

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. 30-015-55228
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: 06/17/2024

Additional Operator Remarks

Location of Well

0. SHL: NWSE / 2275 FSL / 2414 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2894611 / LONG: -103.8507847 (TVD: 0 feet, MD: 0 feet)
PPP: SWNE / 2540 FNL / 2385 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2907537 / LONG: -103.8506943 (TVD: 11171 feet, MD: 11405 feet)
PPP: NWSE / 1322 FSL / 2385 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3159026 / LONG: -103.8506799 (TVD: 11180 feet, MD: 20546 feet)
PPP: SWSE / 1 FSL / 2385 FEL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977351 / LONG: -103.8507133 (TVD: 11180 feet, MD: 13946 feet)
PPP: SWSE / 1 FSL / 2385 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3122689 / LONG: -103.8506843 (TVD: 11180 feet, MD: 19226 feet)
PPP: NWNE / 2644 FNL / 2385 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3195363 / LONG: -103.8506756 (TVD: 11180 feet, MD: 21866 feet)
BHL: NWNE / 50 FNL / 2385 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3266663 / LONG: -103.850667 (TVD: 11180 feet, MD: 24469 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- 55228	² Pool Code 98358 96597 Los Medanos	³ Pool Name WC23S30E; Wolfcamp (Gas)
⁴ Property Code 336009	⁵ Property Name THUNDERDOME FED COM	⁶ Well Number 706H
⁷ OGRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 3,257.96'

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
J	23	23-S	30-E		2,275'	SOUTH	2,414'	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	23-S	30-E		50'	NORTH	2,385'	EAST	EDDY

¹² Dedicated Acres 1600	¹³ Joint or Infill	¹⁴ Consolidation Code Com	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	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. <i>Stan Wagner</i> 10/10/2023 Signature _____ Date _____ Printed Name Stan Wagner _____ Email Address _____
	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 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 706H	30-015-	J-23-23S-30E	2275 FSL & 2414 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 707H	30-015-	J-23-23S-30E	2275 FSL & 2384 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 708H	30-015-	J-23-23S-30E	2275 FSL & 2354 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 709H	30-015-	J-23-23S-30E	2275 FSL & 2324 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 710H	30-015-	J-23-23S-30E	2275 FSL & 2294 FEL	± 908	± 2788	± 3471

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
706H, 707H, 708H, 709H, 710H						

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

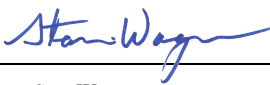
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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 #706H

1. Geologic Formations

TVD of target	11,118' EOL	Pilot hole depth	15,700'
MD at TD:	24,469'	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	488	Salt	
Base of Salt	3592	Salt	
Lamar	3815	Salt Water	
Bell Canyon	3831	Salt Water	
Brushy Canyon	5198	Oil/Gas	
Bone Spring Lime	7709	Oil/Gas	
1st Bone Spring Sand	8720	Oil/Gas	
2nd Bone Spring Sand	9379	Oil/Gas	
3rd Bone Spring Sand	10665	Oil/Gas	
Wolfcamp A	11222	Target	
Wolfcamp B	11541	Oil/Gas	
DVNN	15655	Oil/Gas	Pilot Hole

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	1.20	3.30	3.34
8.750"	7400	10500	7.625"	29.7	P110 ICY	W513	1.32	1.55	3.01	1.79
6.75"	0	10000	5.5"	23	P110 CY	BTC	2.24	2.64	3.17	3.15
6.75"	10000	24,469	5.5"	23	P110 CY	W441	2.01	2.38	2.85	2.76
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 #706H

	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?	

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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						
	1361	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	9,500'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #706H

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 #706H

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 #706H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7230 psi at 11118' 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	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

706H

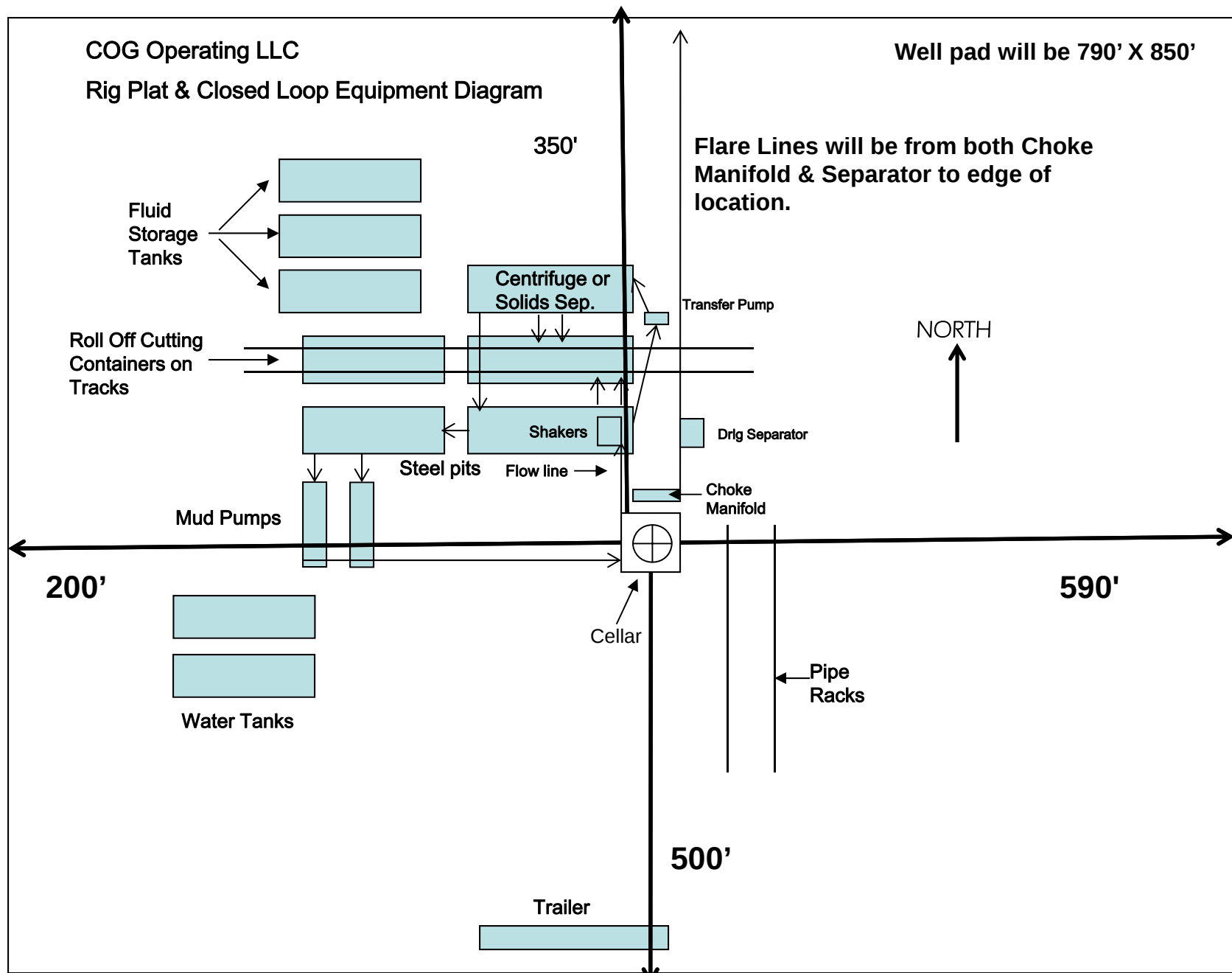


Exhibit 1

"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 #706H**

OWB

PWP0

Anticollision Report

10 July, 2023

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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	24,469.2	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	1,452.2	1,439.6	115.474	CC, ES
*THUNDERDOME FED COM #521H - OWB - PWP0	5,000.0	4,636.3	1,999.5	1,973.2	76.220	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	2,632.6	2,637.3	127.2	112.7	8.760	CC, ES
*THUNDERDOME FED COM #522H - OWB - PWP0	24,469.4	23,465.2	1,082.5	866.4	5.008	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	1,800.0	1,800.0	192.1	179.5	15.273	CC, ES
*THUNDERDOME FED COM #523H - OWB - PWP0	2,200.0	2,192.3	199.6	186.0	14.699	SF
*THUNDERDOME FED COM #701H - OWB - PWP0	1,500.0	1,500.0	1,451.8	1,440.1	123.723	CC, ES
*THUNDERDOME FED COM #701H - OWB - PWP0	5,300.0	4,965.8	1,993.1	1,965.0	70.885	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	2,500.0	2,500.0	1,421.8	1,407.4	98.692	CC, ES
*THUNDERDOME FED COM #702H - OWB - PWP0	6,600.0	6,280.5	1,992.5	1,960.8	62.864	SF
*THUNDERDOME FED COM #703H - OWB - PWP0	3,000.0	3,000.0	1,391.9	1,376.2	89.053	CC, ES
*THUNDERDOME FED COM #703H - OWB - PWP0	24,469.4	24,717.7	1,626.0	1,421.0	7.930	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	10,600.0	10,617.9	1,077.3	1,044.0	32.352	CC
*THUNDERDOME FED COM #704H - OWB - PWP0	24,469.4	24,568.9	1,104.1	898.1	5.361	ES, SF
*THUNDERDOME FED COM #705H - OWB - PWP0	10,600.0	10,663.1	568.9	526.3	13.364	CC
*THUNDERDOME FED COM #705H - OWB - PWP0	24,469.4	24,797.1	615.1	400.2	2.863	ES, SF
*THUNDERDOME FED COM #707H - OWB - PWP0	2,000.0	2,000.0	30.0	16.9	2.287	CC, ES, SF
*THUNDERDOME FED COM #708H - OWB - PWP0	2,500.0	2,500.0	60.0	45.6	4.165	CC, ES, SF
*THUNDERDOME FED COM #709H - OWB - PWP0	2,200.0	2,200.0	90.0	76.4	6.598	CC, ES
*THUNDERDOME FED COM #709H - OWB - PWP0	2,300.0	2,297.7	91.3	77.4	6.561	SF
*THUNDERDOME FED COM #710H - OWB - PWP0	1,800.0	1,800.0	120.0	107.4	9.542	CC, ES
*THUNDERDOME FED COM #710H - OWB - PWP0	1,900.0	1,897.0	121.3	108.4	9.428	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	1,800.0	1,800.0	1,422.2	1,409.6	113.092	CC, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	5,000.0	4,611.1	1,980.9	1,955.2	77.264	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	2,500.0	2,500.0	1,392.2	1,377.8	96.643	CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	9,800.0	9,689.2	1,476.6	1,448.6	52.620	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	2,879.8	2,886.9	101.7	86.6	6.730	CC
*THUNDERDOME FED COM 503H - OWB - PWP0	2,900.0	2,906.9	101.8	86.6	6.711	ES
*THUNDERDOME FED COM 503H - OWB - PWP0	3,000.0	3,005.9	103.1	87.7	6.679	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,800.0	1,800.0	161.6	149.0	12.847	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	24,469.4	22,854.8	1,710.9	1,487.7	7.667	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,800.0	1,800.0	174.9	162.4	13.910	CC, ES
*THUNDERDOME FED COM 505H - OWB - PWP0	2,000.0	1,995.0	177.8	164.7	13.566	SF

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

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Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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	24,469.4	23,533.7				Out of Range @TD
*THUNDERDOME FED COM #522H - OWB - PWP0	24,469.4	23,465.2	1,082.5	866.4	5.008	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	24,469.4	23,558.2				Out of Range @TD
*THUNDERDOME FED COM #701H - OWB - PWP0	24,469.4	24,836.1				Out of Range @TD
*THUNDERDOME FED COM #702H - OWB - PWP0	24,469.4	24,621.0				Out of Range @TD
*THUNDERDOME FED COM #703H - OWB - PWP0	24,469.4	24,717.7	1,626.0	1,421.0	7.930	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	24,469.4	24,568.9	1,104.1	898.1	5.361	ES, SF
*THUNDERDOME FED COM #705H - OWB - PWP0	24,469.4	24,797.1	615.1	400.2	2.863	ES, SF
*THUNDERDOME FED COM #707H - OWB - PWP0	24,469.4	24,750.1	540.4	337.8	2.667	
*THUNDERDOME FED COM #708H - OWB - PWP0	24,469.4	24,486.5	1,026.0	818.0	4.932	
*THUNDERDOME FED COM #709H - OWB - PWP0	24,469.4	24,802.4	1,548.4	1,341.5	7.485	
*THUNDERDOME FED COM #710H - OWB - PWP0	24,469.4	24,734.5				Out of Range @TD
*THUNDERDOME FED COM 501H - OWB - PWP0	24,469.4	23,187.9				Out of Range @TD
*THUNDERDOME FED COM 502H - OWB - PWP0	24,469.4	23,103.6				Out of Range @TD
*THUNDERDOME FED COM 503H - OWB - PWP0	24,469.4	23,139.1	1,492.6	1,273.6	6.816	
*THUNDERDOME FED COM 504H - OWB - PWP0	24,469.4	22,854.8	1,710.9	1,487.7	7.667	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	24,469.4	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
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset 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	-86.91	78.4	-1,450.0	1,452.2	1,445.7	6.43	225.880	
100.0	100.0	100.0	100.0	3.2	3.2	-86.91	78.4	-1,450.0	1,452.2	1,445.3	6.89	210.691	
200.0	200.0	200.0	200.0	3.5	3.5	-86.91	78.4	-1,450.0	1,452.2	1,444.8	7.33	198.161	
300.0	300.0	300.0	300.0	3.7	3.7	-86.91	78.4	-1,450.0	1,452.2	1,444.4	7.74	187.585	
400.0	400.0	400.0	400.0	3.9	3.9	-86.91	78.4	-1,450.0	1,452.2	1,444.0	8.14	178.496	
500.0	500.0	500.0	500.0	4.1	4.1	-86.91	78.4	-1,450.0	1,452.2	1,443.6	8.51	170.570	
600.0	600.0	600.0	600.0	4.2	4.2	-86.91	78.4	-1,450.0	1,452.2	1,443.3	8.88	163.575	
700.0	700.0	700.0	700.0	4.4	4.4	-86.91	78.4	-1,450.0	1,452.2	1,442.9	9.23	157.339	
800.0	800.0	800.0	800.0	4.6	4.6	-86.91	78.4	-1,450.0	1,452.2	1,442.6	9.57	151.733	
900.0	900.0	900.0	900.0	4.8	4.8	-86.91	78.4	-1,450.0	1,452.2	1,442.3	9.90	146.654	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.91	78.4	-1,450.0	1,452.2	1,441.9	10.22	142.025	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.91	78.4	-1,450.0	1,452.2	1,441.6	10.54	137.780	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.91	78.4	-1,450.0	1,452.2	1,441.3	10.85	133.869	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.91	78.4	-1,450.0	1,452.2	1,441.0	11.15	130.250	

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

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Anticollision Report

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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 #706H	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		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)			
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.91	78.4	-1,450.0	1,452.2	1,440.7	11.44	126.887	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.91	78.4	-1,450.0	1,452.2	1,440.4	11.73	123.752	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.91	78.4	-1,450.0	1,452.2	1,440.1	12.02	120.818	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.91	78.4	-1,450.0	1,452.2	1,439.9	12.30	118.065	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.91	78.4	-1,450.0	1,452.2	1,439.6	12.58	115.474	CC, ES
1,900.0	1,900.0	1,872.6	1,872.6	6.3	6.2	-86.91	78.3	-1,450.7	1,453.1	1,440.3	12.82	113.305	
2,000.0	2,000.0	1,945.1	1,945.1	6.4	6.3	-86.92	78.2	-1,452.8	1,455.9	1,442.9	13.07	111.411	
2,100.0	2,100.0	2,017.6	2,017.5	6.5	6.5	-86.94	78.0	-1,456.2	1,460.6	1,447.3	13.31	109.751	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	-86.96	77.6	-1,461.8	1,467.3	1,453.7	13.57	108.087	
2,300.0	2,300.0	2,162.0	2,161.4	6.8	6.7	-86.99	77.2	-1,467.1	1,475.7	1,461.9	13.80	106.911	
2,400.0	2,400.0	2,233.8	2,232.8	6.9	6.9	-87.02	76.7	-1,474.6	1,486.0	1,472.0	14.06	105.716	
2,500.0	2,500.0	2,300.0	2,298.6	7.0	7.0	-87.06	76.1	-1,482.6	1,498.2	1,483.9	14.30	104.783	
2,600.0	2,600.0	2,376.4	2,374.3	7.2	7.2	-87.11	75.4	-1,493.3	1,512.2	1,497.6	14.58	103.697	
2,700.0	2,700.0	2,447.2	2,444.1	7.3	7.4	-87.16	74.6	-1,504.6	1,528.0	1,513.2	14.86	102.854	
2,800.0	2,800.0	2,517.5	2,513.3	7.4	7.6	-87.22	73.7	-1,517.1	1,545.7	1,530.5	15.13	102.128	
2,900.0	2,900.0	2,600.0	2,594.2	7.5	7.8	-87.29	72.6	-1,533.3	1,565.2	1,549.7	15.47	101.151	
3,000.0	3,000.0	2,680.0	2,672.4	7.7	8.0	-87.36	71.4	-1,549.9	1,585.7	1,570.0	15.80	100.377	
3,100.0	3,100.0	2,777.8	2,768.1	7.8	8.3	-87.45	70.0	-1,570.2	1,606.4	1,590.2	16.21	99.090	
3,200.0	3,200.0	2,875.6	2,863.8	7.9	8.6	-87.53	68.6	-1,590.5	1,627.1	1,610.4	16.64	97.765	
3,300.0	3,300.0	2,973.4	2,959.5	8.0	8.9	-87.61	67.2	-1,610.8	1,647.7	1,630.6	17.09	96.417	
3,400.0	3,400.0	3,071.3	3,055.1	8.1	9.3	-87.69	65.7	-1,631.0	1,668.4	1,650.9	17.55	95.058	
3,500.0	3,500.0	3,169.1	3,150.8	8.3	9.6	-87.77	64.3	-1,651.3	1,689.1	1,671.1	18.03	93.699	
3,600.0	3,600.0	3,266.9	3,246.5	8.4	9.9	-87.85	62.9	-1,671.6	1,709.8	1,691.2	18.51	92.347	
3,700.0	3,700.0	3,364.7	3,342.2	8.5	10.3	-87.92	61.5	-1,691.9	1,730.4	1,711.4	19.01	91.010	
3,800.0	3,800.0	3,462.5	3,437.8	8.6	10.7	-87.99	60.1	-1,712.2	1,751.1	1,731.6	19.52	89.692	
3,900.0	3,900.0	3,560.3	3,533.5	8.7	11.0	-88.06	58.6	-1,732.5	1,771.8	1,751.8	20.04	88.398	
4,000.0	4,000.0	3,658.2	3,629.2	8.8	11.4	-88.13	57.2	-1,752.8	1,792.5	1,771.9	20.57	87.131	
4,100.0	4,100.0	3,756.0	3,724.9	8.9	11.8	-88.20	55.8	-1,773.1	1,813.2	1,792.1	21.11	85.894	
4,200.0	4,200.0	3,853.8	3,820.5	9.1	12.2	-88.26	54.4	-1,793.3	1,833.9	1,812.2	21.65	84.688	
4,300.0	4,300.0	3,951.6	3,916.2	9.2	12.6	-88.33	53.0	-1,813.6	1,854.6	1,832.3	22.21	83.515	
4,400.0	4,400.0	4,049.4	4,011.9	9.3	13.0	-88.39	51.5	-1,833.9	1,875.2	1,852.5	22.77	82.374	
4,500.0	4,500.0	4,147.2	4,107.6	9.4	13.4	-88.45	50.1	-1,854.2	1,895.9	1,872.6	23.33	81.267	
4,600.0	4,600.0	4,245.0	4,203.3	9.5	13.8	-88.51	48.7	-1,874.5	1,916.6	1,892.7	23.90	80.193	
4,700.0	4,700.0	4,342.9	4,298.9	9.6	14.2	-88.57	47.3	-1,894.8	1,937.3	1,912.9	24.48	79.151	
4,800.0	4,800.0	4,440.7	4,394.6	9.7	14.6	-88.63	45.9	-1,915.1	1,958.0	1,933.0	25.06	78.143	
4,900.0	4,900.0	4,538.5	4,490.3	9.8	15.1	-88.68	44.5	-1,935.4	1,978.8	1,953.1	25.64	77.166	
5,000.0	5,000.0	4,636.3	4,586.0	9.9	15.5	-88.74	43.0	-1,955.6	1,999.5	1,973.2	26.23	76.220	SF

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Reference Well:	*THUNDERDOME FED COM #706H	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)			
0.0	0.0	0.0	0.0	3.0	3.0	0.00	150.0	0.0	150.0	143.5	6.43	23.327	
100.0	100.0	100.0	100.0	3.2	3.2	0.00	150.0	0.0	150.0	143.1	6.89	21.759	
200.0	200.0	200.0	200.0	3.5	3.5	0.00	150.0	0.0	150.0	142.6	7.33	20.465	
300.0	300.0	300.0	300.0	3.7	3.7	0.00	150.0	0.0	150.0	142.2	7.74	19.373	
400.0	400.0	400.0	400.0	3.9	3.9	0.00	150.0	0.0	150.0	141.8	8.14	18.434	
500.0	500.0	500.0	500.0	4.1	4.1	0.00	150.0	0.0	150.0	141.5	8.51	17.615	
600.0	600.0	600.0	600.0	4.2	4.2	0.00	150.0	0.0	150.0	141.1	8.88	16.893	
700.0	700.0	700.0	700.0	4.4	4.4	0.00	150.0	0.0	150.0	140.7	9.23	16.249	
800.0	800.0	800.0	800.0	4.6	4.6	0.00	150.0	0.0	150.0	140.4	9.57	15.670	
900.0	900.0	900.0	900.0	4.8	4.8	0.00	150.0	0.0	150.0	140.1	9.90	15.146	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	0.00	150.0	0.0	150.0	139.7	10.22	14.667	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	0.00	150.0	0.0	150.0	139.4	10.54	14.229	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	0.00	150.0	0.0	150.0	139.1	10.85	13.825	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	0.00	150.0	0.0	150.0	138.8	11.15	13.451	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	0.00	150.0	0.0	150.0	138.5	11.44	13.104	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	0.00	150.0	0.0	150.0	138.2	11.73	12.780	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	0.00	150.0	0.0	150.0	138.0	12.02	12.477	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	0.00	150.0	0.0	150.0	137.7	12.30	12.193	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	0.00	150.0	0.0	150.0	137.4	12.58	11.926	
1,900.0	1,900.0	1,902.1	1,902.1	6.3	6.3	-0.44	149.2	-1.2	149.3	136.4	12.84	11.622	
2,000.0	2,000.0	2,004.1	2,004.0	6.4	6.4	-1.80	147.1	-4.6	147.2	134.1	13.09	11.242	
2,100.0	2,100.0	2,105.7	2,105.4	6.5	6.6	-4.13	143.5	-10.4	144.0	130.6	13.34	10.790	
2,200.0	2,200.0	2,207.0	2,206.2	6.7	6.8	-7.55	138.5	-18.4	139.8	126.3	13.59	10.293	
2,300.0	2,300.0	2,307.6	2,306.1	6.8	7.0	-12.20	132.1	-28.6	135.3	121.5	13.82	9.794	
2,400.0	2,400.0	2,407.0	2,404.5	6.9	7.2	-17.85	124.8	-40.2	131.2	117.2	13.99	9.378	
2,500.0	2,500.0	2,506.0	2,502.6	7.0	7.4	-23.82	117.5	-51.9	128.5	114.3	14.22	9.039	
2,600.0	2,600.0	2,605.0	2,600.6	7.2	7.6	-29.98	110.2	-63.6	127.3	112.8	14.44	8.811	
2,632.6	2,632.6	2,637.3	2,632.6	7.2	7.7	-32.00	107.9	-67.4	127.2	112.7	14.52	8.760 CC, ES	
2,700.0	2,700.0	2,704.0	2,698.7	7.3	7.9	-36.18	102.9	-75.3	127.5	112.8	14.68	8.687	
2,800.0	2,800.0	2,803.1	2,796.8	7.4	8.2	-42.28	95.6	-87.0	129.3	114.4	14.94	8.655	
2,900.0	2,900.0	2,902.1	2,894.8	7.5	8.4	-48.16	88.3	-98.7	132.5	117.3	15.23	8.701	
3,000.0	3,000.0	3,001.1	2,992.9	7.7	8.7	-53.71	81.0	-110.3	137.1	121.5	15.56	8.810	
3,100.0	3,100.0	3,100.1	3,090.9	7.8	9.0	-58.86	73.7	-122.0	142.9	126.9	15.93	8.969	
3,200.0	3,200.0	3,199.2	3,189.0	7.9	9.4	-63.59	66.4	-133.7	149.7	133.4	16.33	9.166	
3,300.0	3,300.0	3,298.2	3,287.1	8.0	9.7	-67.88	59.1	-145.4	157.5	140.7	16.77	9.390	
3,400.0	3,400.0	3,397.2	3,385.1	8.1	10.0	-71.75	51.8	-157.1	166.1	148.8	17.24	9.635	
3,500.0	3,500.0	3,497.1	3,484.1	8.3	10.4	-75.18	44.6	-168.6	175.1	157.4	17.74	9.874	
3,600.0	3,600.0	3,597.4	3,583.6	8.4	10.7	-78.10	37.8	-179.5	184.1	165.9	18.24	10.097	
3,700.0	3,700.0	3,697.9	3,683.4	8.5	11.1	-80.57	31.5	-189.6	192.9	174.2	18.74	10.295	
3,800.0	3,800.0	3,798.7	3,783.5	8.6	11.4	-82.66	25.6	-199.0	201.3	182.1	19.24	10.464	
3,900.0	3,900.0	3,899.6	3,883.9	8.7	11.8	-84.44	20.2	-207.7	209.3	189.5	19.74	10.603	
4,000.0	4,000.0	4,000.6	3,984.5	8.8	12.1	-85.95	15.3	-215.6	216.7	196.5	20.23	10.713	
4,100.0	4,100.0	4,101.9	4,085.4	8.9	12.4	-87.24	10.8	-222.8	223.5	202.8	20.71	10.793	
4,200.0	4,200.0	4,203.3	4,186.5	9.1	12.8	-88.32	6.7	-229.2	229.7	208.5	21.18	10.844	
4,300.0	4,300.0	4,304.8	4,287.8	9.2	13.1	-89.23	3.2	-234.9	235.3	213.6	21.65	10.868	
4,400.0	4,400.0	4,406.4	4,389.2	9.3	13.4	-89.98	0.1	-239.9	240.1	218.0	22.10	10.866	
4,500.0	4,500.0	4,508.1	4,490.8	9.4	13.7	-90.59	-2.5	-244.0	244.2	221.7	22.53	10.839	
4,600.0	4,600.0	4,609.9	4,592.5	9.5	14.0	-91.08	-4.7	-247.4	247.6	224.7	22.95	10.790	
4,700.0	4,700.0	4,711.7	4,694.3	9.6	14.3	-91.44	-6.3	-250.1	250.2	226.9	23.34	10.720	
4,800.0	4,800.0	4,813.6	4,796.2	9.7	14.6	-91.70	-7.5	-252.0	252.1	228.4	23.71	10.632	
4,900.0	4,900.0	4,915.6	4,898.2	9.8	14.8	-91.85	-8.2	-253.1	253.2	229.2	24.05	10.531	
5,000.0	5,000.0	5,017.4	5,000.0	9.9	15.0	-91.90	-8.4	-253.4	253.6	229.3	24.31	10.432	

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 #706H
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 #706H	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			
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		
5,100.0	5,100.0	5,117.4	5,100.0	10.0	15.1	-91.90	-8.4	-253.4	253.6	229.1	24.47	10.364			
5,200.0	5,200.0	5,217.4	5,200.0	10.1	15.1	-91.90	-8.4	-253.4	253.6	229.0	24.61	10.303			
5,300.0	5,300.0	5,317.4	5,300.0	10.2	15.2	-91.90	-8.4	-253.4	253.6	228.8	24.76	10.241			
5,400.0	5,400.0	5,417.4	5,400.0	10.4	15.2	-91.90	-8.4	-253.4	253.6	228.7	24.91	10.181			
5,500.0	5,500.0	5,517.4	5,500.0	10.5	15.3	-91.90	-8.4	-253.4	253.6	228.5	25.05	10.121			
5,600.0	5,600.0	5,617.4	5,600.0	10.6	15.3	-91.90	-8.4	-253.4	253.6	228.4	25.20	10.062			
5,700.0	5,700.0	5,717.4	5,700.0	10.7	15.4	-91.90	-8.4	-253.4	253.6	228.2	25.35	10.003			
5,800.0	5,800.0	5,817.4	5,800.0	10.8	15.4	-91.90	-8.4	-253.4	253.6	228.1	25.50	9.945			
5,900.0	5,900.0	5,917.4	5,900.0	10.9	15.5	-91.90	-8.4	-253.4	253.6	227.9	25.65	9.888			
6,000.0	6,000.0	6,017.4	6,000.0	11.0	15.5	-91.90	-8.4	-253.4	253.6	227.8	25.79	9.831			
6,100.0	6,100.0	6,117.4	6,100.0	11.1	15.6	-91.90	-8.4	-253.4	253.6	227.6	25.94	9.775			
6,200.0	6,200.0	6,217.4	6,200.0	11.2	15.6	-91.90	-8.4	-253.4	253.6	227.5	26.09	9.719			
6,300.0	6,300.0	6,317.4	6,300.0	11.3	15.7	-91.90	-8.4	-253.4	253.6	227.3	26.24	9.664			
6,400.0	6,400.0	6,417.4	6,400.0	11.4	15.8	-91.90	-8.4	-253.4	253.6	227.2	26.39	9.610			
6,500.0	6,500.0	6,517.4	6,500.0	11.5	15.8	-91.90	-8.4	-253.4	253.6	227.0	26.54	9.556			
6,600.0	6,600.0	6,617.4	6,600.0	11.6	15.9	-91.90	-8.4	-253.4	253.6	226.9	26.69	9.502			
6,700.0	6,700.0	6,717.4	6,700.0	11.7	15.9	-91.90	-8.4	-253.4	253.6	226.7	26.83	9.449			
6,800.0	6,800.0	6,817.4	6,800.0	11.8	16.0	-91.90	-8.4	-253.4	253.6	226.6	26.98	9.397			
6,900.0	6,900.0	6,917.4	6,900.0	11.9	16.0	-91.90	-8.4	-253.4	253.6	226.4	27.13	9.345			
7,000.0	7,000.0	7,017.4	7,000.0	12.0	16.1	-91.90	-8.4	-253.4	253.6	226.3	27.28	9.294			
7,100.0	7,100.0	7,117.4	7,100.0	12.1	16.1	-91.90	-8.4	-253.4	253.6	226.1	27.43	9.243			
7,200.0	7,200.0	7,217.4	7,200.0	12.2	16.2	-91.90	-8.4	-253.4	253.6	226.0	27.58	9.193			
7,300.0	7,300.0	7,317.4	7,300.0	12.3	16.2	-91.90	-8.4	-253.4	253.6	225.8	27.73	9.143			
7,400.0	7,400.0	7,417.4	7,400.0	12.4	16.3	-91.90	-8.4	-253.4	253.6	225.7	27.88	9.094			
7,500.0	7,500.0	7,517.4	7,500.0	12.5	16.3	-91.90	-8.4	-253.4	253.6	225.5	28.03	9.046			
7,600.0	7,600.0	7,617.4	7,600.0	12.6	16.4	-91.90	-8.4	-253.4	253.6	225.4	28.18	8.997			
7,700.0	7,700.0	7,717.4	7,700.0	12.7	16.5	-91.90	-8.4	-253.4	253.6	225.2	28.33	8.949			
7,800.0	7,800.0	7,817.4	7,800.0	12.8	16.5	-91.90	-8.4	-253.4	253.6	225.1	28.48	8.902			
7,900.0	7,900.0	7,917.4	7,900.0	12.9	16.6	-91.90	-8.4	-253.4	253.6	224.9	28.64	8.855			
8,000.0	8,000.0	8,017.4	8,000.0	13.0	16.6	-91.90	-8.4	-253.4	253.6	224.8	28.79	8.809			
8,100.0	8,100.0	8,117.4	8,100.0	13.1	16.7	-91.90	-8.4	-253.4	253.6	224.6	28.94	8.763			
8,200.0	8,200.0	8,217.4	8,200.0	13.2	16.7	-91.90	-8.4	-253.4	253.6	224.5	29.09	8.717			
8,300.0	8,300.0	8,317.4	8,300.0	13.3	16.8	-91.90	-8.4	-253.4	253.6	224.3	29.24	8.672			
8,400.0	8,400.0	8,417.4	8,400.0	13.4	16.9	-91.90	-8.4	-253.4	253.6	224.2	29.39	8.628			
8,500.0	8,500.0	8,517.4	8,500.0	13.5	16.9	-91.90	-8.4	-253.4	253.6	224.0	29.54	8.584			
8,600.0	8,600.0	8,617.4	8,600.0	13.6	17.0	-91.90	-8.4	-253.4	253.6	223.9	29.69	8.540			
8,700.0	8,700.0	8,717.4	8,700.0	13.6	17.0	-91.90	-8.4	-253.4	253.6	223.7	29.84	8.496			
8,800.0	8,800.0	8,817.4	8,800.0	13.7	17.1	-91.90	-8.4	-253.4	253.6	223.6	30.00	8.453			
8,900.0	8,900.0	8,917.4	8,900.0	13.8	17.1	-91.90	-8.4	-253.4	253.6	223.4	30.15	8.411			
9,000.0	9,000.0	9,017.4	9,000.0	13.9	17.2	-91.90	-8.4	-253.4	253.6	223.3	30.30	8.369			
9,100.0	9,100.0	9,117.4	9,100.0	14.0	17.3	-91.90	-8.4	-253.4	253.6	223.1	30.45	8.327			
9,200.0	9,200.0	9,217.4	9,200.0	14.1	17.3	-91.90	-8.4	-253.4	253.6	223.0	30.60	8.286			
9,300.0	9,300.0	9,317.4	9,300.0	14.2	17.4	-91.90	-8.4	-253.4	253.6	222.8	30.76	8.245			
9,400.0	9,400.0	9,417.4	9,400.0	14.3	17.4	-91.90	-8.4	-253.4	253.6	222.7	30.91	8.204			
9,500.0	9,500.0	9,517.4	9,500.0	14.4	17.5	-91.90	-8.4	-253.4	253.6	222.5	31.06	8.164			
9,507.0	9,507.0	9,524.4	9,507.0	14.4	17.5	-91.90	-8.4	-253.4	253.6	222.5	31.07	8.161			
9,600.0	9,600.0	9,617.0	9,599.5	14.5	17.5	-91.80	-8.0	-253.5	253.6	222.4	31.20	8.127			
9,700.0	9,700.0	9,713.4	9,695.1	14.6	17.5	-89.13	3.9	-254.4	254.5	223.3	31.19	8.158			
9,800.0	9,800.0	9,803.4	9,781.4	14.7	17.4	-83.50	29.2	-256.3	258.7	227.6	31.05	8.330			
9,900.0	9,900.0	9,883.9	9,854.3	14.8	17.3	-76.33	63.0	-258.9	270.4	239.3	31.02	8.717			
10,000.0	10,000.0	9,950.0	9,910.2	14.9	17.3	-69.44	98.1	-261.6	293.5	262.1	31.43	9.340			
10,100.0	10,100.0	10,012.9	9,959.2	15.0	17.2	-62.58	137.3	-264.6	329.7	297.6	32.15	10.255			

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 #706H
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 #706H	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			Offset Wellbore Centre		Distance			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)		
10,200.0	10,200.0	10,062.9	9,995.0	15.1	17.2	-57.22	172.2	-267.3	378.3	345.1	33.24	11.383	
10,300.0	10,300.0	10,100.0	10,019.5	15.2	17.1	-53.42	199.9	-269.5	437.4	402.9	34.49	12.682	
10,400.0	10,400.0	10,150.0	10,049.5	15.3	17.1	-48.66	239.8	-272.5	504.6	469.2	35.36	14.270	
10,500.0	10,500.0	10,171.2	10,061.2	15.3	17.1	-46.78	257.4	-273.9	577.8	541.3	36.50	15.829	
10,600.0	10,600.0	10,200.0	10,076.0	15.4	17.1	-44.35	282.1	-275.8	655.9	618.6	37.37	17.552	
10,700.0	10,699.6	10,222.6	10,086.7	15.6	17.1	-37.48	301.9	-277.3	734.4	696.2	38.24	19.206	
10,800.0	10,796.4	10,250.0	10,098.6	15.8	17.1	-30.49	326.5	-279.2	807.6	768.5	39.08	20.667	
10,900.0	10,887.4	10,281.3	10,110.8	16.0	17.1	-25.69	355.2	-281.4	873.8	834.0	39.88	21.911	
11,000.0	10,969.9	10,300.0	10,117.3	16.2	17.1	-22.53	372.7	-282.8	932.3	891.6	40.72	22.898	
11,100.0	11,041.4	10,350.0	10,131.9	16.4	17.1	-20.20	420.4	-286.4	981.4	940.0	41.38	23.716	
11,200.0	11,099.7	10,381.0	10,138.8	16.6	17.2	-18.73	450.5	-288.7	1,021.1	979.0	42.07	24.274	
11,300.0	11,143.0	10,400.0	10,142.2	16.7	17.2	-17.76	469.2	-290.2	1,051.1	1,008.4	42.68	24.626	
11,400.0	11,170.0	10,450.0	10,148.2	16.8	17.2	-17.32	518.6	-294.0	1,070.1	1,026.9	43.22	24.761	
11,500.0	11,179.9	10,494.4	10,150.0	16.8	17.3	-17.30	562.9	-297.4	1,078.9	1,035.2	43.68	24.697	
11,600.0	11,180.0	10,581.9	10,150.0	16.9	17.4	-17.71	650.2	-302.8	1,081.4	1,037.3	44.09	24.526	
11,700.0	11,180.0	10,694.9	10,150.0	16.9	17.7	-17.87	763.2	-305.8	1,082.2	1,037.6	44.60	24.267	
11,800.0	11,180.0	10,795.9	10,150.0	16.9	17.9	-17.87	864.1	-306.2	1,082.2	1,037.1	45.14	23.972	
11,900.0	11,180.0	10,895.9	10,150.0	16.9	18.1	-17.87	964.1	-306.6	1,082.2	1,036.5	45.74	23.661	
12,000.0	11,180.0	10,995.9	10,150.0	17.1	18.4	-17.87	1,064.1	-307.0	1,082.2	1,035.8	46.38	23.335	
12,100.0	11,180.0	11,095.9	10,150.0	17.4	18.7	-17.87	1,164.1	-307.4	1,082.2	1,035.1	47.06	22.998	
12,200.0	11,180.0	11,195.9	10,150.0	17.7	19.0	-17.87	1,264.1	-307.8	1,082.2	1,034.4	47.78	22.650	
12,300.0	11,180.0	11,295.9	10,150.0	18.1	19.4	-17.87	1,364.1	-308.2	1,082.2	1,033.7	48.54	22.296	
12,400.0	11,180.0	11,395.9	10,150.0	18.5	19.7	-17.87	1,464.1	-308.6	1,082.2	1,032.9	49.34	21.935	
12,500.0	11,180.0	11,495.9	10,150.0	18.9	20.1	-17.87	1,564.1	-309.0	1,082.2	1,032.0	50.17	21.571	
12,600.0	11,180.0	11,595.9	10,150.0	19.4	20.6	-17.87	1,664.1	-309.4	1,082.2	1,031.2	51.04	21.205	
12,700.0	11,180.0	11,695.9	10,150.0	19.8	21.0	-17.87	1,764.1	-309.8	1,082.2	1,030.3	51.93	20.839	
12,800.0	11,180.0	11,795.9	10,150.0	20.3	21.4	-17.87	1,864.1	-310.2	1,082.2	1,029.4	52.86	20.473	
12,900.0	11,180.0	11,895.9	10,150.0	20.8	21.9	-17.87	1,964.1	-310.6	1,082.2	1,028.4	53.82	20.109	
13,000.0	11,180.0	11,995.9	10,150.0	21.3	22.4	-17.87	2,064.1	-311.0	1,082.2	1,027.4	54.80	19.748	
13,100.0	11,180.0	12,095.9	10,150.0	21.8	22.9	-17.87	2,164.1	-311.4	1,082.2	1,026.4	55.81	19.391	
13,200.0	11,180.0	12,195.9	10,150.0	22.4	23.4	-17.87	2,264.1	-311.8	1,082.2	1,025.4	56.84	19.039	
13,300.0	11,180.0	12,295.9	10,150.0	22.9	23.9	-17.87	2,364.1	-312.2	1,082.2	1,024.3	57.90	18.691	
13,400.0	11,180.0	12,395.9	10,150.0	23.5	24.5	-17.87	2,464.1	-312.6	1,082.2	1,023.3	58.98	18.350	
13,500.0	11,180.0	12,495.9	10,150.0	24.1	25.0	-17.87	2,564.1	-313.0	1,082.2	1,022.2	60.08	18.014	
13,600.0	11,180.0	12,595.9	10,150.0	24.7	25.6	-17.88	2,664.1	-313.4	1,082.2	1,021.0	61.19	17.685	
13,700.0	11,180.0	12,695.9	10,150.0	25.3	26.2	-17.88	2,764.1	-313.8	1,082.2	1,019.9	62.33	17.363	
13,800.0	11,180.0	12,795.9	10,150.0	25.9	26.8	-17.88	2,864.1	-314.2	1,082.2	1,018.8	63.48	17.047	
13,900.0	11,180.0	12,895.9	10,150.0	26.5	27.4	-17.88	2,964.1	-314.6	1,082.3	1,017.6	64.65	16.739	
14,000.0	11,180.0	12,995.9	10,150.0	27.1	28.0	-17.88	3,064.1	-315.0	1,082.3	1,016.4	65.84	16.437	
14,100.0	11,180.0	13,095.9	10,150.0	27.7	28.6	-17.88	3,164.1	-315.4	1,082.3	1,015.2	67.04	16.143	
14,200.0	11,180.0	13,195.9	10,150.0	28.4	29.2	-17.88	3,264.1	-315.8	1,082.3	1,014.0	68.26	15.856	
14,300.0	11,180.0	13,295.9	10,150.0	29.0	29.8	-17.88	3,364.1	-316.2	1,082.3	1,012.8	69.48	15.576	
14,400.0	11,180.0	13,395.9	10,150.0	29.7	30.5	-17.88	3,464.1	-316.6	1,082.3	1,011.5	70.72	15.303	
14,500.0	11,180.0	13,495.9	10,150.0	30.3	31.1	-17.88	3,564.1	-317.0	1,082.3	1,010.3	71.97	15.037	
14,600.0	11,180.0	13,595.9	10,150.0	31.0	31.8	-17.88	3,664.1	-317.4	1,082.3	1,009.0	73.24	14.778	
14,700.0	11,180.0	13,695.9	10,150.0	31.6	32.4	-17.88	3,764.1	-317.8	1,082.3	1,007.8	74.51	14.525	
14,800.0	11,180.0	13,795.9	10,150.0	32.3	33.1	-17.88	3,864.1	-318.2	1,082.3	1,006.5	75.79	14.279	
14,900.0	11,180.0	13,895.9	10,150.0	33.0	33.7	-17.88	3,964.1	-318.6	1,082.3	1,005.2	77.09	14.039	
15,000.0	11,180.0	13,995.9	10,150.0	33.6	34.4	-17.88	4,064.1	-319.0	1,082.3	1,003.9	78.39	13.806	
15,100.0	11,180.0	14,095.9	10,150.0	34.3	35.1	-17.88	4,164.1	-319.4	1,082.3	1,002.6	79.70	13.579	
15,200.0	11,180.0	14,195.9	10,150.0	35.0	35.7	-17.88	4,264.1	-319.9	1,082.3	1,001.3	81.02	13.358	
15,300.0	11,180.0	14,295.9	10,150.0	35.7	36.4	-17.88	4,364.1	-320.3	1,082.3	999.9	82.35	13.143	

