6	4.54	11,982.7	-115.5	1,630.1	1,439.2	190.90	8.539	
23,200.0	11,350.0	21,586.0	9,725.0	93.2	92.4	4.54	12,082.7	-115.9	1,630.1	1,437.7	192.41	8.472	
23,300.0	11,350.0	21,686.0	9,725.0	93.9	93.1	4.54	12,182.7	-116.3	1,630.1	1,436.2	193.92	8.406	
23,400.0	11,350.0	21,786.0	9,725.0	94.7	93.9	4.54	12,282.7	-116.7	1,630.1	1,434.7	195.43	8.341	
23,500.0	11,350.0	21,886.0	9,725.0	95.4	94.6	4.54	12,382.7	-117.1	1,630.1	1,433.2	196.94	8.277	
23,600.0	11,350.0	21,986.0	9,725.0	96.2	95.4	4.54	12,482.7	-117.5	1,630.1	1,431.7	198.46	8.214	
23,700.0	11,350.0	22,086.0	9,725.0	96.9	96.2	4.54	12,582.7	-117.9	1,630.1	1,430.1	199.97	8.152	
23,800.0	11,350.0	22,186.0	9,725.0	97.7	96.9	4.54	12,682.7	-118.3	1,630.1	1,428.6	201.48	8.091	
23,900.0	11,350.0	22,286.0	9,725.0	98.5	97.7	4.54	12,782.7	-118.8	1,630.1	1,427.1	203.00	8.030	
24,000.0	11,350.0	22,386.0	9,725.0	99.2	98.4	4.54	12,882.7	-119.2	1,630.1	1,425.6	204.51	7.971	
24,100.0	11,350.0	22,486.0	9,725.0	100.0	99.2	4.54	12,982.7	-119.6	1,630.1	1,424.1	206.03	7.912	
24,200.0	11,350.0	22,586.0	9,725.0	100.7	99.9	4.54	13,082.7	-120.0	1,630.1	1,422.6	207.55	7.854	
24,300.0	11,350.0	22,686.0	9,725.0	101.5	100.7	4.54	13,182.7	-120.4	1,630.1	1,421.1	209.06	7.797	
24,400.0	11,350.0	22,786.0	9,725.0	102.2	101.5	4.54	13,282.7	-120.8	1,630.1	1,419.5	210.58	7.741	
24,500.0	11,350.0	22,886.0	9,725.0	103.0	102.2	4.54	13,382.7	-121.2	1,630.1	1,418.0	212.10	7.686	
24,600.0	11,350.0	22,986.0	9,725.0	103.7	103.0	4.54	13,482.7	-121.6	1,630.1	1,416.5	213.62	7.631	
24,700.0	11,350.0	23,086.0	9,725.0	104.5	103.7	4.54	13,582.7	-122.0	1,630.1	1,415.0	215.14	7.577	
24,724.5	11,350.0	23,110.6	9,725.0	104.6	103.9	4.54	13,607.2	-122.1	1,630.1	1,414.7	215.41	7.567	
24,725.4	11,350.0	23,110.8	9,725.0	104.6	103.9	4.54	13,607.5	-122.1	1,630.1	1,414.7	215.42	7.567	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	81.13	221.6	1,420.0	1,437.2	1,430.8	6.43	223.554	
100.0	100.0	100.0	100.0	3.2	3.2	81.13	221.6	1,420.0	1,437.2	1,430.3	6.89	208.521	
200.0	200.0	200.0	200.0	3.5	3.5	81.13	221.6	1,420.0	1,437.2	1,429.9	7.33	196.120	
300.0	300.0	300.0	300.0	3.7	3.7	81.13	221.6	1,420.0	1,437.2	1,429.5	7.74	185.653	
400.0	400.0	400.0	400.0	3.9	3.9	81.13	221.6	1,420.0	1,437.2	1,429.1	8.14	176.658	
500.0	500.0	500.0	500.0	4.1	4.1	81.13	221.6	1,420.0	1,437.2	1,428.7	8.51	168.813	
600.0	600.0	600.0	600.0	4.2	4.2	81.13	221.6	1,420.0	1,437.2	1,428.3	8.88	161.891	
700.0	700.0	700.0	700.0	4.4	4.4	81.13	221.6	1,420.0	1,437.2	1,428.0	9.23	155.719	
800.0	800.0	800.0	800.0	4.6	4.6	81.13	221.6	1,420.0	1,437.2	1,427.6	9.57	150.170	
900.0	900.0	900.0	900.0	4.8	4.8	81.13	221.6	1,420.0	1,437.2	1,427.3	9.90	145.144	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.13	221.6	1,420.0	1,437.2	1,427.0	10.22	140.562	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.13	221.6	1,420.0	1,437.2	1,426.7	10.54	136.361	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.13	221.6	1,420.0	1,437.2	1,426.4	10.85	132.491	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.13	221.6	1,420.0	1,437.2	1,426.1	11.15	128.909	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.13	221.6	1,420.0	1,437.2	1,425.8	11.44	125.581	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.13	221.6	1,420.0	1,437.2	1,425.5	11.73	122.477	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	81.13	221.6	1,420.0	1,437.2	1,425.2	12.02	119.574	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	81.13	221.6	1,420.0	1,437.2	1,424.9	12.30	116.849	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	81.13	221.6	1,420.0	1,437.2	1,424.6	12.58	114.285	
1,900.0	1,900.0	1,949.6	1,949.5	6.3	6.3	81.18	219.9	1,417.7	1,435.5	1,422.6	12.92	111.103	
2,000.0	2,000.0	2,098.7	2,098.4	6.4	6.6	81.35	214.6	1,410.7	1,430.3	1,417.1	13.26	107.894	
2,100.0	2,100.0	2,246.9	2,245.9	6.5	6.9	81.63	205.9	1,399.2	1,421.7	1,408.1	13.62	104.413	
2,200.0	2,200.0	2,374.2	2,372.1	6.7	7.1	81.96	195.8	1,385.8	1,410.1	1,396.2	13.92	101.334	
2,300.0	2,300.0	2,473.3	2,470.2	6.8	7.3	82.23	187.5	1,374.8	1,397.9	1,383.7	14.23	98.266	
2,400.0	2,400.0	2,572.3	2,568.2	6.9	7.5	82.51	179.3	1,363.8	1,385.7	1,371.2	14.56	95.170	
2,500.0	2,500.0	2,671.3	2,666.3	7.0	7.8	82.80	171.0	1,352.8	1,373.6	1,358.7	14.91	92.141	
2,600.0	2,600.0	2,770.3	2,764.4	7.2	8.1	83.09	162.7	1,341.7	1,361.5	1,346.3	15.27	89.188	
2,700.0	2,700.0	2,869.4	2,862.4	7.3	8.3	83.38	154.4	1,330.7	1,349.5	1,333.8	15.63	86.318	
2,800.0	2,800.0	2,968.4	2,960.5	7.4	8.6	83.68	146.1	1,319.7	1,337.5	1,321.4	16.01	83.537	
2,900.0	2,900.0	3,067.4	3,058.5	7.5	8.9	83.99	137.8	1,308.7	1,325.5	1,309.1	16.40	80.846	
3,000.0	3,000.0	3,166.4	3,156.6	7.7	9.2	84.30	129.5	1,297.7	1,313.5	1,296.7	16.79	78.249	
3,100.0	3,100.0	3,265.6	3,254.8	7.8	9.6	175.64	121.2	1,286.7	1,302.9	1,285.7	17.20	75.769	
3,200.0	3,199.9	3,365.0	3,353.2	7.9	9.9	175.98	112.9	1,275.7	1,295.0	1,277.4	17.61	73.543	
3,300.0	3,299.7	3,464.5	3,451.8	8.1	10.2	176.33	104.5	1,264.6	1,289.7	1,271.6	18.04	71.490	
3,400.0	3,399.3	3,564.2	3,550.5	8.2	10.6	176.69	96.2	1,253.5	1,287.0	1,268.5	18.49	69.599	
3,449.6	3,448.6	3,613.6	3,599.4	8.3	10.8	176.87	92.0	1,248.0	1,286.7	1,267.9	18.73	68.711	
3,500.0	3,498.6	3,663.8	3,649.2	8.4	10.9	177.05	87.8	1,242.4	1,287.0	1,268.0	18.96	67.864	
3,600.0	3,597.6	3,763.5	3,747.8	8.6	11.3	177.42	79.5	1,231.4	1,289.1	1,269.7	19.40	66.454	
3,700.0	3,696.6	3,863.1	3,846.5	8.7	11.7	177.79	71.1	1,220.3	1,291.4	1,271.5	19.89	64.926	
3,800.0	3,795.7	3,962.7	3,945.2	9.0	12.0	178.15	62.8	1,209.2	1,293.8	1,273.4	20.40	63.422	
3,900.0	3,894.7	4,062.4	4,043.8	9.2	12.4	178.52	54.5	1,198.1	1,296.1	1,275.2	20.89	62.039	
4,000.0	3,993.8	4,162.0	4,142.5	9.4	12.8	178.88	46.1	1,187.1	1,297.9	1,276.5	21.43	60.555	
4,100.0	4,093.0	4,260.5	4,240.0	9.7	13.1	179.24	37.9	1,176.1	1,298.9	1,277.0	21.96	59.158	
4,200.0	4,192.4	4,352.8	4,331.5	9.9	13.5	179.56	30.3	1,166.2	1,299.4	1,276.9	22.47	57.830	
4,300.0	4,291.8	4,444.1	4,422.0	10.2	13.8	179.86	23.4	1,156.9	1,299.7	1,276.7	23.00	56.512	
4,400.0	4,391.3	4,535.4	4,512.7	10.4	14.2	-179.86	16.8	1,148.2	1,299.8	1,276.3	23.53	55.245	
4,500.0	4,490.9	4,626.8	4,603.6	10.7	14.5	-179.59	10.7	1,140.0	1,299.8	1,275.7	24.06	54.030	
4,600.0	4,590.6	4,718.3	4,694.5	11.0	14.8	-179.35	5.0	1,132.5	1,299.5	1,274.9	24.58	52.866	
4,700.0	4,690.3	4,809.8	4,785.6	11.3	15.2	-179.12	-0.3	1,125.5	1,299.0	1,273.9	25.10	51.752	
4,800.0	4,790.1	4,900.0	4,875.4	11.6	15.5	-178.92	-5.0	1,119.2	1,298.3	1,272.7	25.61	50.698	
4,900.0	4,890.0	4,993.0	4,968.1	11.8	15.8	-178.72	-9.5	1,113.3	1,297.4	1,271.3	26.12	49.675	
5,000.0	4,989.9	5,084.7	5,059.6	12.1	16.1	-178.55	-13.5	1,108.0	1,296.3	1,269.7	26.61	48.711	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,089.8	5,176.3	5,151.1	12.4	16.5	-178.40	-17.0	1,103.4	1,295.0	1,267.9	27.09	47.797	
5,200.0	5,189.8	5,268.1	5,242.7	12.6	16.8	-178.26	-20.0	1,099.3	1,293.4	1,265.8	27.56	46.933	
5,300.0	5,289.8	5,359.8	5,334.3	12.8	17.1	-178.15	-22.7	1,095.8	1,291.6	1,263.6	28.00	46.124	
5,400.0	5,389.7	5,451.6	5,426.0	13.0	17.3	-178.05	-24.9	1,092.9	1,289.5	1,261.1	28.42	45.380	
5,500.0	5,489.7	5,543.4	5,517.8	13.1	17.6	91.03	-26.6	1,090.6	1,287.3	1,258.6	28.71	44.832	
5,600.0	5,589.7	5,635.3	5,609.6	13.2	17.9	91.09	-27.9	1,088.8	1,285.4	1,256.5	28.98	44.352	
5,700.0	5,689.7	5,727.2	5,701.5	13.3	18.1	91.13	-28.8	1,087.7	1,284.2	1,255.0	29.23	43.931	
5,800.0	5,789.7	5,819.1	5,793.4	13.4	18.3	91.15	-29.2	1,087.1	1,283.6	1,254.2	29.45	43.592	
5,860.7	5,850.4	5,876.1	5,850.4	13.4	18.3	91.15	-29.3	1,087.1	1,283.5	1,254.0	29.52	43.483	
5,900.0	5,889.7	5,915.4	5,889.7	13.4	18.3	91.15	-29.3	1,087.1	1,283.5	1,254.0	29.55	43.432	
6,000.0	5,989.7	6,015.4	5,989.7	13.5	18.4	91.15	-29.3	1,087.1	1,283.5	1,253.9	29.66	43.270	
6,100.0	6,089.7	6,115.4	6,089.7	13.6	18.4	91.15	-29.3	1,087.1	1,283.5	1,253.8	29.77	43.110	
6,200.0	6,189.7	6,215.4	6,189.7	13.6	18.5	91.15	-29.3	1,087.1	1,283.5	1,253.7	29.88	42.950	
6,300.0	6,289.7	6,315.4	6,289.7	13.7	18.5	91.15	-29.3	1,087.1	1,283.5	1,253.5	30.00	42.790	
6,400.0	6,389.7	6,415.4	6,389.7	13.8	18.5	91.15	-29.3	1,087.1	1,283.5	1,253.4	30.11	42.631	
6,500.0	6,489.7	6,515.4	6,489.7	13.9	18.6	91.15	-29.3	1,087.1	1,283.5	1,253.3	30.22	42.472	
6,600.0	6,589.7	6,615.4	6,589.7	13.9	18.6	91.15	-29.3	1,087.1	1,283.5	1,253.2	30.33	42.314	
6,700.0	6,689.7	6,715.4	6,689.7	14.0	18.6	91.15	-29.3	1,087.1	1,283.5	1,253.1	30.45	42.157	
6,800.0	6,789.7	6,815.4	6,789.7	14.1	18.7	91.15	-29.3	1,087.1	1,283.5	1,253.0	30.56	42.000	
6,900.0	6,889.7	6,915.4	6,889.7	14.2	18.7	91.15	-29.3	1,087.1	1,283.5	1,252.9	30.67	41.844	