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 #706H
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 #706H	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)			
15,400.0	11,180.0	14,395.9	10,150.0	36.4	37.1	-17.88	4,464.1	-320.7	1,082.3	998.6	83.68	12.933	
15,500.0	11,180.0	14,495.9	10,150.0	37.1	37.8	-17.88	4,564.1	-321.1	1,082.3	997.3	85.02	12.729	
15,600.0	11,180.0	14,595.9	10,150.0	37.8	38.5	-17.88	4,664.1	-321.5	1,082.3	995.9	86.37	12.530	
15,700.0	11,180.0	14,695.9	10,150.0	38.5	39.1	-17.88	4,764.1	-321.9	1,082.3	994.6	87.73	12.337	
15,800.0	11,180.0	14,795.9	10,150.0	39.2	39.8	-17.88	4,864.1	-322.3	1,082.3	993.2	89.09	12.148	
15,900.0	11,180.0	14,895.9	10,150.0	39.9	40.5	-17.88	4,964.1	-322.7	1,082.3	991.8	90.46	11.965	
16,000.0	11,180.0	14,995.9	10,150.0	40.6	41.2	-17.89	5,064.1	-323.1	1,082.3	990.5	91.83	11.786	
16,100.0	11,180.0	15,095.9	10,150.0	41.3	41.9	-17.89	5,164.1	-323.5	1,082.3	989.1	93.21	11.612	
16,200.0	11,180.0	15,195.9	10,150.0	42.0	42.6	-17.89	5,264.1	-323.9	1,082.3	987.7	94.59	11.442	
16,300.0	11,180.0	15,295.9	10,150.0	42.7	43.3	-17.89	5,364.1	-324.3	1,082.3	986.3	95.98	11.276	
16,400.0	11,180.0	15,395.9	10,150.0	43.4	44.0	-17.89	5,464.1	-324.7	1,082.3	984.9	97.37	11.115	
16,500.0	11,180.0	15,495.9	10,150.0	44.1	44.8	-17.89	5,564.0	-325.1	1,082.3	983.5	98.77	10.958	
16,600.0	11,180.0	15,595.9	10,150.0	44.9	45.5	-17.89	5,664.0	-325.5	1,082.3	982.1	100.17	10.805	
16,700.0	11,180.0	15,695.9	10,150.0	45.6	46.2	-17.89	5,764.0	-325.9	1,082.3	980.7	101.58	10.655	
16,800.0	11,180.0	15,795.9	10,150.0	46.3	46.9	-17.89	5,864.0	-326.3	1,082.3	979.3	102.99	10.509	
16,900.0	11,180.0	15,895.9	10,150.0	47.0	47.6	-17.89	5,964.0	-326.7	1,082.3	977.9	104.40	10.367	
17,000.0	11,180.0	15,995.9	10,150.0	47.7	48.3	-17.89	6,064.0	-327.1	1,082.3	976.5	105.82	10.228	
17,100.0	11,180.0	16,095.9	10,150.0	48.5	49.0	-17.89	6,164.0	-327.5	1,082.3	975.1	107.24	10.093	
17,200.0	11,180.0	16,195.9	10,150.0	49.2	49.8	-17.89	6,264.0	-327.9	1,082.3	973.7	108.66	9.960	
17,300.0	11,180.0	16,295.9	10,150.0	49.9	50.5	-17.89	6,364.0	-328.3	1,082.3	972.2	110.09	9.831	
17,400.0	11,180.0	16,395.9	10,150.0	50.7	51.2	-17.89	6,464.0	-328.7	1,082.3	970.8	111.52	9.705	
17,500.0	11,180.0	16,495.9	10,150.0	51.4	51.9	-17.89	6,564.0	-329.1	1,082.3	969.4	112.96	9.582	
17,600.0	11,180.0	16,595.9	10,150.0	52.1	52.7	-17.89	6,664.0	-329.5	1,082.3	968.0	114.39	9.462	
17,700.0	11,180.0	16,695.9	10,150.0	52.8	53.4	-17.89	6,764.0	-329.9	1,082.3	966.5	115.83	9.344	
17,800.0	11,180.0	16,795.9	10,150.0	53.6	54.1	-17.89	6,864.0	-330.3	1,082.4	965.1	117.27	9.229	
17,900.0	11,180.0	16,895.9	10,150.0	54.3	54.8	-17.89	6,964.0	-330.7	1,082.4	963.6	118.72	9.117	
18,000.0	11,180.0	16,995.9	10,150.0	55.0	55.6	-17.89	7,064.0	-331.1	1,082.4	962.2	120.17	9.007	
18,100.0	11,180.0	17,095.9	10,150.0	55.8	56.3	-17.89	7,164.0	-331.5	1,082.4	960.7	121.61	8.900	
18,200.0	11,180.0	17,195.9	10,150.0	56.5	57.0	-17.89	7,264.0	-331.9	1,082.4	959.3	123.07	8.795	
18,300.0	11,180.0	17,295.9	10,150.0	57.3	57.8	-17.89	7,364.0	-332.3	1,082.4	957.8	124.52	8.692	
18,400.0	11,180.0	17,395.9	10,150.0	58.0	58.5	-17.90	7,464.0	-332.7	1,082.4	956.4	125.98	8.592	
18,500.0	11,180.0	17,495.9	10,150.0	58.7	59.2	-17.90	7,564.0	-333.1	1,082.4	954.9	127.43	8.494	
18,600.0	11,180.0	17,595.9	10,150.0	59.5	60.0	-17.90	7,664.0	-333.5	1,082.4	953.5	128.90	8.397	
18,700.0	11,180.0	17,695.9	10,150.0	60.2	60.7	-17.90	7,764.0	-333.9	1,082.4	952.0	130.36	8.303	
18,800.0	11,180.0	17,795.9	10,150.0	60.9	61.4	-17.90	7,864.0	-334.3	1,082.4	950.6	131.82	8.211	
18,900.0	11,180.0	17,895.9	10,150.0	61.7	62.2	-17.90	7,964.0	-334.7	1,082.4	949.1	133.29	8.121	
19,000.0	11,180.0	17,995.9	10,150.0	62.4	62.9	-17.90	8,064.0	-335.1	1,082.4	947.6	134.75	8.032	
19,100.0	11,180.0	18,095.9	10,150.0	63.2	63.7	-17.90	8,164.0	-335.5	1,082.4	946.2	136.22	7.946	
19,200.0	11,180.0	18,195.9	10,150.0	63.9	64.4	-17.90	8,264.0	-335.9	1,082.4	944.7	137.69	7.861	
19,300.0	11,180.0	18,295.9	10,150.0	64.7	65.1	-17.90	8,364.0	-336.3	1,082.4	943.2	139.17	7.778	
19,400.0	11,180.0	18,395.9	10,150.0	65.4	65.9	-17.90	8,464.0	-336.7	1,082.4	941.8	140.64	7.696	
19,500.0	11,180.0	18,495.9	10,150.0	66.1	66.6	-17.90	8,564.0	-337.1	1,082.4	940.3	142.12	7.616	
19,600.0	11,180.0	18,595.9	10,150.0	66.9	67.4	-17.90	8,664.0	-337.5	1,082.4	938.8	143.59	7.538	
19,700.0	11,180.0	18,695.9	10,150.0	67.6	68.1	-17.90	8,764.0	-337.9	1,082.4	937.3	145.07	7.461	
19,800.0	11,180.0	18,795.9	10,150.0	68.4	68.8	-17.90	8,864.0	-338.3	1,082.4	935.9	146.55	7.386	
19,900.0	11,180.0	18,895.9	10,150.0	69.1	69.6	-17.90	8,964.0	-338.7	1,082.4	934.4	148.03	7.312	
20,000.0	11,180.0	18,995.9	10,150.0	69.9	70.3	-17.90	9,064.0	-339.1	1,082.4	932.9	149.51	7.239	
20,100.0	11,180.0	19,095.9	10,150.0	70.6	71.1	-17.90	9,164.0	-339.5	1,082.4	931.4	151.00	7.168	
20,200.0	11,180.0	19,195.9	10,150.0	71.4	71.8	-17.90	9,264.0	-339.9	1,082.4	929.9	152.48	7.099	
20,300.0	11,180.0	19,295.9	10,150.0	72.1	72.6	-17.90	9,364.0	-340.3	1,082.4	928.4	153.97	7.030	
20,400.0	11,180.0	19,395.9	10,150.0	72.9	73.3	-17.90	9,464.0	-340.7	1,082.4	927.0	155.46	6.963	
20,500.0	11,180.0	19,495.9	10,150.0	73.6	74.1	-17.90	9,564.0	-341.2	1,082.4	925.5	156.94	6.897	

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 #706H
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 #706H	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)			
20,600.0	11,180.0	19,595.9	10,150.0	74.4	74.8	-17.90	9,664.0	-341.6	1,082.4	924.0	158.43	6.832	
20,700.0	11,180.0	19,695.9	10,150.0	75.1	75.5	-17.91	9,764.0	-342.0	1,082.4	922.5	159.92	6.768	
20,800.0	11,180.0	19,795.9	10,150.0	75.9	76.3	-17.91	9,864.0	-342.4	1,082.4	921.0	161.41	6.706	
20,900.0	11,180.0	19,895.9	10,150.0	76.6	77.0	-17.91	9,964.0	-342.8	1,082.4	919.5	162.91	6.644	
21,000.0	11,180.0	19,995.9	10,150.0	77.4	77.8	-17.91	10,064.0	-343.2	1,082.4	918.0	164.40	6.584	
21,100.0	11,180.0	20,095.9	10,150.0	78.1	78.5	-17.91	10,164.0	-343.6	1,082.4	916.5	165.89	6.525	
21,200.0	11,180.0	20,195.9	10,150.0	78.9	79.3	-17.91	10,264.0	-344.0	1,082.4	915.0	167.39	6.467	
21,300.0	11,180.0	20,295.9	10,150.0	79.6	80.0	-17.91	10,364.0	-344.4	1,082.4	913.6	168.88	6.409	
21,400.0	11,180.0	20,395.9	10,150.0	80.4	80.8	-17.91	10,464.0	-344.8	1,082.4	912.1	170.38	6.353	
21,500.0	11,180.0	20,495.9	10,150.0	81.1	81.5	-17.91	10,564.0	-345.2	1,082.4	910.6	171.88	6.298	
21,600.0	11,180.0	20,595.9	10,150.0	81.9	82.3	-17.91	10,664.0	-345.6	1,082.4	909.1	173.38	6.243	
21,700.0	11,180.0	20,695.9	10,150.0	82.6	83.0	-17.91	10,764.0	-346.0	1,082.5	907.6	174.88	6.190	
21,800.0	11,180.0	20,795.9	10,150.0	83.4	83.8	-17.91	10,864.0	-346.4	1,082.5	906.1	176.38	6.137	
21,900.0	11,180.0	20,895.9	10,150.0	84.1	84.5	-17.91	10,964.0	-346.8	1,082.5	904.6	177.88	6.085	
22,000.0	11,180.0	20,995.9	10,150.0	84.9	85.3	-17.91	11,064.0	-347.2	1,082.5	903.1	179.38	6.034	
22,100.0	11,180.0	21,095.9	10,150.0	85.6	86.0	-17.91	11,164.0	-347.6	1,082.5	901.6	180.88	5.984	
22,200.0	11,180.0	21,195.9	10,150.0	86.4	86.8	-17.91	11,264.0	-348.0	1,082.5	900.1	182.38	5.935	
22,300.0	11,180.0	21,295.9	10,150.0	87.1	87.5	-17.91	11,364.0	-348.4	1,082.5	898.6	183.89	5.887	
22,400.0	11,180.0	21,395.9	10,150.0	87.9	88.3	-17.91	11,464.0	-348.8	1,082.5	897.1	185.39	5.839	
22,500.0	11,180.0	21,495.9	10,150.0	88.6	89.0	-17.91	11,564.0	-349.2	1,082.5	895.6	186.90	5.792	
22,600.0	11,180.0	21,595.9	10,150.0	89.4	89.8	-17.91	11,664.0	-349.6	1,082.5	894.1	188.40	5.746	
22,700.0	11,180.0	21,695.9	10,150.0	90.2	90.6	-17.91	11,764.0	-350.0	1,082.5	892.6	189.91	5.700	
22,800.0	11,180.0	21,795.9	10,150.0	90.9	91.3	-17.91	11,864.0	-350.4	1,082.5	891.1	191.41	5.655	
22,900.0	11,180.0	21,895.9	10,150.0	91.7	92.1	-17.91	11,964.0	-350.8	1,082.5	889.6	192.92	5.611	
23,000.0	11,180.0	21,995.9	10,150.0	92.4	92.8	-17.91	12,064.0	-351.2	1,082.5	888.1	194.43	5.567	
23,100.0	11,180.0	22,095.9	10,150.0	93.2	93.6	-17.92	12,164.0	-351.6	1,082.5	886.5	195.94	5.525	
23,200.0	11,180.0	22,195.9	10,150.0	93.9	94.3	-17.92	12,264.0	-352.0	1,082.5	885.0	197.45	5.482	
23,300.0	11,180.0	22,295.9	10,150.0	94.7	95.1	-17.92	12,364.0	-352.4	1,082.5	883.5	198.96	5.441	
23,400.0	11,180.0	22,395.9	10,150.0	95.4	95.8	-17.92	12,464.0	-352.8	1,082.5	882.0	200.47	5.400	
23,500.0	11,180.0	22,495.9	10,150.0	96.2	96.6	-17.92	12,564.0	-353.2	1,082.5	880.5	201.98	5.359	
23,600.0	11,180.0	22,595.9	10,150.0	96.9	97.3	-17.92	12,664.0	-353.6	1,082.5	879.0	203.49	5.320	
23,700.0	11,180.0	22,695.9	10,150.0	97.7	98.1	-17.92	12,764.0	-354.0	1,082.5	877.5	205.00	5.280	
23,800.0	11,180.0	22,795.9	10,150.0	98.5	98.8	-17.92	12,864.0	-354.4	1,082.5	876.0	206.51	5.242	
23,900.0	11,180.0	22,895.9	10,150.0	99.2	99.6	-17.92	12,964.0	-354.8	1,082.5	874.5	208.02	5.204	
24,000.0	11,180.0	22,995.9	10,150.0	100.0	100.4	-17.92	13,064.0	-355.2	1,082.5	873.0	209.54	5.166	
24,100.0	11,180.0	23,095.9	10,150.0	100.7	101.1	-17.92	13,164.0	-355.6	1,082.5	871.5	211.05	5.129	
24,200.0	11,180.0	23,195.9	10,150.0	101.5	101.9	-17.92	13,264.0	-356.0	1,082.5	869.9	212.56	5.093	
24,300.0	11,180.0	23,295.9	10,150.0	102.2	102.6	-17.92	13,364.0	-356.4	1,082.5	868.4	214.08	5.057	
24,400.0	11,180.0	23,395.9	10,150.0	103.0	103.4	-17.92	13,464.0	-356.8	1,082.5	866.9	215.59	5.021	
24,469.4	11,180.0	23,465.2	10,150.0	103.4	103.8	-17.92	13,533.4	-357.1	1,082.5	866.4	216.16	5.008 SF	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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		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	38.67	150.0	120.0	192.1	185.6	6.43	29.876	
100.0	100.0	100.0	100.0	3.2	3.2	38.67	150.0	120.0	192.1	185.2	6.89	27.867	
200.0	200.0	200.0	200.0	3.5	3.5	38.67	150.0	120.0	192.1	184.7	7.33	26.210	
300.0	300.0	300.0	300.0	3.7	3.7	38.67	150.0	120.0	192.1	184.3	7.74	24.811	
400.0	400.0	400.0	400.0	3.9	3.9	38.67	150.0	120.0	192.1	183.9	8.14	23.609	
500.0	500.0	500.0	500.0	4.1	4.1	38.67	150.0	120.0	192.1	183.6	8.51	22.561	
600.0	600.0	600.0	600.0	4.2	4.2	38.67	150.0	120.0	192.1	183.2	8.88	21.635	
700.0	700.0	700.0	700.0	4.4	4.4	38.67	150.0	120.0	192.1	182.8	9.23	20.811	
800.0	800.0	800.0	800.0	4.6	4.6	38.67	150.0	120.0	192.1	182.5	9.57	20.069	
900.0	900.0	900.0	900.0	4.8	4.8	38.67	150.0	120.0	192.1	182.2	9.90	19.397	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	38.67	150.0	120.0	192.1	181.8	10.22	18.785	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	38.67	150.0	120.0	192.1	181.5	10.54	18.224	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	38.67	150.0	120.0	192.1	181.2	10.85	17.706	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	38.67	150.0	120.0	192.1	180.9	11.15	17.228	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	38.67	150.0	120.0	192.1	180.6	11.44	16.783	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	38.67	150.0	120.0	192.1	180.3	11.73	16.368	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	38.67	150.0	120.0	192.1	180.1	12.02	15.980	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	38.67	150.0	120.0	192.1	179.8	12.30	15.616	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	38.67	150.0	120.0	192.1	179.5	12.58	15.273	CC, ES
1,900.0	1,900.0	1,898.4	1,898.4	6.3	6.3	39.02	149.5	121.2	192.5	179.7	12.84	14.996	
2,000.0	2,000.0	1,996.7	1,996.6	6.4	6.4	40.08	148.2	124.8	193.8	180.7	13.08	14.813	
2,100.0	2,100.0	2,094.7	2,094.4	6.5	6.6	41.81	146.1	130.7	196.1	182.8	13.33	14.711	
2,200.0	2,200.0	2,192.3	2,191.6	6.7	6.8	44.15	143.1	138.9	199.6	186.0	13.58	14.699	SF
2,300.0	2,300.0	2,289.4	2,288.0	6.8	7.0	47.02	139.3	149.4	204.6	190.8	13.84	14.787	
2,400.0	2,400.0	2,384.7	2,382.4	6.9	7.1	50.20	134.9	162.0	211.5	197.5	14.05	15.059	
2,500.0	2,500.0	2,478.3	2,474.9	7.0	7.4	53.35	131.3	176.5	221.4	207.1	14.31	15.467	
2,600.0	2,600.0	2,571.3	2,566.4	7.2	7.6	56.35	128.5	193.0	234.2	219.6	14.61	16.036	
2,700.0	2,700.0	2,663.6	2,656.7	7.3	7.9	59.12	126.4	211.4	250.1	235.2	14.93	16.756	
2,800.0	2,800.0	2,754.9	2,745.8	7.4	8.1	61.62	125.1	231.7	268.8	253.6	15.27	17.609	
2,900.0	2,900.0	2,845.4	2,833.5	7.5	8.4	63.84	124.6	253.7	290.4	274.8	15.61	18.608	
3,000.0	3,000.0	2,940.6	2,925.4	7.7	8.7	65.88	124.6	278.3	313.9	297.9	16.01	19.610	
3,100.0	3,100.0	3,037.2	3,018.7	7.8	9.0	67.66	124.6	303.3	337.8	321.3	16.48	20.502	
3,200.0	3,200.0	3,133.7	3,112.0	7.9	9.4	69.22	124.6	328.3	362.0	345.0	16.97	21.336	
3,300.0	3,300.0	3,230.3	3,205.3	8.0	9.7	70.57	124.6	353.3	386.4	368.9	17.47	22.113	
3,400.0	3,400.0	3,326.9	3,298.6	8.1	10.1	71.77	124.6	378.3	411.0	393.0	18.00	22.838	
3,500.0	3,500.0	3,423.5	3,391.9	8.3	10.4	72.83	124.6	403.3	435.7	417.2	18.53	23.512	
3,600.0	3,600.0	3,520.1	3,485.2	8.4	10.8	73.78	124.6	428.3	460.6	441.5	19.08	24.140	
3,700.0	3,700.0	3,616.7	3,578.5	8.5	11.2	74.63	124.6	453.3	485.6	465.9	19.64	24.723	
3,800.0	3,800.0	3,713.3	3,671.8	8.6	11.6	75.40	124.6	478.3	510.6	490.4	20.21	25.267	
3,900.0	3,900.0	3,809.9	3,765.1	8.7	12.0	76.09	124.6	503.3	535.8	515.0	20.79	25.773	
4,000.0	4,000.0	3,906.5	3,858.4	8.8	12.4	76.73	124.6	528.3	561.0	539.6	21.37	26.245	
4,100.0	4,100.0	4,003.1	3,951.7	8.9	12.8	77.31	124.6	553.3	586.2	564.3	21.97	26.685	
4,200.0	4,200.0	4,099.7	4,045.0	9.1	13.2	77.84	124.6	578.3	611.5	589.0	22.57	27.097	
4,300.0	4,300.0	4,196.3	4,138.3	9.2	13.7	78.33	124.6	603.3	636.9	613.7	23.18	27.481	
4,400.0	4,400.0	4,292.9	4,231.6	9.3	14.1	78.78	124.6	628.3	662.3	638.5	23.79	27.841	
4,500.0	4,500.0	4,389.4	4,324.9	9.4	14.5	79.20	124.6	653.3	687.7	663.3	24.41	28.178	
4,600.0	4,600.0	4,486.0	4,418.2	9.5	15.0	79.59	124.6	678.3	713.2	688.2	25.03	28.494	
4,700.0	4,700.0	4,582.6	4,511.6	9.6	15.4	79.95	124.6	703.3	738.7	713.0	25.66	28.791	
4,800.0	4,800.0	4,679.2	4,604.9	9.7	15.8	80.29	124.6	728.3	764.2	737.9	26.29	29.070	
4,900.0	4,900.0	4,775.8	4,698.2	9.8	16.3	80.61	124.6	753.3	789.8	762.8	26.92	29.333	
5,000.0	5,000.0	4,872.4	4,791.5	9.9	16.7	80.90	124.6	778.3	815.3	787.8	27.56	29.580	
5,100.0	5,100.0	4,969.0	4,884.8	10.0	17.1	81.18	124.6	803.3	840.9	812.7	28.21	29.814	

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 #706H
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 #706H	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		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	5,200.0	5,065.6	4,978.1	10.1	17.6	81.44	124.6	828.3	866.5	837.7	28.85	30.034	
5,300.0	5,300.0	5,162.2	5,071.4	10.2	18.0	81.69	124.6	853.3	892.1	862.6	29.50	30.243	
5,400.0	5,400.0	5,258.8	5,164.7	10.4	18.5	81.92	124.6	878.3	917.8	887.6	30.15	30.440	
5,500.0	5,500.0	5,355.4	5,258.0	10.5	18.9	82.15	124.6	903.3	943.4	912.6	30.80	30.627	
5,600.0	5,600.0	5,452.0	5,351.3	10.6	19.4	82.35	124.6	928.3	969.1	937.6	31.46	30.805	
5,700.0	5,700.0	5,548.6	5,444.6	10.7	19.9	82.55	124.6	953.3	994.8	962.6	32.12	30.973	
5,800.0	5,800.0	5,645.2	5,537.9	10.8	20.3	82.74	124.6	978.3	1,020.4	987.7	32.78	31.133	
5,900.0	5,900.0	5,741.7	5,631.2	10.9	20.8	82.92	124.6	1,003.3	1,046.1	1,012.7	33.44	31.285	
6,000.0	6,000.0	5,838.3	5,724.5	11.0	21.2	83.09	124.6	1,028.3	1,071.8	1,037.7	34.10	31.429	
6,100.0	6,100.0	5,934.9	5,817.8	11.1	21.7	83.25	124.6	1,053.3	1,097.6	1,062.8	34.77	31.567	
6,200.0	6,200.0	6,031.5	5,911.1	11.2	22.1	83.41	124.6	1,078.3	1,123.3	1,087.8	35.44	31.699	
6,300.0	6,300.0	6,128.1	6,004.4	11.3	22.6	83.56	124.6	1,103.3	1,149.0	1,112.9	36.10	31.824	
6,400.0	6,400.0	6,224.7	6,097.7	11.4	23.1	83.70	124.6	1,128.3	1,174.7	1,138.0	36.78	31.944	
6,500.0	6,500.0	6,321.3	6,191.0	11.5	23.5	83.83	124.6	1,153.3	1,200.5	1,163.0	37.45	32.058	
6,600.0	6,600.0	6,417.9	6,284.3	11.6	24.0	83.96	124.6	1,178.3	1,226.2	1,188.1	38.12	32.168	
6,700.0	6,700.0	6,514.5	6,377.6	11.7	24.5	84.09	124.6	1,203.3	1,252.0	1,213.2	38.79	32.272	
6,800.0	6,800.0	6,611.1	6,470.9	11.8	24.9	84.21	124.6	1,228.3	1,277.7	1,238.3	39.47	32.372	
6,900.0	6,900.0	6,707.7	6,564.2	11.9	25.4	84.32	124.6	1,253.3	1,303.5	1,263.3	40.15	32.469	
7,000.0	7,000.0	6,804.3	6,657.5	12.0	25.9	84.43	124.6	1,278.3	1,329.2	1,288.4	40.82	32.561	
7,100.0	7,100.0	6,900.9	6,750.8	12.1	26.3	84.54	124.6	1,303.3	1,355.0	1,313.5	41.50	32.649	
7,200.0	7,200.0	6,997.4	6,844.1	12.2	26.8	84.64	124.6	1,328.3	1,380.8	1,338.6	42.18	32.734	
7,300.0	7,300.0	7,094.0	6,937.4	12.3	27.3	84.74	124.6	1,353.3	1,406.6	1,363.7	42.86	32.816	
7,400.0	7,400.0	7,190.6	7,030.7	12.4	27.7	84.83	124.6	1,378.3	1,432.4	1,388.8	43.54	32.894	
7,500.0	7,500.0	7,287.2	7,124.0	12.5	28.2	84.93	124.6	1,403.3	1,458.1	1,413.9	44.23	32.969	
7,600.0	7,600.0	7,383.8	7,217.3	12.6	28.7	85.01	124.6	1,428.3	1,483.9	1,439.0	44.91	33.042	
7,700.0	7,700.0	7,480.4	7,310.6	12.7	29.1	85.10	124.6	1,453.3	1,509.7	1,464.1	45.59	33.112	
7,800.0	7,800.0	7,577.0	7,403.9	12.8	29.6	85.18	124.6	1,478.3	1,535.5	1,489.2	46.28	33.179	
7,900.0	7,900.0	7,673.6	7,497.2	12.9	30.1	85.26	124.6	1,503.3	1,561.3	1,514.3	46.97	33.244	
8,000.0	8,000.0	7,770.2	7,590.5	13.0	30.5	85.34	124.6	1,528.3	1,587.1	1,539.5	47.65	33.307	
8,100.0	8,100.0	7,866.8	7,683.8	13.1	31.0	85.41	124.6	1,553.3	1,612.9	1,564.6	48.34	33.367	
8,200.0	8,200.0	7,963.4	7,777.1	13.2	31.5	85.49	124.6	1,578.3	1,638.7	1,589.7	49.03	33.425	
8,300.0	8,300.0	8,060.0	7,870.4	13.3	32.0	85.56	124.6	1,603.3	1,664.5	1,614.8	49.72	33.481	
8,400.0	8,400.0	8,156.6	7,963.7	13.4	32.4	85.62	124.6	1,628.3	1,690.3	1,639.9	50.40	33.536	
8,500.0	8,500.0	8,253.2	8,057.0	13.5	32.9	85.69	124.6	1,653.3	1,716.2	1,665.1	51.09	33.588	
8,600.0	8,600.0	8,349.7	8,150.3	13.6	33.4	85.75	124.6	1,678.3	1,742.0	1,690.2	51.78	33.639	
8,700.0	8,700.0	8,446.3	8,243.6	13.6	33.9	85.82	124.6	1,703.3	1,767.8	1,715.3	52.47	33.688	
8,800.0	8,800.0	8,542.9	8,336.9	13.7	34.3	85.88	124.6	1,728.3	1,793.6	1,740.4	53.17	33.736	
8,900.0	8,900.0	8,639.5	8,430.2	13.8	34.8	85.93	124.6	1,753.3	1,819.4	1,765.6	53.86	33.782	
9,000.0	9,000.0	8,736.1	8,524.5	13.9	35.4	86.00	124.6	1,783.9	1,845.1	1,790.4	54.70	33.733	
9,100.0	9,100.0	8,832.7	8,618.8	14.0	36.0	86.06	124.6	1,814.5	1,871.7	1,816.0	55.54	33.684	
9,200.0	9,200.0	8,929.3	8,713.1	14.1	36.6	86.12	124.6	1,845.1	1,897.3	1,841.6	56.38	33.635	
9,300.0	9,300.0	9,025.9	8,807.4	14.2	37.2	86.17	124.6	1,875.7	1,922.9	1,871.2	57.22	33.586	
9,400.0	9,400.0	9,122.5	8,901.7	14.3	37.8	86.22	124.6	1,906.3	1,948.5	1,896.8	58.06	33.537	
9,500.0	9,500.0	9,219.1	9,000.0	14.4	38.4	86.25	124.6	1,936.9	1,974.1	1,922.4	58.90	33.488	
9,506.7	9,506.7	9,229.9	9,006.7	14.4	39.2	86.25	124.6	1,902.2	1,906.2	1,847.5	58.70	32.475	
9,600.0	9,600.0	9,316.5	9,095.0	14.5	39.8	86.25	124.6	1,932.5	1,936.4	1,877.7	58.88	32.377	
9,700.0	9,700.0	9,413.1	9,189.3	14.6	40.4	86.19	126.7	1,903.1	1,908.7	1,849.5	59.23	32.225	
9,800.0	9,800.0	9,509.7	9,283.5	14.7	41.0	86.09	130.3	1,904.8	1,914.4	1,854.8	59.64	32.099	
9,900.0	9,900.0	9,606.3	9,377.7	14.8	41.6	85.91	136.2	1,907.6	1,923.4	1,863.4	60.01	32.053	
10,000.0	10,000.0	9,702.9	9,471.9	14.9	42.2	85.72	143.1	1,910.8	1,935.8	1,875.4	60.34	32.080	
10,100.0	10,100.0	9,799.5	9,566.1	15.0	42.8	85.31	157.4	1,917.4	1,951.6	1,890.9	60.67	32.169	
10,200.0	10,200.0	9,896.1	9,660.3	15.1	43.4	85.11	164.2	1,920.6	1,970.6	1,909.6	60.92	32.348	

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 #706H
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 #706H	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		Offset Wellbore Centre		Distance		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
10,300.0	10,300.0	10,050.0	9,818.2	15.2	39.7	84.79	175.5	1,925.9	1,993.0	1,931.9	61.15	32.595	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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		Distance		Rule Assigned:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.83	-71.7	-1,450.0	1,451.8	1,445.4	6.43	225.828	
100.0	100.0	100.0	100.0	3.2	3.2	-92.83	-71.7	-1,450.0	1,451.8	1,444.9	6.89	210.642	
200.0	200.0	200.0	200.0	3.5	3.5	-92.83	-71.7	-1,450.0	1,451.8	1,444.5	7.33	198.115	
300.0	300.0	300.0	300.0	3.7	3.7	-92.83	-71.7	-1,450.0	1,451.8	1,444.1	7.74	187.542	
400.0	400.0	400.0	400.0	3.9	3.9	-92.83	-71.7	-1,450.0	1,451.8	1,443.7	8.14	178.455	
500.0	500.0	500.0	500.0	4.1	4.1	-92.83	-71.7	-1,450.0	1,451.8	1,443.3	8.51	170.531	
600.0	600.0	600.0	600.0	4.2	4.2	-92.83	-71.7	-1,450.0	1,451.8	1,442.9	8.88	163.538	
700.0	700.0	700.0	700.0	4.4	4.4	-92.83	-71.7	-1,450.0	1,451.8	1,442.6	9.23	157.303	
800.0	800.0	800.0	800.0	4.6	4.6	-92.83	-71.7	-1,450.0	1,451.8	1,442.3	9.57	151.698	
900.0	900.0	900.0	900.0	4.8	4.8	-92.83	-71.7	-1,450.0	1,451.8	1,441.9	9.90	146.621	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.83	-71.7	-1,450.0	1,451.8	1,441.6	10.22	141.992	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.83	-71.7	-1,450.0	1,451.8	1,441.3	10.54	137.748	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.83	-71.7	-1,450.0	1,451.8	1,441.0	10.85	133.839	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.83	-71.7	-1,450.0	1,451.8	1,440.7	11.15	130.220	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.83	-71.7	-1,450.0	1,451.8	1,440.4	11.44	126.858	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.83	-71.7	-1,450.0	1,451.8	1,440.1	11.73	123.723 CC, ES	
1,600.0	1,600.0	1,575.6	1,575.6	5.8	5.8	-92.85	-72.2	-1,450.7	1,452.7	1,440.7	11.99	121.136	
1,700.0	1,700.0	1,651.2	1,651.2	6.0	5.9	-92.90	-73.5	-1,452.5	1,455.2	1,442.9	12.24	118.872	
1,800.0	1,800.0	1,726.7	1,726.6	6.1	6.1	-92.97	-75.6	-1,455.6	1,459.4	1,446.9	12.49	116.864	
1,900.0	1,900.0	1,800.0	1,799.7	6.3	6.2	-93.08	-78.5	-1,459.7	1,465.2	1,452.5	12.73	115.092	
2,000.0	2,000.0	1,877.1	1,876.4	6.4	6.4	-93.22	-82.4	-1,465.3	1,472.8	1,459.8	12.99	113.387	
2,100.0	2,100.0	1,969.0	1,967.9	6.5	6.5	-93.41	-87.9	-1,473.1	1,481.6	1,468.3	13.27	111.624	
2,200.0	2,200.0	2,068.4	2,066.8	6.7	6.7	-93.62	-93.8	-1,481.6	1,490.5	1,477.0	13.58	109.743	
2,300.0	2,300.0	2,167.9	2,165.7	6.8	7.0	-93.83	-99.8	-1,490.1	1,499.5	1,485.6	13.90	107.851	
2,400.0	2,400.0	2,267.3	2,264.6	6.9	7.2	-94.04	-105.8	-1,498.6	1,508.5	1,494.2	14.24	105.957	
2,500.0	2,500.0	2,366.8	2,363.5	7.0	7.4	-94.24	-111.7	-1,507.2	1,517.4	1,502.9	14.58	104.071	
2,600.0	2,600.0	2,466.2	2,462.4	7.2	7.7	-94.44	-117.7	-1,515.7	1,526.5	1,511.5	14.94	102.201	
2,700.0	2,700.0	2,565.7	2,561.3	7.3	8.0	-94.64	-123.7	-1,524.2	1,535.5	1,520.2	15.31	100.324	
2,800.0	2,800.0	2,650.3	2,645.5	7.4	8.2	-94.80	-128.6	-1,531.7	1,544.8	1,529.2	15.64	98.783	
2,900.0	2,900.0	2,725.4	2,720.0	7.5	8.4	-94.91	-132.2	-1,539.5	1,555.6	1,539.6	15.95	97.531	
3,000.0	3,000.0	2,800.0	2,794.0	7.7	8.7	-94.98	-135.0	-1,548.5	1,567.9	1,551.7	16.27	96.351	
3,100.0	3,100.0	2,874.7	2,868.0	7.8	8.9	-95.03	-137.1	-1,558.7	1,581.8	1,565.2	16.61	95.214	
3,200.0	3,200.0	2,948.9	2,941.3	7.9	9.1	-95.04	-138.4	-1,570.1	1,597.3	1,580.3	16.96	94.174	
3,300.0	3,300.0	3,022.7	3,014.1	8.0	9.4	-95.02	-138.9	-1,582.6	1,614.2	1,596.9	17.31	93.259	
3,400.0	3,400.0	3,100.7	3,090.7	8.1	9.6	-94.96	-138.6	-1,597.1	1,632.7	1,615.0	17.66	92.430	
3,500.0	3,500.0	3,198.9	3,187.0	8.3	10.0	-94.88	-138.0	-1,615.8	1,651.6	1,633.4	18.17	90.908	
3,600.0	3,600.0	3,297.0	3,283.4	8.4	10.3	-94.80	-137.3	-1,634.5	1,670.6	1,651.9	18.66	89.513	
3,700.0	3,700.0	3,395.2	3,379.8	8.5	10.6	-94.73	-136.7	-1,653.3	1,689.5	1,670.4	19.17	88.146	
3,800.0	3,800.0	3,493.3	3,476.1	8.6	11.0	-94.65	-136.0	-1,672.0	1,708.5	1,688.8	19.68	86.809	
3,900.0	3,900.0	3,591.5	3,572.5	8.7	11.3	-94.58	-135.4	-1,690.7	1,727.4	1,707.2	20.20	85.505	
4,000.0	4,000.0	3,689.7	3,668.8	8.8	11.7	-94.51	-134.7	-1,709.4	1,746.4	1,725.7	20.73	84.235	
4,100.0	4,100.0	3,787.8	3,765.2	8.9	12.1	-94.44	-134.0	-1,728.1	1,765.4	1,744.1	21.27	83.000	
4,200.0	4,200.0	3,886.0	3,861.6	9.1	12.5	-94.37	-133.4	-1,746.8	1,784.3	1,762.5	21.81	81.802	
4,300.0	4,300.0	3,984.2	3,957.9	9.2	12.9	-94.30	-132.7	-1,765.6	1,803.3	1,780.9	22.36	80.640	
4,400.0	4,400.0	4,082.3	4,054.3	9.3	13.2	-94.23	-132.1	-1,784.3	1,822.3	1,799.3	22.92	79.514	
4,500.0	4,500.0	4,180.5	4,150.6	9.4	13.6	-94.17	-131.4	-1,803.0	1,841.2	1,817.8	23.48	78.423	
4,600.0	4,600.0	4,278.6	4,247.0	9.5	14.0	-94.11	-130.8	-1,821.7	1,860.2	1,836.2	24.04	77.367	
4,700.0	4,700.0	4,376.8	4,343.4	9.6	14.4	-94.04	-130.1	-1,840.4	1,879.2	1,854.6	24.61	76.346	
4,800.0	4,800.0	4,475.0	4,439.7	9.7	14.8	-93.98	-129.5	-1,859.2	1,898.2	1,873.0	25.19	75.358	
4,900.0	4,900.0	4,573.1	4,536.1	9.8	15.2	-93.92	-128.8	-1,877.9	1,917.2	1,891.4	25.77	74.402	
5,000.0	5,000.0	4,671.3	4,632.4	9.9	15.7	-93.87	-128.2	-1,896.6	1,936.1	1,909.8	26.35	73.478	
5,100.0	5,100.0	4,769.5	4,728.8	10.0	16.1	-93.81	-127.5	-1,915.3	1,955.1	1,928.2	26.94	72.585	