7,000.0	6,989.7	7,015.4	6,989.7	14.2	18.8	91.15	-29.3	1,087.1	1,283.5	1,252.8	30.79	41.688	
7,100.0	7,089.7	7,115.4	7,089.7	14.3	18.8	91.15	-29.3	1,087.1	1,283.5	1,252.6	30.90	41.533	
7,200.0	7,189.7	7,215.4	7,189.7	14.4	18.9	91.15	-29.3	1,087.1	1,283.5	1,252.5	31.02	41.379	
7,300.0	7,289.7	7,315.4	7,289.7	14.4	18.9	91.15	-29.3	1,087.1	1,283.5	1,252.4	31.14	41.225	
7,400.0	7,389.7	7,415.4	7,389.7	14.5	18.9	91.15	-29.3	1,087.1	1,283.5	1,252.3	31.25	41.071	
7,500.0	7,489.7	7,515.4	7,489.7	14.6	19.0	91.15	-29.3	1,087.1	1,283.5	1,252.2	31.37	40.919	
7,600.0	7,589.7	7,615.4	7,589.7	14.7	19.0	91.15	-29.3	1,087.1	1,283.5	1,252.1	31.49	40.767	
7,700.0	7,689.7	7,715.4	7,689.7	14.7	19.1	91.15	-29.3	1,087.1	1,283.5	1,251.9	31.60	40.615	
7,800.0	7,789.7	7,815.4	7,789.7	14.8	19.1	91.15	-29.3	1,087.1	1,283.5	1,251.8	31.72	40.464	
7,900.0	7,889.7	7,915.4	7,889.7	14.9	19.2	91.15	-29.3	1,087.1	1,283.5	1,251.7	31.84	40.314	
8,000.0	7,989.7	8,015.4	7,989.7	15.0	19.2	91.15	-29.3	1,087.1	1,283.5	1,251.6	31.96	40.164	
8,100.0	8,089.7	8,115.4	8,089.7	15.0	19.2	91.15	-29.3	1,087.1	1,283.5	1,251.5	32.08	40.016	
8,200.0	8,189.7	8,215.4	8,189.7	15.1	19.3	91.15	-29.3	1,087.1	1,283.5	1,251.3	32.20	39.867	
8,300.0	8,289.7	8,315.4	8,289.7	15.2	19.3	91.15	-29.3	1,087.1	1,283.5	1,251.2	32.31	39.720	
8,400.0	8,389.7	8,415.4	8,389.7	15.2	19.4	91.15	-29.3	1,087.1	1,283.5	1,251.1	32.44	39.573	
8,500.0	8,489.7	8,515.4	8,489.7	15.3	19.4	91.15	-29.3	1,087.1	1,283.5	1,251.0	32.56	39.426	
8,600.0	8,589.7	8,615.4	8,589.7	15.4	19.5	91.15	-29.3	1,087.1	1,283.5	1,250.9	32.68	39.281	
8,700.0	8,689.7	8,715.4	8,689.7	15.5	19.5	91.15	-29.3	1,087.1	1,283.5	1,250.7	32.80	39.136	
8,800.0	8,789.7	8,815.4	8,789.7	15.5	19.6	91.15	-29.3	1,087.1	1,283.5	1,250.6	32.92	38.991	
8,900.0	8,889.7	8,915.4	8,889.7	15.6	19.6	91.15	-29.3	1,087.1	1,283.5	1,250.5	33.04	38.847	
9,000.0	8,989.7	9,015.4	8,989.7	15.7	19.6	91.15	-29.3	1,087.1	1,283.5	1,250.4	33.16	38.704	
9,100.0	9,089.7	9,115.4	9,089.7	15.8	19.7	91.15	-29.3	1,087.1	1,283.5	1,250.3	33.28	38.564	
9,200.0	9,189.7	9,217.5	9,191.8	15.8	19.7	91.09	-27.9	1,087.1	1,283.5	1,250.1	33.40	38.432	
9,300.0	9,289.7	9,320.3	9,293.1	15.9	19.5	90.37	-11.6	1,087.0	1,283.2	1,249.7	33.57	38.224	
9,347.9	9,337.7	9,366.8	9,337.7	16.0	19.5	89.77	1.7	1,086.9	1,283.2	1,249.5	33.67	38.112 CC, ES	
9,400.0	9,389.7	9,414.5	9,382.1	16.0	19.4	89.00	19.0	1,086.9	1,283.3	1,249.5	33.78	37.996	
9,500.0	9,489.7	9,497.0	9,455.0	16.1	19.2	87.28	57.4	1,086.7	1,284.8	1,250.9	33.96	37.832	
9,600.0	9,589.7	9,566.9	9,512.0	16.1	19.1	85.48	98.0	1,086.6	1,289.1	1,255.0	34.11	37.795 SF	
9,700.0	9,689.7	9,625.4	9,555.5	16.2	19.0	83.75	137.0	1,086.4	1,297.2	1,263.0	34.21	37.921	
9,800.0	9,789.7	9,674.1	9,588.6	16.3	19.0	82.18	172.6	1,086.3	1,310.0	1,275.8	34.27	38.222	
9,900.0	9,889.7	9,714.6	9,613.7	16.4	18.9	80.79	204.5	1,086.1	1,328.1	1,293.8	34.32	38.692	
10,000.0	9,989.7	9,750.0	9,633.8	16.4	18.9	79.53	233.6	1,086.0	1,351.7	1,317.3	34.38	39.317	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,100.0	10,089.7	9,777.4	9,648.1	16.5	18.9	78.52	257.0	1,085.9	1,380.9	1,346.4	34.45	40.078	
10,200.0	10,189.7	9,800.0	9,659.0	16.6	18.9	77.67	276.8	1,085.8	1,415.6	1,381.0	34.56	40.958	
10,300.0	10,289.7	9,822.9	9,669.3	16.7	18.9	76.80	297.3	1,085.8	1,455.6	1,420.9	34.72	41.930	
10,400.0	10,389.7	9,850.0	9,680.3	16.7	18.9	75.76	322.0	1,085.7	1,500.8	1,465.9	34.91	42.994	
10,500.0	10,489.7	9,850.0	9,680.3	16.8	18.9	75.76	322.0	1,085.7	1,550.6	1,515.4	35.17	44.092	
10,600.0	10,589.7	9,871.1	9,688.1	16.9	18.9	74.94	341.6	1,085.6	1,604.7	1,569.2	35.45	45.264	
10,700.0	10,689.7	9,883.5	9,692.4	17.0	18.9	74.45	353.2	1,085.5	1,662.8	1,627.0	35.78	46.470	
10,800.0	10,789.7	9,900.0	9,697.6	17.0	18.9	73.05	368.9	1,085.5	1,724.5	1,688.4	36.13	47.729	
10,900.0	10,889.0	9,900.0	9,697.6	17.1	18.9	65.60	368.9	1,085.5	1,786.8	1,750.3	36.50	48.958	
11,000.0	10,984.9	9,924.2	9,704.5	17.1	18.9	58.32	392.1	1,085.4	1,846.4	1,809.6	36.82	50.152	
11,100.0	11,074.4	9,950.0	9,710.8	17.2	18.9	52.30	417.1	1,085.3	1,901.7	1,864.6	37.12	51.228	
11,200.0	11,155.0	9,950.0	9,710.8	17.3	18.9	47.94	417.1	1,085.3	1,951.1	1,913.6	37.45	52.105	
11,300.0	11,224.0	10,000.0	9,719.7	17.4	19.0	43.97	466.3	1,085.1	1,993.0	1,955.3	37.69	52.883	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	81.31	221.7	1,450.0	1,466.9	1,460.4	6.43	228.166	
100.0	100.0	100.0	100.0	3.2	3.2	81.31	221.7	1,450.0	1,466.9	1,460.0	6.89	212.823	
200.0	200.0	200.0	200.0	3.5	3.5	81.31	221.7	1,450.0	1,466.9	1,459.5	7.33	200.167	
300.0	300.0	300.0	300.0	3.7	3.7	81.31	221.7	1,450.0	1,466.9	1,459.1	7.74	189.484	
400.0	400.0	400.0	400.0	3.9	3.9	81.31	221.7	1,450.0	1,466.9	1,458.7	8.14	180.303	
500.0	500.0	500.0	500.0	4.1	4.1	81.31	221.7	1,450.0	1,466.9	1,458.3	8.51	172.296	
600.0	600.0	600.0	600.0	4.2	4.2	81.31	221.7	1,450.0	1,466.9	1,458.0	8.88	165.231	
700.0	700.0	700.0	700.0	4.4	4.4	81.31	221.7	1,450.0	1,466.9	1,457.6	9.23	158.932	
800.0	800.0	800.0	800.0	4.6	4.6	81.31	221.7	1,450.0	1,466.9	1,457.3	9.57	153.269	
900.0	900.0	900.0	900.0	4.8	4.8	81.31	221.7	1,450.0	1,466.9	1,457.0	9.90	148.139	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.31	221.7	1,450.0	1,466.9	1,456.6	10.22	143.462	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.31	221.7	1,450.0	1,466.9	1,456.3	10.54	139.175	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.31	221.7	1,450.0	1,466.9	1,456.0	10.85	135.224	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.31	221.7	1,450.0	1,466.9	1,455.7	11.15	131.569	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.31	221.7	1,450.0	1,466.9	1,455.4	11.44	128.172	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.31	221.7	1,450.0	1,466.9	1,455.1	11.73	125.004	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	81.31	221.7	1,450.0	1,466.9	1,454.8	12.02	122.041	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	81.31	221.7	1,450.0	1,466.9	1,454.6	12.30	119.260	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	81.31	221.7	1,450.0	1,466.9	1,454.3	12.58	116.643	CC, ES
1,900.0	1,900.0	1,873.1	1,873.1	6.3	6.2	81.30	222.0	1,450.6	1,467.8	1,454.9	12.83	114.432	
2,000.0	2,000.0	1,946.1	1,946.0	6.4	6.4	81.28	222.9	1,452.5	1,470.5	1,457.5	13.07	112.469	
2,100.0	2,100.0	2,019.0	2,018.8	6.5	6.5	81.24	224.3	1,455.7	1,475.1	1,461.8	13.32	110.735	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	81.18	226.6	1,460.7	1,481.6	1,468.0	13.59	109.031	
2,300.0	2,300.0	2,164.2	2,163.7	6.8	6.8	81.12	229.0	1,465.7	1,489.8	1,475.9	13.82	107.767	
2,400.0	2,400.0	2,236.5	2,235.6	6.9	6.9	81.04	232.2	1,472.6	1,499.8	1,485.7	14.08	106.513	
2,500.0	2,500.0	2,308.5	2,307.0	7.0	7.1	80.95	236.0	1,480.6	1,511.7	1,497.4	14.33	105.462	
2,600.0	2,600.0	2,385.6	2,383.4	7.2	7.2	80.85	240.2	1,490.6	1,525.2	1,510.7	14.56	104.742	
2,700.0	2,700.0	2,465.5	2,462.4	7.3	7.4	80.79	243.6	1,502.0	1,540.1	1,525.2	14.85	103.742	
2,800.0	2,800.0	2,545.1	2,541.0	7.4	7.6	80.78	245.7	1,514.6	1,556.1	1,541.0	15.14	102.808	
2,900.0	2,900.0	2,633.4	2,627.9	7.5	7.8	80.83	247.0	1,529.7	1,573.2	1,557.7	15.48	101.654	
3,000.0	3,000.0	2,731.9	2,724.9	7.7	8.1	80.89	248.1	1,546.8	1,590.5	1,574.6	15.90	100.013	
3,100.0	3,100.0	2,830.1	2,821.6	7.8	8.4	171.91	249.3	1,563.8	1,609.1	1,592.8	16.33	98.540	
3,200.0	3,199.9	2,927.8	2,917.9	7.9	8.7	171.94	250.5	1,580.7	1,630.2	1,613.4	16.77	97.233	
3,300.0	3,299.7	3,025.0	3,013.5	8.1	9.0	171.97	251.7	1,597.5	1,653.9	1,636.6	17.23	96.004	
3,400.0	3,399.3	3,121.4	3,108.5	8.2	9.3	172.01	252.9	1,614.2	1,680.0	1,662.3	17.71	94.849	
3,500.0	3,498.6	3,217.2	3,202.8	8.4	9.6	172.05	254.0	1,630.8	1,708.7	1,690.4	18.22	93.768	
3,600.0	3,597.6	3,312.4	3,296.5	8.6	9.9	172.14	255.2	1,647.3	1,739.3	1,720.6	18.70	93.014	
3,700.0	3,696.6	3,407.5	3,390.2	8.7	10.3	172.25	256.3	1,663.8	1,770.0	1,750.8	19.23	92.024	
3,800.0	3,795.7	3,502.6	3,483.9	9.0	10.6	172.35	257.5	1,680.3	1,800.7	1,780.9	19.79	90.987	
3,900.0	3,894.7	3,597.7	3,577.5	9.2	11.0	172.46	258.6	1,696.7	1,831.4	1,811.1	20.34	90.042	
4,000.0	3,993.8	3,693.0	3,671.4	9.4	11.3	172.57	259.8	1,713.3	1,861.6	1,840.6	20.94	88.898	
4,100.0	4,093.0	3,788.6	3,765.5	9.7	11.7	172.68	260.9	1,729.8	1,890.9	1,869.3	21.55	87.735	
4,200.0	4,192.4	3,884.4	3,859.9	9.9	12.0	172.78	262.1	1,746.4	1,919.4	1,897.2	22.18	86.544	
4,300.0	4,291.8	3,980.5	3,954.5	10.2	12.4	172.87	263.3	1,763.1	1,947.0	1,924.2	22.82	85.337	
4,400.0	4,391.3	4,076.8	4,049.3	10.4	12.8	172.96	264.4	1,779.7	1,973.8	1,950.4	23.46	84.123	
4,500.0	4,490.9	4,173.3	4,144.4	10.7	13.2	173.04	265.6	1,796.5	1,999.8	1,975.7	24.12	82.911	SF

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 505H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	81.48	221.7	1,480.0	1,496.5	1,490.1	6.43	232.780	
100.0	100.0	100.0	100.0	3.2	3.2	81.48	221.7	1,480.0	1,496.5	1,489.6	6.89	217.127	
200.0	200.0	200.0	200.0	3.5	3.5	81.48	221.7	1,480.0	1,496.5	1,489.2	7.33	204.214	
300.0	300.0	300.0	300.0	3.7	3.7	81.48	221.7	1,480.0	1,496.5	1,488.8	7.74	193.315	
400.0	400.0	400.0	400.0	3.9	3.9	81.48	221.7	1,480.0	1,496.5	1,488.4	8.14	183.949	
500.0	500.0	500.0	500.0	4.1	4.1	81.48	221.7	1,480.0	1,496.5	1,488.0	8.51	175.781	
600.0	600.0	600.0	600.0	4.2	4.2	81.48	221.7	1,480.0	1,496.5	1,487.6	8.88	168.572	
700.0	700.0	700.0	700.0	4.4	4.4	81.48	221.7	1,480.0	1,496.5	1,487.3	9.23	162.146	
800.0	800.0	800.0	800.0	4.6	4.6	81.48	221.7	1,480.0	1,496.5	1,486.9	9.57	156.368	
900.0	900.0	900.0	900.0	4.8	4.8	81.48	221.7	1,480.0	1,496.5	1,486.6	9.90	151.134	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.48	221.7	1,480.0	1,496.5	1,486.3	10.22	146.363	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.48	221.7	1,480.0	1,496.5	1,486.0	10.54	141.989	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.48	221.7	1,480.0	1,496.5	1,485.7	10.85	137.959	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.48	221.7	1,480.0	1,496.5	1,485.4	11.15	134.229	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.48	221.7	1,480.0	1,496.5	1,485.1	11.44	130.764	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.48	221.7	1,480.0	1,496.5	1,484.8	11.73	127.532	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	81.48	221.7	1,480.0	1,496.5	1,484.5	12.02	124.508	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	81.48	221.7	1,480.0	1,496.5	1,484.2	12.30	121.671	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	81.48	221.7	1,480.0	1,496.5	1,483.9	12.58	119.002 CC, ES	
1,900.0	1,900.0	1,872.0	1,872.0	6.3	6.2	81.48	221.7	1,480.7	1,497.5	1,484.6	12.82	116.766	
2,000.0	2,000.0	1,943.9	1,943.9	6.4	6.3	81.49	221.8	1,482.7	1,500.3	1,487.2	13.07	114.802	
2,100.0	2,100.0	2,015.7	2,015.6	6.5	6.5	81.51	221.9	1,486.1	1,504.9	1,491.6	13.31	113.076	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	81.53	222.1	1,491.8	1,511.5	1,498.0	13.58	111.294	
2,300.0	2,300.0	2,158.8	2,158.3	6.8	6.7	81.55	222.3	1,496.8	1,519.9	1,506.1	13.80	110.104	
2,400.0	2,400.0	2,230.1	2,229.2	6.9	6.9	81.59	222.5	1,504.2	1,530.1	1,516.1	14.06	108.847	
2,500.0	2,500.0	2,300.0	2,298.6	7.0	7.0	81.62	222.8	1,512.7	1,542.2	1,527.9	14.31	107.753	
2,600.0	2,600.0	2,371.5	2,369.4	7.2	7.2	81.66	223.2	1,522.7	1,556.1	1,541.5	14.58	106.706	
2,700.0	2,700.0	2,441.7	2,438.7	7.3	7.4	81.71	223.5	1,533.8	1,571.8	1,557.0	14.86	105.806	
2,800.0	2,800.0	2,500.0	2,496.1	7.4	7.5	81.75	223.9	1,543.9	1,589.4	1,574.3	15.09	105.356	
2,900.0	2,900.0	2,580.7	2,575.3	7.5	7.8	81.81	224.4	1,559.5	1,608.7	1,593.2	15.42	104.334	
3,000.0	3,000.0	2,649.5	2,642.5	7.7	8.0	81.87	225.0	1,574.0	1,629.7	1,614.0	15.71	103.735	
3,100.0	3,100.0	2,717.5	2,708.7	7.8	8.2	172.88	225.5	1,589.6	1,653.8	1,637.8	16.02	103.235	
3,200.0	3,199.9	2,784.3	2,773.4	7.9	8.4	172.90	226.1	1,606.1	1,682.0	1,665.7	16.33	102.992	
3,300.0	3,299.7	2,872.1	2,858.3	8.1	8.7	172.95	226.9	1,628.7	1,714.0	1,697.2	16.76	102.270	
3,400.0	3,399.3	2,965.9	2,948.9	8.2	9.0	173.01	227.7	1,653.0	1,748.4	1,731.2	17.24	101.391	
3,500.0	3,498.6	3,058.8	3,038.6	8.4	9.3	173.07	228.5	1,677.0	1,785.3	1,767.5	17.76	100.547	
3,600.0	3,597.6	3,150.9	3,127.6	8.6	9.6	173.18	229.4	1,700.9	1,824.0	1,805.8	18.24	100.012	
3,700.0	3,696.6	3,243.0	3,216.5	8.7	10.0	173.31	230.2	1,724.7	1,862.9	1,844.1	18.78	99.202	
3,800.0	3,795.7	3,335.0	3,305.4	9.0	10.3	173.43	231.0	1,748.5	1,901.8	1,882.4	19.34	98.312	
3,900.0	3,894.7	3,427.1	3,394.3	9.2	10.7	173.55	231.9	1,772.3	1,940.7	1,920.7	19.90	97.496	
4,000.0	3,993.8	3,519.4	3,483.5	9.4	11.0	173.69	232.7	1,796.2	1,979.0	1,958.4	20.52	96.449 SF	