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 #706H
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 #706H	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			Offset Wellbore Centre		Rule Assigned: Distance			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		
5,200.0	5,200.0	4,867.6	4,825.2	10.1	16.5	-93.75	-126.9	-1,934.0	1,974.1	1,946.6	27.52	71.721		
5,300.0	5,300.0	4,965.8	4,921.5	10.2	16.9	-93.70	-126.2	-1,952.8	1,993.1	1,965.0	28.12	70.885 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 #706H
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 #706H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	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	-92.89	-71.7	-1,419.9	1,421.8	1,415.3	6.43	221.151		
100.0	100.0	100.0	100.0	3.2	3.2	-92.89	-71.7	-1,419.9	1,421.8	1,414.9	6.89	206.280		
200.0	200.0	200.0	200.0	3.5	3.5	-92.89	-71.7	-1,419.9	1,421.8	1,414.4	7.33	194.013		
300.0	300.0	300.0	300.0	3.7	3.7	-92.89	-71.7	-1,419.9	1,421.8	1,414.0	7.74	183.658		
400.0	400.0	400.0	400.0	3.9	3.9	-92.89	-71.7	-1,419.9	1,421.8	1,413.6	8.14	174.759		
500.0	500.0	500.0	500.0	4.1	4.1	-92.89	-71.7	-1,419.9	1,421.8	1,413.2	8.51	166.999		
600.0	600.0	600.0	600.0	4.2	4.2	-92.89	-71.7	-1,419.9	1,421.8	1,412.9	8.88	160.151		
700.0	700.0	700.0	700.0	4.4	4.4	-92.89	-71.7	-1,419.9	1,421.8	1,412.5	9.23	154.046		
800.0	800.0	800.0	800.0	4.6	4.6	-92.89	-71.7	-1,419.9	1,421.8	1,412.2	9.57	148.556		
900.0	900.0	900.0	900.0	4.8	4.8	-92.89	-71.7	-1,419.9	1,421.8	1,411.9	9.90	143.584		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.89	-71.7	-1,419.9	1,421.8	1,411.5	10.22	139.051		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.89	-71.7	-1,419.9	1,421.8	1,411.2	10.54	134.896		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.89	-71.7	-1,419.9	1,421.8	1,410.9	10.85	131.067		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.89	-71.7	-1,419.9	1,421.8	1,410.6	11.15	127.524		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.89	-71.7	-1,419.9	1,421.8	1,410.3	11.44	124.231		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.89	-71.7	-1,419.9	1,421.8	1,410.0	11.73	121.161		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.89	-71.7	-1,419.9	1,421.8	1,409.7	12.02	118.288		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.89	-71.7	-1,419.9	1,421.8	1,409.5	12.30	115.593		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.89	-71.7	-1,419.9	1,421.8	1,409.2	12.58	113.057		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-92.89	-71.7	-1,419.9	1,421.8	1,408.9	12.85	110.665		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-92.89	-71.7	-1,419.9	1,421.8	1,408.6	13.12	108.403		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-92.89	-71.7	-1,419.9	1,421.8	1,408.4	13.38	106.261		
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-92.89	-71.7	-1,419.9	1,421.8	1,408.1	13.64	104.227		
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-92.89	-71.7	-1,419.9	1,421.8	1,407.9	13.90	102.293		
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-92.89	-71.7	-1,419.9	1,421.8	1,407.6	14.15	100.450		
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-92.89	-71.7	-1,419.9	1,421.8	1,407.4	14.41	98.692 CC, ES		
2,600.0	2,600.0	2,572.9	2,572.9	7.2	7.1	-92.89	-71.7	-1,420.6	1,422.7	1,408.1	14.63	97.233		
2,700.0	2,700.0	2,645.7	2,645.6	7.3	7.3	-92.89	-71.8	-1,422.7	1,425.6	1,410.7	14.85	95.988		
2,800.0	2,800.0	2,718.4	2,718.3	7.4	7.4	-92.89	-72.0	-1,426.2	1,430.3	1,415.3	15.07	94.927		
2,900.0	2,900.0	2,800.0	2,799.7	7.5	7.5	-92.89	-72.3	-1,431.7	1,437.0	1,421.7	15.31	93.888		
3,000.0	3,000.0	2,874.6	2,874.0	7.7	7.6	-92.89	-72.6	-1,438.1	1,445.4	1,429.9	15.48	93.373		
3,100.0	3,100.0	2,974.2	2,973.3	7.8	7.7	-92.89	-73.1	-1,446.7	1,454.1	1,438.4	15.75	92.339		
3,200.0	3,200.0	3,073.8	3,072.5	7.9	7.9	-92.89	-73.5	-1,455.4	1,462.8	1,446.8	16.04	91.206		
3,300.0	3,300.0	3,173.5	3,171.7	8.0	8.1	-92.89	-74.0	-1,464.1	1,471.5	1,455.2	16.34	90.033		
3,400.0	3,400.0	3,273.1	3,271.0	8.1	8.3	-92.89	-74.4	-1,472.7	1,480.3	1,463.6	16.66	88.833		
3,500.0	3,500.0	3,372.7	3,370.2	8.3	8.5	-92.89	-74.9	-1,481.4	1,489.0	1,472.0	16.99	87.614		
3,600.0	3,600.0	3,472.3	3,469.5	8.4	8.7	-92.89	-75.3	-1,490.1	1,497.7	1,480.3	17.34	86.384		
3,700.0	3,700.0	3,571.9	3,568.7	8.5	9.0	-92.89	-75.8	-1,498.8	1,506.4	1,488.7	17.69	85.148		
3,800.0	3,800.0	3,671.6	3,667.9	8.6	9.2	-92.90	-76.2	-1,507.4	1,515.1	1,497.1	18.06	83.913		
3,900.0	3,900.0	3,771.2	3,767.2	8.7	9.5	-92.90	-76.7	-1,516.1	1,523.8	1,505.4	18.43	82.668		
4,000.0	4,000.0	3,847.6	3,843.2	8.8	9.7	-92.90	-77.1	-1,523.1	1,533.1	1,514.3	18.76	81.717		
4,100.0	4,100.0	3,900.0	3,895.4	8.9	9.9	-92.90	-77.4	-1,528.9	1,544.5	1,525.5	19.00	81.267		
4,200.0	4,200.0	3,976.5	3,971.1	9.1	10.1	-92.90	-77.9	-1,539.1	1,558.0	1,538.6	19.37	80.438		
4,300.0	4,300.0	4,040.3	4,034.2	9.2	10.3	-92.90	-78.4	-1,549.2	1,573.8	1,554.1	19.66	80.049		
4,400.0	4,400.0	4,117.3	4,110.0	9.3	10.6	-92.90	-79.2	-1,562.9	1,591.6	1,571.6	20.00	79.599		
4,500.0	4,500.0	4,215.7	4,206.6	9.4	10.9	-92.90	-80.1	-1,580.8	1,609.8	1,589.4	20.46	78.685		
4,600.0	4,600.0	4,314.0	4,303.3	9.5	11.3	-92.90	-81.0	-1,598.7	1,628.0	1,607.1	20.92	77.805		
4,700.0	4,700.0	4,412.3	4,400.0	9.6	11.6	-92.90	-82.0	-1,616.6	1,646.3	1,624.9	21.40	76.928		
4,800.0	4,800.0	4,510.6	4,496.7	9.7	11.9	-92.90	-82.9	-1,634.5	1,664.5	1,642.6	21.89	76.055		
4,900.0	4,900.0	4,609.0	4,593.4	9.8	12.3	-92.90	-83.8	-1,652.4	1,682.7	1,660.3	22.38	75.191		
5,000.0	5,000.0	4,707.3	4,690.0	9.9	12.7	-92.91	-84.8	-1,670.3	1,700.9	1,678.0	22.88	74.338		
5,100.0	5,100.0	4,805.6	4,786.7	10.0	13.0	-92.91	-85.7	-1,688.2	1,719.2	1,695.8	23.39	73.497		

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 #706H
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 #706H	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					
Reference		Offset		Semi Major Axis		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
5,200.0	5,200.0	4,903.9	4,883.4	10.1	13.4	-92.91	-86.7	-1,706.1	1,737.4	1,713.5	23.91	72.669	
5,300.0	5,300.0	5,002.3	4,980.1	10.2	13.8	-92.91	-87.6	-1,724.0	1,755.6	1,731.2	24.43	71.857	
5,400.0	5,400.0	5,100.6	5,076.7	10.4	14.2	-92.91	-88.5	-1,741.9	1,773.8	1,748.9	24.96	71.062	
5,500.0	5,500.0	5,198.9	5,173.4	10.5	14.6	-92.91	-89.5	-1,759.8	1,792.0	1,766.5	25.50	70.282	
5,600.0	5,600.0	5,297.2	5,270.1	10.6	15.0	-92.91	-90.4	-1,777.7	1,810.3	1,784.2	26.04	69.520	
5,700.0	5,700.0	5,395.6	5,366.8	10.7	15.4	-92.91	-91.3	-1,795.6	1,828.5	1,801.9	26.59	68.776	
5,800.0	5,800.0	5,493.9	5,463.5	10.8	15.8	-92.91	-92.3	-1,813.4	1,846.7	1,819.6	27.14	68.050	
5,900.0	5,900.0	5,592.2	5,560.1	10.9	16.2	-92.91	-93.2	-1,831.3	1,864.9	1,837.2	27.69	67.341	
6,000.0	6,000.0	5,690.5	5,656.8	11.0	16.6	-92.91	-94.2	-1,849.2	1,883.2	1,854.9	28.25	66.650	
6,100.0	6,100.0	5,788.9	5,753.5	11.1	17.0	-92.92	-95.1	-1,867.1	1,901.4	1,872.6	28.82	65.976	
6,200.0	6,200.0	5,887.2	5,850.2	11.2	17.4	-92.92	-96.0	-1,885.0	1,919.6	1,890.2	29.39	65.320	
6,300.0	6,300.0	5,985.5	5,946.9	11.3	17.8	-92.92	-97.0	-1,902.9	1,937.8	1,907.9	29.96	64.681	
6,400.0	6,400.0	6,083.8	6,043.5	11.4	18.2	-92.92	-97.9	-1,920.8	1,956.1	1,925.5	30.54	64.059	
6,500.0	6,500.0	6,182.2	6,140.2	11.5	18.6	-92.92	-98.8	-1,938.7	1,974.3	1,943.2	31.11	63.454	
6,600.0	6,600.0	6,280.5	6,236.9	11.6	19.0	-92.92	-99.8	-1,956.6	1,992.5	1,960.8	31.70	62.864 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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 #703H - 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)	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		
0.0	0.0	0.0	0.0	3.0	3.0	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-71.7	-1,390.0	1,391.9	1,376.2	15.63	89.053	CC, ES		
3,100.0	3,100.0	3,073.3	3,073.3	7.8	7.8	-92.95	-71.7	-1,390.7	1,392.8	1,377.0	15.84	87.909			
3,200.0	3,200.0	3,146.5	3,146.5	7.9	7.9	-92.95	-71.7	-1,392.8	1,395.7	1,379.6	16.05	86.953			
3,300.0	3,300.0	3,219.7	3,219.5	8.0	8.0	-92.94	-71.8	-1,396.3	1,400.5	1,384.2	16.26	86.156			
3,400.0	3,400.0	3,300.0	3,299.7	8.1	8.1	-92.94	-71.9	-1,401.8	1,407.2	1,390.7	16.48	85.406			
3,500.0	3,500.0	3,365.4	3,364.8	8.3	8.2	-92.93	-72.0	-1,407.5	1,415.8	1,399.1	16.68	84.904			
3,600.0	3,600.0	3,437.9	3,436.9	8.4	8.3	-92.92	-72.1	-1,415.1	1,426.3	1,409.4	16.89	84.433			
3,700.0	3,700.0	3,510.1	3,508.6	8.5	8.4	-92.91	-72.3	-1,424.0	1,438.6	1,421.5	17.10	84.113			
3,800.0	3,800.0	3,600.3	3,598.0	8.6	8.6	-92.89	-72.5	-1,436.5	1,452.5	1,435.1	17.33	83.806			
3,900.0	3,900.0	3,699.4	3,696.0	8.7	8.7	-92.87	-72.7	-1,450.3	1,466.4	1,448.7	17.64	83.137			
4,000.0	4,000.0	3,798.4	3,794.1	8.8	9.0	-92.85	-73.0	-1,464.1	1,480.3	1,462.3	17.96	82.415			
4,100.0	4,100.0	3,900.8	3,895.5	8.9	9.2	-92.84	-73.2	-1,478.3	1,494.2	1,475.9	18.28	81.757			
4,200.0	4,200.0	4,014.8	4,008.5	9.1	9.4	-92.82	-73.5	-1,493.3	1,507.4	1,488.7	18.69	80.672			
4,300.0	4,300.0	4,129.2	4,122.0	9.2	9.7	-92.80	-73.7	-1,507.3	1,519.6	1,500.5	19.10	79.553			
4,400.0	4,400.0	4,243.8	4,235.9	9.3	10.0	-92.78	-73.9	-1,520.2	1,530.8	1,511.2	19.53	78.391			
4,500.0	4,500.0	4,358.7	4,350.2	9.4	10.3	-92.77	-74.1	-1,531.9	1,541.0	1,521.0	19.96	77.198			
4,600.0	4,600.0	4,473.8	4,464.8	9.5	10.7	-92.76	-74.3	-1,542.5	1,550.2	1,529.8	20.40	75.988			
4,700.0	4,700.0	4,589.0	4,579.7	9.6	11.0	-92.75	-74.5	-1,552.0	1,558.4	1,537.6	20.84	74.771			
4,800.0	4,800.0	4,704.5	4,694.8	9.7	11.3	-92.74	-74.6	-1,560.3	1,565.7	1,544.4	21.29	73.557			
4,900.0	4,900.0	4,820.1	4,810.3	9.8	11.6	-92.73	-74.8	-1,567.5	1,571.9	1,550.1	21.72	72.355			
5,000.0	5,000.0	4,935.9	4,925.9	9.9	11.9	-92.72	-74.9	-1,573.6	1,577.1	1,554.9	22.16	71.174			
5,100.0	5,100.0	5,051.8	5,041.6	10.0	12.2	-92.72	-75.0	-1,578.4	1,581.3	1,558.7	22.58	70.022			

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 #706H
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 #706H	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 #703H - 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	5,200.0	5,167.7	5,157.5	10.1	12.5	-92.71	-75.0	-1,582.1	1,584.5	1,561.5	22.99	68.909	
5,300.0	5,300.0	5,283.8	5,273.5	10.2	12.8	-92.71	-75.1	-1,584.6	1,586.6	1,563.2	23.38	67.849	
5,400.0	5,400.0	5,399.8	5,389.6	10.4	13.0	-92.71	-75.1	-1,586.0	1,587.8	1,564.1	23.74	66.872	
5,500.0	5,500.0	5,510.3	5,500.0	10.5	13.1	-92.71	-75.1	-1,586.2	1,588.0	1,564.1	23.94	66.327	
5,600.0	5,600.0	5,610.3	5,600.0	10.6	13.2	-92.71	-75.1	-1,586.2	1,588.0	1,563.9	24.11	65.853	
5,700.0	5,700.0	5,710.3	5,700.0	10.7	13.3	-92.71	-75.1	-1,586.2	1,588.0	1,563.7	24.28	65.396	
5,800.0	5,800.0	5,810.3	5,800.0	10.8	13.4	-92.71	-75.1	-1,586.2	1,588.0	1,563.6	24.45	64.946	
5,900.0	5,900.0	5,910.3	5,900.0	10.9	13.4	-92.71	-75.1	-1,586.2	1,588.0	1,563.4	24.62	64.503	
6,000.0	6,000.0	6,010.3	6,000.0	11.0	13.5	-92.71	-75.1	-1,586.2	1,588.0	1,563.2	24.79	64.065	
6,100.0	6,100.0	6,110.3	6,100.0	11.1	13.6	-92.71	-75.1	-1,586.2	1,588.0	1,563.1	24.96	63.634	
6,200.0	6,200.0	6,210.3	6,200.0	11.2	13.7	-92.71	-75.1	-1,586.2	1,588.0	1,562.9	25.12	63.209	
6,300.0	6,300.0	6,310.3	6,300.0	11.3	13.7	-92.71	-75.1	-1,586.2	1,588.0	1,562.7	25.29	62.790	
6,400.0	6,400.0	6,410.3	6,400.0	11.4	13.8	-92.71	-75.1	-1,586.2	1,588.0	1,562.5	25.46	62.376	
6,500.0	6,500.0	6,510.3	6,500.0	11.5	13.9	-92.71	-75.1	-1,586.2	1,588.0	1,562.4	25.63	61.968	
6,600.0	6,600.0	6,610.3	6,600.0	11.6	13.9	-92.71	-75.1	-1,586.2	1,588.0	1,562.2	25.79	61.566	
6,700.0	6,700.0	6,710.3	6,700.0	11.7	14.0	-92.71	-75.1	-1,586.2	1,588.0	1,562.0	25.96	61.169	
6,800.0	6,800.0	6,810.3	6,800.0	11.8	14.1	-92.71	-75.1	-1,586.2	1,588.0	1,561.9	26.13	60.777	
6,900.0	6,900.0	6,910.3	6,900.0	11.9	14.2	-92.71	-75.1	-1,586.2	1,588.0	1,561.7	26.30	60.390	
7,000.0	7,000.0	7,010.3	7,000.0	12.0	14.2	-92.71	-75.1	-1,586.2	1,588.0	1,561.5	26.46	60.009	
7,100.0	7,100.0	7,110.3	7,100.0	12.1	14.3	-92.71	-75.1	-1,586.2	1,588.0	1,561.4	26.63	59.632	
7,200.0	7,200.0	7,210.3	7,200.0	12.2	14.4	-92.71	-75.1	-1,586.2	1,588.0	1,561.2	26.80	59.261	
7,300.0	7,300.0	7,310.3	7,300.0	12.3	14.4	-92.71	-75.1	-1,586.2	1,588.0	1,561.0	26.96	58.894	
7,400.0	7,400.0	7,410.3	7,400.0	12.4	14.5	-92.71	-75.1	-1,586.2	1,588.0	1,560.9	27.13	58.532	
7,500.0	7,500.0	7,510.3	7,500.0	12.5	14.6	-92.71	-75.1	-1,586.2	1,588.0	1,560.7	27.30	58.174	
7,600.0	7,600.0	7,610.3	7,600.0	12.6	14.7	-92.71	-75.1	-1,586.2	1,588.0	1,560.5	27.46	57.821	
7,700.0	7,700.0	7,710.3	7,700.0	12.7	14.7	-92.71	-75.1	-1,586.2	1,588.0	1,560.4	27.63	57.472	
7,800.0	7,800.0	7,810.3	7,800.0	12.8	14.8	-92.71	-75.1	-1,586.2	1,588.0	1,560.2	27.80	57.128	
7,900.0	7,900.0	7,910.3	7,900.0	12.9	14.9	-92.71	-75.1	-1,586.2	1,588.0	1,560.0	27.96	56.787	
8,000.0	8,000.0	8,010.3	8,000.0	13.0	15.0	-92.71	-75.1	-1,586.2	1,588.0	1,559.9	28.13	56.451	
8,100.0	8,100.0	8,110.3	8,100.0	13.1	15.0	-92.71	-75.1	-1,586.2	1,588.0	1,559.7	28.30	56.119	
8,200.0	8,200.0	8,210.3	8,200.0	13.2	15.1	-92.71	-75.1	-1,586.2	1,588.0	1,559.5	28.46	55.792	
8,300.0	8,300.0	8,310.3	8,300.0	13.3	15.2	-92.71	-75.1	-1,586.2	1,588.0	1,559.4	28.63	55.468	
8,400.0	8,400.0	8,410.3	8,400.0	13.4	15.3	-92.71	-75.1	-1,586.2	1,588.0	1,559.2	28.80	55.147	
8,500.0	8,500.0	8,510.3	8,500.0	13.5	15.3	-92.71	-75.1	-1,586.2	1,588.0	1,559.0	28.96	54.831	
8,600.0	8,600.0	8,610.3	8,600.0	13.6	15.4	-92.71	-75.1	-1,586.2	1,588.0	1,558.9	29.13	54.518	
8,700.0	8,700.0	8,710.3	8,700.0	13.6	15.5	-92.71	-75.1	-1,586.2	1,588.0	1,558.7	29.29	54.209	
8,800.0	8,800.0	8,810.3	8,800.0	13.7	15.6	-92.71	-75.1	-1,586.2	1,588.0	1,558.5	29.46	53.904	
8,900.0	8,900.0	8,910.3	8,900.0	13.8	15.6	-92.71	-75.1	-1,586.2	1,588.0	1,558.4	29.63	53.602	
9,000.0	9,000.0	9,010.3	9,000.0	13.9	15.7	-92.71	-75.1	-1,586.2	1,588.0	1,558.2	29.79	53.304	
9,100.0	9,100.0	9,110.3	9,100.0	14.0	15.8	-92.71	-75.1	-1,586.2	1,588.0	1,558.1	29.96	53.009	
9,200.0	9,200.0	9,210.3	9,200.0	14.1	15.9	-92.71	-75.1	-1,586.2	1,588.0	1,557.9	30.12	52.717	
9,300.0	9,300.0	9,310.3	9,300.0	14.2	15.9	-92.71	-75.1	-1,586.2	1,588.0	1,557.7	30.29	52.429	
9,400.0	9,400.0	9,410.3	9,400.0	14.3	16.0	-92.71	-75.1	-1,586.2	1,588.0	1,557.6	30.45	52.144	
9,500.0	9,500.0	9,510.3	9,500.0	14.4	16.1	-92.71	-75.1	-1,586.2	1,588.0	1,557.4	30.62	51.862	
9,600.0	9,600.0	9,610.3	9,600.0	14.5	16.1	-92.71	-75.1	-1,586.2	1,588.0	1,557.2	30.79	51.583	
9,700.0	9,700.0	9,710.3	9,700.0	14.6	16.2	-92.71	-75.1	-1,586.2	1,588.0	1,557.1	30.95	51.307	
9,800.0	9,800.0	9,810.3	9,800.0	14.7	16.3	-92.71	-75.1	-1,586.2	1,588.0	1,556.9	31.12	51.034	
9,900.0	9,900.0	9,910.3	9,900.0	14.8	16.4	-92.71	-75.1	-1,586.2	1,588.0	1,556.7	31.28	50.764	
10,000.0	10,000.0	10,010.3	10,000.0	14.9	16.4	-92.71	-75.1	-1,586.2	1,588.0	1,556.6	31.45	50.497	
10,100.0	10,100.0	10,110.3	10,100.0	15.0	16.5	-92.71	-75.1	-1,586.2	1,588.0	1,556.4	31.61	50.233	
10,200.0	10,200.0	10,210.3	10,200.0	15.1	16.6	-92.71	-75.1	-1,586.2	1,588.0	1,556.2	31.78	49.972	
10,300.0	10,300.0	10,310.3	10,300.0	15.2	16.7	-92.71	-75.1	-1,586.2	1,588.0	1,556.1	31.94	49.714	

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 #706H
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 #706H	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 #703H - 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	10,400.0	10,410.3	10,400.0	15.3	16.7	-92.71	-75.1	-1,586.2	1,588.0	1,555.9	32.11	49.458	
10,500.0	10,500.0	10,510.3	10,500.0	15.3	16.8	-92.71	-75.1	-1,586.2	1,588.0	1,555.7	32.27	49.205	
10,600.0	10,600.0	10,610.3	10,600.0	15.4	16.9	-92.71	-75.1	-1,586.2	1,588.0	1,555.6	32.44	48.947	
10,700.0	10,699.6	10,709.8	10,699.6	15.6	17.0	-95.31	-75.1	-1,586.2	1,588.7	1,556.1	32.58	48.768	
10,800.0	10,796.4	10,810.7	10,800.5	15.8	17.0	-95.95	-74.6	-1,586.2	1,591.2	1,558.5	32.68	48.689	
10,900.0	10,887.4	10,930.9	10,919.2	16.0	17.1	-96.75	-57.2	-1,586.3	1,595.0	1,562.3	32.75	48.702	
11,000.0	10,969.9	11,059.6	11,039.2	16.2	17.2	-97.35	-11.6	-1,586.5	1,599.7	1,566.9	32.80	48.768	
11,100.0	11,041.4	11,196.3	11,152.2	16.4	17.3	-97.71	64.8	-1,586.8	1,604.6	1,571.8	32.86	48.827	
11,200.0	11,099.7	11,339.4	11,247.6	16.6	17.4	-97.76	171.0	-1,587.2	1,609.5	1,576.5	32.96	48.827	
11,300.0	11,143.0	11,485.8	11,314.9	16.7	17.6	-97.45	300.6	-1,587.7	1,614.0	1,580.8	33.12	48.733	
11,400.0	11,170.0	11,631.8	11,347.3	16.8	17.8	-96.79	442.5	-1,588.3	1,617.8	1,584.4	33.34	48.529	
11,500.0	11,179.9	11,748.4	11,350.0	16.8	17.9	-96.06	559.0	-1,588.8	1,621.4	1,587.9	33.58	48.286	
11,600.0	11,180.0	11,848.3	11,350.0	16.9	18.0	-96.01	658.9	-1,589.2	1,624.5	1,590.6	33.90	47.922	
11,700.0	11,180.0	11,948.3	11,350.0	16.9	18.2	-96.01	758.9	-1,589.6	1,624.8	1,590.5	34.26	47.431	
11,800.0	11,180.0	12,048.3	11,350.0	16.9	18.4	-96.01	858.9	-1,590.0	1,624.8	1,590.1	34.69	46.841	
11,900.0	11,180.0	12,148.3	11,350.0	16.9	18.7	-96.01	958.9	-1,590.4	1,624.8	1,589.6	35.18	46.186	
12,000.0	11,180.0	12,248.3	11,350.0	17.1	18.9	-96.01	1,058.9	-1,590.8	1,624.8	1,589.1	35.73	45.475	
12,100.0	11,180.0	12,348.3	11,350.0	17.4	19.2	-96.01	1,158.9	-1,591.2	1,624.8	1,588.5	36.34	44.717	
12,200.0	11,180.0	12,448.3	11,350.0	17.7	19.6	-96.01	1,258.9	-1,591.6	1,624.8	1,587.8	36.99	43.921	
12,300.0	11,180.0	12,548.3	11,350.0	18.1	19.9	-96.01	1,358.9	-1,592.0	1,624.8	1,587.1	37.70	43.096	
12,400.0	11,180.0	12,648.3	11,350.0	18.5	20.3	-96.01	1,458.9	-1,592.4	1,624.8	1,586.4	38.46	42.249	
12,500.0	11,180.0	12,748.3	11,350.0	18.9	20.7	-96.01	1,558.9	-1,592.8	1,624.8	1,585.6	39.26	41.389	
12,600.0	11,180.0	12,848.3	11,350.0	19.4	21.2	-96.01	1,658.9	-1,593.2	1,624.9	1,584.8	40.10	40.520	
12,700.0	11,180.0	12,948.3	11,350.0	19.8	21.6	-96.01	1,758.9	-1,593.6	1,624.9	1,583.9	40.98	39.650	
12,800.0	11,180.0	13,048.3	11,350.0	20.3	22.1	-96.01	1,858.9	-1,594.0	1,624.9	1,583.0	41.90	38.782	
12,900.0	11,180.0	13,148.3	11,350.0	20.8	22.5	-96.01	1,958.9	-1,594.4	1,624.9	1,582.0	42.85	37.922	
13,000.0	11,180.0	13,248.3	11,350.0	21.3	23.0	-96.01	2,058.9	-1,594.8	1,624.9	1,581.1	43.83	37.071	
13,100.0	11,180.0	13,348.3	11,350.0	21.8	23.6	-96.01	2,158.9	-1,595.2	1,624.9	1,580.1	44.84	36.234	
13,200.0	11,180.0	13,448.3	11,350.0	22.4	24.1	-96.01	2,258.9	-1,595.6	1,624.9	1,579.0	45.89	35.412	
13,300.0	11,180.0	13,548.3	11,350.0	22.9	24.6	-96.01	2,358.9	-1,596.0	1,624.9	1,578.0	46.95	34.608	
13,400.0	11,180.0	13,648.3	11,350.0	23.5	25.2	-96.01	2,458.9	-1,596.5	1,624.9	1,576.9	48.04	33.822	
13,500.0	11,180.0	13,748.3	11,350.0	24.1	25.7	-96.01	2,558.9	-1,596.9	1,624.9	1,575.8	49.16	33.056	
13,600.0	11,180.0	13,848.3	11,350.0	24.7	26.3	-96.01	2,658.9	-1,597.3	1,625.0	1,574.7	50.29	32.311	
13,700.0	11,180.0	13,948.3	11,350.0	25.3	26.9	-96.01	2,758.9	-1,597.7	1,625.0	1,573.5	51.45	31.586	
13,800.0	11,180.0	14,048.3	11,350.0	25.9	27.5	-96.01	2,858.9	-1,598.1	1,625.0	1,572.4	52.62	30.882	
13,900.0	11,180.0	14,148.3	11,350.0	26.5	28.1	-96.01	2,958.9	-1,598.5	1,625.0	1,571.2	53.81	30.200	
14,000.0	11,180.0	14,248.3	11,350.0	27.1	28.7	-96.01	3,058.9	-1,598.9	1,625.0	1,570.0	55.01	29.538	
14,100.0	11,180.0	14,348.3	11,350.0	27.7	29.3	-96.01	3,158.9	-1,599.3	1,625.0	1,568.8	56.23	28.897	
14,200.0	11,180.0	14,448.3	11,350.0	28.4	29.9	-96.00	3,258.9	-1,599.7	1,625.0	1,567.5	57.47	28.276	
14,300.0	11,180.0	14,548.3	11,350.0	29.0	30.6	-96.00	3,358.9	-1,600.1	1,625.0	1,566.3	58.72	27.676	
14,400.0	11,180.0	14,648.3	11,350.0	29.7	31.2	-96.00	3,458.9	-1,600.5	1,625.0	1,565.1	59.98	27.094	
14,500.0	11,180.0	14,748.3	11,350.0	30.3	31.9	-96.00	3,558.9	-1,600.9	1,625.0	1,563.8	61.25	26.532	
14,600.0	11,180.0	14,848.3	11,350.0	31.0	32.5	-96.00	3,658.9	-1,601.3	1,625.1	1,562.5	62.53	25.988	
14,700.0	11,180.0	14,948.3	11,350.0	31.6	33.2	-96.00	3,758.9	-1,601.7	1,625.1	1,561.2	63.82	25.462	
14,800.0	11,180.0	15,048.3	11,350.0	32.3	33.8	-96.00	3,858.9	-1,602.1	1,625.1	1,559.9	65.13	24.953	
14,900.0	11,180.0	15,148.3	11,350.0	33.0	34.5	-96.00	3,958.9	-1,602.5	1,625.1	1,558.6	66.44	24.461	
15,000.0	11,180.0	15,248.3	11,350.0	33.6	35.1	-96.00	4,058.9	-1,602.9	1,625.1	1,557.3	67.76	23.984	
15,100.0	11,180.0	15,348.3	11,350.0	34.3	35.8	-96.00	4,158.9	-1,603.3	1,625.1	1,556.0	69.08	23.524	
15,200.0	11,180.0	15,448.3	11,350.0	35.0	36.5	-96.00	4,258.9	-1,603.7	1,625.1	1,554.7	70.42	23.078	
15,300.0	11,180.0	15,548.3	11,350.0	35.7	37.2	-96.00	4,358.9	-1,604.1	1,625.1	1,553.4	71.76	22.646	
15,400.0	11,180.0	15,648.3	11,350.0	36.4	37.8	-96.00	4,458.9	-1,604.5	1,625.1	1,552.0	73.11	22.229	
15,500.0	11,180.0	15,748.3	11,350.0	37.1	38.5	-96.00	4,558.9	-1,604.9	1,625.1	1,550.7	74.46	21.824	

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 #706H
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 #706H	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 #703H - 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	11,180.0	15,848.3	11,350.0	37.8	39.2	-96.00	4,658.9	-1,605.3	1,625.1	1,549.3	75.83	21.433	
15,700.0	11,180.0	15,948.3	11,350.0	38.5	39.9	-96.00	4,758.9	-1,605.7	1,625.2	1,548.0	77.19	21.053	
15,800.0	11,180.0	16,048.3	11,350.0	39.2	40.6	-96.00	4,858.9	-1,606.1	1,625.2	1,546.6	78.56	20.686	
15,900.0	11,180.0	16,148.3	11,350.0	39.9	41.3	-96.00	4,958.9	-1,606.5	1,625.2	1,545.2	79.94	20.329	
16,000.0	11,180.0	16,248.3	11,350.0	40.6	42.0	-96.00	5,058.9	-1,606.9	1,625.2	1,543.9	81.32	19.984	
16,100.0	11,180.0	16,348.3	11,350.0	41.3	42.7	-96.00	5,158.9	-1,607.3	1,625.2	1,542.5	82.71	19.649	
16,200.0	11,180.0	16,448.3	11,350.0	42.0	43.4	-96.00	5,258.9	-1,607.7	1,625.2	1,541.1	84.10	19.324	
16,300.0	11,180.0	16,548.3	11,350.0	42.7	44.1	-96.00	5,358.9	-1,608.1	1,625.2	1,539.7	85.50	19.009	
16,400.0	11,180.0	16,648.3	11,350.0	43.4	44.8	-96.00	5,458.9	-1,608.6	1,625.2	1,538.3	86.90	18.703	
16,500.0	11,180.0	16,748.3	11,350.0	44.1	45.5	-96.00	5,558.9	-1,609.0	1,625.2	1,536.9	88.30	18.406	
16,600.0	11,180.0	16,848.3	11,350.0	44.9	46.2	-96.00	5,658.9	-1,609.4	1,625.2	1,535.5	89.71	18.118	
16,700.0	11,180.0	16,948.3	11,350.0	45.6	46.9	-96.00	5,758.9	-1,609.8	1,625.3	1,534.1	91.12	17.837	
16,800.0	11,180.0	17,048.3	11,350.0	46.3	47.6	-96.00	5,858.9	-1,610.2	1,625.3	1,532.7	92.53	17.565	
16,900.0	11,180.0	17,148.3	11,350.0	47.0	48.4	-96.00	5,958.9	-1,610.6	1,625.3	1,531.3	93.95	17.300	
17,000.0	11,180.0	17,248.3	11,350.0	47.7	49.1	-96.00	6,058.9	-1,611.0	1,625.3	1,529.9	95.36	17.043	
17,100.0	11,180.0	17,348.3	11,350.0	48.5	49.8	-96.00	6,158.9	-1,611.4	1,625.3	1,528.5	96.79	16.793	
17,200.0	11,180.0	17,448.3	11,350.0	49.2	50.5	-96.00	6,258.9	-1,611.8	1,625.3	1,527.1	98.21	16.549	
17,300.0	11,180.0	17,548.3	11,350.0	49.9	51.2	-96.00	6,358.9	-1,612.2	1,625.3	1,525.7	99.64	16.312	
17,400.0	11,180.0	17,648.3	11,350.0	50.7	52.0	-96.00	6,458.9	-1,612.6	1,625.3	1,524.3	101.07	16.081	
17,500.0	11,180.0	17,748.3	11,350.0	51.4	52.7	-96.00	6,558.9	-1,613.0	1,625.3	1,522.8	102.50	15.857	
17,600.0	11,180.0	17,848.3	11,350.0	52.1	53.4	-96.00	6,658.9	-1,613.4	1,625.3	1,521.4	103.94	15.638	
17,700.0	11,180.0	17,948.3	11,350.0	52.8	54.1	-96.00	6,758.9	-1,613.8	1,625.4	1,520.0	105.37	15.425	
17,800.0	11,180.0	18,048.3	11,350.0	53.6	54.9	-96.00	6,858.9	-1,614.2	1,625.4	1,518.6	106.81	15.217	
17,900.0	11,180.0	18,148.3	11,350.0	54.3	55.6	-96.00	6,958.9	-1,614.6	1,625.4	1,517.1	108.25	15.015	
18,000.0	11,180.0	18,248.3	11,350.0	55.0	56.3	-96.00	7,058.9	-1,615.0	1,625.4	1,515.7	109.69	14.817	
18,100.0	11,180.0	18,348.3	11,350.0	55.8	57.1	-96.00	7,158.8	-1,615.4	1,625.4	1,514.3	111.14	14.625	
18,200.0	11,180.0	18,448.3	11,350.0	56.5	57.8	-96.00	7,258.8	-1,615.8	1,625.4	1,512.8	112.59	14.437	
18,300.0	11,180.0	18,548.3	11,350.0	57.3	58.5	-96.00	7,358.8	-1,616.2	1,625.4	1,511.4	114.03	14.254	
18,400.0	11,180.0	18,648.3	11,350.0	58.0	59.2	-96.00	7,458.8	-1,616.6	1,625.4	1,509.9	115.48	14.075	
18,500.0	11,180.0	18,748.3	11,350.0	58.7	60.0	-96.00	7,558.8	-1,617.0	1,625.4	1,508.5	116.93	13.900	
18,600.0	11,180.0	18,848.3	11,350.0	59.5	60.7	-96.00	7,658.8	-1,617.4	1,625.4	1,507.1	118.39	13.730	
18,700.0	11,180.0	18,948.3	11,350.0	60.2	61.5	-96.00	7,758.8	-1,617.8	1,625.5	1,505.6	119.84	13.563	
18,800.0	11,180.0	19,048.3	11,350.0	60.9	62.2	-96.00	7,858.8	-1,618.2	1,625.5	1,504.2	121.30	13.401	
18,900.0	11,180.0	19,148.3	11,350.0	61.7	62.9	-96.00	7,958.8	-1,618.6	1,625.5	1,502.7	122.76	13.242	
19,000.0	11,180.0	19,248.3	11,350.0	62.4	63.7	-96.00	8,058.8	-1,619.0	1,625.5	1,501.3	124.21	13.086	
19,100.0	11,180.0	19,348.3	11,350.0	63.2	64.4	-96.00	8,158.8	-1,619.4	1,625.5	1,499.8	125.67	12.934	
19,200.0	11,180.0	19,448.3	11,350.0	63.9	65.1	-96.00	8,258.8	-1,619.8	1,625.5	1,498.4	127.13	12.786	
19,300.0	11,180.0	19,548.3	11,350.0	64.7	65.9	-96.00	8,358.8	-1,620.2	1,625.5	1,496.9	128.60	12.640	
19,400.0	11,180.0	19,648.3	11,350.0	65.4	66.6	-96.00	8,458.8	-1,620.7	1,625.5	1,495.5	130.06	12.498	
19,500.0	11,180.0	19,748.3	11,350.0	66.1	67.4	-96.00	8,558.8	-1,621.1	1,625.5	1,494.0	131.52	12.359	
19,600.0	11,180.0	19,848.3	11,350.0	66.9	68.1	-96.00	8,658.8	-1,621.5	1,625.5	1,492.5	132.99	12.223	
19,700.0	11,180.0	19,948.3	11,350.0	67.6	68.8	-96.00	8,758.8	-1,621.9	1,625.5	1,491.1	134.46	12.090	
19,800.0	11,180.0	20,048.3	11,350.0	68.4	69.6	-96.00	8,858.8	-1,622.3	1,625.6	1,489.6	135.92	11.959	
19,900.0	11,180.0	20,148.3	11,350.0	69.1	70.3	-96.00	8,958.8	-1,622.7	1,625.6	1,488.2	137.39	11.831	
20,000.0	11,180.0	20,248.3	11,350.0	69.9	71.1	-96.00	9,058.8	-1,623.1	1,625.6	1,486.7	138.86	11.706	
20,100.0	11,180.0	20,348.3	11,350.0	70.6	71.8	-96.00	9,158.8	-1,623.5	1,625.6	1,485.3	140.33	11.584	
20,200.0	11,180.0	20,448.3	11,350.0	71.4	72.6	-96.00	9,258.8	-1,623.9	1,625.6	1,483.8	141.80	11.464	
20,300.0	11,180.0	20,548.3	11,350.0	72.1	73.3	-96.00	9,358.8	-1,624.3	1,625.6	1,482.3	143.28	11.346	
20,400.0	11,180.0	20,648.3	11,350.0	72.9	74.0	-96.00	9,458.8	-1,624.7	1,625.6	1,480.9	144.75	11.231	
20,500.0	11,180.0	20,748.3	11,350.0	73.6	74.8	-96.00	9,558.8	-1,625.1	1,625.6	1,479.4	146.22	11.117	
20,600.0	11,180.0	20,848.3	11,350.0	74.4	75.5	-96.00	9,658.8	-1,625.5	1,625.6	1,477.9	147.70	11.006	
20,700.0	11,180.0	20,948.3	11,350.0	75.1	76.3	-96.00	9,758.8	-1,625.9	1,625.6	1,476.5	149.17	10.898	

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 #706H
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 #706H	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 #703H - 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	11,180.0	21,048.3	11,350.0	75.9	77.0	-96.00	9,858.8	-1,626.3	1,625.7	1,475.0	150.65	10.791	
20,900.0	11,180.0	21,148.3	11,350.0	76.6	77.8	-96.00	9,958.8	-1,626.7	1,625.7	1,473.5	152.13	10.686	
21,000.0	11,180.0	21,248.3	11,350.0	77.4	78.5	-96.00	10,058.8	-1,627.1	1,625.7	1,472.1	153.60	10.584	
21,100.0	11,180.0	21,348.3	11,350.0	78.1	79.3	-96.00	10,158.8	-1,627.5	1,625.7	1,470.6	155.08	10.483	
21,200.0	11,180.0	21,448.3	11,350.0	78.9	80.0	-96.00	10,258.8	-1,627.9	1,625.7	1,469.1	156.56	10.384	
21,300.0	11,180.0	21,548.3	11,350.0	79.6	80.8	-96.00	10,358.8	-1,628.3	1,625.7	1,467.7	158.04	10.287	
21,400.0	11,180.0	21,648.3	11,350.0	80.4	81.5	-96.00	10,458.8	-1,628.7	1,625.7	1,466.2	159.52	10.191	
21,500.0	11,180.0	21,748.3	11,350.0	81.1	82.3	-96.00	10,558.8	-1,629.1	1,625.7	1,464.7	161.00	10.098	
21,600.0	11,180.0	21,848.3	11,350.0	81.9	83.0	-96.00	10,658.8	-1,629.5	1,625.7	1,463.2	162.48	10.006	
21,700.0	11,180.0	21,948.3	11,350.0	82.6	83.8	-96.00	10,758.8	-1,629.9	1,625.7	1,461.8	163.97	9.915	
21,800.0	11,180.0	22,048.3	11,350.0	83.4	84.5	-96.00	10,858.8	-1,630.3	1,625.8	1,460.3	165.45	9.826	
21,900.0	11,180.0	22,148.3	11,350.0	84.1	85.3	-96.00	10,958.8	-1,630.7	1,625.8	1,458.8	166.93	9.739	
22,000.0	11,180.0	22,248.3	11,350.0	84.9	86.0	-96.00	11,058.8	-1,631.1	1,625.8	1,457.4	168.41	9.653	
22,100.0	11,180.0	22,348.3	11,350.0	85.6	86.8	-96.00	11,158.8	-1,631.5	1,625.8	1,455.9	169.90	9.569	
22,200.0	11,180.0	22,448.3	11,350.0	86.4	87.5	-96.00	11,258.8	-1,631.9	1,625.8	1,454.4	171.38	9.486	
22,300.0	11,180.0	22,548.3	11,350.0	87.1	88.3	-96.00	11,358.8	-1,632.3	1,625.8	1,452.9	172.87	9.405	
22,400.0	11,180.0	22,648.3	11,350.0	87.9	89.0	-96.00	11,458.8	-1,632.8	1,625.8	1,451.5	174.35	9.325	
22,500.0	11,180.0	22,748.3	11,350.0	88.6	89.8	-96.00	11,558.8	-1,633.2	1,625.8	1,450.0	175.84	9.246	
22,600.0	11,180.0	22,848.3	11,350.0	89.4	90.5	-96.00	11,658.8	-1,633.6	1,625.8	1,448.5	177.33	9.169	
22,700.0	11,180.0	22,948.3	11,350.0	90.2	91.3	-96.00	11,758.8	-1,634.0	1,625.8	1,447.0	178.81	9.092	
22,800.0	11,180.0	23,048.3	11,350.0	90.9	92.0	-96.00	11,858.8	-1,634.4	1,625.9	1,445.6	180.30	9.017	
22,900.0	11,180.0	23,148.3	11,350.0	91.7	92.8	-96.00	11,958.8	-1,634.8	1,625.9	1,444.1	181.79	8.944	
23,000.0	11,180.0	23,248.3	11,350.0	92.4	93.5	-96.00	12,058.8	-1,635.2	1,625.9	1,442.6	183.28	8.871	
23,100.0	11,180.0	23,348.3	11,350.0	93.2	94.3	-96.00	12,158.8	-1,635.6	1,625.9	1,441.1	184.76	8.800	
23,200.0	11,180.0	23,448.3	11,350.0	93.9	95.0	-96.00	12,258.8	-1,636.0	1,625.9	1,439.6	186.25	8.729	
23,300.0	11,180.0	23,548.3	11,350.0	94.7	95.8	-96.00	12,358.8	-1,636.4	1,625.9	1,438.2	187.74	8.660	
23,400.0	11,180.0	23,648.3	11,350.0	95.4	96.6	-96.00	12,458.8	-1,636.8	1,625.9	1,436.7	189.23	8.592	
23,500.0	11,180.0	23,748.3	11,350.0	96.2	97.3	-96.00	12,558.8	-1,637.2	1,625.9	1,435.2	190.72	8.525	
23,600.0	11,180.0	23,848.3	11,350.0	96.9	98.1	-96.00	12,658.8	-1,637.6	1,625.9	1,433.7	192.21	8.459	
23,700.0	11,180.0	23,948.3	11,350.0	97.7	98.8	-96.00	12,758.8	-1,638.0	1,625.9	1,432.2	193.70	8.394	
23,800.0	11,180.0	24,048.3	11,350.0	98.5	99.6	-96.00	12,858.8	-1,638.4	1,625.9	1,430.8	195.19	8.330	
23,900.0	11,180.0	24,148.3	11,350.0	99.2	100.3	-96.00	12,958.8	-1,638.8	1,626.0	1,429.3	196.68	8.267	
24,000.0	11,180.0	24,248.3	11,350.0	100.0	101.1	-96.00	13,058.8	-1,639.2	1,626.0	1,427.8	198.18	8.205	
24,100.0	11,180.0	24,348.3	11,350.0	100.7	101.8	-96.00	13,158.8	-1,639.6	1,626.0	1,426.3	199.67	8.143	
24,200.0	11,180.0	24,448.3	11,350.0	101.5	102.6	-96.00	13,258.8	-1,640.0	1,626.0	1,424.8	201.16	8.083	
24,300.0	11,180.0	24,548.3	11,350.0	102.2	103.4	-96.00	13,358.8	-1,640.4	1,626.0	1,423.3	202.65	8.024	
24,400.0	11,180.0	24,648.3	11,350.0	103.0	104.1	-96.00	13,458.8	-1,640.8	1,626.0	1,421.9	204.15	7.965	
24,469.4	11,180.0	24,717.7	11,350.0	103.4	104.6	-96.00	13,528.2	-1,641.1	1,626.0	1,421.0	205.04	7.930 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 #706H
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 #706H	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)			
0.0	0.0	0.0	0.0	3.0	3.0	-93.01	-71.6	-1,360.0	1,361.9	1,355.5	6.43	211.846	
100.0	100.0	100.0	100.0	3.2	3.2	-93.01	-71.6	-1,360.0	1,361.9	1,355.0	6.89	197.601	
200.0	200.0	200.0	200.0	3.5	3.5	-93.01	-71.6	-1,360.0	1,361.9	1,354.6	7.33	185.849	
300.0	300.0	300.0	300.0	3.7	3.7	-93.01	-71.6	-1,360.0	1,361.9	1,354.2	7.74	175.930	
400.0	400.0	400.0	400.0	3.9	3.9	-93.01	-71.6	-1,360.0	1,361.9	1,353.8	8.14	167.406	
500.0	500.0	500.0	500.0	4.1	4.1	-93.01	-71.6	-1,360.0	1,361.9	1,353.4	8.51	159.972	
600.0	600.0	600.0	600.0	4.2	4.2	-93.01	-71.6	-1,360.0	1,361.9	1,353.1	8.88	153.412	
700.0	700.0	700.0	700.0	4.4	4.4	-93.01	-71.6	-1,360.0	1,361.9	1,352.7	9.23	147.564	
800.0	800.0	800.0	800.0	4.6	4.6	-93.01	-71.6	-1,360.0	1,361.9	1,352.4	9.57	142.306	
900.0	900.0	900.0	900.0	4.8	4.8	-93.01	-71.6	-1,360.0	1,361.9	1,352.0	9.90	137.543	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-93.01	-71.6	-1,360.0	1,361.9	1,351.7	10.22	133.201	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-93.01	-71.6	-1,360.0	1,361.9	1,351.4	10.54	129.220	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-93.01	-71.6	-1,360.0	1,361.9	1,351.1	10.85	125.552	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-93.01	-71.6	-1,360.0	1,361.9	1,350.8	11.15	122.158	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-93.01	-71.6	-1,360.0	1,361.9	1,350.5	11.44	119.004	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-93.01	-71.6	-1,360.0	1,361.9	1,350.2	11.73	116.063	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-93.01	-71.6	-1,360.0	1,361.9	1,349.9	12.02	113.311	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-93.01	-71.6	-1,360.0	1,361.9	1,349.6	12.30	110.729	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-93.01	-71.6	-1,360.0	1,361.9	1,349.4	12.58	108.300	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-93.01	-71.6	-1,360.0	1,361.9	1,349.1	12.85	106.009	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-93.01	-71.6	-1,360.0	1,361.9	1,348.8	13.12	103.842	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-93.01	-71.6	-1,360.0	1,361.9	1,348.6	13.38	101.790	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-93.01	-71.6	-1,360.0	1,361.9	1,348.3	13.64	99.841	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-93.01	-71.6	-1,360.0	1,361.9	1,348.0	13.90	97.989	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-93.01	-71.6	-1,360.0	1,361.9	1,347.8	14.15	96.223	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-93.01	-71.6	-1,360.0	1,361.9	1,347.5	14.41	94.539	
2,600.0	2,600.0	2,654.9	2,654.8	7.2	7.3	-93.03	-71.8	-1,356.9	1,359.9	1,345.2	14.74	92.263	
2,700.0	2,700.0	2,809.2	2,808.9	7.3	7.5	-93.07	-72.3	-1,347.6	1,353.9	1,338.8	15.07	89.839	
2,800.0	2,800.0	2,962.5	2,961.4	7.4	7.8	-93.14	-73.1	-1,332.1	1,343.8	1,328.4	15.43	87.101	
2,900.0	2,900.0	3,086.3	3,084.1	7.5	8.0	-93.22	-74.0	-1,315.6	1,330.4	1,314.7	15.72	84.639	
3,000.0	3,000.0	3,185.4	3,182.2	7.7	8.2	-93.28	-74.7	-1,301.8	1,316.6	1,300.6	16.04	82.083	
3,100.0	3,100.0	3,284.4	3,280.2	7.8	8.4	-93.35	-75.4	-1,288.0	1,302.8	1,286.4	16.38	79.520	
3,200.0	3,200.0	3,383.4	3,378.3	7.9	8.6	-93.42	-76.1	-1,274.3	1,288.9	1,272.2	16.74	76.990	
3,300.0	3,300.0	3,482.4	3,476.3	8.0	8.9	-93.49	-76.8	-1,260.5	1,275.1	1,258.0	17.11	74.502	
3,400.0	3,400.0	3,581.5	3,574.4	8.1	9.1	-93.56	-77.6	-1,246.7	1,261.3	1,243.8	17.50	72.064	
3,500.0	3,500.0	3,680.5	3,672.5	8.3	9.4	-93.63	-78.3	-1,233.0	1,247.4	1,229.5	17.90	69.681	
3,600.0	3,600.0	3,779.5	3,770.5	8.4	9.7	-93.71	-79.0	-1,219.2	1,233.6	1,215.3	18.31	67.358	
3,700.0	3,700.0	3,878.6	3,868.6	8.5	10.0	-93.78	-79.7	-1,205.5	1,219.8	1,201.1	18.74	65.099	
3,800.0	3,800.0	3,977.6	3,966.7	8.6	10.3	-93.86	-80.4	-1,191.7	1,206.0	1,186.8	19.17	62.906	
3,900.0	3,900.0	4,076.6	4,064.7	8.7	10.6	-93.94	-81.2	-1,177.9	1,192.2	1,172.5	19.61	60.781	
4,000.0	4,000.0	4,175.6	4,162.8	8.8	10.9	-94.02	-81.9	-1,164.2	1,178.3	1,158.3	20.07	58.723	
4,100.0	4,100.0	4,274.7	4,260.8	8.9	11.3	-94.11	-82.6	-1,150.4	1,164.5	1,144.0	20.53	56.732	
4,200.0	4,200.0	4,373.7	4,358.9	9.1	11.6	-94.19	-83.3	-1,136.6	1,150.7	1,129.7	20.99	54.809	
4,300.0	4,300.0	4,464.9	4,449.3	9.2	11.9	-94.27	-84.0	-1,124.1	1,137.1	1,115.6	21.42	53.073	
4,400.0	4,400.0	4,547.9	4,531.6	9.3	12.2	-94.34	-84.5	-1,113.7	1,124.7	1,102.8	21.84	51.491	
4,500.0	4,500.0	4,631.1	4,614.3	9.4	12.5	-94.40	-85.0	-1,104.5	1,113.7	1,091.4	22.26	50.032	
4,600.0	4,600.0	4,714.6	4,697.4	9.5	12.8	-94.46	-85.4	-1,096.5	1,104.1	1,081.5	22.67	48.708	
4,700.0	4,700.0	4,800.0	4,782.5	9.6	13.0	-94.50	-85.8	-1,089.5	1,096.0	1,073.0	23.07	47.502	
4,800.0	4,800.0	4,882.3	4,864.6	9.7	13.3	-94.54	-86.1	-1,084.0	1,089.4	1,065.9	23.45	46.451	
4,900.0	4,900.0	4,966.3	4,948.6	9.8	13.5	-94.57	-86.3	-1,079.6	1,084.2	1,060.3	23.82	45.514	
5,000.0	5,000.0	5,050.5	5,032.7	9.9	13.8	-94.59	-86.5	-1,076.5	1,080.4	1,056.2	24.17	44.704	
5,100.0	5,100.0	5,134.8	5,116.9	10.0	14.0	-94.61	-86.6	-1,074.5	1,078.1	1,053.6	24.48	44.032	

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 #706H
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 #706H	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	5,200.0	5,219.0	5,201.2	10.1	14.2	-94.61	-86.6	-1,073.8	1,077.3	1,052.5	24.74	43.540	
5,236.0	5,236.0	5,253.9	5,236.0	10.2	14.2	-94.61	-86.6	-1,073.8	1,077.3	1,052.5	24.79	43.449	
5,300.0	5,300.0	5,317.9	5,300.0	10.2	14.2	-94.61	-86.6	-1,073.8	1,077.3	1,052.4	24.89	43.286	
5,400.0	5,400.0	5,417.9	5,400.0	10.4	14.3	-94.61	-86.6	-1,073.8	1,077.3	1,052.2	25.05	43.013	
5,500.0	5,500.0	5,517.9	5,500.0	10.5	14.3	-94.61	-86.6	-1,073.8	1,077.3	1,052.1	25.20	42.743	
5,600.0	5,600.0	5,617.9	5,600.0	10.6	14.4	-94.61	-86.6	-1,073.8	1,077.3	1,051.9	25.36	42.477	
5,700.0	5,700.0	5,717.9	5,700.0	10.7	14.5	-94.61	-86.6	-1,073.8	1,077.3	1,051.8	25.52	42.213	
5,800.0	5,800.0	5,817.9	5,800.0	10.8	14.5	-94.61	-86.6	-1,073.8	1,077.3	1,051.6	25.68	41.954	
5,900.0	5,900.0	5,917.9	5,900.0	10.9	14.6	-94.61	-86.6	-1,073.8	1,077.3	1,051.4	25.84	41.697	
6,000.0	6,000.0	6,017.9	6,000.0	11.0	14.7	-94.61	-86.6	-1,073.8	1,077.3	1,051.3	25.99	41.443	
6,100.0	6,100.0	6,117.9	6,100.0	11.1	14.7	-94.61	-86.6	-1,073.8	1,077.3	1,051.1	26.15	41.192	
6,200.0	6,200.0	6,217.9	6,200.0	11.2	14.8	-94.61	-86.6	-1,073.8	1,077.3	1,051.0	26.31	40.944	
6,300.0	6,300.0	6,317.9	6,300.0	11.3	14.9	-94.61	-86.6	-1,073.8	1,077.3	1,050.8	26.47	40.699	
6,400.0	6,400.0	6,417.9	6,400.0	11.4	14.9	-94.61	-86.6	-1,073.8	1,077.3	1,050.6	26.63	40.457	
6,500.0	6,500.0	6,517.9	6,500.0	11.5	15.0	-94.61	-86.6	-1,073.8	1,077.3	1,050.5	26.79	40.218	
6,600.0	6,600.0	6,617.9	6,600.0	11.6	15.0	-94.61	-86.6	-1,073.8	1,077.3	1,050.3	26.94	39.982	
6,700.0	6,700.0	6,717.9	6,700.0	11.7	15.1	-94.61	-86.6	-1,073.8	1,077.3	1,050.2	27.10	39.748	
6,800.0	6,800.0	6,817.9	6,800.0	11.8	15.2	-94.61	-86.6	-1,073.8	1,077.3	1,050.0	27.26	39.517	
6,900.0	6,900.0	6,917.9	6,900.0	11.9	15.2	-94.61	-86.6	-1,073.8	1,077.3	1,049.9	27.42	39.289	
7,000.0	7,000.0	7,017.9	7,000.0	12.0	15.3	-94.61	-86.6	-1,073.8	1,077.3	1,049.7	27.58	39.063	
7,100.0	7,100.0	7,117.9	7,100.0	12.1	15.4	-94.61	-86.6	-1,073.8	1,077.3	1,049.5	27.74	38.840	
7,200.0	7,200.0	7,217.9	7,200.0	12.2	15.4	-94.61	-86.6	-1,073.8	1,077.3	1,049.4	27.90	38.619	
7,300.0	7,300.0	7,317.9	7,300.0	12.3	15.5	-94.61	-86.6	-1,073.8	1,077.3	1,049.2	28.05	38.400	
7,400.0	7,400.0	7,417.9	7,400.0	12.4	15.6	-94.61	-86.6	-1,073.8	1,077.3	1,049.1	28.21	38.185	
7,500.0	7,500.0	7,517.9	7,500.0	12.5	15.6	-94.61	-86.6	-1,073.8	1,077.3	1,048.9	28.37	37.971	
7,600.0	7,600.0	7,617.9	7,600.0	12.6	15.7	-94.61	-86.6	-1,073.8	1,077.3	1,048.7	28.53	37.760	
7,700.0	7,700.0	7,717.9	7,700.0	12.7	15.8	-94.61	-86.6	-1,073.8	1,077.3	1,048.6	28.69	37.551	
7,800.0	7,800.0	7,817.9	7,800.0	12.8	15.8	-94.61	-86.6	-1,073.8	1,077.3	1,048.4	28.85	37.344	
7,900.0	7,900.0	7,917.9	7,900.0	12.9	15.9	-94.61	-86.6	-1,073.8	1,077.3	1,048.3	29.01	37.140	
8,000.0	8,000.0	8,017.9	8,000.0	13.0	16.0	-94.61	-86.6	-1,073.8	1,077.3	1,048.1	29.16	36.938	
8,100.0	8,100.0	8,117.9	8,100.0	13.1	16.0	-94.61	-86.6	-1,073.8	1,077.3	1,048.0	29.32	36.738	
8,200.0	8,200.0	8,217.9	8,200.0	13.2	16.1	-94.61	-86.6	-1,073.8	1,077.3	1,047.8	29.48	36.540	
8,300.0	8,300.0	8,317.9	8,300.0	13.3	16.2	-94.61	-86.6	-1,073.8	1,077.3	1,047.6	29.64	36.344	
8,400.0	8,400.0	8,417.9	8,400.0	13.4	16.2	-94.61	-86.6	-1,073.8	1,077.3	1,047.5	29.80	36.150	
8,500.0	8,500.0	8,517.9	8,500.0	13.5	16.3	-94.61	-86.6	-1,073.8	1,077.3	1,047.3	29.96	35.958	
8,600.0	8,600.0	8,617.9	8,600.0	13.6	16.4	-94.61	-86.6	-1,073.8	1,077.3	1,047.2	30.12	35.769	
8,700.0	8,700.0	8,717.9	8,700.0	13.6	16.5	-94.61	-86.6	-1,073.8	1,077.3	1,047.0	30.28	35.581	
8,800.0	8,800.0	8,817.9	8,800.0	13.7	16.5	-94.61	-86.6	-1,073.8	1,077.3	1,046.8	30.44	35.395	
8,900.0	8,900.0	8,917.9	8,900.0	13.8	16.6	-94.61	-86.6	-1,073.8	1,077.3	1,046.7	30.59	35.211	
9,000.0	9,000.0	9,017.9	9,000.0	13.9	16.7	-94.61	-86.6	-1,073.8	1,077.3	1,046.5	30.75	35.029	
9,100.0	9,100.0	9,117.9	9,100.0	14.0	16.7	-94.61	-86.6	-1,073.8	1,077.3	1,046.4	30.91	34.849	
9,200.0	9,200.0	9,217.9	9,200.0	14.1	16.8	-94.61	-86.6	-1,073.8	1,077.3	1,046.2	31.07	34.671	
9,300.0	9,300.0	9,317.9	9,300.0	14.2	16.9	-94.61	-86.6	-1,073.8	1,077.3	1,046.0	31.23	34.494	
9,400.0	9,400.0	9,417.9	9,400.0	14.3	16.9	-94.61	-86.6	-1,073.8	1,077.3	1,045.9	31.39	34.319	
9,500.0	9,500.0	9,517.9	9,500.0	14.4	17.0	-94.61	-86.6	-1,073.8	1,077.3	1,045.7	31.55	34.146	
9,600.0	9,600.0	9,617.9	9,600.0	14.5	17.1	-94.61	-86.6	-1,073.8	1,077.3	1,045.6	31.71	33.975	
9,700.0	9,700.0	9,717.9	9,700.0	14.6	17.1	-94.61	-86.6	-1,073.8	1,077.3	1,045.4	31.87	33.805	
9,800.0	9,800.0	9,817.9	9,800.0	14.7	17.2	-94.61	-86.6	-1,073.8	1,077.3	1,045.3	32.03	33.637	
9,900.0	9,900.0	9,917.9	9,900.0	14.8	17.3	-94.61	-86.6	-1,073.8	1,077.3	1,045.1	32.19	33.471	
10,000.0	10,000.0	10,017.9	10,000.0	14.9	17.3	-94.61	-86.6	-1,073.8	1,077.3	1,044.9	32.34	33.306	
10,100.0	10,100.0	10,117.9	10,100.0	15.0	17.4	-94.61	-86.6	-1,073.8	1,077.3	1,044.8	32.50	33.143	
10,200.0	10,200.0	10,217.9	10,200.0	15.1	17.5	-94.61	-86.6	-1,073.8	1,077.3	1,044.6	32.66	32.981	

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 #706H
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 #706H	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	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,300.0	10,300.0	10,317.9	10,300.0	15.2	17.6	-94.61	-86.6	-1,073.8	1,077.3	1,044.5	32.82	32.821		
10,400.0	10,400.0	10,417.9	10,400.0	15.3	17.6	-94.61	-86.6	-1,073.8	1,077.3	1,044.3	32.98	32.663		
10,500.0	10,500.0	10,517.9	10,500.0	15.3	17.7	-94.61	-86.6	-1,073.8	1,077.3	1,044.1	33.14	32.506		
10,600.0	10,600.0	10,617.9	10,600.0	15.4	17.8	-94.61	-86.6	-1,073.8	1,077.3	1,044.0	33.30	32.352 CC		
10,700.0	10,699.6	10,733.4	10,714.9	15.6	17.8	-96.91	-76.4	-1,073.8	1,077.5	1,044.1	33.43	32.229		
10,800.0	10,796.4	10,849.3	10,825.7	15.8	17.8	-96.57	-43.2	-1,074.0	1,078.4	1,044.8	33.55	32.139		
10,900.0	10,887.4	10,963.8	10,926.5	16.0	17.9	-96.00	10.7	-1,074.2	1,079.8	1,046.1	33.65	32.085		
11,000.0	10,969.9	11,076.2	11,013.1	16.2	18.0	-95.25	82.2	-1,074.5	1,081.8	1,048.1	33.74	32.067		
11,100.0	11,041.4	11,186.2	11,082.8	16.4	18.1	-94.33	167.1	-1,074.8	1,084.4	1,050.6	33.81	32.073		
11,200.0	11,099.7	11,293.5	11,133.9	16.6	18.2	-93.29	261.2	-1,075.2	1,087.6	1,053.7	33.90	32.086		
11,300.0	11,143.0	11,398.1	11,166.0	16.7	18.3	-92.16	360.6	-1,075.6	1,091.4	1,057.4	34.01	32.089		
11,400.0	11,170.0	11,499.9	11,179.4	16.8	18.4	-90.98	461.4	-1,076.0	1,095.6	1,061.4	34.17	32.064		
11,500.0	11,179.9	11,599.6	11,180.0	16.8	18.5	-90.03	561.1	-1,076.4	1,100.1	1,065.7	34.39	31.985		
11,600.0	11,180.0	11,699.6	11,180.0	16.9	18.7	-90.00	661.0	-1,076.8	1,103.2	1,068.4	34.75	31.749		
11,700.0	11,180.0	11,799.6	11,180.0	16.9	18.9	-90.00	761.0	-1,077.2	1,103.4	1,068.3	35.13	31.407		
11,800.0	11,180.0	11,899.6	11,180.0	16.9	19.1	-90.00	861.0	-1,077.6	1,103.4	1,067.8	35.59	31.001		
11,900.0	11,180.0	11,999.6	11,180.0	16.9	19.3	-90.00	961.0	-1,078.0	1,103.4	1,067.3	36.11	30.557		
12,000.0	11,180.0	12,099.6	11,180.0	17.1	19.6	-90.00	1,061.0	-1,078.4	1,103.4	1,066.8	36.68	30.079		
12,100.0	11,180.0	12,199.6	11,180.0	17.4	19.9	-90.00	1,161.0	-1,078.8	1,103.4	1,066.1	37.31	29.574		
12,200.0	11,180.0	12,299.6	11,180.0	17.7	20.2	-90.00	1,261.0	-1,079.2	1,103.4	1,065.5	37.99	29.047		
12,300.0	11,180.0	12,399.6	11,180.0	18.1	20.6	-90.00	1,361.0	-1,079.6	1,103.5	1,064.7	38.71	28.503		
12,400.0	11,180.0	12,499.6	11,180.0	18.5	21.0	-90.00	1,461.0	-1,080.0	1,103.5	1,064.0	39.48	27.947		
12,500.0	11,180.0	12,599.6	11,180.0	18.9	21.4	-90.00	1,561.0	-1,080.4	1,103.5	1,063.2	40.30	27.383		
12,600.0	11,180.0	12,699.6	11,180.0	19.4	21.8	-90.00	1,661.0	-1,080.8	1,103.5	1,062.3	41.15	26.816		
12,700.0	11,180.0	12,799.6	11,180.0	19.8	22.2	-90.00	1,761.0	-1,081.2	1,103.5	1,061.4	42.04	26.248		
12,800.0	11,180.0	12,899.6	11,180.0	20.3	22.7	-90.00	1,861.0	-1,081.6	1,103.5	1,060.5	42.97	25.683		
12,900.0	11,180.0	12,999.6	11,180.0	20.8	23.2	-90.00	1,961.0	-1,082.0	1,103.5	1,059.6	43.92	25.123		
13,000.0	11,180.0	13,099.6	11,180.0	21.3	23.6	-90.00	2,061.0	-1,082.4	1,103.5	1,058.6	44.91	24.569		
13,100.0	11,180.0	13,199.6	11,180.0	21.8	24.2	-90.00	2,161.0	-1,082.8	1,103.5	1,057.6	45.93	24.025		
13,200.0	11,180.0	13,299.6	11,180.0	22.4	24.7	-90.00	2,261.0	-1,083.2	1,103.5	1,056.5	46.98	23.491		
13,300.0	11,180.0	13,399.6	11,180.0	22.9	25.2	-90.00	2,361.0	-1,083.6	1,103.5	1,055.5	48.05	22.968		
13,400.0	11,180.0	13,499.6	11,180.0	23.5	25.7	-90.00	2,461.0	-1,083.9	1,103.5	1,054.4	49.14	22.457		
13,500.0	11,180.0	13,599.6	11,180.0	24.1	26.3	-90.00	2,561.0	-1,084.3	1,103.5	1,053.3	50.26	21.958		
13,600.0	11,180.0	13,699.6	11,180.0	24.7	26.9	-90.00	2,661.0	-1,084.7	1,103.5	1,052.1	51.39	21.473		
13,700.0	11,180.0	13,799.6	11,180.0	25.3	27.4	-90.00	2,761.0	-1,085.1	1,103.5	1,051.0	52.55	21.001		
13,800.0	11,180.0	13,899.6	11,180.0	25.9	28.0	-90.00	2,861.0	-1,085.5	1,103.5	1,049.8	53.72	20.543		
13,900.0	11,180.0	13,999.6	11,180.0	26.5	28.6	-90.00	2,961.0	-1,085.9	1,103.5	1,048.6	54.91	20.098		
14,000.0	11,180.0	14,099.6	11,180.0	27.1	29.2	-90.00	3,061.0	-1,086.3	1,103.5	1,047.4	56.11	19.666		
14,100.0	11,180.0	14,199.6	11,180.0	27.7	29.8	-90.00	3,161.0	-1,086.7	1,103.5	1,046.2	57.33	19.248		
14,200.0	11,180.0	14,299.6	11,180.0	28.4	30.5	-90.00	3,261.0	-1,087.1	1,103.6	1,045.0	58.57	18.843		
14,300.0	11,180.0	14,399.6	11,180.0	29.0	31.1	-90.00	3,361.0	-1,087.5	1,103.6	1,043.7	59.81	18.450		
14,400.0	11,180.0	14,499.6	11,180.0	29.7	31.7	-90.00	3,461.0	-1,087.9	1,103.6	1,042.5	61.07	18.070		
14,500.0	11,180.0	14,599.6	11,180.0	30.3	32.3	-90.00	3,561.0	-1,088.3	1,103.6	1,041.2	62.34	17.702		
14,600.0	11,180.0	14,699.6	11,180.0	31.0	33.0	-90.00	3,661.0	-1,088.7	1,103.6	1,040.0	63.62	17.346		
14,700.0	11,180.0	14,799.6	11,180.0	31.6	33.6	-90.00	3,761.0	-1,089.1	1,103.6	1,038.7	64.91	17.001		
14,800.0	11,180.0	14,899.6	11,180.0	32.3	34.3	-90.00	3,861.0	-1,089.5	1,103.6	1,037.4	66.21	16.667		
14,900.0	11,180.0	14,999.6	11,180.0	33.0	34.9	-90.00	3,961.0	-1,089.9	1,103.6	1,036.1	67.52	16.344		
15,000.0	11,180.0	15,099.6	11,180.0	33.6	35.6	-90.00	4,061.0	-1,090.3	1,103.6	1,034.8	68.84	16.031		
15,100.0	11,180.0	15,199.6	11,180.0	34.3	36.3	-90.00	4,161.0	-1,090.7	1,103.6	1,033.4	70.16	15.729		
15,200.0	11,180.0	15,299.6	11,180.0	35.0	36.9	-90.00	4,261.0	-1,091.1	1,103.6	1,032.1	71.50	15.436		
15,300.0	11,180.0	15,399.6	11,180.0	35.7	37.6	-90.00	4,361.0	-1,091.5	1,103.6	1,030.8	72.84	15.152		
15,400.0	11,180.0	15,499.6	11,180.0	36.4	38.3	-90.00	4,461.0	-1,091.9	1,103.6	1,029.4	74.18	14.877		

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 #706H
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 #706H	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)				
15,500.0	11,180.0	15,599.6	11,180.0	37.1	39.0	-90.00	4,561.0	-1,092.3	1,103.6	1,028.1	75.54	14.611		
15,600.0	11,180.0	15,699.6	11,180.0	37.8	39.6	-90.00	4,661.0	-1,092.7	1,103.6	1,026.7	76.89	14.353		
15,700.0	11,180.0	15,799.6	11,180.0	38.5	40.3	-90.00	4,761.0	-1,093.1	1,103.6	1,025.4	78.26	14.102		
15,800.0	11,180.0	15,899.6	11,180.0	39.2	41.0	-90.00	4,861.0	-1,093.5	1,103.6	1,024.0	79.63	13.860		
15,900.0	11,180.0	15,999.6	11,180.0	39.9	41.7	-90.00	4,961.0	-1,093.9	1,103.6	1,022.6	81.00	13.625		
16,000.0	11,180.0	16,099.6	11,180.0	40.6	42.4	-90.00	5,061.0	-1,094.3	1,103.6	1,021.3	82.38	13.397		
16,100.0	11,180.0	16,199.6	11,180.0	41.3	43.1	-90.00	5,161.0	-1,094.7	1,103.7	1,019.9	83.77	13.175		
16,200.0	11,180.0	16,299.6	11,180.0	42.0	43.8	-90.00	5,261.0	-1,095.1	1,103.7	1,018.5	85.15	12.961		
16,300.0	11,180.0	16,399.6	11,180.0	42.7	44.5	-90.00	5,361.0	-1,095.5	1,103.7	1,017.1	86.55	12.752		
16,400.0	11,180.0	16,499.6	11,180.0	43.4	45.2	-90.00	5,461.0	-1,095.9	1,103.7	1,015.7	87.94	12.550		
16,500.0	11,180.0	16,599.6	11,180.0	44.1	45.9	-90.00	5,561.0	-1,096.3	1,103.7	1,014.3	89.34	12.353		
16,600.0	11,180.0	16,699.6	11,180.0	44.9	46.6	-90.00	5,661.0	-1,096.7	1,103.7	1,012.9	90.75	12.162		
16,700.0	11,180.0	16,799.6	11,180.0	45.6	47.3	-90.00	5,761.0	-1,097.1	1,103.7	1,011.5	92.16	11.976		
16,800.0	11,180.0	16,899.6	11,180.0	46.3	48.0	-90.00	5,861.0	-1,097.5	1,103.7	1,010.1	93.57	11.796		
16,900.0	11,180.0	16,999.6	11,180.0	47.0	48.7	-90.00	5,961.0	-1,097.9	1,103.7	1,008.7	94.98	11.620		
17,000.0	11,180.0	17,099.6	11,180.0	47.7	49.4	-90.00	6,061.0	-1,098.3	1,103.7	1,007.3	96.40	11.450		
17,100.0	11,180.0	17,199.6	11,180.0	48.5	50.2	-90.00	6,161.0	-1,098.7	1,103.7	1,005.9	97.82	11.283		
17,200.0	11,180.0	17,299.6	11,180.0	49.2	50.9	-90.00	6,261.0	-1,099.1	1,103.7	1,004.5	99.24	11.122		
17,300.0	11,180.0	17,399.6	11,180.0	49.9	51.6	-90.00	6,361.0	-1,099.5	1,103.7	1,003.1	100.66	10.964		
17,400.0	11,180.0	17,499.6	11,180.0	50.7	52.3	-90.00	6,461.0	-1,099.9	1,103.7	1,001.6	102.09	10.811		
17,500.0	11,180.0	17,599.6	11,180.0	51.4	53.0	-90.00	6,561.0	-1,100.3	1,103.7	1,000.2	103.52	10.662		
17,600.0	11,180.0	17,699.6	11,180.0	52.1	53.8	-90.00	6,661.0	-1,100.7	1,103.7	998.8	104.95	10.516		
17,700.0	11,180.0	17,799.6	11,180.0	52.8	54.5	-90.00	6,761.0	-1,101.1	1,103.7	997.4	106.39	10.375		
17,800.0	11,180.0	17,899.6	11,180.0	53.6	55.2	-90.00	6,861.0	-1,101.5	1,103.7	995.9	107.82	10.237		
17,900.0	11,180.0	17,999.6	11,180.0	54.3	55.9	-90.00	6,961.0	-1,101.9	1,103.7	994.5	109.26	10.102		
18,000.0	11,180.0	18,099.6	11,180.0	55.0	56.7	-90.00	7,061.0	-1,102.3	1,103.8	993.1	110.70	9.970		
18,100.0	11,180.0	18,199.6	11,180.0	55.8	57.4	-90.00	7,161.0	-1,102.7	1,103.8	991.6	112.15	9.842		
18,200.0	11,180.0	18,299.6	11,180.0	56.5	58.1	-90.00	7,261.0	-1,103.1	1,103.8	990.2	113.59	9.717		
18,300.0	11,180.0	18,399.6	11,180.0	57.3	58.8	-90.00	7,361.0	-1,103.5	1,103.8	988.7	115.04	9.595		
18,400.0	11,180.0	18,499.6	11,180.0	58.0	59.6	-90.00	7,461.0	-1,103.9	1,103.8	987.3	116.48	9.476		
18,500.0	11,180.0	18,599.6	11,180.0	58.7	60.3	-90.00	7,561.0	-1,104.3	1,103.8	985.8	117.93	9.359		
18,600.0	11,180.0	18,699.6	11,180.0	59.5	61.0	-90.00	7,661.0	-1,104.7	1,103.8	984.4	119.38	9.246		
18,700.0	11,180.0	18,799.6	11,180.0	60.2	61.8	-90.00	7,761.0	-1,105.1	1,103.8	983.0	120.84	9.135		
18,800.0	11,180.0	18,899.6	11,180.0	60.9	62.5	-90.00	7,861.0	-1,105.5	1,103.8	981.5	122.29	9.026		
18,900.0	11,180.0	18,999.6	11,180.0	61.7	63.2	-90.00	7,961.0	-1,105.9	1,103.8	980.1	123.74	8.920		
19,000.0	11,180.0	19,099.6	11,180.0	62.4	64.0	-90.00	8,061.0	-1,106.3	1,103.8	978.6	125.20	8.816		
19,100.0	11,180.0	19,199.6	11,180.0	63.2	64.7	-90.00	8,161.0	-1,106.7	1,103.8	977.2	126.66	8.715		
19,200.0	11,180.0	19,299.6	11,180.0	63.9	65.4	-90.00	8,261.0	-1,107.1	1,103.8	975.7	128.12	8.616		
19,300.0	11,180.0	19,399.6	11,180.0	64.7	66.2	-90.00	8,361.0	-1,107.5	1,103.8	974.2	129.58	8.519		
19,400.0	11,180.0	19,499.6	11,180.0	65.4	66.9	-90.00	8,461.0	-1,107.9	1,103.8	972.8	131.04	8.424		
19,500.0	11,180.0	19,599.6	11,180.0	66.1	67.7	-90.00	8,561.0	-1,108.3	1,103.8	971.3	132.50	8.331		
19,600.0	11,180.0	19,699.6	11,180.0	66.9	68.4	-90.00	8,661.0	-1,108.7	1,103.8	969.9	133.97	8.240		
19,700.0	11,180.0	19,799.6	11,180.0	67.6	69.1	-90.00	8,761.0	-1,109.1	1,103.8	968.4	135.43	8.151		
19,800.0	11,180.0	19,899.6	11,180.0	68.4	69.9	-90.00	8,861.0	-1,109.5	1,103.8	967.0	136.90	8.063		
19,900.0	11,180.0	19,999.6	11,180.0	69.1	70.6	-90.00	8,961.0	-1,109.9	1,103.9	965.5	138.36	7.978		
20,000.0	11,180.0	20,099.6	11,180.0	69.9	71.4	-90.00	9,061.0	-1,110.3	1,103.9	964.0	139.83	7.894		
20,100.0	11,180.0	20,199.6	11,180.0	70.6	72.1	-90.00	9,161.0	-1,110.7	1,103.9	962.6	141.30	7.812		
20,200.0	11,180.0	20,299.6	11,180.0	71.4	72.8	-90.00	9,261.0	-1,111.1	1,103.9	961.1	142.77	7.732		
20,300.0	11,180.0	20,399.6	11,180.0	72.1	73.6	-90.00	9,361.0	-1,111.5	1,103.9	959.6	144.24	7.653		
20,400.0	11,180.0	20,499.6	11,180.0	72.9	74.3	-90.00	9,460.9	-1,111.9	1,103.9	958.2	145.71	7.576		
20,500.0	11,180.0	20,599.6	11,180.0	73.6	75.1	-90.00	9,560.9	-1,112.3	1,103.9	956.7	147.18	7.500		
20,600.0	11,180.0	20,699.6	11,180.0	74.4	75.8	-90.00	9,660.9	-1,112.7	1,103.9	955.2	148.65	7.426		

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 #706H
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 #706H	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		Rule Assigned:	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	11,180.0	20,799.6	11,180.0	75.1	76.6	-90.00	9,760.9	-1,113.1	1,103.9	953.8	150.13	7.353	
20,800.0	11,180.0	20,899.6	11,180.0	75.9	77.3	-90.00	9,860.9	-1,113.5	1,103.9	952.3	151.60	7.282	
20,900.0	11,180.0	20,999.6	11,180.0	76.6	78.1	-90.00	9,960.9	-1,113.9	1,103.9	950.8	153.08	7.211	
21,000.0	11,180.0	21,099.6	11,180.0	77.4	78.8	-90.00	10,060.9	-1,114.3	1,103.9	949.4	154.55	7.143	
21,100.0	11,180.0	21,199.6	11,180.0	78.1	79.6	-90.00	10,160.9	-1,114.7	1,103.9	947.9	156.03	7.075	
21,200.0	11,180.0	21,299.6	11,180.0	78.9	80.3	-90.00	10,260.9	-1,115.1	1,103.9	946.4	157.51	7.009	
21,300.0	11,180.0	21,399.6	11,180.0	79.6	81.0	-90.00	10,360.9	-1,115.5	1,103.9	944.9	158.98	6.944	
21,400.0	11,180.0	21,499.6	11,180.0	80.4	81.8	-90.00	10,460.9	-1,115.9	1,103.9	943.5	160.46	6.880	
21,500.0	11,180.0	21,599.6	11,180.0	81.1	82.5	-90.00	10,560.9	-1,116.3	1,103.9	942.0	161.94	6.817	
21,600.0	11,180.0	21,699.6	11,180.0	81.9	83.3	-90.00	10,660.9	-1,116.7	1,103.9	940.5	163.42	6.755	
21,700.0	11,180.0	21,799.6	11,180.0	82.6	84.0	-90.00	10,760.9	-1,117.1	1,104.0	939.0	164.90	6.695	
21,800.0	11,180.0	21,899.6	11,180.0	83.4	84.8	-90.00	10,860.9	-1,117.5	1,104.0	937.6	166.38	6.635	
21,900.0	11,180.0	21,999.6	11,180.0	84.1	85.5	-90.00	10,960.9	-1,117.9	1,104.0	936.1	167.86	6.577	
22,000.0	11,180.0	22,099.6	11,180.0	84.9	86.3	-90.00	11,060.9	-1,118.3	1,104.0	934.6	169.35	6.519	
22,100.0	11,180.0	22,199.6	11,180.0	85.6	87.0	-90.00	11,160.9	-1,118.6	1,104.0	933.1	170.83	6.462	
22,200.0	11,180.0	22,299.6	11,180.0	86.4	87.8	-90.00	11,260.9	-1,119.0	1,104.0	931.7	172.31	6.407	
22,300.0	11,180.0	22,399.6	11,180.0	87.1	88.5	-90.00	11,360.9	-1,119.4	1,104.0	930.2	173.79	6.352	
22,400.0	11,180.0	22,499.6	11,180.0	87.9	89.3	-90.00	11,460.9	-1,119.8	1,104.0	928.7	175.28	6.298	
22,500.0	11,180.0	22,599.6	11,180.0	88.6	90.0	-90.00	11,560.9	-1,120.2	1,104.0	927.2	176.76	6.246	
22,600.0	11,180.0	22,699.6	11,180.0	89.4	90.8	-90.00	11,660.9	-1,120.6	1,104.0	925.8	178.25	6.194	
22,700.0	11,180.0	22,799.6	11,180.0	90.2	91.5	-90.00	11,760.9	-1,121.0	1,104.0	924.3	179.73	6.142	
22,800.0	11,180.0	22,899.6	11,180.0	90.9	92.3	-90.00	11,860.9	-1,121.4	1,104.0	922.8	181.22	6.092	
22,900.0	11,180.0	22,999.6	11,180.0	91.7	93.0	-90.00	11,960.9	-1,121.8	1,104.0	921.3	182.71	6.043	
23,000.0	11,180.0	23,099.6	11,180.0	92.4	93.8	-90.00	12,060.9	-1,122.2	1,104.0	919.8	184.19	5.994	
23,100.0	11,180.0	23,199.6	11,180.0	93.2	94.5	-90.00	12,160.9	-1,122.6	1,104.0	918.3	185.68	5.946	
23,200.0	11,180.0	23,299.6	11,180.0	93.9	95.3	-90.00	12,260.9	-1,123.0	1,104.0	916.9	187.17	5.899	
23,300.0	11,180.0	23,399.6	11,180.0	94.7	96.1	-90.00	12,360.9	-1,123.4	1,104.0	915.4	188.65	5.852	
23,400.0	11,180.0	23,499.6	11,180.0	95.4	96.8	-90.00	12,460.9	-1,123.8	1,104.0	913.9	190.14	5.806	
23,500.0	11,180.0	23,599.6	11,180.0	96.2	97.6	-90.00	12,560.9	-1,124.2	1,104.0	912.4	191.63	5.761	
23,600.0	11,180.0	23,699.6	11,180.0	96.9	98.3	-90.00	12,660.9	-1,124.6	1,104.1	910.9	193.12	5.717	
23,700.0	11,180.0	23,799.6	11,180.0	97.7	99.1	-90.00	12,760.9	-1,125.0	1,104.1	909.4	194.61	5.673	
23,800.0	11,180.0	23,899.6	11,180.0	98.5	99.8	-90.00	12,860.9	-1,125.4	1,104.1	908.0	196.10	5.630	
23,900.0	11,180.0	23,999.6	11,180.0	99.2	100.6	-90.00	12,960.9	-1,125.8	1,104.1	906.5	197.59	5.588	
24,000.0	11,180.0	24,099.6	11,180.0	100.0	101.3	-90.00	13,060.9	-1,126.2	1,104.1	905.0	199.08	5.546	
24,100.0	11,180.0	24,199.6	11,180.0	100.7	102.1	-90.00	13,160.9	-1,126.6	1,104.1	903.5	200.57	5.505	
24,200.0	11,180.0	24,299.6	11,180.0	101.5	102.8	-90.00	13,260.9	-1,127.0	1,104.1	902.0	202.06	5.464	
24,300.0	11,180.0	24,399.6	11,180.0	102.2	103.6	-90.00	13,360.9	-1,127.4	1,104.1	900.5	203.55	5.424	
24,400.0	11,180.0	24,499.6	11,180.0	103.0	104.3	-90.00	13,460.9	-1,127.8	1,104.1	899.1	205.04	5.385	
24,469.4	11,180.0	24,568.9	11,180.0	103.4	104.9	-90.00	13,530.3	-1,128.1	1,104.1	898.1	205.96	5.361 ES, 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 #706H
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 #706H	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 (°)	+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	-93.08	-71.6	-1,330.0	1,332.0	1,325.5	6.43	207.184	
100.0	100.0	100.0	100.0	3.2	3.2	-93.08	-71.6	-1,330.0	1,332.0	1,325.1	6.89	193.253	
200.0	200.0	200.0	200.0	3.5	3.5	-93.08	-71.6	-1,330.0	1,332.0	1,324.6	7.33	181.760	
300.0	300.0	300.0	300.0	3.7	3.7	-93.08	-71.6	-1,330.0	1,332.0	1,324.2	7.74	172.059	
400.0	400.0	400.0	400.0	3.9	3.9	-93.08	-71.6	-1,330.0	1,332.0	1,323.8	8.14	163.722	
500.0	500.0	500.0	500.0	4.1	4.1	-93.08	-71.6	-1,330.0	1,332.0	1,323.5	8.51	156.452	
600.0	600.0	600.0	600.0	4.2	4.2	-93.08	-71.6	-1,330.0	1,332.0	1,323.1	8.88	150.036	
700.0	700.0	700.0	700.0	4.4	4.4	-93.08	-71.6	-1,330.0	1,332.0	1,322.7	9.23	144.317	
800.0	800.0	800.0	800.0	4.6	4.6	-93.08	-71.6	-1,330.0	1,332.0	1,322.4	9.57	139.174	
900.0	900.0	900.0	900.0	4.8	4.8	-93.08	-71.6	-1,330.0	1,332.0	1,322.1	9.90	134.516	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-93.08	-71.6	-1,330.0	1,332.0	1,321.7	10.22	130.270	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-93.08	-71.6	-1,330.0	1,332.0	1,321.4	10.54	126.376	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-93.08	-71.6	-1,330.0	1,332.0	1,321.1	10.85	122.789	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-93.08	-71.6	-1,330.0	1,332.0	1,320.8	11.15	119.470	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-93.08	-71.6	-1,330.0	1,332.0	1,320.5	11.44	116.385	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-93.08	-71.6	-1,330.0	1,332.0	1,320.2	11.73	113.509	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-93.08	-71.6	-1,330.0	1,332.0	1,319.9	12.02	110.818	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-93.08	-71.6	-1,330.0	1,332.0	1,319.7	12.30	108.293	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-93.08	-71.6	-1,330.0	1,332.0	1,319.4	12.58	105.917	
1,900.0	1,900.0	1,930.3	1,930.3	6.3	6.3	-93.15	-73.2	-1,328.5	1,330.8	1,317.9	12.88	103.326	
2,000.0	2,000.0	2,060.3	2,060.1	6.4	6.5	-93.37	-77.9	-1,323.8	1,327.4	1,314.3	13.17	100.805	
2,100.0	2,100.0	2,189.8	2,189.1	6.5	6.8	-93.72	-85.7	-1,316.0	1,321.8	1,308.3	13.46	98.186	
2,200.0	2,200.0	2,291.6	2,290.3	6.7	6.9	-94.07	-93.2	-1,308.5	1,314.9	1,301.2	13.73	95.792	
2,300.0	2,300.0	2,391.0	2,389.2	6.8	7.1	-94.42	-100.5	-1,301.1	1,308.1	1,294.1	13.99	93.468	
2,400.0	2,400.0	2,490.5	2,488.1	6.9	7.3	-94.77	-107.9	-1,293.8	1,301.3	1,287.0	14.27	91.199	
2,500.0	2,500.0	2,589.9	2,587.0	7.0	7.6	-95.12	-115.2	-1,286.4	1,294.5	1,280.0	14.55	88.988	
2,600.0	2,600.0	2,689.4	2,686.0	7.2	7.8	-95.47	-122.6	-1,279.1	1,287.8	1,273.0	14.83	86.812	
2,700.0	2,700.0	2,839.0	2,834.7	7.3	8.2	-95.94	-131.6	-1,265.6	1,279.5	1,264.3	15.23	84.036	
2,800.0	2,800.0	2,996.0	2,990.2	7.4	8.6	-96.22	-135.7	-1,245.0	1,266.7	1,251.0	15.69	80.750	
2,900.0	2,900.0	3,124.3	3,116.8	7.5	8.9	-96.30	-135.1	-1,223.6	1,250.0	1,233.9	16.11	77.584	
3,000.0	3,000.0	3,222.8	3,213.7	7.7	9.2	-96.35	-134.2	-1,206.5	1,232.6	1,216.1	16.54	74.529	
3,100.0	3,100.0	3,321.3	3,310.7	7.8	9.5	-96.39	-133.2	-1,189.5	1,215.3	1,198.3	16.97	71.600	
3,200.0	3,200.0	3,419.7	3,407.7	7.9	9.8	-96.44	-132.2	-1,172.4	1,198.0	1,180.5	17.42	68.765	
3,300.0	3,300.0	3,518.2	3,504.7	8.0	10.1	-96.48	-131.3	-1,155.3	1,180.6	1,162.7	17.88	66.027	
3,400.0	3,400.0	3,616.7	3,601.7	8.1	10.4	-96.53	-130.3	-1,138.2	1,163.3	1,144.9	18.35	63.387	
3,500.0	3,500.0	3,715.2	3,698.7	8.3	10.8	-96.58	-129.3	-1,121.2	1,145.9	1,127.1	18.83	60.846	
3,600.0	3,600.0	3,813.7	3,795.6	8.4	11.1	-96.63	-128.4	-1,104.1	1,128.6	1,109.3	19.32	58.403	
3,700.0	3,700.0	3,912.1	3,892.6	8.5	11.4	-96.68	-127.4	-1,087.0	1,111.3	1,091.4	19.82	56.056	
3,800.0	3,800.0	4,010.6	3,989.6	8.6	11.8	-96.74	-126.4	-1,069.9	1,093.9	1,073.6	20.33	53.803	
3,900.0	3,900.0	4,109.1	4,086.6	8.7	12.2	-96.80	-125.5	-1,052.9	1,076.6	1,055.8	20.85	51.641	
4,000.0	4,000.0	4,207.6	4,183.6	8.8	12.5	-96.85	-124.5	-1,035.8	1,059.3	1,037.9	21.37	49.568	
4,100.0	4,100.0	4,306.1	4,280.6	8.9	12.9	-96.91	-123.5	-1,018.7	1,041.9	1,020.0	21.90	47.580	
4,200.0	4,200.0	4,404.5	4,377.6	9.1	13.3	-96.98	-122.5	-1,001.6	1,024.6	1,002.2	22.43	45.673	
4,300.0	4,300.0	4,503.0	4,474.5	9.2	13.6	-97.04	-121.6	-984.6	1,007.3	984.3	22.97	43.845	
4,400.0	4,400.0	4,601.5	4,571.5	9.3	14.0	-97.11	-120.6	-967.5	990.0	966.4	23.52	42.092	
4,500.0	4,500.0	4,700.0	4,668.5	9.4	14.4	-97.17	-119.6	-950.4	972.6	948.6	24.07	40.411	
4,600.0	4,600.0	4,798.5	4,765.5	9.5	14.8	-97.25	-118.7	-933.3	955.3	930.7	24.62	38.798	
4,700.0	4,700.0	4,897.0	4,862.5	9.6	15.2	-97.32	-117.7	-916.3	938.0	912.8	25.18	37.250	
4,800.0	4,800.0	4,995.4	4,959.5	9.7	15.6	-97.40	-116.7	-899.2	920.7	894.9	25.74	35.764	
4,900.0	4,900.0	5,093.9	5,056.4	9.8	16.0	-97.48	-115.8	-882.1	903.3	877.0	26.31	34.337	
5,000.0	5,000.0	5,192.4	5,153.4	9.9	16.4	-97.56	-114.8	-865.1	886.0	859.1	26.88	32.966	
5,100.0	5,100.0	5,290.9	5,250.4	10.0	16.8	-97.64	-113.8	-848.0	868.7	841.3	27.45	31.649	