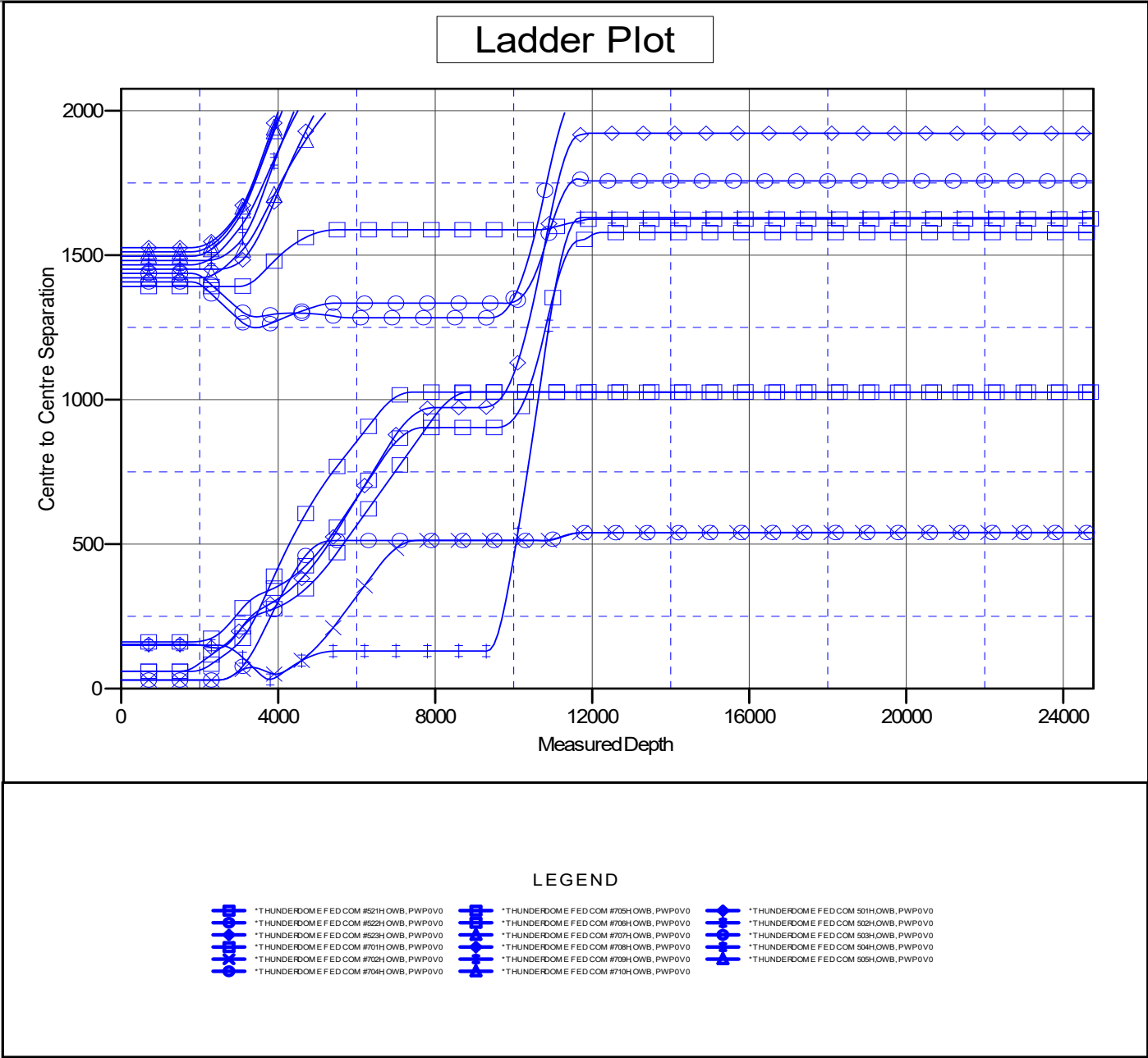
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL @ 3243.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: *THUNDERDOME FED COM #703H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°

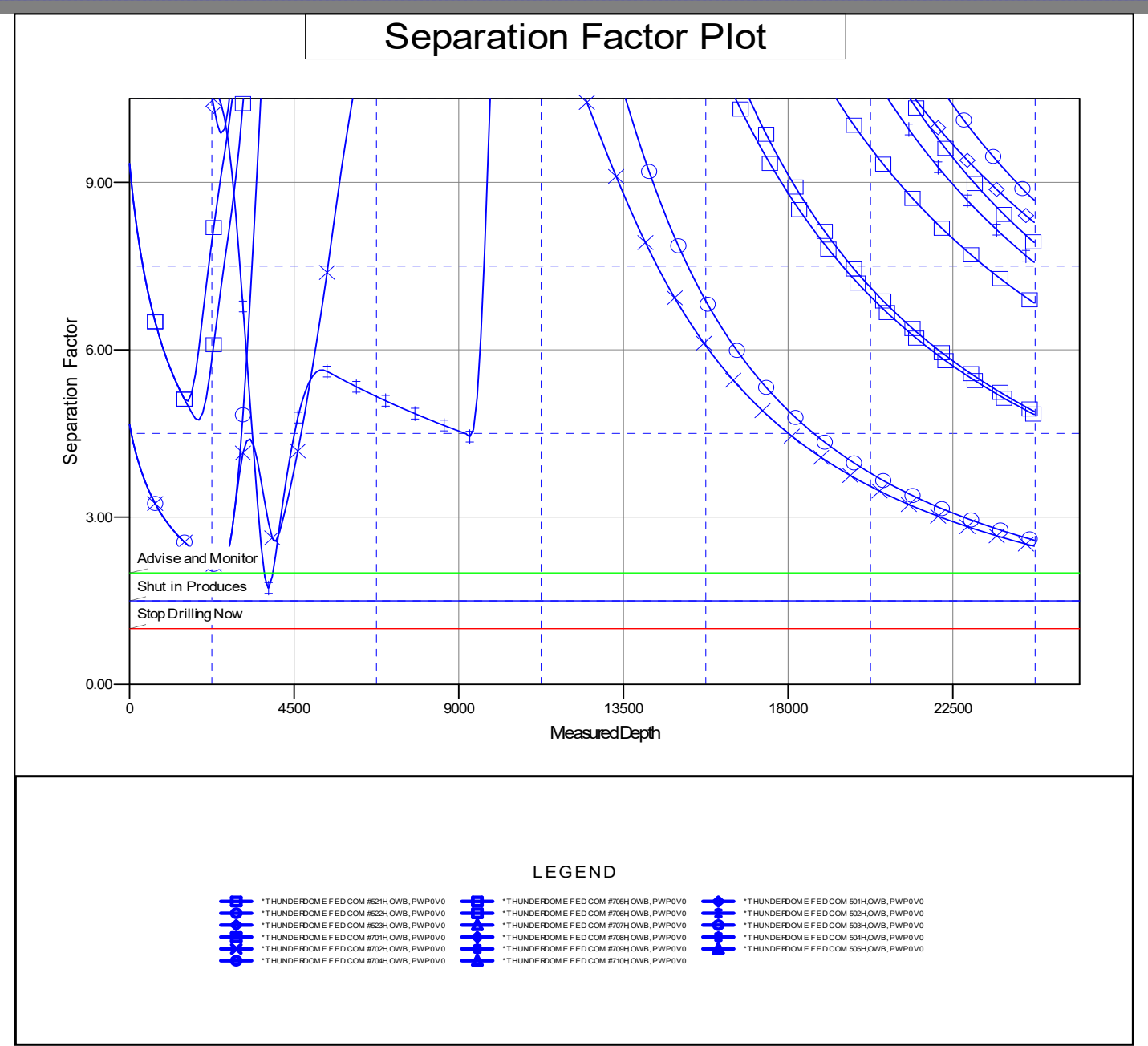


ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #703H
Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL @ 3243.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: *THUNDERDOME FED COM #703H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°



DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)

THUNDERDOME PROJECT

THUNDERDOME FED COM #703H

OWB

Plan: PWP0

Standard Planning Report

05 October, 2023

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project	ATLAS PROSPECT (DBW)		
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		

Site	THUNDERDOME PROJECT		
Site Position:		Northing:	469,664.63 usft
From:	Map	Easting:	649,012.95 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 17' 25.094 N
		Longitude:	103° 51' 4.015 W

Well	THUNDERDOME FED COM #703H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	3.0 usft	Wellhead Elevation:	usft
Grid Convergence:	0.26 °		
		Latitude:	32° 17' 20.972 N
		Longitude:	103° 51' 17.265 W
		Ground Level:	3,243.0 usft

Wellbore	OWB		
Magnetics	Model Name	Sample Date	Declination
			(°)
	BGGM2022	12/2/2022	6.70
			Dip Angle
			(°)
			Field Strength
			(nT)
			47,539.08876889