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

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Anticollision Report

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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 #706H	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)			
5,200.0	5,200.0	5,389.4	5,347.4	10.1	17.2	-97.73	-112.9	-830.9	851.4	823.4	28.02	30.383	
5,300.0	5,300.0	5,487.8	5,444.4	10.2	17.6	-97.83	-111.9	-813.8	834.1	805.5	28.60	29.165	
5,400.0	5,400.0	5,586.3	5,541.4	10.4	18.0	-97.92	-110.9	-796.8	816.8	787.6	29.18	27.994	
5,500.0	5,500.0	5,684.8	5,638.4	10.5	18.5	-98.03	-109.9	-779.7	799.5	769.7	29.76	26.866	
5,600.0	5,600.0	5,783.3	5,735.3	10.6	18.9	-98.13	-109.0	-762.6	782.2	751.8	30.34	25.779	
5,700.0	5,700.0	5,881.8	5,832.3	10.7	19.3	-98.24	-108.0	-745.5	764.9	733.9	30.92	24.733	
5,800.0	5,800.0	5,980.2	5,929.3	10.8	19.7	-98.36	-107.0	-728.5	747.6	716.0	31.51	23.724	
5,900.0	5,900.0	6,078.7	6,026.3	10.9	20.1	-98.48	-106.1	-711.4	730.3	698.2	32.10	22.751	
6,000.0	6,000.0	6,177.2	6,123.3	11.0	20.6	-98.61	-105.1	-694.3	713.0	680.3	32.69	21.812	
6,100.0	6,100.0	6,275.7	6,220.3	11.1	21.0	-98.74	-104.1	-677.2	695.7	662.4	33.28	20.906	
6,200.0	6,200.0	6,374.2	6,317.2	11.2	21.4	-98.88	-103.2	-660.2	678.4	644.5	33.87	20.031	
6,300.0	6,300.0	6,470.1	6,411.7	11.3	21.8	-99.02	-102.2	-643.6	661.2	626.7	34.43	19.204	
6,400.0	6,400.0	6,558.7	6,499.2	11.4	22.2	-99.15	-101.4	-629.2	645.0	610.1	34.96	18.452	
6,500.0	6,500.0	6,647.8	6,587.3	11.5	22.5	-99.28	-100.7	-616.2	630.4	594.9	35.48	17.768	
6,600.0	6,600.0	6,737.2	6,676.0	11.6	22.9	-99.39	-100.0	-604.4	617.3	581.3	35.99	17.154	
6,700.0	6,700.0	6,827.0	6,765.1	11.7	23.3	-99.50	-99.4	-594.0	605.8	569.3	36.48	16.607	
6,800.0	6,800.0	6,917.1	6,854.8	11.8	23.6	-99.59	-98.9	-585.0	595.8	558.9	36.95	16.125	
6,900.0	6,900.0	7,007.5	6,944.8	11.9	24.0	-99.68	-98.5	-577.4	587.4	550.0	37.40	15.705	
7,000.0	7,000.0	7,100.0	7,037.1	12.0	24.3	-99.75	-98.1	-571.0	580.6	542.7	37.85	15.340	
7,100.0	7,100.0	7,188.9	7,125.8	12.1	24.6	-99.80	-97.8	-566.3	575.3	537.0	38.23	15.048	
7,200.0	7,200.0	7,279.8	7,216.7	12.2	24.9	-99.84	-97.6	-562.9	571.6	533.0	38.59	14.810	
7,300.0	7,300.0	7,370.7	7,307.6	12.3	25.1	-99.86	-97.5	-561.0	569.4	530.5	38.91	14.636	
7,400.0	7,400.0	7,463.1	7,400.0	12.4	25.2	-99.87	-97.5	-560.5	568.9	528.8	39.09	14.555	
7,500.0	7,500.0	7,563.1	7,500.0	12.5	25.3	-99.87	-97.5	-560.5	568.9	529.7	39.18	14.519	
7,600.0	7,600.0	7,663.1	7,600.0	12.6	25.3	-99.87	-97.5	-560.5	568.9	529.6	39.29	14.481	
7,700.0	7,700.0	7,763.1	7,700.0	12.7	25.3	-99.87	-97.5	-560.5	568.9	529.5	39.39	14.442	
7,800.0	7,800.0	7,863.1	7,800.0	12.8	25.4	-99.87	-97.5	-560.5	568.9	529.4	39.49	14.404	
7,900.0	7,900.0	7,963.1	7,900.0	12.9	25.4	-99.87	-97.5	-560.5	568.9	529.3	39.60	14.366	
8,000.0	8,000.0	8,063.1	8,000.0	13.0	25.4	-99.87	-97.5	-560.5	568.9	529.2	39.70	14.328	
8,100.0	8,100.0	8,163.1	8,100.0	13.1	25.5	-99.87	-97.5	-560.5	568.9	529.1	39.81	14.290	
8,200.0	8,200.0	8,263.1	8,200.0	13.2	25.5	-99.87	-97.5	-560.5	568.9	529.0	39.92	14.252	
8,300.0	8,300.0	8,363.1	8,300.0	13.3	25.5	-99.87	-97.5	-560.5	568.9	528.9	40.02	14.214	
8,400.0	8,400.0	8,463.1	8,400.0	13.4	25.6	-99.87	-97.5	-560.5	568.9	528.7	40.13	14.176	
8,500.0	8,500.0	8,563.1	8,500.0	13.5	25.6	-99.87	-97.5	-560.5	568.9	528.6	40.24	14.138	
8,600.0	8,600.0	8,663.1	8,600.0	13.6	25.6	-99.87	-97.5	-560.5	568.9	528.5	40.34	14.101	
8,700.0	8,700.0	8,763.1	8,700.0	13.6	25.7	-99.87	-97.5	-560.5	568.9	528.4	40.45	14.063	
8,800.0	8,800.0	8,863.1	8,800.0	13.7	25.7	-99.87	-97.5	-560.5	568.9	528.3	40.56	14.026	
8,900.0	8,900.0	8,963.1	8,900.0	13.8	25.7	-99.87	-97.5	-560.5	568.9	528.2	40.67	13.988	
9,000.0	9,000.0	9,063.1	9,000.0	13.9	25.8	-99.87	-97.5	-560.5	568.9	528.1	40.78	13.951	
9,100.0	9,100.0	9,163.1	9,100.0	14.0	25.8	-99.87	-97.5	-560.5	568.9	528.0	40.89	13.914	
9,200.0	9,200.0	9,263.1	9,200.0	14.1	25.9	-99.87	-97.5	-560.5	568.9	527.9	41.00	13.876	
9,300.0	9,300.0	9,363.1	9,300.0	14.2	25.9	-99.87	-97.5	-560.5	568.9	527.8	41.11	13.839	
9,400.0	9,400.0	9,463.1	9,400.0	14.3	25.9	-99.87	-97.5	-560.5	568.9	527.7	41.22	13.802	
9,500.0	9,500.0	9,563.1	9,500.0	14.4	26.0	-99.87	-97.5	-560.5	568.9	527.5	41.33	13.765	
9,600.0	9,600.0	9,663.1	9,600.0	14.5	26.0	-99.87	-97.5	-560.5	568.9	527.4	41.44	13.728	
9,700.0	9,700.0	9,763.1	9,700.0	14.6	26.0	-99.87	-97.5	-560.5	568.9	527.3	41.55	13.692	
9,800.0	9,800.0	9,863.1	9,800.0	14.7	26.1	-99.87	-97.5	-560.5	568.9	527.2	41.66	13.655	
9,900.0	9,900.0	9,963.1	9,900.0	14.8	26.1	-99.87	-97.5	-560.5	568.9	527.1	41.77	13.618	
10,000.0	10,000.0	10,063.1	10,000.0	14.9	26.1	-99.87	-97.5	-560.5	568.9	527.0	41.88	13.582	
10,100.0	10,100.0	10,163.1	10,100.0	15.0	26.2	-99.87	-97.5	-560.5	568.9	526.9	42.00	13.546	
10,200.0	10,200.0	10,263.1	10,200.0	15.1	26.2	-99.87	-97.5	-560.5	568.9	526.8	42.11	13.509	
10,300.0	10,300.0	10,363.1	10,300.0	15.2	26.3	-99.87	-97.5	-560.5	568.9	526.7	42.22	13.473	

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 #706H
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 #706H	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			Offset Wellbore Centre		Distance				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		
10,400.0	10,400.0	10,463.1	10,400.0	15.3	26.3	-99.87	-97.5	-560.5	568.9	526.5	42.34	13.437		
10,500.0	10,500.0	10,563.1	10,500.0	15.3	26.3	-99.87	-97.5	-560.5	568.9	526.4	42.45	13.401		
10,600.0	10,600.0	10,663.1	10,600.0	15.4	26.4	-99.87	-97.5	-560.5	568.9	526.3	42.57	13.364	CC	
10,700.0	10,699.6	10,762.7	10,699.6	15.6	26.4	-102.84	-97.5	-560.5	570.5	527.9	42.60	13.393		
10,800.0	10,796.4	10,865.0	10,801.9	15.8	26.4	-104.69	-97.0	-560.5	576.5	534.0	42.50	13.566		
10,900.0	10,887.4	10,992.8	10,927.9	16.0	26.5	-107.12	-77.3	-560.5	584.8	542.1	42.67	13.705		
11,000.0	10,969.9	11,129.9	11,054.6	16.2	26.5	-108.95	-25.7	-560.7	593.1	550.0	43.15	13.746		
11,100.0	11,041.4	11,275.1	11,171.4	16.4	26.5	-109.99	59.9	-561.1	600.5	556.6	43.90	13.680		
11,200.0	11,099.7	11,425.3	11,265.6	16.6	26.6	-110.10	176.3	-561.6	605.8	561.0	44.77	13.531		
11,300.0	11,143.0	11,576.2	11,326.7	16.7	26.6	-109.21	313.7	-562.1	608.7	563.2	45.54	13.368		
11,400.0	11,170.0	11,723.2	11,349.7	16.8	26.8	-107.43	458.5	-562.7	609.4	563.4	46.01	13.245		
11,417.5	11,173.0	11,748.2	11,349.9	16.8	26.8	-107.04	483.6	-562.8	609.3	563.2	46.06	13.230		
11,500.0	11,179.9	11,827.8	11,350.0	16.8	26.9	-106.20	563.1	-563.1	611.0	564.7	46.30	13.196		
11,600.0	11,180.0	11,927.7	11,350.0	16.9	27.0	-106.08	663.1	-563.5	613.9	567.1	46.76	13.128		
11,700.0	11,180.0	12,027.7	11,350.0	16.9	27.2	-106.07	763.1	-563.9	614.2	566.9	47.27	12.994		
11,800.0	11,180.0	12,127.7	11,350.0	16.9	27.3	-106.07	863.1	-564.3	614.2	566.3	47.82	12.843		
11,900.0	11,180.0	12,227.7	11,350.0	16.9	27.5	-106.07	963.1	-564.7	614.2	565.8	48.41	12.686		
12,000.0	11,180.0	12,327.7	11,350.0	17.1	27.8	-106.07	1,063.1	-565.1	614.2	565.1	49.05	12.521		
12,100.0	11,180.0	12,427.7	11,350.0	17.4	28.0	-106.07	1,163.1	-565.5	614.2	564.5	49.72	12.352		
12,200.0	11,180.0	12,527.7	11,350.0	17.7	28.3	-106.07	1,263.0	-565.9	614.2	563.8	50.44	12.178		
12,300.0	11,180.0	12,627.7	11,350.0	18.1	28.5	-106.07	1,363.0	-566.3	614.2	563.0	51.18	12.000		
12,400.0	11,180.0	12,727.7	11,350.0	18.5	28.8	-106.07	1,463.0	-566.7	614.2	562.2	51.96	11.820		
12,500.0	11,180.0	12,827.7	11,350.0	18.9	29.1	-106.07	1,563.0	-567.1	614.2	561.4	52.77	11.639		
12,600.0	11,180.0	12,927.7	11,350.0	19.4	29.5	-106.07	1,663.0	-567.5	614.2	560.6	53.62	11.456		
12,700.0	11,180.0	13,027.7	11,350.0	19.8	29.8	-106.07	1,763.0	-567.9	614.2	559.7	54.49	11.272		
12,800.0	11,180.0	13,127.7	11,350.0	20.3	30.2	-106.07	1,863.0	-568.3	614.2	558.8	55.39	11.089		
12,900.0	11,180.0	13,227.7	11,350.0	20.8	30.5	-106.07	1,963.0	-568.7	614.2	557.9	56.32	10.907		
13,000.0	11,180.0	13,327.7	11,350.0	21.3	30.9	-106.07	2,063.0	-569.1	614.2	557.0	57.27	10.725		
13,100.0	11,180.0	13,427.7	11,350.0	21.8	31.3	-106.07	2,163.0	-569.5	614.3	556.0	58.25	10.546		
13,200.0	11,180.0	13,527.7	11,350.0	22.4	31.8	-106.07	2,263.0	-569.9	614.3	555.0	59.25	10.368		
13,300.0	11,180.0	13,627.7	11,350.0	22.9	32.2	-106.07	2,363.0	-570.3	614.3	554.0	60.27	10.192		
13,400.0	11,180.0	13,727.7	11,350.0	23.5	32.6	-106.07	2,463.0	-570.7	614.3	553.0	61.31	10.019		
13,500.0	11,180.0	13,827.7	11,350.0	24.1	33.1	-106.07	2,563.0	-571.1	614.3	551.9	62.37	9.849		
13,600.0	11,180.0	13,927.7	11,350.0	24.7	33.6	-106.07	2,663.0	-571.5	614.3	550.8	63.45	9.682		
13,700.0	11,180.0	14,027.7	11,350.0	25.3	34.0	-106.07	2,763.0	-571.9	614.3	549.7	64.55	9.517		
13,800.0	11,180.0	14,127.7	11,350.0	25.9	34.5	-106.07	2,863.0	-572.3	614.3	548.6	65.66	9.356		
13,900.0	11,180.0	14,227.7	11,350.0	26.5	35.0	-106.07	2,963.0	-572.7	614.3	547.5	66.79	9.197		
14,000.0	11,180.0	14,327.7	11,350.0	27.1	35.5	-106.07	3,063.0	-573.1	614.3	546.4	67.94	9.042		
14,100.0	11,180.0	14,427.7	11,350.0	27.7	36.0	-106.07	3,163.0	-573.5	614.3	545.2	69.10	8.891		
14,200.0	11,180.0	14,527.7	11,350.0	28.4	36.6	-106.06	3,263.0	-573.9	614.3	544.1	70.27	8.742		
14,300.0	11,180.0	14,627.7	11,350.0	29.0	37.1	-106.06	3,363.0	-574.3	614.3	542.9	71.46	8.597		
14,400.0	11,180.0	14,727.7	11,350.0	29.7	37.6	-106.06	3,463.0	-574.7	614.3	541.7	72.65	8.456		
14,500.0	11,180.0	14,827.7	11,350.0	30.3	38.2	-106.06	3,563.0	-575.1	614.3	540.5	73.87	8.317		
14,600.0	11,180.0	14,927.7	11,350.0	31.0	38.7	-106.06	3,663.0	-575.5	614.4	539.3	75.09	8.182		
14,700.0	11,180.0	15,027.7	11,350.0	31.6	39.3	-106.06	3,763.0	-575.9	614.4	538.0	76.32	8.050		
14,800.0	11,180.0	15,127.7	11,350.0	32.3	39.9	-106.06	3,863.0	-576.3	614.4	536.8	77.56	7.921		
14,900.0	11,180.0	15,227.7	11,350.0	33.0	40.5	-106.06	3,963.0	-576.7	614.4	535.6	78.81	7.795		
15,000.0	11,180.0	15,327.7	11,350.0	33.6	41.0	-106.06	4,063.0	-577.1	614.4	534.3	80.07	7.673		
15,100.0	11,180.0	15,427.7	11,350.0	34.3	41.6	-106.06	4,163.0	-577.5	614.4	533.0	81.34	7.553		
15,200.0	11,180.0	15,527.7	11,350.0	35.0	42.2	-106.06	4,263.0	-577.9	614.4	531.8	82.62	7.436		
15,300.0	11,180.0	15,627.7	11,350.0	35.7	42.8	-106.06	4,363.0	-578.3	614.4	530.5	83.91	7.322		
15,400.0	11,180.0	15,727.7	11,350.0	36.4	43.4	-106.06	4,463.0	-578.7	614.4	529.2	85.20	7.211		

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 #706H
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 #706H	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		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 3.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
15,500.0	11,180.0	15,827.7	11,350.0	37.1	44.0	-106.06	4,563.0	-579.1	614.4	527.9	86.50	7.103		
15,600.0	11,180.0	15,927.7	11,350.0	37.8	44.7	-106.06	4,663.0	-579.5	614.4	526.6	87.81	6.997		
15,700.0	11,180.0	16,027.7	11,350.0	38.5	45.3	-106.06	4,763.0	-579.9	614.4	525.3	89.12	6.894		
15,800.0	11,180.0	16,127.7	11,350.0	39.2	45.9	-106.06	4,863.0	-580.3	614.4	524.0	90.44	6.794		
15,900.0	11,180.0	16,227.7	11,350.0	39.9	46.5	-106.06	4,963.0	-580.7	614.4	522.7	91.77	6.695		
16,000.0	11,180.0	16,327.7	11,350.0	40.6	47.2	-106.06	5,063.0	-581.1	614.5	521.4	93.10	6.600		
16,100.0	11,180.0	16,427.7	11,350.0	41.3	47.8	-106.06	5,163.0	-581.5	614.5	520.0	94.44	6.506		
16,200.0	11,180.0	16,527.7	11,350.0	42.0	48.4	-106.06	5,263.0	-581.9	614.5	518.7	95.79	6.415		
16,300.0	11,180.0	16,627.7	11,350.0	42.7	49.1	-106.06	5,363.0	-582.3	614.5	517.3	97.13	6.326		
16,400.0	11,180.0	16,727.7	11,350.0	43.4	49.7	-106.06	5,463.0	-582.8	614.5	516.0	98.49	6.239		
16,500.0	11,180.0	16,827.7	11,350.0	44.1	50.4	-106.06	5,563.0	-583.2	614.5	514.6	99.85	6.154		
16,600.0	11,180.0	16,927.7	11,350.0	44.9	51.0	-106.06	5,663.0	-583.6	614.5	513.3	101.21	6.072		
16,700.0	11,180.0	17,027.7	11,350.0	45.6	51.7	-106.06	5,763.0	-584.0	614.5	511.9	102.57	5.991		
16,800.0	11,180.0	17,127.7	11,350.0	46.3	52.4	-106.06	5,863.0	-584.4	614.5	510.6	103.95	5.912		
16,900.0	11,180.0	17,227.7	11,350.0	47.0	53.0	-106.06	5,963.0	-584.8	614.5	509.2	105.32	5.835		
17,000.0	11,180.0	17,327.7	11,350.0	47.7	53.7	-106.06	6,063.0	-585.2	614.5	507.8	106.70	5.759		
17,100.0	11,180.0	17,427.7	11,350.0	48.5	54.3	-106.06	6,163.0	-585.6	614.5	506.5	108.08	5.686		
17,200.0	11,180.0	17,527.7	11,350.0	49.2	55.0	-106.06	6,263.0	-586.0	614.5	505.1	109.47	5.614		
17,300.0	11,180.0	17,627.7	11,350.0	49.9	55.7	-106.06	6,363.0	-586.4	614.5	503.7	110.86	5.544		
17,400.0	11,180.0	17,727.7	11,350.0	50.7	56.4	-106.06	6,463.0	-586.8	614.6	502.3	112.25	5.475		
17,500.0	11,180.0	17,827.7	11,350.0	51.4	57.0	-106.06	6,563.0	-587.2	614.6	500.9	113.65	5.408		
17,600.0	11,180.0	17,927.7	11,350.0	52.1	57.7	-106.06	6,663.0	-587.6	614.6	499.5	115.04	5.342		
17,700.0	11,180.0	18,027.7	11,350.0	52.8	58.4	-106.06	6,763.0	-588.0	614.6	498.1	116.45	5.278		
17,800.0	11,180.0	18,127.7	11,350.0	53.6	59.1	-106.06	6,863.0	-588.4	614.6	496.7	117.85	5.215		
17,900.0	11,180.0	18,227.7	11,350.0	54.3	59.8	-106.06	6,963.0	-588.8	614.6	495.3	119.26	5.153		
18,000.0	11,180.0	18,327.7	11,350.0	55.0	60.5	-106.06	7,063.0	-589.2	614.6	493.9	120.67	5.093		
18,100.0	11,180.0	18,427.7	11,350.0	55.8	61.2	-106.06	7,163.0	-589.6	614.6	492.5	122.08	5.034		
18,200.0	11,180.0	18,527.7	11,350.0	56.5	61.8	-106.06	7,263.0	-590.0	614.6	491.1	123.50	4.977		
18,300.0	11,180.0	18,627.7	11,350.0	57.3	62.5	-106.06	7,363.0	-590.4	614.6	489.7	124.91	4.920		
18,400.0	11,180.0	18,727.7	11,350.0	58.0	63.2	-106.06	7,463.0	-590.8	614.6	488.3	126.33	4.865		
18,500.0	11,180.0	18,827.7	11,350.0	58.7	63.9	-106.06	7,563.0	-591.2	614.6	486.9	127.75	4.811		
18,600.0	11,180.0	18,927.7	11,350.0	59.5	64.6	-106.06	7,663.0	-591.6	614.6	485.5	129.18	4.758		
18,700.0	11,180.0	19,027.7	11,350.0	60.2	65.3	-106.06	7,763.0	-592.0	614.6	484.0	130.60	4.706		
18,800.0	11,180.0	19,127.7	11,350.0	60.9	66.0	-106.06	7,863.0	-592.4	614.7	482.6	132.03	4.655		
18,900.0	11,180.0	19,227.7	11,350.0	61.7	66.7	-106.06	7,963.0	-592.8	614.7	481.2	133.46	4.606		
19,000.0	11,180.0	19,327.7	11,350.0	62.4	67.4	-106.06	8,063.0	-593.2	614.7	479.8	134.89	4.557		
19,100.0	11,180.0	19,427.7	11,350.0	63.2	68.1	-106.06	8,163.0	-593.6	614.7	478.3	136.33	4.509		
19,200.0	11,180.0	19,527.7	11,350.0	63.9	68.8	-106.06	8,263.0	-594.0	614.7	476.9	137.76	4.462		
19,300.0	11,180.0	19,627.7	11,350.0	64.7	69.6	-106.06	8,363.0	-594.4	614.7	475.5	139.20	4.416		
19,400.0	11,180.0	19,727.7	11,350.0	65.4	70.3	-106.05	8,463.0	-594.8	614.7	474.1	140.64	4.371		
19,500.0	11,180.0	19,827.7	11,350.0	66.1	71.0	-106.05	8,563.0	-595.2	614.7	472.6	142.08	4.327		
19,600.0	11,180.0	19,927.7	11,350.0	66.9	71.7	-106.05	8,663.0	-595.6	614.7	471.2	143.52	4.283		
19,700.0	11,180.0	20,027.7	11,350.0	67.6	72.4	-106.05	8,763.0	-596.0	614.7	469.8	144.96	4.240		
19,800.0	11,180.0	20,127.7	11,350.0	68.4	73.1	-106.05	8,863.0	-596.4	614.7	468.3	146.41	4.199		
19,900.0	11,180.0	20,227.7	11,350.0	69.1	73.8	-106.05	8,963.0	-596.8	614.7	466.9	147.85	4.158		
20,000.0	11,180.0	20,327.7	11,350.0	69.9	74.5	-106.05	9,063.0	-597.2	614.7	465.4	149.30	4.117		
20,100.0	11,180.0	20,427.7	11,350.0	70.6	75.3	-106.05	9,163.0	-597.6	614.7	464.0	150.75	4.078		
20,200.0	11,180.0	20,527.7	11,350.0	71.4	76.0	-106.05	9,263.0	-598.0	614.8	462.6	152.20	4.039		
20,300.0	11,180.0	20,627.7	11,350.0	72.1	76.7	-106.05	9,363.0	-598.4	614.8	461.1	153.65	4.001		
20,400.0	11,180.0	20,727.7	11,350.0	72.9	77.4	-106.05	9,463.0	-598.8	614.8	459.7	155.11	3.964		
20,500.0	11,180.0	20,827.7	11,350.0	73.6	78.1	-106.05	9,563.0	-599.2	614.8	458.2	156.56	3.927		
20,600.0	11,180.0	20,927.7	11,350.0	74.4	78.9	-106.05	9,663.0	-599.6	614.8	456.8	158.01	3.891		

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 #706H
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 #706H	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	11,180.0	21,027.7	11,350.0	75.1	79.6	-106.05	9,763.0	-600.0	614.8	455.3	159.47	3.855	
20,800.0	11,180.0	21,127.7	11,350.0	75.9	80.3	-106.05	9,863.0	-600.4	614.8	453.9	160.93	3.820	
20,900.0	11,180.0	21,227.7	11,350.0	76.6	81.0	-106.05	9,963.0	-600.8	614.8	452.4	162.39	3.786	
21,000.0	11,180.0	21,327.7	11,350.0	77.4	81.7	-106.05	10,063.0	-601.2	614.8	451.0	163.85	3.752	
21,100.0	11,180.0	21,427.7	11,350.0	78.1	82.5	-106.05	10,163.0	-601.6	614.8	449.5	165.31	3.719	
21,200.0	11,180.0	21,527.7	11,350.0	78.9	83.2	-106.05	10,263.0	-602.0	614.8	448.1	166.77	3.687	
21,300.0	11,180.0	21,627.7	11,350.0	79.6	83.9	-106.05	10,363.0	-602.4	614.8	446.6	168.23	3.655	
21,400.0	11,180.0	21,727.7	11,350.0	80.4	84.6	-106.05	10,463.0	-602.8	614.8	445.1	169.69	3.623	
21,500.0	11,180.0	21,827.7	11,350.0	81.1	85.4	-106.05	10,563.0	-603.2	614.8	443.7	171.16	3.592	
21,600.0	11,180.0	21,927.7	11,350.0	81.9	86.1	-106.05	10,663.0	-603.6	614.9	442.2	172.62	3.562	
21,700.0	11,180.0	22,027.7	11,350.0	82.6	86.8	-106.05	10,763.0	-604.0	614.9	440.8	174.09	3.532	
21,800.0	11,180.0	22,127.7	11,350.0	83.4	87.6	-106.05	10,863.0	-604.4	614.9	439.3	175.56	3.502	
21,900.0	11,180.0	22,227.7	11,350.0	84.1	88.3	-106.05	10,963.0	-604.8	614.9	437.8	177.02	3.473	
22,000.0	11,180.0	22,327.7	11,350.0	84.9	89.0	-106.05	11,063.0	-605.2	614.9	436.4	178.49	3.445	
22,100.0	11,180.0	22,427.7	11,350.0	85.6	89.8	-106.05	11,163.0	-605.6	614.9	434.9	179.96	3.417	
22,200.0	11,180.0	22,527.7	11,350.0	86.4	90.5	-106.05	11,263.0	-606.0	614.9	433.5	181.43	3.389	
22,300.0	11,180.0	22,627.7	11,350.0	87.1	91.2	-106.05	11,363.0	-606.4	614.9	432.0	182.90	3.362	
22,400.0	11,180.0	22,727.7	11,350.0	87.9	92.0	-106.05	11,463.0	-606.8	614.9	430.5	184.37	3.335	
22,500.0	11,180.0	22,827.7	11,350.0	88.6	92.7	-106.05	11,563.0	-607.2	614.9	429.1	185.84	3.309	
22,600.0	11,180.0	22,927.7	11,350.0	89.4	93.4	-106.05	11,663.0	-607.6	614.9	427.6	187.32	3.283	
22,700.0	11,180.0	23,027.7	11,350.0	90.2	94.2	-106.05	11,763.0	-608.0	614.9	426.1	188.79	3.257	
22,800.0	11,180.0	23,127.7	11,350.0	90.9	94.9	-106.05	11,863.0	-608.4	614.9	424.7	190.27	3.232	
22,900.0	11,180.0	23,227.7	11,350.0	91.7	95.6	-106.05	11,963.0	-608.8	614.9	423.2	191.74	3.207	
23,000.0	11,180.0	23,327.7	11,350.0	92.4	96.4	-106.05	12,063.0	-609.2	615.0	421.7	193.22	3.183	
23,100.0	11,180.0	23,427.7	11,350.0	93.2	97.1	-106.05	12,163.0	-609.6	615.0	420.3	194.69	3.159	
23,200.0	11,180.0	23,527.7	11,350.0	93.9	97.8	-106.05	12,263.0	-610.0	615.0	418.8	196.17	3.135	
23,300.0	11,180.0	23,627.7	11,350.0	94.7	98.6	-106.05	12,363.0	-610.4	615.0	417.3	197.65	3.111	
23,400.0	11,180.0	23,727.7	11,350.0	95.4	99.3	-106.05	12,463.0	-610.8	615.0	415.9	199.12	3.088	
23,500.0	11,180.0	23,827.7	11,350.0	96.2	100.1	-106.05	12,563.0	-611.2	615.0	414.4	200.60	3.066	
23,600.0	11,180.0	23,927.7	11,350.0	96.9	100.8	-106.05	12,663.0	-611.6	615.0	412.9	202.08	3.043	
23,700.0	11,180.0	24,027.7	11,350.0	97.7	101.5	-106.05	12,763.0	-612.0	615.0	411.4	203.56	3.021	
23,800.0	11,180.0	24,127.7	11,350.0	98.5	102.3	-106.05	12,863.0	-612.4	615.0	410.0	205.04	2.999	
23,900.0	11,180.0	24,227.7	11,350.0	99.2	103.0	-106.05	12,963.0	-612.8	615.0	408.5	206.52	2.978	
24,000.0	11,180.0	24,327.7	11,350.0	100.0	103.8	-106.05	13,063.0	-613.2	615.0	407.0	208.00	2.957	
24,100.0	11,180.0	24,427.7	11,350.0	100.7	104.5	-106.05	13,163.0	-613.6	615.0	405.5	209.48	2.936	
24,200.0	11,180.0	24,527.7	11,350.0	101.5	105.2	-106.05	13,263.0	-614.0	615.0	404.1	210.96	2.915	
24,300.0	11,180.0	24,627.7	11,350.0	102.2	106.0	-106.05	13,363.0	-614.4	615.0	402.6	212.45	2.895	
24,400.0	11,180.0	24,727.7	11,350.0	103.0	106.7	-106.05	13,463.0	-614.8	615.0	401.1	213.93	2.875	
24,469.4	11,180.0	24,797.1	11,350.0	103.4	107.2	-106.05	13,532.3	-615.1	615.1	400.2	214.84	2.863 ES, 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 #706H
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 #706H	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	90.00	0.0	30.0	30.0	23.6	6.43	4.666		
100.0	100.0	100.0	100.0	3.2	3.2	90.00	0.0	30.0	30.0	23.1	6.89	4.353		
200.0	200.0	200.0	200.0	3.5	3.5	90.00	0.0	30.0	30.0	22.7	7.33	4.094		
300.0	300.0	300.0	300.0	3.7	3.7	90.00	0.0	30.0	30.0	22.3	7.74	3.875		
400.0	400.0	400.0	400.0	3.9	3.9	90.00	0.0	30.0	30.0	21.9	8.14	3.688		
500.0	500.0	500.0	500.0	4.1	4.1	90.00	0.0	30.0	30.0	21.5	8.51	3.524		
600.0	600.0	600.0	600.0	4.2	4.2	90.00	0.0	30.0	30.0	21.1	8.88	3.379		
700.0	700.0	700.0	700.0	4.4	4.4	90.00	0.0	30.0	30.0	20.8	9.23	3.250		
800.0	800.0	800.0	800.0	4.6	4.6	90.00	0.0	30.0	30.0	20.4	9.57	3.135		
900.0	900.0	900.0	900.0	4.8	4.8	90.00	0.0	30.0	30.0	20.1	9.90	3.030		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.00	0.0	30.0	30.0	19.8	10.22	2.934		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.00	0.0	30.0	30.0	19.5	10.54	2.846		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.00	0.0	30.0	30.0	19.2	10.85	2.766		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.00	0.0	30.0	30.0	18.9	11.15	2.691		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.00	0.0	30.0	30.0	18.6	11.44	2.621		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.00	0.0	30.0	30.0	18.3	11.73	2.557		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.00	0.0	30.0	30.0	18.0	12.02	2.496		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.00	0.0	30.0	30.0	17.7	12.30	2.439		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.00	0.0	30.0	30.0	17.4	12.58	2.386		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	90.00	0.0	30.0	30.0	17.2	12.85	2.335		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	90.00	0.0	30.0	30.0	16.9	13.12	2.287 CC, ES, SF		
2,100.0	2,100.0	2,099.2	2,099.2	6.5	6.5	90.81	-0.4	31.2	31.2	17.8	13.39	2.332		
2,200.0	2,200.0	2,198.4	2,198.3	6.7	6.7	92.89	-1.8	34.8	34.9	21.3	13.65	2.558		
2,300.0	2,300.0	2,297.2	2,296.9	6.8	6.9	95.53	-4.0	40.9	41.2	27.2	13.93	2.956		
2,400.0	2,400.0	2,395.6	2,394.9	6.9	7.0	98.09	-7.0	49.2	50.0	35.8	14.21	3.518		
2,500.0	2,500.0	2,493.6	2,492.2	7.0	7.2	100.30	-10.9	59.9	61.4	46.9	14.50	4.234		
2,600.0	2,600.0	2,592.0	2,589.7	7.2	7.4	102.06	-15.5	72.6	75.0	60.2	14.76	5.077		
2,700.0	2,700.0	2,691.0	2,687.7	7.3	7.6	103.30	-20.2	85.6	88.8	73.7	15.10	5.877		
2,800.0	2,800.0	2,790.0	2,785.8	7.4	7.8	104.20	-24.9	98.5	102.6	87.1	15.46	6.635		
2,900.0	2,900.0	2,889.0	2,883.9	7.5	8.1	104.90	-29.6	111.5	116.5	100.6	15.84	7.352		
3,000.0	3,000.0	2,988.1	2,981.9	7.7	8.3	105.44	-34.4	124.4	130.3	114.1	16.23	8.030		
3,100.0	3,100.0	3,087.1	3,080.0	7.8	8.6	105.88	-39.1	137.4	144.2	127.6	16.63	8.668		
3,200.0	3,200.0	3,186.1	3,178.0	7.9	8.9	106.24	-43.8	150.3	158.1	141.0	17.05	9.270		
3,300.0	3,300.0	3,285.2	3,276.1	8.0	9.2	106.55	-48.5	163.3	172.0	154.5	17.48	9.837		
3,400.0	3,400.0	3,384.2	3,374.2	8.1	9.5	106.80	-53.2	176.2	185.9	167.9	17.92	10.370		
3,500.0	3,500.0	3,483.2	3,472.2	8.3	9.8	107.03	-57.9	189.2	199.8	181.4	18.38	10.871		
3,600.0	3,600.0	3,582.2	3,570.3	8.4	10.2	107.22	-62.6	202.1	213.7	194.8	18.84	11.343		
3,700.0	3,700.0	3,681.3	3,668.4	8.5	10.5	107.39	-67.4	215.1	227.6	208.3	19.31	11.787		
3,800.0	3,800.0	3,780.3	3,766.4	8.6	10.8	107.54	-72.1	228.0	241.5	221.7	19.78	12.205		
3,900.0	3,900.0	3,880.1	3,865.3	8.7	11.2	107.51	-76.1	241.2	255.3	235.0	20.27	12.593		
4,000.0	4,000.0	3,980.0	3,964.2	8.8	11.5	106.80	-77.0	254.9	268.7	248.0	20.73	12.961		
4,100.0	4,100.0	4,079.0	4,062.2	8.9	11.8	105.99	-77.0	268.7	282.1	260.9	21.21	13.300		
4,200.0	4,200.0	4,178.0	4,160.3	9.1	12.2	105.24	-77.0	282.5	295.5	273.8	21.70	13.616		
4,300.0	4,300.0	4,277.0	4,258.4	9.2	12.6	104.56	-77.0	296.3	308.9	286.7	22.20	13.917		
4,400.0	4,400.0	4,376.1	4,356.4	9.3	12.9	103.94	-77.0	310.1	322.4	299.7	22.70	14.202		
4,500.0	4,500.0	4,475.1	4,454.5	9.4	13.3	103.37	-77.0	323.8	336.0	312.8	23.21	14.473		
4,600.0	4,600.0	4,574.1	4,552.5	9.5	13.6	102.84	-77.0	337.6	349.5	325.8	23.73	14.730		
4,700.0	4,700.0	4,673.1	4,650.6	9.6	14.0	102.36	-77.0	351.4	363.1	338.9	24.25	14.975		
4,800.0	4,800.0	4,772.2	4,748.7	9.7	14.4	101.90	-77.0	365.2	376.7	352.0	24.77	15.207		
4,900.0	4,900.0	4,871.2	4,846.7	9.8	14.8	101.48	-77.0	379.0	390.4	365.1	25.30	15.428		
5,000.0	5,000.0	4,970.2	4,944.8	9.9	15.2	101.09	-77.0	392.8	404.0	378.2	25.83	15.639		
5,100.0	5,100.0	5,069.2	5,042.9	10.0	15.5	100.72	-77.0	406.5	417.7	391.3	26.37	15.839		