Design	PWP0		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			358.95

Plan Survey Tool Program	Date	10/5/2023		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.0	24,725.0 PWP0 (OWB)	r.5 MWD+IFR1+MS	
			OWSG MWD + IFR1 + Multi-St	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,533.3	8.00	269.00	3,531.6	-0.6	-37.2	1.50	1.50	0.00	269.00	
3,875.1	8.00	269.00	3,870.0	-1.5	-84.7	0.00	0.00	0.00	0.00	
5,475.1	0.00	0.00	5,464.8	-3.4	-196.2	0.50	-0.50	0.00	180.00	
10,787.3	0.00	0.00	10,777.0	-3.4	-196.2	0.00	0.00	0.00	0.00	
11,687.2	90.00	359.77	11,350.0	569.5	-198.5	10.00	10.00	-0.03	359.77	
24,725.6	90.00	359.77	11,350.0	13,607.7	-250.1	0.00	0.00	0.00	0.00	

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	1.50	269.00	3,100.0	0.0	-1.3	0.0	1.50	1.50	0.00
3,200.0	3.00	269.00	3,199.9	-0.1	-5.2	0.0	1.50	1.50	0.00
3,300.0	4.50	269.00	3,299.7	-0.2	-11.8	0.0	1.50	1.50	0.00
3,400.0	6.00	269.00	3,399.3	-0.4	-20.9	0.0	1.50	1.50	0.00
3,500.0	7.50	269.00	3,498.6	-0.6	-32.7	0.0	1.50	1.50	0.00
3,533.3	8.00	269.00	3,531.6	-0.6	-37.2	0.0	1.50	1.50	0.00
3,600.0	8.00	269.00	3,597.6	-0.8	-46.4	0.0	0.00	0.00	0.00
3,700.0	8.00	269.00	3,696.6	-1.1	-60.4	0.1	0.00	0.00	0.00
3,800.0	8.00	269.00	3,795.7	-1.3	-74.3	0.1	0.00	0.00	0.00
3,875.1	8.00	269.00	3,870.0	-1.5	-84.7	0.1	0.00	0.00	0.00
3,900.0	7.88	269.00	3,894.7	-1.5	-88.2	0.1	0.50	-0.50	0.00
4,000.0	7.38	269.00	3,993.8	-1.8	-101.4	0.1	0.50	-0.50	0.00
4,100.0	6.88	269.00	4,093.0	-2.0	-113.8	0.1	0.50	-0.50	0.00
4,200.0	6.38	269.00	4,192.4	-2.2	-125.4	0.1	0.50	-0.50	0.00
4,300.0	5.88	269.00	4,291.8	-2.4	-136.0	0.1	0.50	-0.50	0.00
4,400.0	5.38	269.00	4,391.3	-2.5	-145.8	0.1	0.50	-0.50	0.00
4,500.0	4.88	269.00	4,490.9	-2.7	-154.8	0.1	0.50	-0.50	0.00
4,600.0	4.38	269.00	4,590.6	-2.8	-162.8	0.2	0.50	-0.50	0.00
4,700.0	3.88	269.00	4,690.3	-3.0	-170.0	0.2	0.50	-0.50	0.00
4,800.0	3.38	269.00	4,790.1	-3.1	-176.3	0.2	0.50	-0.50	0.00
4,900.0	2.88	269.00	4,890.0	-3.2	-181.8	0.2	0.50	-0.50	0.00
5,000.0	2.38	269.00	4,989.9	-3.3	-186.4	0.2	0.50	-0.50	0.00
5,100.0	1.88	269.00	5,089.8	-3.3	-190.1	0.2	0.50	-0.50	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.0	1.38	269.00	5,189.8	-3.4	-192.9	0.2	0.50	-0.50	0.00
5,300.0	0.88	269.00	5,289.8	-3.4	-194.9	0.2	0.50	-0.50	0.00
5,400.0	0.38	269.00	5,389.7	-3.4	-196.0	0.2	0.50	-0.50	0.00
5,475.1	0.00	0.00	5,464.8	-3.4	-196.2	0.2	0.50	-0.50	0.00
5,500.0	0.00	0.00	5,489.7	-3.4	-196.2	0.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,589.7	-3.4	-196.2	0.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,689.7	-3.4	-196.2	0.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,789.7	-3.4	-196.2	0.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,889.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,989.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,100.0	0.00	0.00	6,089.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,189.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,289.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,389.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,500.0	0.00	0.00	6,489.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,589.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,700.0	0.00	0.00	6,689.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,789.7	-3.4	-196.2	0.2	0.00	0.00	0.00
6,900.0	0.00	0.00	6,889.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,989.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,100.0	0.00	0.00	7,089.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,189.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,300.0	0.00	0.00	7,289.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,389.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,500.0	0.00	0.00	7,489.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,589.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,700.0	0.00	0.00	7,689.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,789.7	-3.4	-196.2	0.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,889.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,989.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,100.0	0.00	0.00	8,089.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,200.0	0.00	0.00	8,189.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,300.0	0.00	0.00	8,289.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,389.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,500.0	0.00	0.00	8,489.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,600.0	0.00	0.00	8,589.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,689.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,789.7	-3.4	-196.2	0.2	0.00	0.00	0.00
8,900.0	0.00	0.00	8,889.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,989.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,100.0	0.00	0.00	9,089.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,200.0	0.00	0.00	9,189.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,300.0	0.00	0.00	9,289.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,400.0	0.00	0.00	9,389.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,500.0	0.00	0.00	9,489.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,600.0	0.00	0.00	9,589.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,700.0	0.00	0.00	9,689.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,800.0	0.00	0.00	9,789.7	-3.4	-196.2	0.2	0.00	0.00	0.00
9,900.0	0.00	0.00	9,889.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,000.0	0.00	0.00	9,989.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,100.0	0.00	0.00	10,089.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,200.0	0.00	0.00	10,189.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,300.0	0.00	0.00	10,289.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,400.0	0.00	0.00	10,389.7	-3.4	-196.2	0.2	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,500.0	0.00	0.00	10,489.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,600.0	0.00	0.00	10,589.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,700.0	0.00	0.00	10,689.7	-3.4	-196.2	0.2	0.00	0.00	0.00
10,787.3	0.00	0.00	10,777.0	-3.4	-196.2	0.2	0.00	0.00	0.00
10,800.0	1.27	359.77	10,789.7	-3.3	-196.2	0.3	10.00	10.00	0.00
10,900.0	11.27	359.77	10,889.0	7.6	-196.3	11.2	10.00	10.00	0.00
11,000.0	21.27	359.77	10,984.9	35.6	-196.4	39.2	10.00	10.00	0.00
11,100.0	31.27	359.77	11,074.4	79.8	-196.6	83.4	10.00	10.00	0.00
11,200.0	41.27	359.77	11,155.0	138.9	-196.8	142.5	10.00	10.00	0.00
11,300.0	51.27	359.77	11,224.0	211.1	-197.1	214.7	10.00	10.00	0.00
11,400.0	61.27	359.77	11,279.4	294.2	-197.4	297.7	10.00	10.00	0.00
11,500.0	71.27	359.77	11,319.6	385.6	-197.8	389.2	10.00	10.00	0.00
11,600.0	81.27	359.77	11,343.3	482.6	-198.1	486.2	10.00	10.00	0.00
11,655.5	86.83	359.77	11,349.1	537.8	-198.4	541.4	10.00	10.00	0.00
FTP (THUNDERDOME FED COM #703H)									
11,687.2	90.00	359.77	11,350.0	569.5	-198.5	573.1	10.00	10.00	0.00
11,700.0	90.00	359.77	11,350.0	582.3	-198.5	585.8	0.00	0.00	0.00
11,800.0	90.00	359.77	11,350.0	682.3	-198.9	685.8	0.00	0.00	0.00
11,900.0	90.00	359.77	11,350.0	782.3	-199.3	785.8	0.00	0.00	0.00
12,000.0	90.00	359.77	11,350.0	882.3	-199.7	885.8	0.00	0.00	0.00
12,100.0	90.00	359.77	11,350.0	982.3	-200.1	985.8	0.00	0.00	0.00
12,200.0	90.00	359.77	11,350.0	1,082.3	-200.5	1,085.8	0.00	0.00	0.00
12,300.0	90.00	359.77	11,350.0	1,182.3	-200.9	1,185.8	0.00	0.00	0.00
12,400.0	90.00	359.77	11,350.0	1,282.3	-201.3	1,285.8	0.00	0.00	0.00
12,500.0	90.00	359.77	11,350.0	1,382.3	-201.7	1,385.7	0.00	0.00	0.00
12,600.0	90.00	359.77	11,350.0	1,482.3	-202.1	1,485.7	0.00	0.00	0.00
12,700.0	90.00	359.77	11,350.0	1,582.3	-202.5	1,585.7	0.00	0.00	0.00
12,800.0	90.00	359.77	11,350.0	1,682.3	-202.9	1,685.7	0.00	0.00	0.00
12,900.0	90.00	359.77	11,350.0	1,782.3	-203.3	1,785.7	0.00	0.00	0.00
13,000.0	90.00	359.77	11,350.0	1,882.3	-203.7	1,885.7	0.00	0.00	0.00
13,100.0	90.00	359.77	11,350.0	1,982.3	-204.1	1,985.7	0.00	0.00	0.00
13,200.0	90.00	359.77	11,350.0	2,082.3	-204.5	2,085.7	0.00	0.00	0.00
13,300.0	90.00	359.77	11,350.0	2,182.3	-204.9	2,185.7	0.00	0.00	0.00
13,400.0	90.00	359.77	11,350.0	2,282.3	-205.3	2,285.7	0.00	0.00	0.00
13,500.0	90.00	359.77	11,350.0	2,382.3	-205.7	2,385.6	0.00	0.00	0.00
13,600.0	90.00	359.77	11,350.0	2,482.3	-206.1	2,485.6	0.00	0.00	0.00
13,700.0	90.00	359.77	11,350.0	2,582.3	-206.5	2,585.6	0.00	0.00	0.00
13,800.0	90.00	359.77	11,350.0	2,682.3	-206.9	2,685.6	0.00	0.00	0.00
13,900.0	90.00	359.77	11,350.0	2,782.3	-207.3	2,785.6	0.00	0.00	0.00
14,000.0	90.00	359.77	11,350.0	2,882.3	-207.7	2,885.6	0.00	0.00	0.00
14,100.0	90.00	359.77	11,350.0	2,982.3	-208.1	2,985.6	0.00	0.00	0.00
14,200.0	90.00	359.77	11,350.0	3,082.3	-208.4	3,085.6	0.00	0.00	0.00
14,300.0	90.00	359.77	11,350.0	3,182.3	-208.8	3,185.6	0.00	0.00	0.00
14,400.0	90.00	359.77	11,350.0	3,282.3	-209.2	3,285.5	0.00	0.00	0.00
14,500.0	90.00	359.77	11,350.0	3,382.3	-209.6	3,385.5	0.00	0.00	0.00
14,600.0	90.00	359.77	11,350.0	3,482.3	-210.0	3,485.5	0.00	0.00	0.00
14,700.0	90.00	359.77	11,350.0	3,582.3	-210.4	3,585.5	0.00	0.00	0.00
14,800.0	90.00	359.77	11,350.0	3,682.3	-210.8	3,685.5	0.00	0.00	0.00
14,900.0	90.00	359.77	11,350.0	3,782.3	-211.2	3,785.5	0.00	0.00	0.00
15,000.0	90.00	359.77	11,350.0	3,882.3	-211.6	3,885.5	0.00	0.00	0.00
15,100.0	90.00	359.77	11,350.0	3,982.3	-212.0	3,985.5	0.00	0.00	0.00
15,200.0	90.00	359.77	11,350.0	4,082.2	-212.4	4,085.5	0.00	0.00	0.00
15,300.0	90.00	359.77	11,350.0	4,182.2	-212.8	4,185.5	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,400.0	90.00	359.77	11,350.0	4,282.2	-213.2	4,285.4	0.00	0.00	0.00
15,500.0	90.00	359.77	11,350.0	4,382.2	-213.6	4,385.4	0.00	0.00	0.00
15,600.0	90.00	359.77	11,350.0	4,482.2	-214.0	4,485.4	0.00	0.00	0.00
15,700.0	90.00	359.77	11,350.0	4,582.2	-214.4	4,585.4	0.00	0.00	0.00
15,800.0	90.00	359.77	11,350.0	4,682.2	-214.8	4,685.4	0.00	0.00	0.00
15,900.0	90.00	359.77	11,350.0	4,782.2	-215.2	4,785.4	0.00	0.00	0.00
16,000.0	90.00	359.77	11,350.0	4,882.2	-215.6	4,885.4	0.00	0.00	0.00
16,100.0	90.00	359.77	11,350.0	4,982.2	-216.0	4,985.4	0.00	0.00	0.00
16,200.0	90.00	359.77	11,350.0	5,082.2	-216.4	5,085.4	0.00	0.00	0.00
16,300.0	90.00	359.77	11,350.0	5,182.2	-216.8	5,185.4	0.00	0.00	0.00
16,400.0	90.00	359.77	11,350.0	5,282.2	-217.2	5,285.3	0.00	0.00	0.00
16,500.0	90.00	359.77	11,350.0	5,382.2	-217.6	5,385.3	0.00	0.00	0.00
16,600.0	90.00	359.77	11,350.0	5,482.2	-218.0	5,485.3	0.00	0.00	0.00
16,700.0	90.00	359.77	11,350.0	5,582.2	-218.4	5,585.3	0.00	0.00	0.00
16,800.0	90.00	359.77	11,350.0	5,682.2	-218.7	5,685.3	0.00	0.00	0.00
16,900.0	90.00	359.77	11,350.0	5,782.2	-219.1	5,785.3	0.00	0.00	0.00
17,000.0	90.00	359.77	11,350.0	5,882.2	-219.5	5,885.3	0.00	0.00	0.00
17,100.0	90.00	359.77	11,350.0	5,982.2	-219.9	5,985.3	0.00	0.00	0.00
17,200.0	90.00	359.77	11,350.0	6,082.2	-220.3	6,085.3	0.00	0.00	0.00
17,300.0	90.00	359.77	11,350.0	6,182.2	-220.7	6,185.2	0.00	0.00	0.00
17,400.0	90.00	359.77	11,350.0	6,282.2	-221.1	6,285.2	0.00	0.00	0.00
17,500.0	90.00	359.77	11,350.0	6,382.2	-221.5	6,385.2	0.00	0.00	0.00
17,600.0	90.00	359.77	11,350.0	6,482.2	-221.9	6,485.2	0.00	0.00	0.00
17,700.0	90.00	359.77	11,350.0	6,582.2	-222.3	6,585.2	0.00	0.00	0.00
17,800.0	90.00	359.77	11,350.0	6,682.2	-222.7	6,685.2	0.00	0.00	0.00
17,900.0	90.00	359.77	11,350.0	6,782.2	-223.1	6,785.2	0.00	0.00	0.00
18,000.0	90.00	359.77	11,350.0	6,882.2	-223.5	6,885.2	0.00	0.00	0.00
18,100.0	90.00	359.77	11,350.0	6,982.2	-223.9	6,985.2	0.00	0.00	0.00
18,200.0	90.00	359.77	11,350.0	7,082.2	-224.3	7,085.2	0.00	0.00	0.00
18,300.0	90.00	359.77	11,350.0	7,182.2	-224.7	7,185.1	0.00	0.00	0.00
18,400.0	90.00	359.77	11,350.0	7,282.2	-225.1	7,285.1	0.00	0.00	0.00
18,500.0	90.00	359.77	11,350.0	7,382.2	-225.5	7,385.1	0.00	0.00	0.00
18,600.0	90.00	359.77	11,350.0	7,482.2	-225.9	7,485.1	0.00	0.00	0.00
18,700.0	90.00	359.77	11,350.0	7,582.2	-226.3	7,585.1	0.00	0.00	0.00
18,800.0	90.00	359.77	11,350.0	7,682.2	-226.7	7,685.1	0.00	0.00	0.00
18,900.0	90.00	359.77	11,350.0	7,782.2	-227.1	7,785.1	0.00	0.00	0.00
19,000.0	90.00	359.77	11,350.0	7,882.2	-227.5	7,885.1	0.00	0.00	0.00
19,100.0	90.00	359.77	11,350.0	7,982.2	-227.9	7,985.1	0.00	0.00	0.00
19,200.0	90.00	359.77	11,350.0	8,082.2	-228.3	8,085.0	0.00	0.00	0.00
19,300.0	90.00	359.77	11,350.0	8,182.2	-228.7	8,185.0	0.00	0.00	0.00
19,400.0	90.00	359.77	11,350.0	8,282.2	-229.0	8,285.0	0.00	0.00	0.00
19,500.0	90.00	359.77	11,350.0	8,382.2	-229.4	8,385.0	0.00	0.00	0.00
19,600.0	90.00	359.77	11,350.0	8,482.2	-229.8	8,485.0	0.00	0.00	0.00
19,700.0	90.00	359.77	11,350.0	8,582.2	-230.2	8,585.0	0.00	0.00	0.00
19,800.0	90.00	359.77	11,350.0	8,682.2	-230.6	8,685.0	0.00	0.00	0.00
19,900.0	90.00	359.77	11,350.0	8,782.2	-231.0	8,785.0	0.00	0.00	0.00
20,000.0	90.00	359.77	11,350.0	8,882.2	-231.4	8,885.0	0.00	0.00	0.00
20,100.0	90.00	359.77	11,350.0	8,982.2	-231.8	8,985.0	0.00	0.00	0.00
20,200.0	90.00	359.77	11,350.0	9,082.2	-232.2	9,084.9	0.00	0.00	0.00
20,300.0	90.00	359.77	11,350.0	9,182.2	-232.6	9,184.9	0.00	0.00	0.00
20,400.0	90.00	359.77	11,350.0	9,282.2	-233.0	9,284.9	0.00	0.00	0.00
20,500.0	90.00	359.77	11,350.0	9,382.2	-233.4	9,384.9	0.00	0.00	0.00
20,600.0	90.00	359.77	11,350.0	9,482.2	-233.8	9,484.9	0.00	0.00	0.00
20,700.0	90.00	359.77	11,350.0	9,582.2	-234.2	9,584.9	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,800.0	90.00	359.77	11,350.0	9,682.2	-234.6	9,684.9	0.00	0.00	0.00
20,900.0	90.00	359.77	11,350.0	9,782.2	-235.0	9,784.9	0.00	0.00	0.00
21,000.0	90.00	359.77	11,350.0	9,882.2	-235.4	9,884.9	0.00	0.00	0.00
21,100.0	90.00	359.77	11,350.0	9,982.2	-235.8	9,984.9	0.00	0.00	0.00
21,200.0	90.00	359.77	11,350.0	10,082.2	-236.2	10,084.8	0.00	0.00	0.00
21,300.0	90.00	359.77	11,350.0	10,182.2	-236.6	10,184.8	0.00	0.00	0.00
21,400.0	90.00	359.77	11,350.0	10,282.2	-237.0	10,284.8	0.00	0.00	0.00
21,500.0	90.00	359.77	11,350.0	10,382.2	-237.4	10,384.8	0.00	0.00	0.00
21,600.0	90.00	359.77	11,350.0	10,482.2	-237.8	10,484.8	0.00	0.00	0.00
21,700.0	90.00	359.77	11,350.0	10,582.2	-238.2	10,584.8	0.00	0.00	0.00
21,800.0	90.00	359.77	11,350.0	10,682.2	-238.6	10,684.8	0.00	0.00	0.00
21,900.0	90.00	359.77	11,350.0	10,782.2	-239.0	10,784.8	0.00	0.00	0.00
22,000.0	90.00	359.77	11,350.0	10,882.2	-239.4	10,884.8	0.00	0.00	0.00
22,100.0	90.00	359.77	11,350.0	10,982.2	-239.7	10,984.7	0.00	0.00	0.00
22,200.0	90.00	359.77	11,350.0	11,082.2	-240.1	11,084.7	0.00	0.00	0.00
22,300.0	90.00	359.77	11,350.0	11,182.2	-240.5	11,184.7	0.00	0.00	0.00
22,400.0	90.00	359.77	11,350.0	11,282.2	-240.9	11,284.7	0.00	0.00	0.00
22,500.0	90.00	359.77	11,350.0	11,382.2	-241.3	11,384.7	0.00	0.00	0.00
22,600.0	90.00	359.77	11,350.0	11,482.2	-241.7	11,484.7	0.00	0.00	0.00
22,700.0	90.00	359.77	11,350.0	11,582.2	-242.1	11,584.7	0.00	0.00	0.00
22,800.0	90.00	359.77	11,350.0	11,682.2	-242.5	11,684.7	0.00	0.00	0.00
22,900.0	90.00	359.77	11,350.0	11,782.2	-242.9	11,784.7	0.00	0.00	0.00
23,000.0	90.00	359.77	11,350.0	11,882.2	-243.3	11,884.7	0.00	0.00	0.00
23,100.0	90.00	359.77	11,350.0	11,982.2	-243.7	11,984.6	0.00	0.00	0.00
23,200.0	90.00	359.77	11,350.0	12,082.2	-244.1	12,084.6	0.00	0.00	0.00
23,300.0	90.00	359.77	11,350.0	12,182.2	-244.5	12,184.6	0.00	0.00	0.00
23,400.0	90.00	359.77	11,350.0	12,282.2	-244.9	12,284.6	0.00	0.00	0.00
23,500.0	90.00	359.77	11,350.0	12,382.2	-245.3	12,384.6	0.00	0.00	0.00
23,600.0	90.00	359.77	11,350.0	12,482.2	-245.7	12,484.6	0.00	0.00	0.00
23,700.0	90.00	359.77	11,350.0	12,582.2	-246.1	12,584.6	0.00	0.00	0.00
23,800.0	90.00	359.77	11,350.0	12,682.2	-246.5	12,684.6	0.00	0.00	0.00
23,900.0	90.00	359.77	11,350.0	12,782.2	-246.9	12,784.6	0.00	0.00	0.00
24,000.0	90.00	359.77	11,350.0	12,882.2	-247.3	12,884.5	0.00	0.00	0.00
24,100.0	90.00	359.77	11,350.0	12,982.2	-247.7	12,984.5	0.00	0.00	0.00
24,200.0	90.00	359.77	11,350.0	13,082.2	-248.1	13,084.5	0.00	0.00	0.00
24,300.0	90.00	359.77	11,350.0	13,182.2	-248.5	13,184.5	0.00	0.00	0.00
24,400.0	90.00	359.77	11,350.0	13,282.2	-248.9	13,284.5	0.00	0.00	0.00
24,500.0	90.00	359.77	11,350.0	13,382.2	-249.3	13,384.5	0.00	0.00	0.00
24,600.0	90.00	359.77	11,350.0	13,482.2	-249.7	13,484.5	0.00	0.00	0.00
24,675.6	90.00	359.77	11,350.0	13,557.7	-250.0	13,560.0	0.00	0.00	0.00
LTP (THUNDERDOME FED COM #703H)									
24,700.0	90.00	359.77	11,350.0	13,582.2	-250.0	13,584.5	0.00	0.00	0.00
24,725.6	90.00	359.77	11,350.0	13,607.7	-250.1	13,610.0	0.00	0.00	0.00
PBHL (THUNDERDOME FED COM #703H)									

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	THUNDERDOME FED COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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)		
LTP (THUNDERDOME F	90.00	359.77	11,350.0	13,557.7	-249.5	482,800.74	647,627.82	32° 19' 35.149 N	103° 51' 19.468 W
- plan misses target center by 0.4usft at 24675.6usft MD (11350.0 TVD, 13557.7 N, -250.0 E)									
- Circle (radius 50.0)									
FTP (THUNDERDOME I	0.00	0.01	11,350.0	537.7	-201.3	469,780.75	647,676.05	32° 17' 26.302 N	103° 51' 19.583 W
- plan misses target center by 3.1usft at 11655.5usft MD (11349.1 TVD, 537.8 N, -198.4 E)									
- Circle (radius 50.0)									
PBHL (THUNDERDOME	0.00	179.77	11,350.0	13,607.7	-250.1	482,850.74	647,627.21	32° 19' 35.644 N	103° 51' 19.473 W
- plan hits target center									
- Rectangle (sides W100.0 H13,069.8 D20.0)									

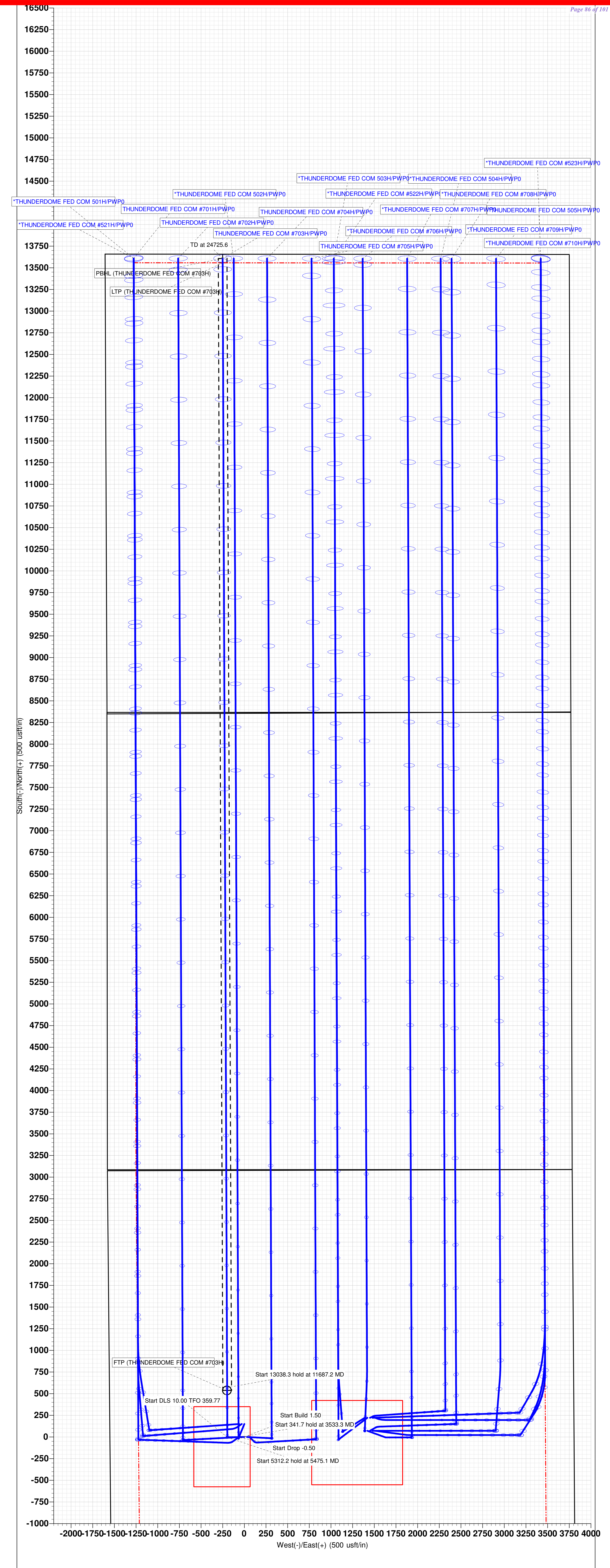
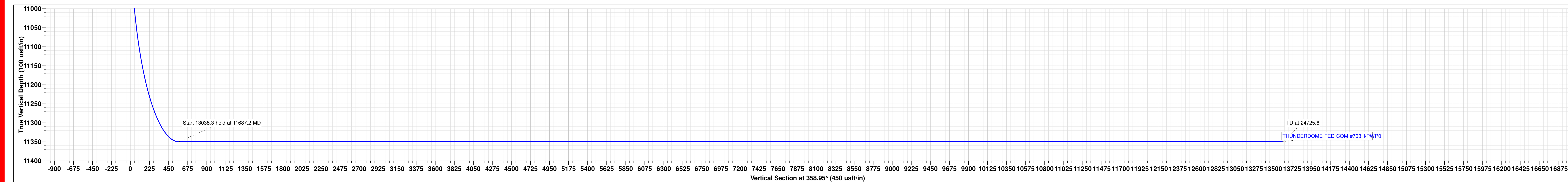
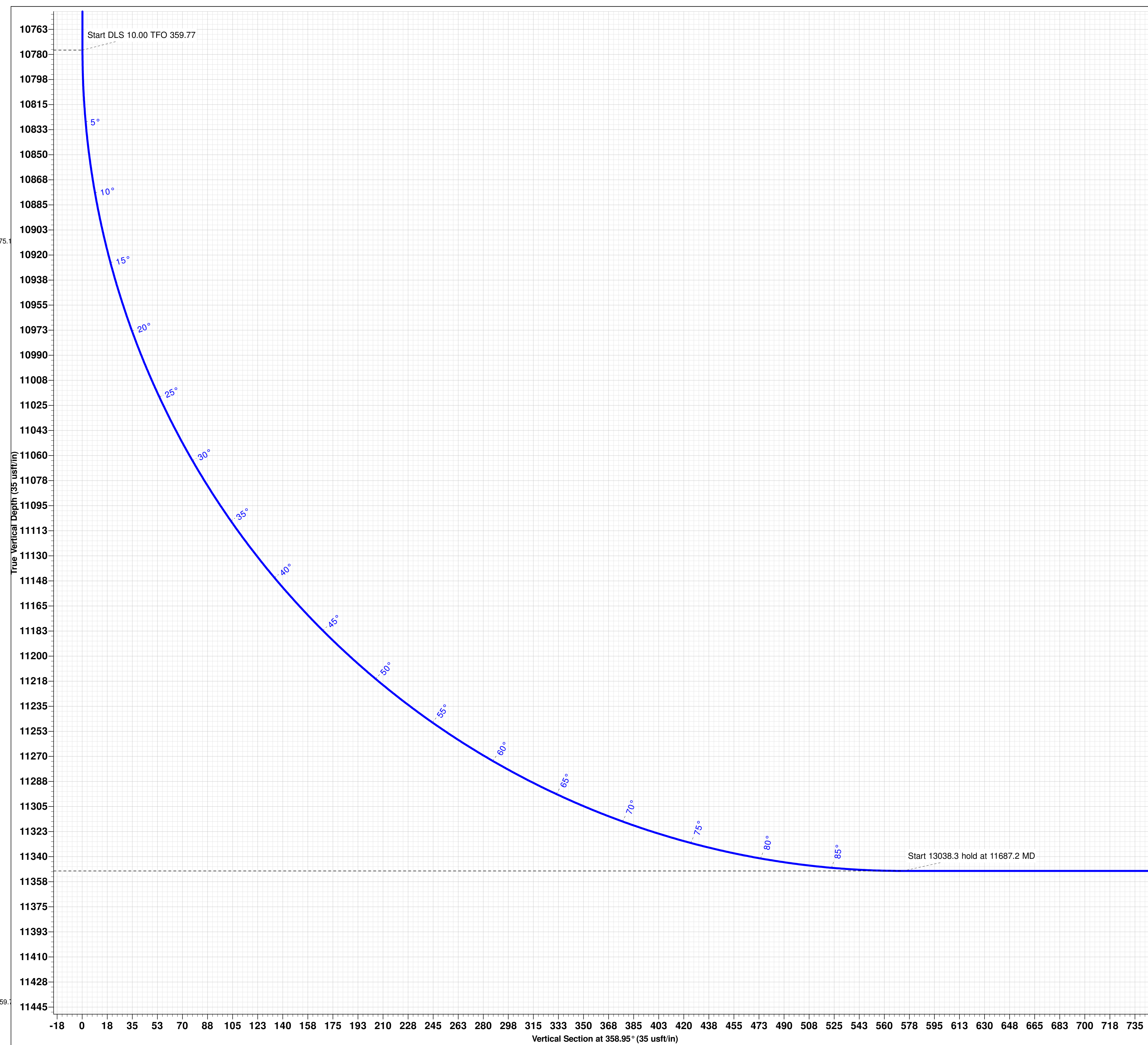
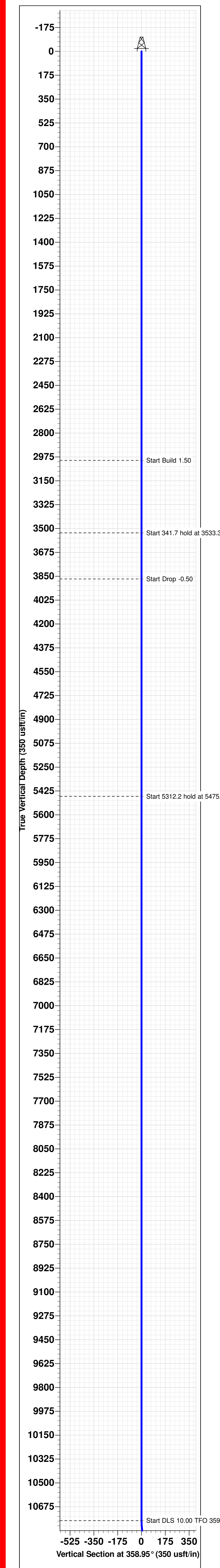
Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	24,725.0	11,350.0	5-1/2" Production Casing	5-1/2	6-3/4