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 #706H
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 #706H	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)			
5,200.0	5,200.0	5,168.3	5,140.9	10.1	15.9	100.38	-77.0	420.3	431.4	404.5	26.91	16.030	
5,300.0	5,300.0	5,267.3	5,239.0	10.2	16.3	100.06	-77.0	434.1	445.1	417.6	27.45	16.211	
5,400.0	5,400.0	5,366.3	5,337.1	10.4	16.7	99.75	-77.0	447.9	458.8	430.8	28.00	16.385	
5,500.0	5,500.0	5,465.4	5,435.1	10.5	17.1	99.47	-77.0	461.7	472.5	444.0	28.55	16.551	
5,600.0	5,600.0	5,564.4	5,533.2	10.6	17.5	99.20	-77.0	475.4	486.2	457.1	29.10	16.709	
5,700.0	5,700.0	5,664.5	5,632.3	10.7	17.9	98.94	-77.0	489.4	500.0	470.3	29.64	16.866	
5,800.0	5,800.0	5,773.2	5,740.1	10.8	18.3	98.70	-77.0	503.2	512.6	482.4	30.23	16.954	
5,900.0	5,900.0	5,882.3	5,848.6	10.9	18.7	98.50	-77.0	515.1	523.4	492.5	30.82	16.983	
6,000.0	6,000.0	5,991.9	5,957.8	11.0	19.1	98.34	-77.0	524.9	532.2	500.9	31.37	16.966	
6,100.0	6,100.0	6,101.8	6,067.4	11.1	19.5	98.22	-77.0	532.7	539.2	507.3	31.90	16.905	
6,200.0	6,200.0	6,212.0	6,177.4	11.2	19.9	98.14	-77.0	538.4	544.3	511.9	32.38	16.810	
6,300.0	6,300.0	6,322.4	6,287.7	11.3	20.2	98.08	-77.0	541.9	547.5	514.7	32.81	16.685	
6,400.0	6,400.0	6,432.8	6,398.2	11.4	20.4	98.06	-77.0	543.4	548.8	515.7	33.13	16.563	
6,500.0	6,500.0	6,534.7	6,500.0	11.5	20.5	98.06	-77.0	543.4	548.8	515.6	33.25	16.506	
6,600.0	6,600.0	6,634.7	6,600.0	11.6	20.5	98.06	-77.0	543.4	548.8	515.5	33.37	16.447	
6,700.0	6,700.0	6,734.7	6,700.0	11.7	20.5	98.06	-77.0	543.4	548.8	515.3	33.49	16.389	
6,800.0	6,800.0	6,834.7	6,800.0	11.8	20.6	98.06	-77.0	543.4	548.8	515.2	33.61	16.330	
6,900.0	6,900.0	6,934.7	6,900.0	11.9	20.6	98.06	-77.0	543.4	548.8	515.1	33.73	16.273	
7,000.0	7,000.0	7,034.7	7,000.0	12.0	20.7	98.06	-77.0	543.4	548.8	515.0	33.85	16.215	
7,100.0	7,100.0	7,134.7	7,100.0	12.1	20.7	98.06	-77.0	543.4	548.8	514.9	33.97	16.157	
7,200.0	7,200.0	7,234.7	7,200.0	12.2	20.8	98.06	-77.0	543.4	548.8	514.7	34.09	16.100	
7,300.0	7,300.0	7,334.7	7,300.0	12.3	20.8	98.06	-77.0	543.4	548.8	514.6	34.21	16.043	
7,400.0	7,400.0	7,434.7	7,400.0	12.4	20.8	98.06	-77.0	543.4	548.8	514.5	34.33	15.987	
7,500.0	7,500.0	7,534.7	7,500.0	12.5	20.9	98.06	-77.0	543.4	548.8	514.4	34.45	15.930	
7,600.0	7,600.0	7,634.7	7,600.0	12.6	20.9	98.06	-77.0	543.4	548.8	514.3	34.57	15.874	
7,700.0	7,700.0	7,734.7	7,700.0	12.7	21.0	98.06	-77.0	543.4	548.8	514.1	34.70	15.818	
7,800.0	7,800.0	7,834.7	7,800.0	12.8	21.0	98.06	-77.0	543.4	548.8	514.0	34.82	15.762	
7,900.0	7,900.0	7,934.7	7,900.0	12.9	21.1	98.06	-77.0	543.4	548.8	513.9	34.94	15.707	
8,000.0	8,000.0	8,034.7	8,000.0	13.0	21.1	98.06	-77.0	543.4	548.8	513.8	35.07	15.652	
8,100.0	8,100.0	8,134.7	8,100.0	13.1	21.1	98.06	-77.0	543.4	548.8	513.6	35.19	15.597	
8,200.0	8,200.0	8,234.7	8,200.0	13.2	21.2	98.06	-77.0	543.4	548.8	513.5	35.31	15.542	
8,300.0	8,300.0	8,334.7	8,300.0	13.3	21.2	98.06	-77.0	543.4	548.8	513.4	35.44	15.488	
8,400.0	8,400.0	8,434.7	8,400.0	13.4	21.3	98.06	-77.0	543.4	548.8	513.3	35.56	15.433	
8,500.0	8,500.0	8,534.7	8,500.0	13.5	21.3	98.06	-77.0	543.4	548.8	513.1	35.69	15.379	
8,600.0	8,600.0	8,634.7	8,600.0	13.6	21.4	98.06	-77.0	543.4	548.8	513.0	35.81	15.326	
8,700.0	8,700.0	8,734.7	8,700.0	13.6	21.4	98.06	-77.0	543.4	548.8	512.9	35.94	15.272	
8,800.0	8,800.0	8,834.7	8,800.0	13.7	21.5	98.06	-77.0	543.4	548.8	512.8	36.06	15.219	
8,900.0	8,900.0	8,934.7	8,900.0	13.8	21.5	98.06	-77.0	543.4	548.8	512.6	36.19	15.166	
9,000.0	9,000.0	9,034.7	9,000.0	13.9	21.6	98.06	-77.0	543.4	548.8	512.5	36.31	15.113	
9,100.0	9,100.0	9,134.7	9,100.0	14.0	21.6	98.06	-77.0	543.4	548.8	512.4	36.44	15.061	
9,200.0	9,200.0	9,234.7	9,200.0	14.1	21.6	98.06	-77.0	543.4	548.8	512.3	36.57	15.009	
9,300.0	9,300.0	9,334.7	9,300.0	14.2	21.7	98.06	-77.0	543.4	548.8	512.1	36.69	14.957	
9,400.0	9,400.0	9,434.7	9,400.0	14.3	21.7	98.06	-77.0	543.4	548.8	512.0	36.82	14.905	
9,500.0	9,500.0	9,534.7	9,500.0	14.4	21.8	98.06	-77.0	543.4	548.8	511.9	36.95	14.854	
9,600.0	9,600.0	9,634.7	9,600.0	14.5	21.8	98.06	-77.0	543.4	548.8	511.8	37.08	14.803	
9,700.0	9,700.0	9,734.7	9,700.0	14.6	21.9	98.06	-77.0	543.4	548.8	511.6	37.20	14.752	
9,800.0	9,800.0	9,834.7	9,800.0	14.7	21.9	98.06	-77.0	543.4	548.8	511.5	37.33	14.701	
9,900.0	9,900.0	9,934.7	9,900.0	14.8	22.0	98.06	-77.0	543.4	548.8	511.4	37.46	14.650	
10,000.0	10,000.0	10,034.7	10,000.0	14.9	22.0	98.06	-77.0	543.4	548.8	511.2	37.59	14.600	
10,100.0	10,100.0	10,134.7	10,100.0	15.0	22.1	98.06	-77.0	543.4	548.8	511.1	37.72	14.550	
10,200.0	10,200.0	10,234.7	10,200.0	15.1	22.1	98.06	-77.0	543.4	548.8	511.0	37.85	14.500	
10,300.0	10,300.0	10,334.7	10,300.0	15.2	22.2	98.06	-77.0	543.4	548.8	510.9	37.98	14.451	

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 #706H
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 #706H	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				Rule Assigned:				Offset Well Error:		3.0 usft			
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		
10,400.0	10,400.0	10,434.7	10,400.0	15.3	22.2	98.06	-77.0	543.4	548.8	510.7	38.11	14.402			
10,500.0	10,500.0	10,534.7	10,500.0	15.3	22.3	98.06	-77.0	543.4	548.8	510.6	38.24	14.353			
10,600.0	10,600.0	10,634.7	10,600.0	15.4	22.3	98.06	-77.0	543.4	548.8	510.5	38.37	14.303			
10,700.0	10,699.6	10,734.2	10,699.6	15.6	22.4	96.36	-77.0	543.4	549.6	511.1	38.48	14.285			
10,800.0	10,796.4	10,835.7	10,801.0	15.8	22.4	98.60	-76.5	543.4	552.9	514.3	38.53	14.350			
10,900.0	10,887.4	10,958.7	10,922.5	16.0	22.4	101.60	-58.2	543.3	557.1	518.7	38.39	14.510			
11,000.0	10,969.9	11,090.6	11,045.1	16.2	22.4	104.29	-10.4	543.1	560.7	522.4	38.25	14.658			
11,100.0	11,041.4	11,230.6	11,159.6	16.4	22.4	106.47	69.5	542.8	562.5	524.3	38.21	14.723			
11,200.0	11,099.7	11,376.5	11,254.7	16.6	22.4	107.97	179.6	542.4	561.9	523.6	38.31	14.668			
11,300.0	11,143.0	11,524.8	11,319.8	16.7	22.5	108.62	312.4	541.8	558.2	519.8	38.45	14.519			
11,400.0	11,170.0	11,671.3	11,348.5	16.8	22.6	108.38	455.7	541.3	551.5	513.0	38.55	14.308			
11,500.0	11,179.9	11,783.2	11,350.0	16.8	22.7	108.19	567.5	540.8	544.4	505.8	38.60	14.103			
11,600.0	11,180.0	11,883.2	11,350.0	16.9	22.8	108.30	667.5	540.4	541.4	502.7	38.74	13.976			
11,695.1	11,180.0	11,978.2	11,350.0	16.9	23.0	108.32	762.5	540.0	540.8	501.9	38.90	13.901			
11,700.0	11,180.0	11,983.2	11,350.0	16.9	23.0	108.31	767.5	540.0	541.2	502.3	38.91	13.908			
11,800.0	11,180.0	12,083.2	11,350.0	16.9	23.2	108.31	867.5	539.6	541.2	502.0	39.15	13.823			
11,900.0	11,180.0	12,183.2	11,350.0	16.9	23.4	108.31	967.5	539.2	541.2	501.7	39.45	13.719			
12,000.0	11,180.0	12,283.2	11,350.0	17.1	23.7	108.31	1,067.5	538.8	541.2	501.4	39.80	13.597			
12,100.0	11,180.0	12,383.2	11,350.0	17.4	23.9	108.31	1,167.5	538.4	541.2	501.0	40.21	13.459			
12,200.0	11,180.0	12,483.2	11,350.0	17.7	24.2	108.31	1,267.5	538.0	541.2	500.5	40.67	13.306			
12,300.0	11,180.0	12,583.2	11,350.0	18.1	24.5	108.31	1,367.5	537.6	541.2	500.0	41.18	13.141			
12,400.0	11,180.0	12,683.2	11,350.0	18.5	24.8	108.31	1,467.5	537.2	541.1	499.4	41.74	12.964			
12,500.0	11,180.0	12,783.2	11,350.0	18.9	25.2	108.31	1,567.5	536.8	541.1	498.8	42.35	12.778			
12,600.0	11,180.0	12,883.2	11,350.0	19.4	25.5	108.31	1,667.5	536.4	541.1	498.1	43.00	12.583			
12,700.0	11,180.0	12,983.2	11,350.0	19.8	25.9	108.31	1,767.5	536.0	541.1	497.4	43.70	12.382			
12,800.0	11,180.0	13,083.2	11,350.0	20.3	26.3	108.31	1,867.5	535.6	541.1	496.7	44.44	12.177			
12,900.0	11,180.0	13,183.2	11,350.0	20.8	26.7	108.31	1,967.5	535.2	541.1	495.9	45.22	11.967			
13,000.0	11,180.0	13,283.2	11,350.0	21.3	27.2	108.31	2,067.5	534.8	541.1	495.1	46.03	11.755			
13,100.0	11,180.0	13,383.2	11,350.0	21.8	27.6	108.31	2,167.5	534.4	541.1	494.2	46.88	11.542			
13,200.0	11,180.0	13,483.2	11,350.0	22.4	28.1	108.31	2,267.5	534.0	541.1	493.3	47.76	11.329			
13,300.0	11,180.0	13,583.2	11,350.0	22.9	28.5	108.31	2,367.5	533.6	541.1	492.4	48.68	11.116			
13,400.0	11,180.0	13,683.2	11,350.0	23.5	29.0	108.31	2,467.5	533.2	541.1	491.5	49.62	10.904			
13,500.0	11,180.0	13,783.2	11,350.0	24.1	29.5	108.31	2,567.5	532.8	541.1	490.5	50.59	10.695			
13,600.0	11,180.0	13,883.2	11,350.0	24.7	30.0	108.31	2,667.5	532.4	541.1	489.5	51.59	10.487			
13,700.0	11,180.0	13,983.2	11,350.0	25.3	30.5	108.31	2,767.5	532.0	541.1	488.5	52.62	10.283			
13,800.0	11,180.0	14,083.2	11,350.0	25.9	31.1	108.31	2,867.5	531.6	541.1	487.4	53.66	10.083			
13,900.0	11,180.0	14,183.2	11,350.0	26.5	31.6	108.31	2,967.5	531.2	541.1	486.3	54.73	9.886			
14,000.0	11,180.0	14,283.2	11,350.0	27.1	32.1	108.31	3,067.5	530.8	541.1	485.2	55.82	9.693			
14,100.0	11,180.0	14,383.2	11,350.0	27.7	32.7	108.31	3,167.5	530.4	541.0	484.1	56.93	9.504			
14,200.0	11,180.0	14,483.2	11,350.0	28.4	33.3	108.31	3,267.5	530.0	541.0	483.0	58.06	9.319			
14,300.0	11,180.0	14,583.2	11,350.0	29.0	33.8	108.31	3,367.5	529.6	541.0	481.8	59.20	9.139			
14,400.0	11,180.0	14,683.2	11,350.0	29.7	34.4	108.31	3,467.5	529.2	541.0	480.7	60.36	8.963			
14,500.0	11,180.0	14,783.2	11,350.0	30.3	35.0	108.31	3,567.5	528.8	541.0	479.5	61.54	8.791			
14,600.0	11,180.0	14,883.2	11,350.0	31.0	35.6	108.31	3,667.4	528.4	541.0	478.3	62.73	8.624			
14,700.0	11,180.0	14,983.2	11,350.0	31.6	36.2	108.31	3,767.4	528.0	541.0	477.1	63.94	8.461			
14,800.0	11,180.0	15,083.2	11,350.0	32.3	36.8	108.31	3,867.4	527.6	541.0	475.8	65.16	8.303			
14,900.0	11,180.0	15,183.2	11,350.0	33.0	37.4	108.31	3,967.4	527.2	541.0	474.6	66.39	8.149			
15,000.0	11,180.0	15,283.2	11,350.0	33.6	38.0	108.31	4,067.4	526.8	541.0	473.4	67.63	7.999			
15,100.0	11,180.0	15,383.2	11,350.0	34.3	38.6	108.31	4,167.4	526.4	541.0	472.1	68.88	7.854			
15,200.0	11,180.0	15,483.2	11,350.0	35.0	39.3	108.32	4,267.4	526.0	541.0	470.8	70.15	7.712			
15,300.0	11,180.0	15,583.2	11,350.0	35.7	39.9	108.32	4,367.4	525.6	541.0	469.6	71.42	7.575			
15,400.0	11,180.0	15,683.2	11,350.0	36.4	40.5	108.32	4,467.4	525.2	541.0	468.3	72.70	7.441			

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 #706H
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 #706H	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		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	11,180.0	15,783.2	11,350.0	37.1	41.2	108.32	4,567.4	524.8	541.0	467.0	73.99	7.311	
15,600.0	11,180.0	15,883.2	11,350.0	37.8	41.8	108.32	4,667.4	524.4	541.0	465.7	75.29	7.185	
15,700.0	11,180.0	15,983.2	11,350.0	38.5	42.5	108.32	4,767.4	524.0	541.0	464.4	76.60	7.062	
15,800.0	11,180.0	16,083.2	11,350.0	39.2	43.1	108.32	4,867.4	523.6	540.9	463.0	77.92	6.943	
15,900.0	11,180.0	16,183.2	11,350.0	39.9	43.8	108.32	4,967.4	523.2	540.9	461.7	79.24	6.827	
16,000.0	11,180.0	16,283.2	11,350.0	40.6	44.4	108.32	5,067.4	522.8	540.9	460.4	80.57	6.714	
16,100.0	11,180.0	16,383.2	11,350.0	41.3	45.1	108.32	5,167.4	522.4	540.9	459.0	81.90	6.604	
16,200.0	11,180.0	16,483.2	11,350.0	42.0	45.8	108.32	5,267.4	522.0	540.9	457.7	83.25	6.498	
16,300.0	11,180.0	16,583.2	11,350.0	42.7	46.4	108.32	5,367.4	521.6	540.9	456.3	84.59	6.394	
16,400.0	11,180.0	16,683.2	11,350.0	43.4	47.1	108.32	5,467.4	521.2	540.9	455.0	85.95	6.294	
16,500.0	11,180.0	16,783.2	11,350.0	44.1	47.8	108.32	5,567.4	520.8	540.9	453.6	87.31	6.196	
16,600.0	11,180.0	16,883.2	11,350.0	44.9	48.5	108.32	5,667.4	520.4	540.9	452.2	88.67	6.100	
16,700.0	11,180.0	16,983.2	11,350.0	45.6	49.2	108.32	5,767.4	520.0	540.9	450.9	90.04	6.007	
16,800.0	11,180.0	17,083.2	11,350.0	46.3	49.8	108.32	5,867.4	519.6	540.9	449.5	91.41	5.917	
16,900.0	11,180.0	17,183.2	11,350.0	47.0	50.5	108.32	5,967.4	519.2	540.9	448.1	92.79	5.829	
17,000.0	11,180.0	17,283.2	11,350.0	47.7	51.2	108.32	6,067.4	518.8	540.9	446.7	94.17	5.744	
17,100.0	11,180.0	17,383.2	11,350.0	48.5	51.9	108.32	6,167.4	518.4	540.9	445.3	95.56	5.660	
17,200.0	11,180.0	17,483.2	11,350.0	49.2	52.6	108.32	6,267.4	518.0	540.9	443.9	96.95	5.579	
17,300.0	11,180.0	17,583.2	11,350.0	49.9	53.3	108.32	6,367.4	517.6	540.9	442.5	98.34	5.500	
17,400.0	11,180.0	17,683.2	11,350.0	50.7	54.0	108.32	6,467.4	517.2	540.9	441.1	99.74	5.423	
17,500.0	11,180.0	17,783.2	11,350.0	51.4	54.7	108.32	6,567.4	516.8	540.8	439.7	101.14	5.348	
17,600.0	11,180.0	17,883.2	11,350.0	52.1	55.4	108.32	6,667.4	516.4	540.8	438.3	102.54	5.274	
17,700.0	11,180.0	17,983.2	11,350.0	52.8	56.1	108.32	6,767.4	516.0	540.8	436.9	103.95	5.203	
17,800.0	11,180.0	18,083.2	11,350.0	53.6	56.8	108.32	6,867.4	515.6	540.8	435.5	105.36	5.133	
17,900.0	11,180.0	18,183.2	11,350.0	54.3	57.5	108.32	6,967.4	515.2	540.8	434.1	106.77	5.065	
18,000.0	11,180.0	18,283.2	11,350.0	55.0	58.2	108.32	7,067.4	514.8	540.8	432.6	108.18	4.999	
18,100.0	11,180.0	18,383.2	11,350.0	55.8	58.9	108.32	7,167.4	514.4	540.8	431.2	109.60	4.934	
18,200.0	11,180.0	18,483.2	11,350.0	56.5	59.6	108.32	7,267.4	514.0	540.8	429.8	111.02	4.871	
18,300.0	11,180.0	18,583.2	11,350.0	57.3	60.3	108.32	7,367.4	513.6	540.8	428.4	112.45	4.809	
18,400.0	11,180.0	18,683.2	11,350.0	58.0	61.0	108.32	7,467.4	513.2	540.8	426.9	113.87	4.749	
18,500.0	11,180.0	18,783.2	11,350.0	58.7	61.7	108.32	7,567.4	512.9	540.8	425.5	115.30	4.690	
18,600.0	11,180.0	18,883.2	11,350.0	59.5	62.5	108.32	7,667.4	512.5	540.8	424.1	116.73	4.633	
18,700.0	11,180.0	18,983.2	11,350.0	60.2	63.2	108.32	7,767.4	512.1	540.8	422.6	118.16	4.577	
18,800.0	11,180.0	19,083.2	11,350.0	60.9	63.9	108.32	7,867.4	511.7	540.8	421.2	119.59	4.522	
18,900.0	11,180.0	19,183.2	11,350.0	61.7	64.6	108.32	7,967.4	511.3	540.8	419.7	121.03	4.468	
19,000.0	11,180.0	19,283.2	11,350.0	62.4	65.3	108.32	8,067.4	510.9	540.8	418.3	122.47	4.416	
19,100.0	11,180.0	19,383.2	11,350.0	63.2	66.1	108.32	8,167.4	510.5	540.8	416.8	123.91	4.364	
19,200.0	11,180.0	19,483.2	11,350.0	63.9	66.8	108.32	8,267.4	510.1	540.7	415.4	125.35	4.314	
19,300.0	11,180.0	19,583.2	11,350.0	64.7	67.5	108.32	8,367.4	509.7	540.7	413.9	126.79	4.265	
19,400.0	11,180.0	19,683.2	11,350.0	65.4	68.2	108.32	8,467.4	509.3	540.7	412.5	128.24	4.217	
19,500.0	11,180.0	19,783.2	11,350.0	66.1	68.9	108.32	8,567.4	508.9	540.7	411.0	129.68	4.170	
19,600.0	11,180.0	19,883.2	11,350.0	66.9	69.7	108.32	8,667.4	508.5	540.7	409.6	131.13	4.124	
19,700.0	11,180.0	19,983.2	11,350.0	67.6	70.4	108.32	8,767.4	508.1	540.7	408.1	132.58	4.078	
19,800.0	11,180.0	20,083.2	11,350.0	68.4	71.1	108.32	8,867.4	507.7	540.7	406.7	134.03	4.034	
19,900.0	11,180.0	20,183.2	11,350.0	69.1	71.9	108.32	8,967.4	507.3	540.7	405.2	135.48	3.991	
20,000.0	11,180.0	20,283.2	11,350.0	69.9	72.6	108.33	9,067.4	506.9	540.7	403.8	136.94	3.949	
20,100.0	11,180.0	20,383.2	11,350.0	70.6	73.3	108.33	9,167.4	506.5	540.7	402.3	138.39	3.907	
20,200.0	11,180.0	20,483.2	11,350.0	71.4	74.0	108.33	9,267.4	506.1	540.7	400.8	139.85	3.866	
20,300.0	11,180.0	20,583.2	11,350.0	72.1	74.8	108.33	9,367.4	505.7	540.7	399.4	141.31	3.826	
20,400.0	11,180.0	20,683.2	11,350.0	72.9	75.5	108.33	9,467.4	505.3	540.7	397.9	142.76	3.787	
20,500.0	11,180.0	20,783.2	11,350.0	73.6	76.2	108.33	9,567.4	504.9	540.7	396.4	144.22	3.749	
20,600.0	11,180.0	20,883.2	11,350.0	74.4	77.0	108.33	9,667.4	504.5	540.7	395.0	145.68	3.711	

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 #706H
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 #706H	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		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	11,180.0	20,983.2	11,350.0	75.1	77.7	108.33	9,767.4	504.1	540.7	393.5	147.15	3.674	
20,800.0	11,180.0	21,083.2	11,350.0	75.9	78.4	108.33	9,867.4	503.7	540.7	392.0	148.61	3.638	
20,900.0	11,180.0	21,183.2	11,350.0	76.6	79.2	108.33	9,967.4	503.3	540.6	390.6	150.07	3.603	
21,000.0	11,180.0	21,283.2	11,350.0	77.4	79.9	108.33	10,067.4	502.9	540.6	389.1	151.54	3.568	
21,100.0	11,180.0	21,383.2	11,350.0	78.1	80.6	108.33	10,167.4	502.5	540.6	387.6	153.00	3.533	
21,200.0	11,180.0	21,483.2	11,350.0	78.9	81.4	108.33	10,267.4	502.1	540.6	386.2	154.47	3.500	
21,300.0	11,180.0	21,583.2	11,350.0	79.6	82.1	108.33	10,367.4	501.7	540.6	384.7	155.94	3.467	
21,400.0	11,180.0	21,683.2	11,350.0	80.4	82.8	108.33	10,467.4	501.3	540.6	383.2	157.41	3.435	
21,500.0	11,180.0	21,783.2	11,350.0	81.1	83.6	108.33	10,567.4	500.9	540.6	381.7	158.88	3.403	
21,600.0	11,180.0	21,883.2	11,350.0	81.9	84.3	108.33	10,667.4	500.5	540.6	380.3	160.35	3.371	
21,700.0	11,180.0	21,983.2	11,350.0	82.6	85.1	108.33	10,767.4	500.1	540.6	378.8	161.82	3.341	
21,800.0	11,180.0	22,083.2	11,350.0	83.4	85.8	108.33	10,867.4	499.7	540.6	377.3	163.29	3.311	
21,900.0	11,180.0	22,183.2	11,350.0	84.1	86.5	108.33	10,967.4	499.3	540.6	375.8	164.76	3.281	
22,000.0	11,180.0	22,283.2	11,350.0	84.9	87.3	108.33	11,067.4	498.9	540.6	374.3	166.24	3.252	
22,100.0	11,180.0	22,383.2	11,350.0	85.6	88.0	108.33	11,167.4	498.5	540.6	372.9	167.71	3.223	
22,200.0	11,180.0	22,483.2	11,350.0	86.4	88.8	108.33	11,267.4	498.1	540.6	371.4	169.19	3.195	
22,300.0	11,180.0	22,583.2	11,350.0	87.1	89.5	108.33	11,367.4	497.7	540.6	369.9	170.66	3.167	
22,400.0	11,180.0	22,683.2	11,350.0	87.9	90.2	108.33	11,467.4	497.3	540.6	368.4	172.14	3.140	
22,500.0	11,180.0	22,783.2	11,350.0	88.6	91.0	108.33	11,567.4	496.9	540.6	366.9	173.62	3.114	
22,600.0	11,180.0	22,883.2	11,350.0	89.4	91.7	108.33	11,667.4	496.5	540.5	365.5	175.09	3.087	
22,700.0	11,180.0	22,983.2	11,350.0	90.2	92.5	108.33	11,767.4	496.1	540.5	364.0	176.57	3.061	
22,800.0	11,180.0	23,083.2	11,350.0	90.9	93.2	108.33	11,867.4	495.7	540.5	362.5	178.05	3.036	
22,900.0	11,180.0	23,183.2	11,350.0	91.7	94.0	108.33	11,967.4	495.3	540.5	361.0	179.53	3.011	
23,000.0	11,180.0	23,283.2	11,350.0	92.4	94.7	108.33	12,067.4	494.9	540.5	359.5	181.01	2.986	
23,100.0	11,180.0	23,383.2	11,350.0	93.2	95.5	108.33	12,167.4	494.5	540.5	358.0	182.49	2.962	
23,200.0	11,180.0	23,483.2	11,350.0	93.9	96.2	108.33	12,267.4	494.1	540.5	356.5	183.97	2.938	
23,300.0	11,180.0	23,583.2	11,350.0	94.7	96.9	108.33	12,367.4	493.7	540.5	355.1	185.45	2.915	
23,400.0	11,180.0	23,683.2	11,350.0	95.4	97.7	108.33	12,467.4	493.3	540.5	353.6	186.93	2.891	
23,500.0	11,180.0	23,783.2	11,350.0	96.2	98.4	108.33	12,567.4	492.9	540.5	352.1	188.42	2.869	
23,600.0	11,180.0	23,883.2	11,350.0	96.9	99.2	108.33	12,667.4	492.5	540.5	350.6	189.90	2.846	
23,700.0	11,180.0	23,983.2	11,350.0	97.7	99.9	108.33	12,767.4	492.1	540.5	349.1	191.38	2.824	
23,800.0	11,180.0	24,083.2	11,350.0	98.5	100.7	108.33	12,867.4	491.7	540.5	347.6	192.87	2.802	
23,900.0	11,180.0	24,183.2	11,350.0	99.2	101.4	108.33	12,967.4	491.3	540.5	346.1	194.35	2.781	
24,000.0	11,180.0	24,283.2	11,350.0	100.0	102.2	108.33	13,067.4	490.9	540.5	344.6	195.84	2.760	
24,100.0	11,180.0	24,383.2	11,350.0	100.7	102.9	108.33	13,167.4	490.5	540.5	343.1	197.32	2.739	
24,200.0	11,180.0	24,483.2	11,350.0	101.5	103.7	108.33	13,267.4	490.1	540.5	341.6	198.81	2.718	
24,300.0	11,180.0	24,583.2	11,350.0	102.2	104.4	108.33	13,367.4	489.7	540.4	340.2	200.30	2.698	
24,400.0	11,180.0	24,683.2	11,350.0	103.0	105.2	108.33	13,467.4	489.3	540.4	338.7	201.78	2.678	
24,467.0	11,180.0	24,750.1	11,350.0	103.4	105.7	108.33	13,534.3	489.0	540.4	337.8	202.65	2.667	
24,469.4	11,180.0	24,750.1	11,350.0	103.4	105.7	108.33	13,534.3	489.0	540.4	337.8	202.66	2.667	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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		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	90.00	0.0	60.0	60.0	53.6	6.43	9.333		
100.0	100.0	100.0	100.0	3.2	3.2	90.00	0.0	60.0	60.0	53.1	6.89	8.705		
200.0	200.0	200.0	200.0	3.5	3.5	90.00	0.0	60.0	60.0	52.7	7.33	8.188		
300.0	300.0	300.0	300.0	3.7	3.7	90.00	0.0	60.0	60.0	52.3	7.74	7.751		
400.0	400.0	400.0	400.0	3.9	3.9	90.00	0.0	60.0	60.0	51.9	8.14	7.375		
500.0	500.0	500.0	500.0	4.1	4.1	90.00	0.0	60.0	60.0	51.5	8.51	7.048		
600.0	600.0	600.0	600.0	4.2	4.2	90.00	0.0	60.0	60.0	51.1	8.88	6.759		
700.0	700.0	700.0	700.0	4.4	4.4	90.00	0.0	60.0	60.0	50.8	9.23	6.501		
800.0	800.0	800.0	800.0	4.6	4.6	90.00	0.0	60.0	60.0	50.4	9.57	6.269		
900.0	900.0	900.0	900.0	4.8	4.8	90.00	0.0	60.0	60.0	50.1	9.90	6.059		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.00	0.0	60.0	60.0	49.8	10.22	5.868		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.00	0.0	60.0	60.0	49.5	10.54	5.693		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.00	0.0	60.0	60.0	49.2	10.85	5.531		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.00	0.0	60.0	60.0	48.9	11.15	5.382		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.00	0.0	60.0	60.0	48.6	11.44	5.243		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.00	0.0	60.0	60.0	48.3	11.73	5.113		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.00	0.0	60.0	60.0	48.0	12.02	4.992		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.00	0.0	60.0	60.0	47.7	12.30	4.878		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.00	0.0	60.0	60.0	47.4	12.58	4.771		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	90.00	0.0	60.0	60.0	47.2	12.85	4.670		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	90.00	0.0	60.0	60.0	46.9	13.12	4.575		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	90.00	0.0	60.0	60.0	46.6	13.38	4.484		
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	90.00	0.0	60.0	60.0	46.4	13.64	4.399		
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	90.00	0.0	60.0	60.0	46.1	13.90	4.317		
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	90.00	0.0	60.0	60.0	45.8	14.15	4.239		
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	90.00	0.0	60.0	60.0	45.6	14.41	4.165 CC, ES, SF		
2,600.0	2,600.0	2,598.6	2,598.6	7.2	7.2	89.40	0.6	61.1	61.1	46.5	14.67	4.167		
2,700.0	2,700.0	2,697.1	2,697.1	7.3	7.3	87.74	2.5	64.4	64.5	49.6	14.92	4.324		
2,800.0	2,800.0	2,795.4	2,795.1	7.4	7.5	85.33	5.7	69.9	70.3	55.1	15.18	4.629		
2,900.0	2,900.0	2,893.2	2,892.5	7.5	7.7	82.57	10.1	77.5	78.5	63.1	15.46	5.081		
3,000.0	3,000.0	2,990.6	2,989.2	7.7	7.9	79.78	15.7	87.2	89.3	73.6	15.74	5.674		
3,100.0	3,100.0	3,088.7	3,086.4	7.8	8.0	77.21	22.4	98.9	102.3	86.3	15.99	6.395		
3,200.0	3,200.0	3,187.7	3,184.5	7.9	8.3	75.17	29.3	110.8	115.7	99.3	16.32	7.087		
3,300.0	3,300.0	3,286.6	3,282.4	8.0	8.5	73.56	36.2	122.7	129.2	112.5	16.65	7.758		
3,400.0	3,400.0	3,382.7	3,377.5	8.1	8.7	72.84	41.9	135.7	143.8	126.8	16.99	8.465		
3,500.0	3,500.0	3,478.2	3,471.6	8.3	9.0	73.17	45.7	151.2	160.5	143.2	17.34	9.257		
3,600.0	3,600.0	3,572.9	3,564.5	8.4	9.2	74.25	47.7	169.1	179.2	161.6	17.68	10.136		
3,700.0	3,700.0	3,669.9	3,659.4	8.5	9.6	75.64	48.4	189.2	199.5	181.4	18.12	11.010		
3,800.0	3,800.0	3,767.7	3,755.1	8.6	9.9	76.80	49.1	209.5	219.8	201.3	18.55	11.850		
3,900.0	3,900.0	3,865.5	3,850.8	8.7	10.1	77.76	49.9	229.8	240.3	221.3	18.98	12.660		
4,000.0	4,000.0	3,963.3	3,946.5	8.8	10.5	78.57	50.6	250.2	260.8	241.4	19.42	13.427		
4,100.0	4,100.0	4,061.1	4,042.2	8.9	10.8	79.27	51.3	270.5	281.3	261.4	19.88	14.152		
4,200.0	4,200.0	4,159.0	4,137.8	9.1	11.1	79.86	52.0	290.8	301.9	281.6	20.35	14.838		
4,300.0	4,300.0	4,256.8	4,233.5	9.2	11.4	80.39	52.7	311.1	322.5	301.7	20.83	15.485		
4,400.0	4,400.0	4,354.6	4,329.2	9.3	11.8	80.85	53.4	331.5	343.1	321.8	21.32	16.096		
4,500.0	4,500.0	4,452.4	4,424.9	9.4	12.1	81.25	54.1	351.8	363.8	342.0	21.82	16.673		
4,600.0	4,600.0	4,550.2	4,520.5	9.5	12.5	81.62	54.8	372.1	384.4	362.1	22.33	17.217		
4,700.0	4,700.0	4,648.0	4,616.2	9.6	12.9	81.95	55.5	392.4	405.1	382.3	22.85	17.731		
4,800.0	4,800.0	4,745.9	4,711.9	9.7	13.3	82.24	56.2	412.8	425.8	402.4	23.37	18.216		
4,900.0	4,900.0	4,843.7	4,807.6	9.8	13.6	82.51	57.0	433.1	446.5	422.6	23.91	18.674		
5,000.0	5,000.0	4,941.5	4,903.3	9.9	14.0	82.75	57.7	453.4	467.2	442.7	24.45	19.107		
5,100.0	5,100.0	5,039.3	4,998.9	10.0	14.4	82.98	58.4	473.7	487.9	462.9	25.00	19.517		

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 #706H
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 #706H	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		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	5,200.0	5,137.1	5,094.6	10.1	14.8	83.18	59.1	494.1	508.6	483.1	25.55	19.904	
5,300.0	5,300.0	5,234.9	5,190.3	10.2	15.2	83.37	59.8	514.4	529.3	503.2	26.11	20.271	
5,400.0	5,400.0	5,332.7	5,286.0	10.4	15.6	83.54	60.5	534.7	550.1	523.4	26.68	20.618	
5,500.0	5,500.0	5,430.6	5,381.6	10.5	16.0	83.71	61.2	555.0	570.8	543.6	27.25	20.947	
5,600.0	5,600.0	5,528.4	5,477.3	10.6	16.4	83.86	61.9	575.4	591.5	563.7	27.83	21.259	
5,700.0	5,700.0	5,626.2	5,573.0	10.7	16.8	84.00	62.6	595.7	612.3	583.9	28.41	21.555	
5,800.0	5,800.0	5,724.0	5,668.7	10.8	17.3	84.13	63.3	616.0	633.0	604.0	28.99	21.837	
5,900.0	5,900.0	5,821.8	5,764.3	10.9	17.7	84.25	64.1	636.3	653.8	624.2	29.58	22.104	
6,000.0	6,000.0	5,919.6	5,860.0	11.0	18.1	84.37	64.8	656.7	674.5	644.4	30.17	22.359	
6,100.0	6,100.0	6,017.4	5,955.7	11.1	18.5	84.48	65.5	677.0	695.3	664.5	30.76	22.601	
6,200.0	6,200.0	6,115.3	6,051.4	11.2	18.9	84.58	66.2	697.3	716.0	684.7	31.36	22.831	
6,300.0	6,300.0	6,213.1	6,147.1	11.3	19.4	84.67	66.9	717.6	736.8	704.8	31.96	23.051	
6,400.0	6,400.0	6,310.9	6,242.7	11.4	19.8	84.77	67.6	738.0	757.6	725.0	32.57	23.261	
6,500.0	6,500.0	6,408.7	6,338.4	11.5	20.2	84.85	68.3	758.3	778.3	745.1	33.17	23.461	
6,600.0	6,600.0	6,506.5	6,434.1	11.6	20.7	84.93	69.0	778.6	799.1	765.3	33.78	23.652	
6,700.0	6,700.0	6,604.3	6,529.8	11.7	21.1	85.01	69.7	798.9	819.8	785.4	34.40	23.835	
6,800.0	6,800.0	6,702.1	6,625.4	11.8	21.5	85.09	70.4	819.3	840.6	805.6	35.01	24.009	
6,900.0	6,900.0	6,800.0	6,721.1	11.9	22.0	85.16	71.2	839.6	861.4	825.7	35.63	24.177	
7,000.0	7,000.0	6,897.8	6,816.8	12.0	22.4	85.22	71.9	859.9	882.1	845.9	36.25	24.337	
7,100.0	7,100.0	6,995.6	6,912.5	12.1	22.8	85.29	72.6	880.2	902.9	866.0	36.87	24.490	
7,200.0	7,200.0	7,093.4	7,008.2	12.2	23.3	85.35	73.3	900.6	923.7	886.2	37.49	24.637	
7,300.0	7,300.0	7,191.2	7,103.8	12.3	23.7	85.41	74.0	920.9	944.4	906.3	38.12	24.778	
7,400.0	7,400.0	7,299.3	7,209.6	12.4	24.2	85.47	74.8	943.0	964.9	926.2	38.78	24.880	
7,500.0	7,500.0	7,417.6	7,325.8	12.5	24.7	85.53	75.5	965.2	983.7	944.2	39.51	24.894	
7,600.0	7,600.0	7,536.8	7,443.4	12.6	25.2	85.57	76.2	985.1	1,000.4	960.1	40.22	24.871	
7,700.0	7,700.0	7,656.8	7,562.1	12.7	25.7	85.62	76.8	1,002.6	1,015.0	974.1	40.90	24.814	
7,800.0	7,800.0	7,777.6	7,681.8	12.8	26.2	85.65	77.4	1,017.8	1,027.5	986.0	41.55	24.727	
7,900.0	7,900.0	7,898.9	7,802.5	12.9	26.7	85.68	77.8	1,030.4	1,038.0	995.8	42.17	24.612	
8,000.0	8,000.0	8,020.6	7,923.8	13.0	27.1	85.70	78.2	1,040.6	1,046.3	1,003.6	42.75	24.477	
8,100.0	8,100.0	8,142.8	8,045.8	13.1	27.6	85.72	78.4	1,048.2	1,052.5	1,009.3	43.27	24.323	
8,200.0	8,200.0	8,265.2	8,168.1	13.2	28.0	85.73	78.6	1,053.2	1,056.6	1,012.9	43.74	24.158	
8,300.0	8,300.0	8,387.8	8,290.7	13.3	28.3	85.74	78.7	1,055.6	1,058.6	1,014.5	44.11	23.998	
8,400.0	8,400.0	8,497.2	8,400.0	13.4	28.4	85.74	78.7	1,055.8	1,058.7	1,014.5	44.23	23.936	
8,500.0	8,500.0	8,597.2	8,500.0	13.5	28.4	85.74	78.7	1,055.8	1,058.7	1,014.4	44.33	23.883	
8,600.0	8,600.0	8,697.2	8,600.0	13.6	28.4	85.74	78.7	1,055.8	1,058.7	1,014.3	44.43	23.829	
8,700.0	8,700.0	8,797.2	8,700.0	13.6	28.5	85.74	78.7	1,055.8	1,058.7	1,014.2	44.53	23.776	
8,800.0	8,800.0	8,897.2	8,800.0	13.7	28.5	85.74	78.7	1,055.8	1,058.7	1,014.1	44.63	23.722	
8,900.0	8,900.0	8,997.2	8,900.0	13.8	28.5	85.74	78.7	1,055.8	1,058.7	1,014.0	44.73	23.669	
9,000.0	9,000.0	9,097.2	9,000.0	13.9	28.6	85.74	78.7	1,055.8	1,058.7	1,013.9	44.83	23.615	
9,100.0	9,100.0	9,197.2	9,100.0	14.0	28.6	85.74	78.7	1,055.8	1,058.7	1,013.8	44.94	23.562	
9,200.0	9,200.0	9,297.2	9,200.0	14.1	28.6	85.74	78.7	1,055.8	1,058.7	1,013.7	45.04	23.508	
9,300.0	9,300.0	9,397.2	9,300.0	14.2	28.7	85.74	78.7	1,055.8	1,058.7	1,013.6	45.14	23.455	
9,400.0	9,400.0	9,497.2	9,400.0	14.3	28.7	85.74	78.7	1,055.8	1,058.7	1,013.5	45.24	23.402	
9,500.0	9,500.0	9,597.2	9,500.0	14.4	28.7	85.74	78.7	1,055.8	1,058.7	1,013.4	45.34	23.349	
9,600.0	9,600.0	9,697.2	9,600.0	14.5	28.8	85.74	78.7	1,055.8	1,058.7	1,013.3	45.45	23.296	
9,700.0	9,700.0	9,797.2	9,700.0	14.6	28.8	85.74	78.7	1,055.8	1,058.7	1,013.2	45.55	23.243	
9,800.0	9,800.0	9,897.2	9,800.0	14.7	28.9	85.74	78.7	1,055.8	1,058.7	1,013.1	45.66	23.190	
9,900.0	9,900.0	9,997.2	9,900.0	14.8	28.9	85.74	78.7	1,055.8	1,058.7	1,013.0	45.76	23.137	
10,000.0	10,000.0	10,097.2	10,000.0	14.9	28.9	85.74	78.7	1,055.8	1,058.7	1,012.9	45.86	23.084	
10,100.0	10,100.0	10,197.2	10,100.0	15.0	29.0	85.74	78.7	1,055.8	1,058.7	1,012.8	45.97	23.031	
10,200.0	10,200.0	10,297.2	10,200.0	15.1	29.0	85.74	78.7	1,055.8	1,058.7	1,012.7	46.08	22.979	
10,300.0	10,300.0	10,397.2	10,300.0	15.2	29.0	85.74	78.7	1,055.8	1,058.7	1,012.6	46.18	22.926	