Site: THUNDERDOME PROJECT
Well: THUNDERDOME FED COM #703H
Wellbore: OWB
Design: PWP0

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0
3533.3	8.00	269.00	3531.6	-0.6	-37.2	1.50	269.00	0.0
3875.1	8.00	269.00	3870.0	-1.5	-84.7	0.00	0.00	0.1
5475.1	0.00	0.00	5464.8	-3.4	-196.2	0.50	180.00	0.2
10787.3	0.00	0.00	10777.0	-3.4	-196.2	0.00	0.00	0.2
11687.2	90.00	359.77	11350.0	569.5	-198.5	10.00	359.77	573.1
24725.6	90.00	359.77	11350.0	13607.7	-250.1	0.00	0.00	13610.0



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 703H
SURFACE HOLE FOOTAGE:	2210'/S & 1552'/W
BOTTOM HOLE FOOTAGE:	50'/N & 1356'/W
LOCATION:	Section 30, T.24 S., R.28 E.
COUNTY:	Eddy County, New Mexico

COA

H2S	Yes		
Potash	R-111-Q		
Cave/Karst Potential	Medium		
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	Conventional and Multibowl		
Other	☒ 4 String	Capitan Reef None	☐ WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze Int 2
Special Requirements	☐ Water Disposal/Injection	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention Self-Cert	
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☒ Casing Clearance

THE KPLA POTASH AREA WILL BE GOVERNED BY R111Q AS OF 5/10/2024. THE APD PACKAGE WAS SUBMITTED PRIOR TO THIS DATE, BUT THE OPERATOR HAS INCORPORATED THE UPDATED OPEN ANNULUS DESIGN. OPERATOR SHOULD REVIEW AND ADHERE TO ALL R111Q UPDATES.

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Surface set point updated to reflect 70' penetration into Rustler.

1. The **13-3/8** inch surface casing shall be set at approximately **445** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Salt protection intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The **10-3/4** inch salt protection intermediate casing shall be set at approximately **3,795** feet. **This depth is above the BLM geo-report Bell Canyon depth. Salt protection string should be set prior to entering highest oil or gas bearing zone.** 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, potash or capitan reef.**

Second intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

3. The 7-5/8 inch second intermediate casing shall be set at approximately **10,650 feet**. **Too much cement excess proposed for the open annulus plan. Please review cement program for interval and adhere to R111Q requirements.** The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

R-111-Q Figure D:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage within 180 days after well completion in accordance with the **R-111-Q** guidelines.

- a. First stage: Operator will cement intermediate casing with intent to bring cement to top of Brushy Canyon formation.
- b. Second stage: Operator will perform bradenhead squeeze **within 180 days** after completion. Cement shall be tie-back **at least 500 ft.** into intermediate casing and below the Marker Bed 126. If cement does not circulate, the appropriate BLM office shall be notified.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

4. The 5-1/2 inch production casing shall be set at approximately **24,725 feet**. The minimum required fill of cement behind the 5-1/2 inch production casing is:

R-111-Q Figure D:

- Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126 and the engineered weak point. Operator must run a CBL from TD of the production casing to surface to verify top of cement. Submit results to the BLM.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. Annular which shall be tested to 3500 (70% Working Pressure) psi.**
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **10-3/4** intermediate casing shoe shall be **5000 (5M) psi. Annular which shall be tested to 3500 (70% Working Pressure) psi.**
- c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate 2 casing shoe shall be **10,000 (10M) psi. Variance is approved to use a Choose an item. Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - 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.
 - Manufacturer representative shall install the test plug for the initial BOP test.
 - 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.
 - Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

Casing Clearance

Tie back for 500 feet OK.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are less than 0.5 micron before cementing.

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

EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

BLM_NM_CFO_DrillingNotifications@BLM.GOV

(575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator 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 **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on

which the draw works are located, this does not include the dog house or stairway area.

3. For at least one well per pad (deepest well preferred) the record of drilling rate (ROP) along with the Gamma Ray (GR) and Neutron (CNL) well logs run from TVD to surface in the vertical section of the hole shall be submitted to the BLM office as well as all other logs run on the full borehole within 30 days from completion. Only digital copies of the logs in .TIF or .LAS formats are necessary; Logs shall be emailed to blm-cfo-geology@doimspp.onmicrosoft.com. The email should have a subject line with the US Well Number / API Number, well name, and the body should include the starting depth and the TVD of the log.

The top of the Rustler, top and bottom of the salt, and the top of the Capitan Reef (if present) 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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
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 43 CFR 3172.6(b)(9) 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 **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - 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 **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

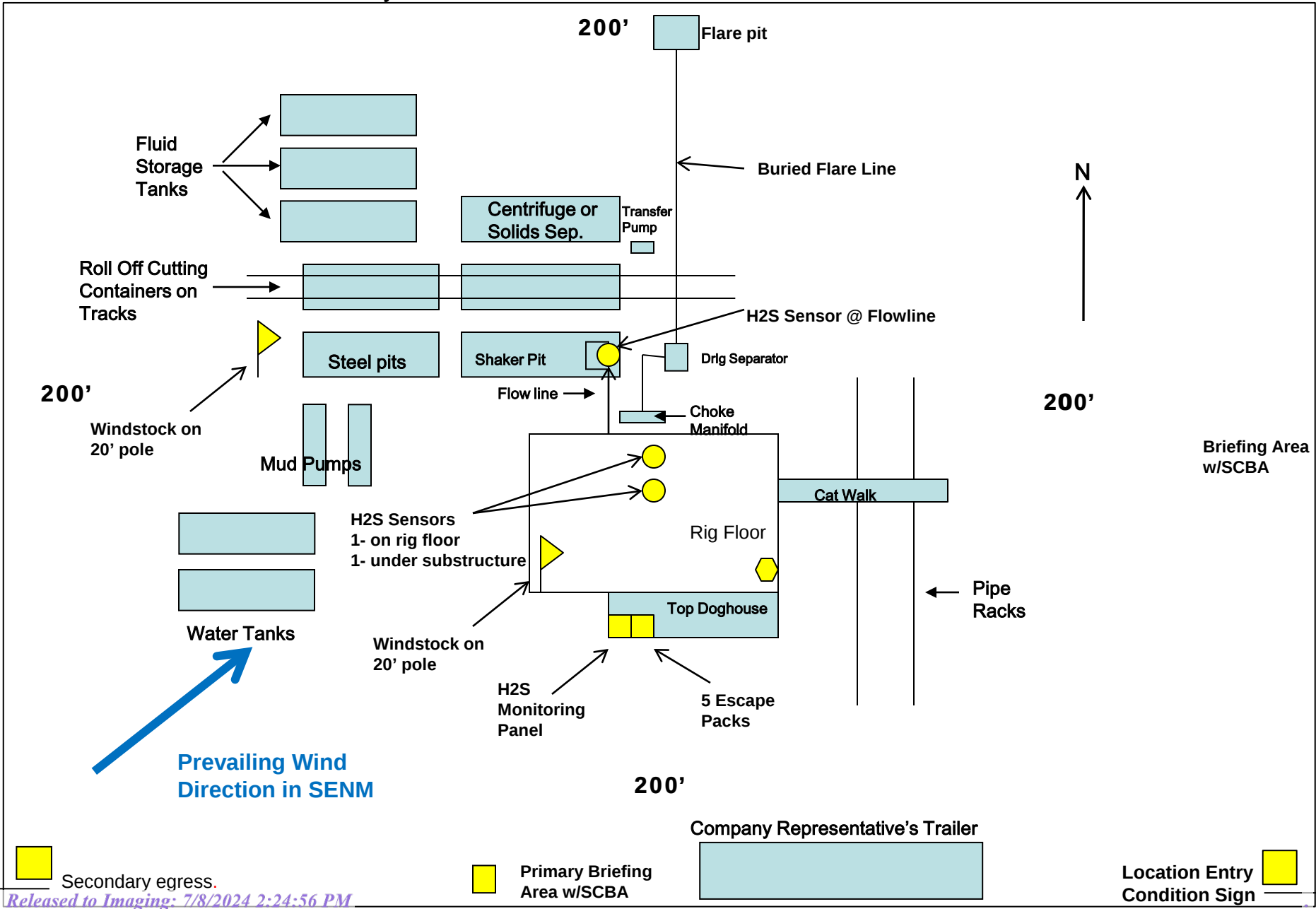
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location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

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

Keith Immatty 6/4/2024

COG Operating LLC
H₂S Equipment Schematic
Terrain: Shinnery sand hills.

Well pad will be 400' x 400'
with cellar in center of pad



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

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

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

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream we will shut in and install H₂S equipment.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

- b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED***
- 2. HARD HATS REQUIRED***
- 3. SMOKING IN DESIGNATED AREAS ONLY***
- 4. BE WIND CONSCIOUS AT ALL TIMES***
- 5. CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE***

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
Dallas Daley	432-818-2329	432-631-6977

EMERGENCY RESPONSE NUMBERS

	<u>OFFICE</u>
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

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 352705

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 352705
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	7/8/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/8/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	7/8/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	7/8/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/8/2024