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 #706H
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 #706H	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)			
10,400.0	10,400.0	10,497.2	10,400.0	15.3	29.1	85.74	78.7	1,055.8	1,058.7	1,012.5	46.29	22.874	
10,500.0	10,500.0	10,597.2	10,500.0	15.3	29.1	85.74	78.7	1,055.8	1,058.7	1,012.4	46.39	22.821	
10,600.0	10,600.0	10,697.2	10,600.0	15.4	29.1	85.74	78.7	1,055.8	1,058.7	1,012.2	46.50	22.766	
10,700.0	10,699.6	10,786.5	10,689.0	15.6	29.2	83.42	84.6	1,055.8	1,058.3	1,011.7	46.63	22.699	
10,800.0	10,796.4	10,875.3	10,775.5	15.8	29.3	83.68	104.1	1,055.7	1,057.0	1,010.3	46.74	22.615	
10,900.0	10,887.4	10,964.4	10,858.4	16.0	29.3	84.12	136.8	1,055.6	1,054.8	1,008.0	46.83	22.524	
11,000.0	10,969.9	11,054.3	10,935.8	16.2	29.4	84.73	182.4	1,055.4	1,051.9	1,005.0	46.90	22.427	
11,100.0	11,041.4	11,145.1	11,005.7	16.4	29.5	85.49	240.2	1,055.2	1,048.2	1,001.3	46.95	22.327	
11,200.0	11,099.7	11,237.1	11,066.3	16.6	29.6	86.39	309.2	1,054.9	1,044.1	997.1	46.99	22.221	
11,300.0	11,143.0	11,330.5	11,115.8	16.7	29.7	87.40	388.3	1,054.6	1,039.6	992.6	47.02	22.109	
11,400.0	11,170.0	11,425.6	11,152.4	16.8	29.8	88.49	476.0	1,054.2	1,034.9	987.8	47.07	21.987	
11,500.0	11,179.9	11,522.6	11,174.2	16.8	29.9	89.65	570.4	1,053.8	1,030.2	983.0	47.14	21.854	
11,600.0	11,180.0	11,622.0	11,180.0	16.9	29.9	90.00	669.5	1,053.5	1,027.1	979.7	47.34	21.698	
11,695.1	11,180.0	11,717.1	11,180.0	16.9	30.0	90.00	764.6	1,053.1	1,026.4	978.8	47.60	21.565	
11,700.0	11,180.0	11,722.0	11,180.0	16.9	30.0	90.00	769.5	1,053.1	1,026.8	979.2	47.61	21.567	
11,800.0	11,180.0	11,822.0	11,180.0	16.9	30.1	90.00	869.5	1,052.7	1,026.8	978.9	47.94	21.418	
11,900.0	11,180.0	11,922.0	11,180.0	16.9	30.3	90.00	969.5	1,052.3	1,026.8	978.5	48.32	21.252	
12,000.0	11,180.0	12,022.0	11,180.0	17.1	30.4	90.00	1,069.5	1,051.9	1,026.8	978.1	48.74	21.068	
12,100.0	11,180.0	12,122.0	11,180.0	17.4	30.6	90.00	1,169.5	1,051.5	1,026.8	977.6	49.20	20.870	
12,200.0	11,180.0	12,222.0	11,180.0	17.7	30.8	90.00	1,269.5	1,051.1	1,026.8	977.1	49.71	20.657	
12,300.0	11,180.0	12,322.0	11,180.0	18.1	31.0	90.00	1,369.5	1,050.7	1,026.8	976.5	50.25	20.433	
12,400.0	11,180.0	12,422.0	11,180.0	18.5	31.2	90.00	1,469.5	1,050.3	1,026.8	975.9	50.84	20.197	
12,500.0	11,180.0	12,522.0	11,180.0	18.9	31.5	90.00	1,569.5	1,049.9	1,026.8	975.3	51.46	19.952	
12,600.0	11,180.0	12,622.0	11,180.0	19.4	31.7	90.00	1,669.5	1,049.5	1,026.8	974.6	52.12	19.699	
12,700.0	11,180.0	12,722.0	11,180.0	19.8	32.0	90.00	1,769.5	1,049.1	1,026.8	973.9	52.82	19.439	
12,800.0	11,180.0	12,822.0	11,180.0	20.3	32.3	90.00	1,869.5	1,048.7	1,026.7	973.2	53.55	19.174	
12,900.0	11,180.0	12,922.0	11,180.0	20.8	32.6	90.00	1,969.5	1,048.3	1,026.7	972.4	54.31	18.905	
13,000.0	11,180.0	13,022.0	11,180.0	21.3	33.0	90.00	2,069.5	1,047.9	1,026.7	971.6	55.11	18.632	
13,100.0	11,180.0	13,122.0	11,180.0	21.8	33.3	90.00	2,169.5	1,047.5	1,026.7	970.8	55.93	18.358	
13,200.0	11,180.0	13,222.0	11,180.0	22.4	33.7	90.00	2,269.5	1,047.1	1,026.7	969.9	56.78	18.082	
13,300.0	11,180.0	13,322.0	11,180.0	22.9	34.0	90.00	2,369.5	1,046.7	1,026.7	969.1	57.66	17.806	
13,400.0	11,180.0	13,422.0	11,180.0	23.5	34.4	90.00	2,469.5	1,046.3	1,026.7	968.1	58.57	17.531	
13,500.0	11,180.0	13,522.0	11,180.0	24.1	34.8	90.00	2,569.5	1,045.9	1,026.7	967.2	59.50	17.256	
13,600.0	11,180.0	13,622.0	11,180.0	24.7	35.2	90.00	2,669.5	1,045.5	1,026.7	966.2	60.45	16.984	
13,700.0	11,180.0	13,722.0	11,180.0	25.3	35.7	90.00	2,769.5	1,045.1	1,026.7	965.3	61.43	16.714	
13,800.0	11,180.0	13,822.0	11,180.0	25.9	36.1	90.00	2,869.5	1,044.7	1,026.7	964.3	62.43	16.446	
13,900.0	11,180.0	13,922.0	11,180.0	26.5	36.6	90.00	2,969.5	1,044.3	1,026.7	963.2	63.44	16.182	
14,000.0	11,180.0	14,022.0	11,180.0	27.1	37.0	90.00	3,069.5	1,043.9	1,026.7	962.2	64.48	15.922	
14,100.0	11,180.0	14,122.0	11,180.0	27.7	37.5	90.00	3,169.5	1,043.5	1,026.7	961.1	65.54	15.665	
14,200.0	11,180.0	14,222.0	11,180.0	28.4	38.0	90.00	3,269.5	1,043.1	1,026.7	960.0	66.61	15.412	
14,300.0	11,180.0	14,322.0	11,180.0	29.0	38.5	90.00	3,369.5	1,042.7	1,026.7	958.9	67.71	15.164	
14,400.0	11,180.0	14,422.0	11,180.0	29.7	39.0	90.00	3,469.5	1,042.3	1,026.6	957.8	68.81	14.919	
14,500.0	11,180.0	14,522.0	11,180.0	30.3	39.5	90.00	3,569.5	1,041.9	1,026.6	956.7	69.94	14.680	
14,600.0	11,180.0	14,622.0	11,180.0	31.0	40.0	90.00	3,669.5	1,041.5	1,026.6	955.6	71.07	14.445	
14,700.0	11,180.0	14,722.0	11,180.0	31.6	40.5	90.00	3,769.5	1,041.1	1,026.6	954.4	72.22	14.215	
14,800.0	11,180.0	14,822.0	11,180.0	32.3	41.1	90.00	3,869.5	1,040.7	1,026.6	953.2	73.39	13.989	
14,900.0	11,180.0	14,922.0	11,180.0	33.0	41.6	90.00	3,969.5	1,040.3	1,026.6	952.1	74.56	13.768	
15,000.0	11,180.0	15,022.0	11,180.0	33.6	42.2	90.00	4,069.5	1,039.9	1,026.6	950.9	75.75	13.552	
15,100.0	11,180.0	15,122.0	11,180.0	34.3	42.7	90.00	4,169.5	1,039.5	1,026.6	949.6	76.95	13.341	
15,200.0	11,180.0	15,222.0	11,180.0	35.0	43.3	90.00	4,269.5	1,039.1	1,026.6	948.4	78.16	13.134	
15,300.0	11,180.0	15,322.0	11,180.0	35.7	43.8	90.00	4,369.5	1,038.7	1,026.6	947.2	79.38	12.932	
15,400.0	11,180.0	15,422.0	11,180.0	36.4	44.4	90.00	4,469.5	1,038.3	1,026.6	946.0	80.62	12.734	

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 #706H
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 #706H	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		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	11,180.0	15,522.0	11,180.0	37.1	45.0	90.00	4,569.5	1,037.9	1,026.6	944.7	81.86	12.541	
15,600.0	11,180.0	15,622.0	11,180.0	37.8	45.6	90.00	4,669.5	1,037.5	1,026.6	943.5	83.11	12.352	
15,700.0	11,180.0	15,722.0	11,180.0	38.5	46.2	90.00	4,769.5	1,037.1	1,026.6	942.2	84.36	12.168	
15,800.0	11,180.0	15,822.0	11,180.0	39.2	46.8	90.00	4,869.5	1,036.7	1,026.6	940.9	85.63	11.988	
15,900.0	11,180.0	15,922.0	11,180.0	39.9	47.4	90.00	4,969.5	1,036.3	1,026.6	939.6	86.91	11.812	
16,000.0	11,180.0	16,022.0	11,180.0	40.6	48.0	90.00	5,069.5	1,035.9	1,026.5	938.4	88.19	11.640	
16,100.0	11,180.0	16,122.0	11,180.0	41.3	48.6	90.00	5,169.5	1,035.5	1,026.5	937.1	89.48	11.473	
16,200.0	11,180.0	16,222.0	11,180.0	42.0	49.2	90.00	5,269.5	1,035.1	1,026.5	935.8	90.77	11.309	
16,300.0	11,180.0	16,322.0	11,180.0	42.7	49.8	90.00	5,369.5	1,034.7	1,026.5	934.4	92.08	11.149	
16,400.0	11,180.0	16,422.0	11,180.0	43.4	50.5	90.00	5,469.5	1,034.3	1,026.5	933.1	93.38	10.992	
16,500.0	11,180.0	16,522.0	11,180.0	44.1	51.1	90.00	5,569.5	1,033.9	1,026.5	931.8	94.70	10.840	
16,600.0	11,180.0	16,622.0	11,180.0	44.9	51.7	90.00	5,669.5	1,033.5	1,026.5	930.5	96.02	10.690	
16,700.0	11,180.0	16,722.0	11,180.0	45.6	52.4	90.00	5,769.5	1,033.1	1,026.5	929.2	97.35	10.545	
16,800.0	11,180.0	16,822.0	11,180.0	46.3	53.0	90.00	5,869.5	1,032.7	1,026.5	927.8	98.68	10.402	
16,900.0	11,180.0	16,922.0	11,180.0	47.0	53.6	90.00	5,969.5	1,032.3	1,026.5	926.5	100.02	10.263	
17,000.0	11,180.0	17,022.0	11,180.0	47.7	54.3	90.00	6,069.5	1,031.9	1,026.5	925.1	101.36	10.127	
17,100.0	11,180.0	17,122.0	11,180.0	48.5	54.9	90.00	6,169.5	1,031.5	1,026.5	923.8	102.70	9.994	
17,200.0	11,180.0	17,222.0	11,180.0	49.2	55.6	90.00	6,269.5	1,031.1	1,026.5	922.4	104.06	9.865	
17,300.0	11,180.0	17,322.0	11,180.0	49.9	56.3	90.00	6,369.5	1,030.7	1,026.5	921.0	105.41	9.738	
17,400.0	11,180.0	17,422.0	11,180.0	50.7	56.9	90.00	6,469.5	1,030.3	1,026.5	919.7	106.77	9.614	
17,500.0	11,180.0	17,522.0	11,180.0	51.4	57.6	90.00	6,569.5	1,029.9	1,026.4	918.3	108.14	9.492	
17,600.0	11,180.0	17,622.0	11,180.0	52.1	58.2	90.00	6,669.5	1,029.5	1,026.4	916.9	109.50	9.374	
17,700.0	11,180.0	17,722.0	11,180.0	52.8	58.9	90.00	6,769.5	1,029.1	1,026.4	915.6	110.87	9.258	
17,800.0	11,180.0	17,822.0	11,180.0	53.6	59.6	90.00	6,869.5	1,028.7	1,026.4	914.2	112.25	9.144	
17,900.0	11,180.0	17,922.0	11,180.0	54.3	60.2	90.00	6,969.5	1,028.3	1,026.4	912.8	113.63	9.033	
18,000.0	11,180.0	18,022.0	11,180.0	55.0	60.9	90.00	7,069.5	1,027.9	1,026.4	911.4	115.01	8.925	
18,100.0	11,180.0	18,122.0	11,180.0	55.8	61.6	90.00	7,169.5	1,027.5	1,026.4	910.0	116.40	8.818	
18,200.0	11,180.0	18,222.0	11,180.0	56.5	62.3	90.00	7,269.5	1,027.1	1,026.4	908.6	117.78	8.714	
18,300.0	11,180.0	18,322.0	11,180.0	57.3	62.9	90.00	7,369.5	1,026.7	1,026.4	907.2	119.18	8.612	
18,400.0	11,180.0	18,422.0	11,180.0	58.0	63.6	90.00	7,469.5	1,026.3	1,026.4	905.8	120.57	8.513	
18,500.0	11,180.0	18,522.0	11,180.0	58.7	64.3	90.00	7,569.5	1,025.9	1,026.4	904.4	121.97	8.415	
18,600.0	11,180.0	18,622.0	11,180.0	59.5	65.0	90.00	7,669.5	1,025.5	1,026.4	903.0	123.37	8.320	
18,700.0	11,180.0	18,722.0	11,180.0	60.2	65.7	90.00	7,769.5	1,025.1	1,026.4	901.6	124.77	8.226	
18,800.0	11,180.0	18,822.0	11,180.0	60.9	66.4	90.00	7,869.5	1,024.7	1,026.4	900.2	126.17	8.135	
18,900.0	11,180.0	18,922.0	11,180.0	61.7	67.1	90.00	7,969.5	1,024.3	1,026.4	898.8	127.58	8.045	
19,000.0	11,180.0	19,022.0	11,180.0	62.4	67.7	90.00	8,069.5	1,023.9	1,026.4	897.4	128.99	7.957	
19,100.0	11,180.0	19,122.0	11,180.0	63.2	68.4	90.00	8,169.5	1,023.5	1,026.3	895.9	130.40	7.871	
19,200.0	11,180.0	19,222.0	11,180.0	63.9	69.1	90.00	8,269.5	1,023.1	1,026.3	894.5	131.82	7.786	
19,300.0	11,180.0	19,322.0	11,180.0	64.7	69.8	90.00	8,369.5	1,022.7	1,026.3	893.1	133.23	7.703	
19,400.0	11,180.0	19,422.0	11,180.0	65.4	70.5	90.00	8,469.5	1,022.3	1,026.3	891.7	134.65	7.622	
19,500.0	11,180.0	19,522.0	11,180.0	66.1	71.2	90.00	8,569.5	1,021.9	1,026.3	890.2	136.07	7.542	
19,600.0	11,180.0	19,622.0	11,180.0	66.9	71.9	90.00	8,669.5	1,021.5	1,026.3	888.8	137.49	7.464	
19,700.0	11,180.0	19,722.0	11,180.0	67.6	72.6	90.00	8,769.5	1,021.1	1,026.3	887.4	138.92	7.388	
19,800.0	11,180.0	19,822.0	11,180.0	68.4	73.3	90.00	8,869.5	1,020.7	1,026.3	886.0	140.35	7.313	
19,900.0	11,180.0	19,922.0	11,180.0	69.1	74.0	90.00	8,969.5	1,020.3	1,026.3	884.5	141.77	7.239	
20,000.0	11,180.0	20,022.0	11,180.0	69.9	74.7	90.00	9,069.5	1,019.9	1,026.3	883.1	143.20	7.167	
20,100.0	11,180.0	20,122.0	11,180.0	70.6	75.4	90.00	9,169.5	1,019.5	1,026.3	881.6	144.63	7.096	
20,200.0	11,180.0	20,222.0	11,180.0	71.4	76.2	90.00	9,269.5	1,019.1	1,026.3	880.2	146.07	7.026	
20,300.0	11,180.0	20,322.0	11,180.0	72.1	76.9	90.00	9,369.5	1,018.7	1,026.3	878.8	147.50	6.958	
20,400.0	11,180.0	20,422.0	11,180.0	72.9	77.6	90.00	9,469.5	1,018.3	1,026.3	877.3	148.94	6.891	
20,500.0	11,180.0	20,522.0	11,180.0	73.6	78.3	90.00	9,569.5	1,017.9	1,026.3	875.9	150.38	6.825	
20,600.0	11,180.0	20,622.0	11,180.0	74.4	79.0	90.00	9,669.5	1,017.5	1,026.2	874.4	151.81	6.760	

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 #706H
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 #706H	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		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)			
20,700.0	11,180.0	20,722.0	11,180.0	75.1	79.7	90.00	9,769.5	1,017.1	1,026.2	873.0	153.26	6.696	
20,800.0	11,180.0	20,822.0	11,180.0	75.9	80.4	90.00	9,869.5	1,016.7	1,026.2	871.5	154.70	6.634	
20,900.0	11,180.0	20,922.0	11,180.0	76.6	81.1	90.00	9,969.5	1,016.3	1,026.2	870.1	156.14	6.572	
21,000.0	11,180.0	21,022.0	11,180.0	77.4	81.9	90.00	10,069.5	1,015.9	1,026.2	868.6	157.58	6.512	
21,100.0	11,180.0	21,122.0	11,180.0	78.1	82.6	90.00	10,169.5	1,015.5	1,026.2	867.2	159.03	6.453	
21,200.0	11,180.0	21,222.0	11,180.0	78.9	83.3	90.00	10,269.5	1,015.1	1,026.2	865.7	160.48	6.395	
21,300.0	11,180.0	21,322.0	11,180.0	79.6	84.0	90.00	10,369.4	1,014.7	1,026.2	864.3	161.93	6.338	
21,400.0	11,180.0	21,422.0	11,180.0	80.4	84.7	90.00	10,469.4	1,014.3	1,026.2	862.8	163.37	6.281	
21,500.0	11,180.0	21,522.0	11,180.0	81.1	85.5	90.00	10,569.4	1,013.9	1,026.2	861.4	164.82	6.226	
21,600.0	11,180.0	21,622.0	11,180.0	81.9	86.2	90.00	10,669.4	1,013.5	1,026.2	859.9	166.28	6.172	
21,700.0	11,180.0	21,722.0	11,180.0	82.6	86.9	90.00	10,769.4	1,013.1	1,026.2	858.4	167.73	6.118	
21,800.0	11,180.0	21,822.0	11,180.0	83.4	87.6	90.00	10,869.4	1,012.7	1,026.2	857.0	169.18	6.065	
21,900.0	11,180.0	21,922.0	11,180.0	84.1	88.3	90.00	10,969.4	1,012.3	1,026.2	855.5	170.64	6.014	
22,000.0	11,180.0	22,022.0	11,180.0	84.9	89.1	90.00	11,069.4	1,011.9	1,026.2	854.1	172.09	5.963	
22,100.0	11,180.0	22,122.0	11,180.0	85.6	89.8	90.00	11,169.4	1,011.5	1,026.2	852.6	173.55	5.913	
22,200.0	11,180.0	22,222.0	11,180.0	86.4	90.5	90.00	11,269.4	1,011.1	1,026.1	851.1	175.01	5.863	
22,300.0	11,180.0	22,322.0	11,180.0	87.1	91.2	90.00	11,369.4	1,010.7	1,026.1	849.7	176.46	5.815	
22,400.0	11,180.0	22,422.0	11,180.0	87.9	92.0	90.00	11,469.4	1,010.3	1,026.1	848.2	177.92	5.767	
22,500.0	11,180.0	22,522.0	11,180.0	88.6	92.7	90.00	11,569.4	1,009.9	1,026.1	846.7	179.38	5.720	
22,600.0	11,180.0	22,622.0	11,180.0	89.4	93.4	90.00	11,669.4	1,009.5	1,026.1	845.3	180.84	5.674	
22,700.0	11,180.0	22,722.0	11,180.0	90.2	94.2	90.00	11,769.4	1,009.1	1,026.1	843.8	182.31	5.628	
22,800.0	11,180.0	22,822.0	11,180.0	90.9	94.9	90.00	11,869.4	1,008.7	1,026.1	842.3	183.77	5.584	
22,900.0	11,180.0	22,922.0	11,180.0	91.7	95.6	90.00	11,969.4	1,008.3	1,026.1	840.9	185.23	5.540	
23,000.0	11,180.0	23,022.0	11,180.0	92.4	96.3	90.00	12,069.4	1,007.9	1,026.1	839.4	186.70	5.496	
23,100.0	11,180.0	23,122.0	11,180.0	93.2	97.1	90.00	12,169.4	1,007.5	1,026.1	837.9	188.16	5.453	
23,200.0	11,180.0	23,222.0	11,180.0	93.9	97.8	90.00	12,269.4	1,007.1	1,026.1	836.5	189.63	5.411	
23,300.0	11,180.0	23,322.0	11,180.0	94.7	98.5	90.00	12,369.4	1,006.7	1,026.1	835.0	191.09	5.369	
23,400.0	11,180.0	23,422.0	11,180.0	95.4	99.3	90.00	12,469.4	1,006.3	1,026.1	833.5	192.56	5.329	
23,500.0	11,180.0	23,522.0	11,180.0	96.2	100.0	90.00	12,569.4	1,005.9	1,026.1	832.0	194.03	5.288	
23,600.0	11,180.0	23,622.0	11,180.0	96.9	100.7	90.00	12,669.4	1,005.5	1,026.1	830.6	195.50	5.248	
23,700.0	11,180.0	23,722.0	11,180.0	97.7	101.5	90.00	12,769.4	1,005.1	1,026.0	829.1	196.97	5.209	
23,800.0	11,180.0	23,822.0	11,180.0	98.5	102.2	90.00	12,869.4	1,004.7	1,026.0	827.6	198.44	5.171	
23,900.0	11,180.0	23,922.0	11,180.0	99.2	102.9	90.00	12,969.4	1,004.3	1,026.0	826.1	199.91	5.133	
24,000.0	11,180.0	24,022.0	11,180.0	100.0	103.7	90.00	13,069.4	1,003.9	1,026.0	824.7	201.38	5.095	
24,100.0	11,180.0	24,122.0	11,180.0	100.7	104.4	90.00	13,169.4	1,003.5	1,026.0	823.2	202.85	5.058	
24,200.0	11,180.0	24,222.0	11,180.0	101.5	105.1	90.00	13,269.4	1,003.1	1,026.0	821.7	204.32	5.022	
24,300.0	11,180.0	24,322.0	11,180.0	102.2	105.9	90.00	13,369.4	1,002.7	1,026.0	820.2	205.79	4.986	
24,400.0	11,180.0	24,422.0	11,180.0	103.0	106.6	90.00	13,469.4	1,002.3	1,026.0	818.8	207.23	4.951	
24,462.3	11,180.0	24,484.4	11,180.0	103.4	106.9	90.00	13,531.8	1,002.0	1,026.0	818.1	207.95	4.934	
24,469.4	11,180.0	24,486.5	11,180.0	103.4	107.0	90.00	13,533.8	1,002.0	1,026.0	818.0	208.01	4.932	

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 #706H
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 #706H	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		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	90.00	0.0	90.0	90.0	83.6	6.43	13.999		
100.0	100.0	100.0	100.0	3.2	3.2	90.00	0.0	90.0	90.0	83.1	6.89	13.058		
200.0	200.0	200.0	200.0	3.5	3.5	90.00	0.0	90.0	90.0	82.7	7.33	12.281		
300.0	300.0	300.0	300.0	3.7	3.7	90.00	0.0	90.0	90.0	82.3	7.74	11.626		
400.0	400.0	400.0	400.0	3.9	3.9	90.00	0.0	90.0	90.0	81.9	8.14	11.063		
500.0	500.0	500.0	500.0	4.1	4.1	90.00	0.0	90.0	90.0	81.5	8.51	10.571		
600.0	600.0	600.0	600.0	4.2	4.2	90.00	0.0	90.0	90.0	81.1	8.88	10.138		
700.0	700.0	700.0	700.0	4.4	4.4	90.00	0.0	90.0	90.0	80.8	9.23	9.751		
800.0	800.0	800.0	800.0	4.6	4.6	90.00	0.0	90.0	90.0	80.4	9.57	9.404		
900.0	900.0	900.0	900.0	4.8	4.8	90.00	0.0	90.0	90.0	80.1	9.90	9.089		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.00	0.0	90.0	90.0	79.8	10.22	8.802		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.00	0.0	90.0	90.0	79.5	10.54	8.539		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.00	0.0	90.0	90.0	79.2	10.85	8.297		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.00	0.0	90.0	90.0	78.9	11.15	8.072		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.00	0.0	90.0	90.0	78.6	11.44	7.864		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.00	0.0	90.0	90.0	78.3	11.73	7.670		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.00	0.0	90.0	90.0	78.0	12.02	7.488		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.00	0.0	90.0	90.0	77.7	12.30	7.317		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.00	0.0	90.0	90.0	77.4	12.58	7.157		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	90.00	0.0	90.0	90.0	77.2	12.85	7.005		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	90.00	0.0	90.0	90.0	76.9	13.12	6.862		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	90.00	0.0	90.0	90.0	76.6	13.38	6.727		
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	90.00	0.0	90.0	90.0	76.4	13.64	6.598 CC, ES		
2,300.0	2,300.0	2,297.7	2,297.7	6.8	6.8	90.00	0.0	91.2	91.3	77.4	13.91	6.561 SF		
2,400.0	2,400.0	2,395.2	2,395.1	6.9	6.9	90.00	0.0	95.0	95.1	80.9	14.17	6.711		
2,500.0	2,500.0	2,492.5	2,492.2	7.0	7.1	90.00	0.0	101.2	101.5	87.1	14.44	7.028		
2,600.0	2,600.0	2,589.4	2,588.8	7.2	7.3	90.00	0.0	109.8	110.4	95.7	14.72	7.502		
2,700.0	2,700.0	2,685.9	2,684.5	7.3	7.5	90.00	0.0	120.9	121.8	106.8	15.00	8.120		
2,800.0	2,800.0	2,781.7	2,779.4	7.4	7.7	90.00	0.0	134.2	135.8	120.5	15.31	8.871		
2,900.0	2,900.0	2,876.7	2,873.2	7.5	7.9	90.00	0.0	149.8	152.2	136.6	15.62	9.743		
3,000.0	3,000.0	2,970.9	2,965.7	7.7	8.2	90.00	0.0	167.5	171.0	155.1	15.95	10.725		
3,100.0	3,100.0	3,064.2	3,056.9	7.8	8.4	90.00	0.0	187.4	192.3	176.0	16.29	11.805		
3,200.0	3,200.0	3,157.8	3,147.8	7.9	8.7	90.00	0.0	209.4	215.8	199.2	16.61	12.989		
3,300.0	3,300.0	3,254.8	3,241.9	8.0	9.0	90.00	0.0	232.9	240.0	223.0	17.02	14.097		
3,400.0	3,400.0	3,351.8	3,336.1	8.1	9.3	90.00	0.0	256.3	264.2	246.7	17.47	15.126		
3,500.0	3,500.0	3,448.9	3,430.2	8.3	9.6	90.00	0.0	279.8	288.4	270.4	17.92	16.088		
3,600.0	3,600.0	3,545.9	3,524.4	8.4	9.9	90.00	0.0	303.3	312.6	294.2	18.40	16.989		
3,700.0	3,700.0	3,642.9	3,618.5	8.5	10.2	90.00	0.0	326.7	336.7	317.9	18.89	17.831		
3,800.0	3,800.0	3,740.0	3,712.7	8.6	10.6	90.00	0.0	350.2	360.9	341.6	19.39	18.618		
3,900.0	3,900.0	3,837.0	3,806.8	8.7	11.0	90.00	0.0	373.7	385.1	365.2	19.90	19.354		
4,000.0	4,000.0	3,934.0	3,901.0	8.8	11.3	90.00	0.0	397.2	409.3	388.9	20.42	20.042		
4,100.0	4,100.0	4,031.0	3,995.1	8.9	11.7	90.00	0.0	420.6	433.5	412.6	20.96	20.686		
4,200.0	4,200.0	4,128.1	4,089.3	9.1	12.1	90.00	0.0	444.1	457.7	436.2	21.50	21.288		
4,300.0	4,300.0	4,225.1	4,183.4	9.2	12.5	90.00	0.0	467.6	481.9	459.8	22.05	21.852		
4,400.0	4,400.0	4,322.1	4,277.6	9.3	12.9	90.00	0.0	491.1	506.1	483.5	22.61	22.381		
4,500.0	4,500.0	4,419.2	4,371.7	9.4	13.3	90.00	0.0	514.5	530.3	507.1	23.18	22.877		
4,600.0	4,600.0	4,516.2	4,465.9	9.5	13.7	90.00	0.0	538.0	554.5	530.7	23.75	23.342		
4,700.0	4,700.0	4,613.2	4,560.0	9.6	14.1	90.00	0.0	561.5	578.7	554.3	24.34	23.779		
4,800.0	4,800.0	4,710.3	4,654.2	9.7	14.5	90.00	0.0	585.0	602.9	577.9	24.92	24.189		
4,900.0	4,900.0	4,807.3	4,748.3	9.8	14.9	90.00	0.0	608.4	627.1	601.5	25.52	24.576		
5,000.0	5,000.0	4,904.3	4,842.4	9.9	15.4	90.00	0.0	631.9	651.2	625.1	26.11	24.940		
5,100.0	5,100.0	5,001.3	4,936.6	10.0	15.8	90.00	0.0	655.4	675.4	648.7	26.72	25.283		

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 #706H
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 #706H	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		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	
5,200.0	5,200.0	5,098.4	5,030.7	10.1	16.2	90.00	0.0	678.8	699.6	672.3	27.32	25.606	
5,300.0	5,300.0	5,195.4	5,124.9	10.2	16.6	90.00	0.0	702.3	723.8	695.9	27.93	25.912	
5,400.0	5,400.0	5,292.4	5,219.0	10.4	17.1	90.00	0.0	725.8	748.0	719.5	28.55	26.201	
5,500.0	5,500.0	5,389.5	5,313.2	10.5	17.5	90.00	0.0	749.3	772.2	743.0	29.17	26.474	
5,600.0	5,600.0	5,486.5	5,407.3	10.6	17.9	90.00	0.0	772.7	796.4	766.6	29.79	26.733	
5,700.0	5,700.0	5,583.5	5,501.5	10.7	18.4	90.00	0.0	796.2	820.6	790.2	30.42	26.979	
5,800.0	5,800.0	5,680.6	5,595.6	10.8	18.8	90.00	0.0	819.7	844.8	813.7	31.04	27.212	
5,900.0	5,900.0	5,777.6	5,689.8	10.9	19.3	90.00	0.0	843.2	869.0	837.3	31.68	27.433	
6,000.0	6,000.0	5,874.6	5,783.9	11.0	19.7	90.00	0.0	866.6	893.2	860.9	32.31	27.643	
6,100.0	6,100.0	5,971.6	5,878.1	11.1	20.2	90.00	0.0	890.1	917.4	884.4	32.95	27.843	
6,200.0	6,200.0	6,068.7	5,972.2	11.2	20.6	90.00	0.0	913.6	941.6	908.0	33.59	28.033	
6,300.0	6,300.0	6,165.7	6,066.4	11.3	21.1	90.00	0.0	937.1	965.7	931.5	34.23	28.215	
6,400.0	6,400.0	6,262.7	6,160.5	11.4	21.5	90.00	0.0	960.5	989.9	955.1	34.87	28.387	
6,500.0	6,500.0	6,359.8	6,254.7	11.5	22.0	90.00	0.0	984.0	1,014.1	978.6	35.52	28.552	
6,600.0	6,600.0	6,456.8	6,348.8	11.6	22.4	90.00	0.0	1,007.5	1,038.3	1,002.2	36.17	28.710	
6,700.0	6,700.0	6,553.8	6,443.0	11.7	22.9	90.00	0.0	1,031.0	1,062.5	1,025.7	36.82	28.860	
6,800.0	6,800.0	6,650.8	6,537.1	11.8	23.3	90.00	0.0	1,054.4	1,086.7	1,049.2	37.47	29.004	
6,900.0	6,900.0	6,747.9	6,631.2	11.9	23.8	90.00	0.0	1,077.9	1,110.9	1,072.8	38.12	29.142	
7,000.0	7,000.0	6,844.9	6,725.4	12.0	24.2	90.00	0.0	1,101.4	1,135.1	1,096.3	38.77	29.274	
7,100.0	7,100.0	6,941.9	6,819.5	12.1	24.7	90.00	0.0	1,124.8	1,159.3	1,119.9	39.43	29.400	
7,200.0	7,200.0	7,039.0	6,913.7	12.2	25.2	90.00	0.0	1,148.3	1,183.5	1,143.4	40.09	29.522	
7,300.0	7,300.0	7,136.0	7,007.8	12.3	25.6	90.00	0.0	1,171.8	1,207.7	1,166.9	40.75	29.638	
7,400.0	7,400.0	7,233.0	7,102.0	12.4	26.1	90.00	0.0	1,195.3	1,231.9	1,190.5	41.41	29.750	
7,500.0	7,500.0	7,330.1	7,196.1	12.5	26.5	90.00	0.0	1,218.7	1,256.1	1,214.0	42.07	29.857	
7,600.0	7,600.0	7,427.1	7,290.3	12.6	27.0	90.00	0.0	1,242.2	1,280.2	1,237.5	42.73	29.960	
7,700.0	7,700.0	7,524.1	7,384.4	12.7	27.5	90.00	0.0	1,265.7	1,304.4	1,261.0	43.40	30.059	
7,800.0	7,800.0	7,621.1	7,478.6	12.8	27.9	90.00	0.0	1,289.2	1,328.6	1,284.6	44.06	30.154	
7,900.0	7,900.0	7,718.2	7,572.7	12.9	28.4	90.00	0.0	1,312.6	1,352.8	1,308.1	44.73	30.246	
8,000.0	8,000.0	7,815.2	7,666.9	13.0	28.8	90.00	0.0	1,336.1	1,377.0	1,331.6	45.39	30.337	
8,100.0	8,100.0	7,937.6	7,785.8	13.1	29.4	90.00	0.0	1,364.8	1,400.5	1,354.3	46.20	30.313	
8,200.0	8,200.0	8,067.2	7,912.5	13.2	30.0	90.00	0.0	1,392.5	1,421.8	1,374.8	47.04	30.227	
8,300.0	8,300.0	8,198.1	8,040.9	13.3	30.6	90.00	0.0	1,417.4	1,440.9	1,393.1	47.85	30.115	
8,400.0	8,400.0	8,330.0	8,171.0	13.4	31.2	90.00	0.0	1,439.7	1,457.8	1,409.2	48.62	29.984	
8,500.0	8,500.0	8,462.9	8,302.5	13.5	31.8	90.00	0.0	1,459.0	1,472.3	1,423.0	49.35	29.834	
8,600.0	8,600.0	8,596.7	8,435.2	13.6	32.3	90.00	0.0	1,475.4	1,484.6	1,434.6	50.04	29.668	
8,700.0	8,700.0	8,731.2	8,569.0	13.6	32.9	90.00	0.0	1,488.8	1,494.5	1,443.9	50.68	29.491	
8,800.0	8,800.0	8,866.2	8,703.7	13.7	33.4	90.00	0.0	1,499.0	1,502.1	1,450.9	51.26	29.307	
8,900.0	8,900.0	9,001.6	8,838.9	13.8	33.8	90.00	0.0	1,506.1	1,507.4	1,455.6	51.77	29.119	
9,000.0	9,000.0	9,137.3	8,974.5	13.9	34.2	90.00	0.0	1,510.0	1,510.2	1,458.1	52.16	28.952	
9,100.0	9,100.0	9,262.8	9,100.0	14.0	34.4	90.00	0.0	1,510.8	1,510.8	1,458.5	52.34	28.864	
9,200.0	9,200.0	9,362.8	9,200.0	14.1	34.4	90.00	0.0	1,510.8	1,510.8	1,458.4	52.42	28.820	
9,300.0	9,300.0	9,462.8	9,300.0	14.2	34.5	90.00	0.0	1,510.8	1,510.8	1,458.3	52.51	28.774	
9,400.0	9,400.0	9,562.8	9,400.0	14.3	34.5	90.00	0.0	1,510.8	1,510.8	1,458.2	52.59	28.728	
9,500.0	9,500.0	9,662.8	9,500.0	14.4	34.5	90.00	0.0	1,510.8	1,510.8	1,458.1	52.67	28.682	
9,600.0	9,600.0	9,762.8	9,600.0	14.5	34.5	90.00	0.0	1,510.8	1,510.8	1,458.1	52.76	28.636	
9,700.0	9,700.0	9,862.8	9,700.0	14.6	34.6	90.00	0.0	1,510.8	1,510.8	1,458.0	52.84	28.590	
9,800.0	9,800.0	9,962.8	9,800.0	14.7	34.6	90.00	0.0	1,510.8	1,510.8	1,457.9	52.93	28.544	
9,900.0	9,900.0	10,062.8	9,900.0	14.8	34.6	90.00	0.0	1,510.8	1,510.8	1,457.8	53.02	28.498	
10,000.0	10,000.0	10,162.8	10,000.0	14.9	34.6	90.00	0.0	1,510.8	1,510.8	1,457.7	53.10	28.451	
10,100.0	10,100.0	10,262.8	10,100.0	15.0	34.7	90.00	0.0	1,510.8	1,510.8	1,457.6	53.19	28.405	
10,200.0	10,200.0	10,362.8	10,200.0	15.1	34.7	90.00	0.0	1,510.8	1,510.8	1,457.5	53.28	28.359	
10,300.0	10,300.0	10,462.8	10,300.0	15.2	34.7	90.00	0.0	1,510.8	1,510.8	1,457.5	53.36	28.312	

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 #706H
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 #706H	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
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)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,400.0	10,400.0	10,562.8	10,400.0	15.3	34.8	90.00	0.0	1,510.8	1,510.8	1,457.4	53.45	28.266		
10,500.0	10,500.0	10,662.8	10,500.0	15.3	34.8	90.00	0.0	1,510.8	1,510.8	1,457.3	53.54	28.219		
10,600.0	10,600.0	10,762.8	10,600.0	15.4	34.8	90.00	0.0	1,510.8	1,510.8	1,457.2	53.63	28.171		
10,700.0	10,699.6	10,862.4	10,699.6	15.6	34.8	87.91	0.0	1,510.8	1,510.5	1,456.8	53.70	28.130		
10,800.0	10,796.4	10,956.5	10,793.8	15.8	34.9	88.85	0.2	1,510.8	1,509.8	1,456.1	53.75	28.092		
10,847.3	10,840.3	10,995.9	10,833.0	15.9	34.9	89.32	2.7	1,511.0	1,509.7	1,455.9	53.78	28.071		
10,900.0	10,887.4	11,040.6	10,877.3	16.0	34.9	89.85	8.8	1,511.5	1,509.9	1,456.1	53.80	28.064		
11,000.0	10,969.9	11,128.4	10,962.2	16.2	35.0	90.86	30.7	1,513.3	1,511.1	1,457.3	53.77	28.101		
11,100.0	11,041.4	11,220.9	11,047.0	16.4	35.0	91.85	67.4	1,516.2	1,513.7	1,460.0	53.67	28.203		
11,200.0	11,099.7	11,319.2	11,129.3	16.6	35.1	92.82	120.7	1,520.5	1,517.5	1,464.0	53.50	28.364		
11,300.0	11,143.0	11,424.6	11,206.0	16.7	35.2	93.75	192.6	1,526.3	1,522.5	1,469.2	53.30	28.565		
11,400.0	11,170.0	11,538.7	11,272.7	16.8	35.3	94.62	284.6	1,533.7	1,528.5	1,475.4	53.11	28.780		
11,500.0	11,179.9	11,662.8	11,322.8	16.8	35.4	95.40	397.5	1,542.8	1,535.0	1,482.0	52.99	28.969		
11,600.0	11,180.0	11,799.0	11,348.5	16.9	35.5	96.29	530.5	1,553.5	1,542.3	1,489.2	53.08	29.059		
11,700.0	11,180.0	11,993.2	11,350.0	16.9	35.7	96.31	724.3	1,565.0	1,548.6	1,495.1	53.57	28.908		
11,800.0	11,180.0	12,140.5	11,350.0	16.9	35.8	96.30	871.6	1,565.7	1,549.3	1,495.3	53.92	28.735		
11,900.0	11,180.0	12,240.5	11,350.0	16.9	36.0	96.30	971.6	1,565.3	1,549.3	1,495.1	54.17	28.602		
12,000.0	11,180.0	12,340.5	11,350.0	17.1	36.1	96.30	1,071.6	1,564.9	1,549.2	1,494.8	54.46	28.449		
12,100.0	11,180.0	12,440.5	11,350.0	17.4	36.3	96.30	1,171.6	1,564.5	1,549.2	1,494.4	54.79	28.276		
12,200.0	11,180.0	12,540.5	11,350.0	17.7	36.4	96.30	1,271.6	1,564.1	1,549.2	1,494.1	55.16	28.086		
12,300.0	11,180.0	12,640.5	11,350.0	18.1	36.6	96.30	1,371.6	1,563.7	1,549.2	1,493.7	55.57	27.878		
12,400.0	11,180.0	12,740.5	11,350.0	18.5	36.8	96.30	1,471.6	1,563.3	1,549.2	1,493.2	56.02	27.655		
12,500.0	11,180.0	12,840.5	11,350.0	18.9	37.1	96.30	1,571.6	1,562.9	1,549.2	1,492.7	56.51	27.417		
12,600.0	11,180.0	12,940.5	11,350.0	19.4	37.3	96.30	1,671.6	1,562.5	1,549.2	1,492.2	57.03	27.165		
12,700.0	11,180.0	13,040.5	11,350.0	19.8	37.6	96.30	1,771.6	1,562.1	1,549.2	1,491.6	57.59	26.902		
12,800.0	11,180.0	13,140.5	11,350.0	20.3	37.8	96.30	1,871.6	1,561.7	1,549.2	1,491.0	58.18	26.628		
12,900.0	11,180.0	13,240.5	11,350.0	20.8	38.1	96.30	1,971.6	1,561.3	1,549.2	1,490.4	58.80	26.345		
13,000.0	11,180.0	13,340.5	11,350.0	21.3	38.4	96.30	2,071.6	1,560.9	1,549.2	1,489.7	59.46	26.054		
13,100.0	11,180.0	13,440.5	11,350.0	21.8	38.7	96.30	2,171.6	1,560.5	1,549.2	1,489.0	60.15	25.755		
13,200.0	11,180.0	13,540.5	11,350.0	22.4	39.1	96.30	2,271.6	1,560.1	1,549.2	1,488.3	60.87	25.451		
13,300.0	11,180.0	13,640.5	11,350.0	22.9	39.4	96.30	2,371.6	1,559.7	1,549.2	1,487.5	61.61	25.143		
13,400.0	11,180.0	13,740.5	11,350.0	23.5	39.8	96.30	2,471.6	1,559.3	1,549.1	1,486.8	62.39	24.830		
13,500.0	11,180.0	13,840.5	11,350.0	24.1	40.1	96.30	2,571.6	1,558.9	1,549.1	1,485.9	63.19	24.515		
13,600.0	11,180.0	13,940.5	11,350.0	24.7	40.5	96.30	2,671.6	1,558.5	1,549.1	1,485.1	64.02	24.198		
13,700.0	11,180.0	14,040.5	11,350.0	25.3	40.9	96.30	2,771.6	1,558.1	1,549.1	1,484.3	64.87	23.879		
13,800.0	11,180.0	14,140.5	11,350.0	25.9	41.3	96.30	2,871.6	1,557.7	1,549.1	1,483.4	65.75	23.561		
13,900.0	11,180.0	14,240.5	11,350.0	26.5	41.7	96.30	2,971.6	1,557.3	1,549.1	1,482.5	66.65	23.243		
14,000.0	11,180.0	14,340.5	11,350.0	27.1	42.1	96.30	3,071.6	1,556.9	1,549.1	1,481.5	67.57	22.926		
14,100.0	11,180.0	14,440.5	11,350.0	27.7	42.6	96.30	3,171.6	1,556.5	1,549.1	1,480.6	68.51	22.610		
14,200.0	11,180.0	14,540.5	11,350.0	28.4	43.0	96.30	3,271.6	1,556.1	1,549.1	1,479.6	69.48	22.297		
14,300.0	11,180.0	14,640.5	11,350.0	29.0	43.4	96.30	3,371.6	1,555.7	1,549.1	1,478.6	70.46	21.986		
14,400.0	11,180.0	14,740.5	11,350.0	29.7	43.9	96.30	3,471.6	1,555.3	1,549.1	1,477.6	71.46	21.677		
14,500.0	11,180.0	14,840.5	11,350.0	30.3	44.4	96.30	3,571.6	1,554.9	1,549.1	1,476.6	72.48	21.373		
14,600.0	11,180.0	14,940.5	11,350.0	31.0	44.8	96.30	3,671.6	1,554.5	1,549.1	1,475.5	73.52	21.071		
14,700.0	11,180.0	15,040.5	11,350.0	31.6	45.3	96.30	3,771.6	1,554.1	1,549.1	1,474.5	74.57	20.774		
14,800.0	11,180.0	15,140.5	11,350.0	32.3	45.8	96.30	3,871.6	1,553.7	1,549.0	1,473.4	75.64	20.480		
14,900.0	11,180.0	15,240.5	11,350.0	33.0	46.3	96.30	3,971.6	1,553.3	1,549.0	1,472.3	76.72	20.191		
15,000.0	11,180.0	15,340.5	11,350.0	33.6	46.8	96.30	4,071.6	1,552.9	1,549.0	1,471.2	77.82	19.906		
15,100.0	11,180.0	15,440.5	11,350.0	34.3	47.3	96.30	4,171.6	1,552.5	1,549.0	1,470.1	78.93	19.626		
15,200.0	11,180.0	15,540.5	11,350.0	35.0	47.8	96.30	4,271.6	1,552.1	1,549.0	1,469.0	80.05	19.350		
15,300.0	11,180.0	15,640.5	11,350.0	35.7	48.4	96.30	4,371.6	1,551.7	1,549.0	1,467.8	81.19	19.079		
15,400.0	11,180.0	15,740.5	11,350.0	36.4	48.9	96.30	4,471.6	1,551.3	1,549.0	1,466.7	82.34	18.813		

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 #706H
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 #706H	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
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
15,500.0	11,180.0	15,840.5	11,350.0	37.1	49.4	96.30	4,571.6	1,550.9	1,549.0	1,465.5	83.50	18.551		
15,600.0	11,180.0	15,940.5	11,350.0	37.8	50.0	96.30	4,671.6	1,550.5	1,549.0	1,464.3	84.67	18.294		
15,700.0	11,180.0	16,040.5	11,350.0	38.5	50.5	96.30	4,771.6	1,550.1	1,549.0	1,463.1	85.85	18.042		
15,800.0	11,180.0	16,140.5	11,350.0	39.2	51.1	96.30	4,871.6	1,549.7	1,549.0	1,461.9	87.05	17.795		
15,900.0	11,180.0	16,240.5	11,350.0	39.9	51.6	96.30	4,971.6	1,549.3	1,549.0	1,460.7	88.25	17.552		
16,000.0	11,180.0	16,340.5	11,350.0	40.6	52.2	96.30	5,071.6	1,548.9	1,549.0	1,459.5	89.46	17.314		
16,100.0	11,180.0	16,440.5	11,350.0	41.3	52.8	96.30	5,171.6	1,548.5	1,549.0	1,458.3	90.68	17.081		
16,200.0	11,180.0	16,540.5	11,350.0	42.0	53.4	96.30	5,271.6	1,548.1	1,548.9	1,457.0	91.91	16.852		
16,300.0	11,180.0	16,640.5	11,350.0	42.7	53.9	96.30	5,371.6	1,547.7	1,548.9	1,455.8	93.15	16.628		
16,400.0	11,180.0	16,740.5	11,350.0	43.4	54.5	96.30	5,471.6	1,547.3	1,548.9	1,454.5	94.40	16.409		
16,500.0	11,180.0	16,840.5	11,350.0	44.1	55.1	96.30	5,571.6	1,546.9	1,548.9	1,453.3	95.65	16.194		
16,600.0	11,180.0	16,940.5	11,350.0	44.9	55.7	96.30	5,671.6	1,546.5	1,548.9	1,452.0	96.91	15.983		
16,700.0	11,180.0	17,040.5	11,350.0	45.6	56.3	96.30	5,771.5	1,546.1	1,548.9	1,450.7	98.18	15.776		
16,800.0	11,180.0	17,140.5	11,350.0	46.3	56.9	96.30	5,871.5	1,545.7	1,548.9	1,449.4	99.46	15.574		
16,900.0	11,180.0	17,240.5	11,350.0	47.0	57.5	96.30	5,971.5	1,545.3	1,548.9	1,448.2	100.74	15.376		
17,000.0	11,180.0	17,340.5	11,350.0	47.7	58.1	96.30	6,071.5	1,544.9	1,548.9	1,446.9	102.03	15.181		
17,100.0	11,180.0	17,440.5	11,350.0	48.5	58.7	96.30	6,171.5	1,544.5	1,548.9	1,445.6	103.32	14.991		
17,200.0	11,180.0	17,540.5	11,350.0	49.2	59.4	96.30	6,271.5	1,544.1	1,548.9	1,444.3	104.62	14.805		
17,300.0	11,180.0	17,640.5	11,350.0	49.9	60.0	96.30	6,371.5	1,543.7	1,548.9	1,442.9	105.93	14.622		
17,400.0	11,180.0	17,740.5	11,350.0	50.7	60.6	96.30	6,471.5	1,543.3	1,548.9	1,441.6	107.24	14.443		
17,500.0	11,180.0	17,840.5	11,350.0	51.4	61.2	96.30	6,571.5	1,542.9	1,548.9	1,440.3	108.55	14.268		
17,600.0	11,180.0	17,940.5	11,350.0	52.1	61.9	96.30	6,671.5	1,542.5	1,548.8	1,439.0	109.88	14.096		
17,700.0	11,180.0	18,040.5	11,350.0	52.8	62.5	96.30	6,771.5	1,542.1	1,548.8	1,437.6	111.20	13.928		
17,800.0	11,180.0	18,140.5	11,350.0	53.6	63.1	96.30	6,871.5	1,541.7	1,548.8	1,436.3	112.53	13.763		
17,900.0	11,180.0	18,240.5	11,350.0	54.3	63.8	96.30	6,971.5	1,541.3	1,548.8	1,435.0	113.87	13.602		
18,000.0	11,180.0	18,340.5	11,350.0	55.0	64.4	96.30	7,071.5	1,540.9	1,548.8	1,433.6	115.21	13.444		
18,100.0	11,180.0	18,440.5	11,350.0	55.8	65.0	96.30	7,171.5	1,540.5	1,548.8	1,432.3	116.55	13.289		
18,200.0	11,180.0	18,540.5	11,350.0	56.5	65.7	96.30	7,271.5	1,540.1	1,548.8	1,430.9	117.90	13.137		
18,300.0	11,180.0	18,640.5	11,350.0	57.3	66.3	96.30	7,371.5	1,539.7	1,548.8	1,429.5	119.25	12.987		
18,400.0	11,180.0	18,740.5	11,350.0	58.0	67.0	96.30	7,471.5	1,539.3	1,548.8	1,428.2	120.61	12.841		
18,500.0	11,180.0	18,840.5	11,350.0	58.7	67.6	96.30	7,571.5	1,538.9	1,548.8	1,426.8	121.97	12.698		
18,600.0	11,180.0	18,940.5	11,350.0	59.5	68.3	96.30	7,671.5	1,538.5	1,548.8	1,425.4	123.33	12.558		
18,700.0	11,180.0	19,040.5	11,350.0	60.2	69.0	96.30	7,771.5	1,538.1	1,548.8	1,424.1	124.70	12.420		
18,800.0	11,180.0	19,140.5	11,350.0	60.9	69.6	96.30	7,871.5	1,537.7	1,548.8	1,422.7	126.07	12.285		
18,900.0	11,180.0	19,240.5	11,350.0	61.7	70.3	96.30	7,971.5	1,537.3	1,548.8	1,421.3	127.44	12.153		
19,000.0	11,180.0	19,340.5	11,350.0	62.4	70.9	96.30	8,071.5	1,536.9	1,548.7	1,419.9	128.82	12.023		
19,100.0	11,180.0	19,440.5	11,350.0	63.2	71.6	96.30	8,171.5	1,536.5	1,548.7	1,418.5	130.20	11.895		
19,200.0	11,180.0	19,540.5	11,350.0	63.9	72.3	96.30	8,271.5	1,536.1	1,548.7	1,417.2	131.58	11.770		
19,300.0	11,180.0	19,640.5	11,350.0	64.7	72.9	96.30	8,371.5	1,535.7	1,548.7	1,415.8	132.96	11.648		
19,400.0	11,180.0	19,740.5	11,350.0	65.4	73.6	96.30	8,471.5	1,535.3	1,548.7	1,414.4	134.35	11.527		
19,500.0	11,180.0	19,840.5	11,350.0	66.1	74.3	96.30	8,571.5	1,534.9	1,548.7	1,413.0	135.74	11.409		
19,600.0	11,180.0	19,940.5	11,350.0	66.9	75.0	96.30	8,671.5	1,534.5	1,548.7	1,411.6	137.14	11.293		
19,700.0	11,180.0	20,040.5	11,350.0	67.6	75.6	96.30	8,771.5	1,534.1	1,548.7	1,410.2	138.53	11.179		
19,800.0	11,180.0	20,140.5	11,350.0	68.4	76.3	96.30	8,871.5	1,533.7	1,548.7	1,408.8	139.93	11.068		
19,900.0	11,180.0	20,240.5	11,350.0	69.1	77.0	96.30	8,971.5	1,533.3	1,548.7	1,407.4	141.33	10.958		
20,000.0	11,180.0	20,340.5	11,350.0	69.9	77.7	96.30	9,071.5	1,532.9	1,548.7	1,405.9	142.73	10.850		
20,100.0	11,180.0	20,440.5	11,350.0	70.6	78.4	96.30	9,171.5	1,532.5	1,548.7	1,404.5	144.14	10.744		
20,200.0	11,180.0	20,540.5	11,350.0	71.4	79.1	96.30	9,271.5	1,532.1	1,548.7	1,403.1	145.54	10.640		
20,300.0	11,180.0	20,640.5	11,350.0	72.1	79.7	96.30	9,371.5	1,531.7	1,548.7	1,401.7	146.95	10.538		
20,400.0	11,180.0	20,740.5	11,350.0	72.9	80.4	96.30	9,471.5	1,531.3	1,548.6	1,400.3	148.36	10.438		
20,500.0	11,180.0	20,840.5	11,350.0	73.6	81.1	96.30	9,571.5	1,530.9	1,548.6	1,398.9	149.78	10.340		
20,600.0	11,180.0	20,940.5	11,350.0	74.4	81.8	96.30	9,671.5	1,530.5	1,548.6	1,397.4	151.19	10.243		

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 #706H
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 #706H	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)			
20,700.0	11,180.0	21,040.5	11,350.0	75.1	82.5	96.30	9,771.5	1,530.1	1,548.6	1,396.0	152.61	10.148	
20,800.0	11,180.0	21,140.5	11,350.0	75.9	83.2	96.30	9,871.5	1,529.7	1,548.6	1,394.6	154.03	10.054	
20,900.0	11,180.0	21,240.5	11,350.0	76.6	83.9	96.30	9,971.5	1,529.3	1,548.6	1,393.2	155.45	9.962	
21,000.0	11,180.0	21,340.5	11,350.0	77.4	84.6	96.30	10,071.5	1,528.9	1,548.6	1,391.7	156.87	9.872	
21,100.0	11,180.0	21,440.5	11,350.0	78.1	85.3	96.30	10,171.5	1,528.5	1,548.6	1,390.3	158.29	9.783	
21,200.0	11,180.0	21,540.5	11,350.0	78.9	86.0	96.30	10,271.5	1,528.1	1,548.6	1,388.9	159.72	9.696	
21,300.0	11,180.0	21,640.5	11,350.0	79.6	86.7	96.30	10,371.5	1,527.7	1,548.6	1,387.4	161.15	9.610	
21,400.0	11,180.0	21,740.5	11,350.0	80.4	87.4	96.30	10,471.5	1,527.3	1,548.6	1,386.0	162.58	9.525	
21,500.0	11,180.0	21,840.5	11,350.0	81.1	88.1	96.30	10,571.5	1,526.9	1,548.6	1,384.6	164.01	9.442	
21,600.0	11,180.0	21,940.5	11,350.0	81.9	88.8	96.30	10,671.5	1,526.5	1,548.6	1,383.1	165.44	9.360	
21,700.0	11,180.0	22,040.5	11,350.0	82.6	89.5	96.30	10,771.5	1,526.1	1,548.6	1,381.7	166.87	9.280	
21,800.0	11,180.0	22,140.5	11,350.0	83.4	90.2	96.30	10,871.5	1,525.7	1,548.5	1,380.2	168.30	9.201	
21,900.0	11,180.0	22,240.5	11,350.0	84.1	90.9	96.30	10,971.5	1,525.3	1,548.5	1,378.8	169.74	9.123	
22,000.0	11,180.0	22,340.5	11,350.0	84.9	91.6	96.30	11,071.5	1,524.9	1,548.5	1,377.4	171.18	9.046	
22,100.0	11,180.0	22,440.5	11,350.0	85.6	92.3	96.30	11,171.5	1,524.5	1,548.5	1,375.9	172.61	8.971	
22,200.0	11,180.0	22,540.5	11,350.0	86.4	93.0	96.30	11,271.5	1,524.1	1,548.5	1,374.5	174.05	8.897	
22,300.0	11,180.0	22,640.5	11,350.0	87.1	93.7	96.30	11,371.5	1,523.7	1,548.5	1,373.0	175.50	8.824	
22,400.0	11,180.0	22,740.5	11,350.0	87.9	94.4	96.30	11,471.5	1,523.3	1,548.5	1,371.6	176.94	8.752	
22,500.0	11,180.0	22,840.5	11,350.0	88.6	95.2	96.30	11,571.5	1,522.9	1,548.5	1,370.1	178.38	8.681	
22,600.0	11,180.0	22,940.5	11,350.0	89.4	95.9	96.30	11,671.5	1,522.5	1,548.5	1,368.7	179.82	8.611	
22,700.0	11,180.0	23,040.5	11,350.0	90.2	96.6	96.30	11,771.5	1,522.1	1,548.5	1,367.2	181.27	8.542	
22,800.0	11,180.0	23,140.5	11,350.0	90.9	97.3	96.30	11,871.5	1,521.7	1,548.5	1,365.8	182.72	8.475	
22,900.0	11,180.0	23,240.5	11,350.0	91.7	98.0	96.30	11,971.5	1,521.3	1,548.5	1,364.3	184.16	8.408	
23,000.0	11,180.0	23,340.5	11,350.0	92.4	98.7	96.30	12,071.5	1,520.9	1,548.5	1,362.8	185.61	8.342	
23,100.0	11,180.0	23,440.5	11,350.0	93.2	99.4	96.30	12,171.5	1,520.5	1,548.5	1,361.4	187.06	8.278	
23,200.0	11,180.0	23,540.5	11,350.0	93.9	100.2	96.30	12,271.5	1,520.1	1,548.4	1,359.9	188.51	8.214	
23,300.0	11,180.0	23,640.5	11,350.0	94.7	100.9	96.30	12,371.5	1,519.7	1,548.4	1,358.5	189.96	8.151	
23,400.0	11,180.0	23,740.5	11,350.0	95.4	101.6	96.30	12,471.5	1,519.3	1,548.4	1,357.0	191.42	8.089	
23,500.0	11,180.0	23,840.5	11,350.0	96.2	102.3	96.30	12,571.5	1,518.9	1,548.4	1,355.6	192.87	8.028	
23,600.0	11,180.0	23,940.5	11,350.0	96.9	103.0	96.30	12,671.5	1,518.5	1,548.4	1,354.1	194.32	7.968	
23,700.0	11,180.0	24,040.5	11,350.0	97.7	103.8	96.30	12,771.5	1,518.1	1,548.4	1,352.6	195.78	7.909	
23,800.0	11,180.0	24,140.5	11,350.0	98.5	104.5	96.30	12,871.5	1,517.7	1,548.4	1,351.2	197.23	7.851	
23,900.0	11,180.0	24,240.5	11,350.0	99.2	105.2	96.30	12,971.5	1,517.3	1,548.4	1,349.7	198.69	7.793	
24,000.0	11,180.0	24,340.5	11,350.0	100.0	105.9	96.30	13,071.5	1,516.9	1,548.4	1,348.2	200.15	7.736	
24,100.0	11,180.0	24,440.5	11,350.0	100.7	106.6	96.30	13,171.5	1,516.5	1,548.4	1,346.8	201.61	7.680	
24,200.0	11,180.0	24,540.5	11,350.0	101.5	107.4	96.30	13,271.5	1,516.0	1,548.4	1,345.3	203.06	7.625	
24,300.0	11,180.0	24,640.5	11,350.0	102.2	108.1	96.30	13,371.5	1,515.6	1,548.4	1,343.8	204.52	7.571	
24,400.0	11,180.0	24,740.5	11,350.0	103.0	108.8	96.30	13,471.5	1,515.2	1,548.4	1,342.4	205.99	7.517	
24,461.4	11,180.0	24,801.9	11,350.0	103.4	109.3	96.30	13,532.9	1,515.0	1,548.4	1,341.6	206.78	7.488	
24,469.4	11,180.0	24,802.4	11,350.0	103.4	109.3	96.30	13,533.4	1,515.0	1,548.4	1,341.5	206.85	7.485	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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	90.01	0.0	120.0	120.0	113.6	6.43	18.666	
100.0	100.0	100.0	100.0	3.2	3.2	90.01	0.0	120.0	120.0	113.1	6.89	17.411	
200.0	200.0	200.0	200.0	3.5	3.5	90.01	0.0	120.0	120.0	112.7	7.33	16.375	
300.0	300.0	300.0	300.0	3.7	3.7	90.01	0.0	120.0	120.0	112.3	7.74	15.501	
400.0	400.0	400.0	400.0	3.9	3.9	90.01	0.0	120.0	120.0	111.9	8.14	14.750	
500.0	500.0	500.0	500.0	4.1	4.1	90.01	0.0	120.0	120.0	111.5	8.51	14.095	
600.0	600.0	600.0	600.0	4.2	4.2	90.01	0.0	120.0	120.0	111.1	8.88	13.517	
700.0	700.0	700.0	700.0	4.4	4.4	90.01	0.0	120.0	120.0	110.8	9.23	13.002	
800.0	800.0	800.0	800.0	4.6	4.6	90.01	0.0	120.0	120.0	110.4	9.57	12.539	
900.0	900.0	900.0	900.0	4.8	4.8	90.01	0.0	120.0	120.0	110.1	9.90	12.119	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.01	0.0	120.0	120.0	109.8	10.22	11.736	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.01	0.0	120.0	120.0	109.5	10.54	11.386	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.01	0.0	120.0	120.0	109.2	10.85	11.062	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.01	0.0	120.0	120.0	108.9	11.15	10.763	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.01	0.0	120.0	120.0	108.6	11.44	10.485	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.01	0.0	120.0	120.0	108.3	11.73	10.226	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.01	0.0	120.0	120.0	108.0	12.02	9.984	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.01	0.0	120.0	120.0	107.7	12.30	9.756	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.01	0.0	120.0	120.0	107.4	12.58	9.542 CC, ES	
1,900.0	1,900.0	1,897.0	1,896.9	6.3	6.3	90.08	-0.2	121.2	121.3	108.4	12.86	9.428 SF	
2,000.0	2,000.0	1,993.8	1,993.7	6.4	6.4	90.30	-0.7	124.9	125.0	111.9	13.14	9.517	
2,100.0	2,100.0	2,090.4	2,090.1	6.5	6.6	90.64	-1.5	130.9	131.3	117.9	13.42	9.785	
2,200.0	2,200.0	2,186.6	2,185.9	6.7	6.8	91.06	-2.6	139.4	140.1	126.4	13.71	10.217	
2,300.0	2,300.0	2,282.3	2,281.0	6.8	7.0	91.52	-4.0	150.2	151.4	137.4	14.02	10.801	
2,400.0	2,400.0	2,377.4	2,375.2	6.9	7.2	92.00	-5.7	163.2	165.2	150.8	14.33	11.522	
2,500.0	2,500.0	2,471.8	2,468.4	7.0	7.5	92.47	-7.7	178.4	181.4	166.7	14.66	12.368	
2,600.0	2,600.0	2,565.4	2,560.3	7.2	7.7	92.92	-10.0	195.8	200.0	185.0	15.01	13.326	
2,700.0	2,700.0	2,658.1	2,650.9	7.3	8.0	93.34	-12.5	215.2	221.0	205.7	15.33	14.418	
2,800.0	2,800.0	2,755.0	2,745.3	7.4	8.2	93.72	-15.4	236.8	243.5	227.8	15.72	15.488	
2,900.0	2,900.0	2,852.5	2,840.3	7.5	8.5	94.04	-18.3	258.5	265.9	249.8	16.16	16.456	
3,000.0	3,000.0	2,949.9	2,935.2	7.7	8.8	94.31	-21.1	280.2	288.4	271.8	16.62	17.355	
3,100.0	3,100.0	3,047.3	3,030.2	7.8	9.2	94.54	-24.0	302.0	310.9	293.8	17.09	18.190	
3,200.0	3,200.0	3,144.8	3,125.1	7.9	9.5	94.74	-26.8	323.7	333.3	315.8	17.58	18.965	
3,300.0	3,300.0	3,242.2	3,220.0	8.0	9.8	94.91	-29.7	345.4	355.8	337.7	18.08	19.684	
3,400.0	3,400.0	3,339.6	3,315.0	8.1	10.2	95.07	-32.6	367.2	378.3	359.7	18.59	20.352	
3,500.0	3,500.0	3,437.1	3,409.9	8.3	10.6	95.20	-35.4	388.9	400.7	381.6	19.11	20.971	
3,600.0	3,600.0	3,534.5	3,504.9	8.4	10.9	95.33	-38.3	410.6	423.2	403.6	19.64	21.547	
3,700.0	3,700.0	3,632.0	3,599.8	8.5	11.3	95.44	-41.1	432.3	445.7	425.5	20.18	22.082	
3,800.0	3,800.0	3,729.4	3,694.7	8.6	11.7	95.53	-44.0	454.1	468.2	447.5	20.74	22.579	
3,900.0	3,900.0	3,826.8	3,789.7	8.7	12.1	95.62	-46.9	475.8	490.7	469.4	21.28	23.056	
4,000.0	4,000.0	3,914.4	3,874.8	8.8	12.4	95.62	-48.8	496.1	514.0	492.3	21.74	23.642	
4,100.0	4,100.0	4,003.5	3,961.0	8.9	12.8	95.41	-49.2	518.7	539.3	517.1	22.23	24.262	
4,200.0	4,200.0	4,100.1	4,054.3	9.1	13.2	95.17	-49.2	543.7	565.1	542.3	22.82	24.764	
4,300.0	4,300.0	4,196.7	4,147.6	9.2	13.6	94.94	-49.2	568.7	590.9	567.4	23.41	25.235	
4,400.0	4,400.0	4,293.3	4,240.9	9.3	14.1	94.73	-49.2	593.7	616.7	592.6	24.02	25.677	
4,500.0	4,500.0	4,389.9	4,334.2	9.4	14.5	94.54	-49.2	618.7	642.5	617.8	24.62	26.091	
4,600.0	4,600.0	4,486.5	4,427.5	9.5	14.9	94.37	-49.2	643.7	668.3	643.0	25.24	26.480	
4,700.0	4,700.0	4,583.0	4,520.8	9.6	15.4	94.20	-49.2	668.7	694.1	668.2	25.85	26.846	
4,800.0	4,800.0	4,679.6	4,614.1	9.7	15.8	94.05	-49.2	693.7	719.9	693.4	26.48	27.191	
4,900.0	4,900.0	4,776.2	4,707.4	9.8	16.2	93.91	-49.2	718.7	745.7	718.6	27.10	27.516	
5,000.0	5,000.0	4,872.8	4,800.7	9.9	16.7	93.78	-49.2	743.7	771.5	743.8	27.73	27.822	
5,100.0	5,100.0	4,969.4	4,894.0	10.0	17.1	93.66	-49.2	768.7	797.4	769.0	28.37	28.111	

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 #706H
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 #706H	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)			
5,200.0	5,200.0	5,066.0	4,987.3	10.1	17.6	93.54	-49.2	793.7	823.2	794.2	29.00	28.385	
5,300.0	5,300.0	5,162.6	5,080.6	10.2	18.0	93.44	-49.2	818.7	849.1	819.4	29.64	28.643	
5,400.0	5,400.0	5,259.2	5,173.9	10.4	18.5	93.33	-49.2	843.7	874.9	844.6	30.29	28.888	
5,500.0	5,500.0	5,355.8	5,267.2	10.5	18.9	93.24	-49.2	868.7	900.7	869.8	30.93	29.121	
5,600.0	5,600.0	5,452.4	5,360.5	10.6	19.4	93.15	-49.2	893.7	926.6	895.0	31.58	29.341	
5,700.0	5,700.0	5,549.0	5,453.8	10.7	19.8	93.06	-49.2	918.7	952.4	920.2	32.23	29.551	
5,800.0	5,800.0	5,645.6	5,547.1	10.8	20.3	92.98	-49.2	943.7	978.3	945.4	32.88	29.750	
5,900.0	5,900.0	5,742.2	5,640.4	10.9	20.7	92.90	-49.2	968.7	1,004.1	970.6	33.54	29.939	
6,000.0	6,000.0	5,838.7	5,733.7	11.0	21.2	92.83	-49.2	993.7	1,030.0	995.8	34.20	30.119	
6,100.0	6,100.0	5,935.3	5,827.0	11.1	21.6	92.76	-49.2	1,018.7	1,055.8	1,021.0	34.86	30.291	
6,200.0	6,200.0	6,031.9	5,920.3	11.2	22.1	92.70	-49.2	1,043.7	1,081.7	1,046.2	35.52	30.455	
6,300.0	6,300.0	6,128.5	6,013.6	11.3	22.6	92.63	-49.2	1,068.7	1,107.5	1,071.4	36.18	30.612	
6,400.0	6,400.0	6,225.1	6,106.9	11.4	23.0	92.57	-49.2	1,093.7	1,133.4	1,096.6	36.84	30.761	
6,500.0	6,500.0	6,321.7	6,200.2	11.5	23.5	92.52	-49.2	1,118.7	1,159.3	1,121.7	37.51	30.904	
6,600.0	6,600.0	6,418.3	6,293.5	11.6	23.9	92.46	-49.2	1,143.7	1,185.1	1,146.9	38.18	31.041	
6,700.0	6,700.0	6,514.9	6,386.8	11.7	24.4	92.41	-49.2	1,168.7	1,211.0	1,172.1	38.85	31.172	
6,800.0	6,800.0	6,611.5	6,480.1	11.8	24.9	92.36	-49.2	1,193.7	1,236.8	1,197.3	39.52	31.297	
6,900.0	6,900.0	6,708.1	6,573.4	11.9	25.3	92.31	-49.2	1,218.7	1,262.7	1,222.5	40.19	31.418	
7,000.0	7,000.0	6,804.7	6,666.7	12.0	25.8	92.26	-49.2	1,243.7	1,288.6	1,247.7	40.86	31.533	
7,100.0	7,100.0	6,901.3	6,760.0	12.1	26.3	92.22	-49.2	1,268.7	1,314.4	1,272.9	41.54	31.644	
7,200.0	7,200.0	6,997.9	6,853.3	12.2	26.7	92.18	-49.2	1,293.7	1,340.3	1,298.1	42.21	31.750	
7,300.0	7,300.0	7,094.5	6,946.6	12.3	27.2	92.13	-49.2	1,318.7	1,366.2	1,323.3	42.89	31.852	
7,400.0	7,400.0	7,191.0	7,039.9	12.4	27.7	92.09	-49.2	1,343.7	1,392.0	1,348.4	43.57	31.951	
7,500.0	7,500.0	7,287.6	7,133.2	12.5	28.1	92.06	-49.2	1,368.7	1,417.9	1,373.6	44.25	32.045	
7,600.0	7,600.0	7,384.2	7,226.5	12.6	28.6	92.02	-49.2	1,393.7	1,443.7	1,398.8	44.93	32.136	
7,700.0	7,700.0	7,480.8	7,319.8	12.7	29.1	91.98	-49.2	1,418.7	1,469.6	1,424.0	45.61	32.224	
7,800.0	7,800.0	7,577.4	7,413.1	12.8	29.6	91.95	-49.2	1,443.7	1,495.5	1,449.2	46.29	32.309	
7,900.0	7,900.0	7,674.0	7,506.5	12.9	30.0	91.92	-49.2	1,468.7	1,521.4	1,474.4	46.97	32.390	
8,000.0	8,000.0	7,770.6	7,599.8	13.0	30.5	91.88	-49.2	1,493.7	1,547.2	1,499.6	47.65	32.469	
8,100.0	8,100.0	7,867.2	7,693.1	13.1	31.0	91.85	-49.2	1,518.7	1,573.1	1,524.8	48.34	32.545	
8,200.0	8,200.0	7,963.8	7,786.4	13.2	31.4	91.82	-49.2	1,543.7	1,599.0	1,549.9	49.02	32.618	
8,300.0	8,300.0	8,060.4	7,879.7	13.3	31.9	91.79	-49.2	1,568.7	1,624.8	1,575.1	49.71	32.689	
8,400.0	8,400.0	8,157.0	7,973.0	13.4	32.4	91.77	-49.2	1,593.7	1,650.7	1,600.3	50.39	32.759	
8,500.0	8,500.0	8,251.9	8,093.8	13.5	33.0	91.73	-49.2	1,625.3	1,676.0	1,624.7	51.26	32.695	
8,600.0	8,600.0	8,419.8	8,228.0	13.6	33.7	91.70	-49.2	1,657.1	1,699.1	1,646.9	52.18	32.559	
8,700.0	8,700.0	8,559.2	8,364.4	13.6	34.3	91.67	-49.2	1,686.0	1,719.8	1,666.7	53.06	32.409	
8,800.0	8,800.0	8,700.0	8,502.8	13.7	34.9	91.64	-49.2	1,711.8	1,738.1	1,684.2	53.91	32.242	
8,900.0	8,900.0	8,842.0	8,643.0	13.8	35.6	91.62	-49.2	1,734.3	1,754.0	1,699.3	54.70	32.064	
9,000.0	9,000.0	8,985.0	8,784.7	13.9	36.2	91.61	-49.2	1,753.5	1,767.4	1,711.9	55.45	31.876	
9,100.0	9,100.0	9,128.9	8,927.8	14.0	36.8	91.59	-49.2	1,769.3	1,778.3	1,722.2	56.13	31.682	
9,200.0	9,200.0	9,273.6	9,071.9	14.1	37.3	91.58	-49.2	1,781.5	1,786.7	1,730.0	56.75	31.487	
9,300.0	9,300.0	9,418.7	9,216.8	14.2	37.8	91.57	-49.2	1,790.0	1,792.6	1,735.4	57.28	31.296	
9,400.0	9,400.0	9,564.2	9,362.2	14.3	38.3	91.57	-49.2	1,794.9	1,796.0	1,738.3	57.70	31.126	
9,500.0	9,500.0	9,702.0	9,500.0	14.4	38.5	91.57	-49.2	1,796.2	1,796.9	1,739.0	57.85	31.063	
9,600.0	9,600.0	9,802.0	9,600.0	14.5	38.5	91.57	-49.2	1,796.2	1,796.9	1,739.0	57.93	31.018	
9,700.0	9,700.0	9,902.0	9,700.0	14.6	38.5	91.57	-49.2	1,796.2	1,796.9	1,738.9	58.01	30.978	
9,800.0	9,800.0	10,002.0	9,800.0	14.7	38.6	91.57	-49.2	1,796.2	1,796.9	1,738.8	58.08	30.938	
9,900.0	9,900.0	10,102.0	9,900.0	14.8	38.6	91.57	-49.2	1,796.2	1,796.9	1,738.7	58.16	30.897	
10,000.0	10,000.0	10,202.0	10,000.0	14.9	38.6	91.57	-49.2	1,796.2	1,796.9	1,738.7	58.23	30.857	
10,100.0	10,100.0	10,302.0	10,100.0	15.0	38.6	91.57	-49.2	1,796.2	1,796.9	1,738.6	58.31	30.816	
10,200.0	10,200.0	10,402.0	10,200.0	15.1	38.7	91.57	-49.2	1,796.2	1,796.9	1,738.5	58.39	30.776	
10,300.0	10,300.0	10,502.0	10,300.0	15.2	38.7	91.57	-49.2	1,796.2	1,796.9	1,738.4	58.46	30.735	

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 #706H
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 #706H	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		Rule Assigned:		Offset Well Error:		3.0 usft					
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,400.0	10,602.0	10,400.0	15.3	38.7	91.57	-49.2	1,796.2	1,796.9	1,738.4	58.54	30.694	
10,500.0	10,500.0	10,702.0	10,500.0	15.3	38.7	91.57	-49.2	1,796.2	1,796.9	1,738.3	58.62	30.654	
10,510.0	10,510.0	10,712.0	10,510.0	15.4	38.7	91.57	-49.2	1,796.2	1,796.9	1,738.3	58.63	30.651	
10,600.0	10,600.0	10,766.0	10,563.9	15.4	38.8	91.56	-48.8	1,796.5	1,797.5	1,738.6	58.89	30.525	
10,700.0	10,699.6	10,800.0	10,597.9	15.6	38.8	88.82	-46.8	1,797.7	1,801.1	1,741.8	59.27	30.386	
10,800.0	10,796.4	10,850.0	10,647.3	15.8	39.0	88.36	-40.9	1,801.5	1,807.8	1,748.2	59.61	30.325	
10,900.0	10,887.4	10,879.0	10,675.7	16.0	39.0	87.64	-35.7	1,804.8	1,817.4	1,757.5	59.90	30.342	
11,000.0	10,969.9	10,915.2	10,710.6	16.2	39.1	86.80	-27.7	1,810.0	1,829.8	1,769.7	60.10	30.446	
11,100.0	11,041.4	10,950.0	10,743.5	16.4	39.2	85.79	-18.2	1,816.0	1,844.9	1,784.7	60.20	30.647	
11,200.0	11,099.7	10,983.1	10,774.1	16.6	39.3	84.61	-7.6	1,822.8	1,862.4	1,802.2	60.19	30.940	
11,300.0	11,143.0	11,000.0	10,789.5	16.7	39.4	82.94	-1.6	1,826.6	1,882.3	1,822.3	60.03	31.358	
11,400.0	11,170.0	11,050.0	10,833.6	16.8	39.5	81.89	18.2	1,839.3	1,904.1	1,844.2	59.86	31.810	
11,500.0	11,179.9	11,066.5	10,847.7	16.8	39.6	79.94	25.5	1,844.0	1,927.5	1,868.0	59.47	32.409	
11,600.0	11,180.0	11,100.0	10,875.4	16.9	39.7	80.57	41.2	1,854.0	1,955.2	1,896.1	59.10	33.085	
11,700.0	11,180.0	11,115.9	10,888.2	16.9	39.7	80.94	49.2	1,859.1	1,989.4	1,930.7	58.61	33.944	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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		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	-86.84	78.4	-1,420.0	1,422.2	1,415.8	6.43	221.220	
100.0	100.0	100.0	100.0	3.2	3.2	-86.84	78.4	-1,420.0	1,422.2	1,415.3	6.89	206.345	
200.0	200.0	200.0	200.0	3.5	3.5	-86.84	78.4	-1,420.0	1,422.2	1,414.9	7.33	194.073	
300.0	300.0	300.0	300.0	3.7	3.7	-86.84	78.4	-1,420.0	1,422.2	1,414.5	7.74	183.715	
400.0	400.0	400.0	400.0	3.9	3.9	-86.84	78.4	-1,420.0	1,422.2	1,414.1	8.14	174.814	
500.0	500.0	500.0	500.0	4.1	4.1	-86.84	78.4	-1,420.0	1,422.2	1,413.7	8.51	167.051	
600.0	600.0	600.0	600.0	4.2	4.2	-86.84	78.4	-1,420.0	1,422.2	1,413.3	8.88	160.201	
700.0	700.0	700.0	700.0	4.4	4.4	-86.84	78.4	-1,420.0	1,422.2	1,413.0	9.23	154.094	
800.0	800.0	800.0	800.0	4.6	4.6	-86.84	78.4	-1,420.0	1,422.2	1,412.6	9.57	148.603	
900.0	900.0	900.0	900.0	4.8	4.8	-86.84	78.4	-1,420.0	1,422.2	1,412.3	9.90	143.629	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.84	78.4	-1,420.0	1,422.2	1,412.0	10.22	139.095	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.84	78.4	-1,420.0	1,422.2	1,411.7	10.54	134.938	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.84	78.4	-1,420.0	1,422.2	1,411.4	10.85	131.108	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.84	78.4	-1,420.0	1,422.2	1,411.1	11.15	127.563	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.84	78.4	-1,420.0	1,422.2	1,410.8	11.44	124.270	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.84	78.4	-1,420.0	1,422.2	1,410.5	11.73	121.199	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.84	78.4	-1,420.0	1,422.2	1,410.2	12.02	118.325	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.84	78.4	-1,420.0	1,422.2	1,409.9	12.30	115.629	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.84	78.4	-1,420.0	1,422.2	1,409.6	12.58	113.092	CC, ES
1,900.0	1,900.0	1,877.3	1,877.3	6.3	6.2	-86.86	77.9	-1,420.7	1,423.0	1,410.2	12.82	111.001	
2,000.0	2,000.0	1,954.6	1,954.6	6.4	6.4	-86.92	76.6	-1,422.6	1,425.4	1,412.3	13.05	109.193	
2,100.0	2,100.0	2,031.8	2,031.6	6.5	6.5	-87.01	74.4	-1,425.8	1,429.4	1,416.1	13.28	107.594	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	-87.13	71.6	-1,429.7	1,435.0	1,421.5	13.50	106.295	
2,300.0	2,300.0	2,185.5	2,184.8	6.8	6.8	-87.32	67.2	-1,436.0	1,442.1	1,428.4	13.75	104.847	
2,400.0	2,400.0	2,261.9	2,260.7	6.9	6.9	-87.52	62.4	-1,442.9	1,450.9	1,436.9	14.00	103.665	
2,500.0	2,500.0	2,337.9	2,336.1	7.0	7.1	-87.76	56.7	-1,451.0	1,461.3	1,447.1	14.24	102.598	
2,600.0	2,600.0	2,413.5	2,410.9	7.2	7.2	-88.03	50.2	-1,460.3	1,473.4	1,458.9	14.49	101.701	
2,700.0	2,700.0	2,489.1	2,485.4	7.3	7.4	-88.33	42.9	-1,470.8	1,487.0	1,472.3	14.70	101.169	
2,800.0	2,800.0	2,565.7	2,560.8	7.4	7.6	-88.60	36.1	-1,482.6	1,502.2	1,487.2	14.96	100.419	
2,900.0	2,900.0	2,642.1	2,635.9	7.5	7.8	-88.83	30.5	-1,495.4	1,518.9	1,503.6	15.24	99.667	
3,000.0	3,000.0	2,718.3	2,710.6	7.7	8.0	-89.02	25.9	-1,509.3	1,537.0	1,521.4	15.53	98.964	
3,100.0	3,100.0	2,800.0	2,790.7	7.8	8.2	-89.17	22.1	-1,525.3	1,556.5	1,540.7	15.86	98.153	
3,200.0	3,200.0	2,869.6	2,858.7	7.9	8.4	-89.26	19.9	-1,539.9	1,577.4	1,561.3	16.15	97.665	
3,300.0	3,300.0	2,954.6	2,941.6	8.0	8.7	-89.33	18.2	-1,558.9	1,599.6	1,583.1	16.53	96.796	
3,400.0	3,400.0	3,052.1	3,036.5	8.1	9.0	-89.40	16.5	-1,580.7	1,622.0	1,605.1	16.98	95.503	
3,500.0	3,500.0	3,149.5	3,131.4	8.3	9.3	-89.47	14.8	-1,602.6	1,644.5	1,627.0	17.45	94.256	
3,600.0	3,600.0	3,246.9	3,226.4	8.4	9.7	-89.54	13.1	-1,624.4	1,666.9	1,648.9	17.92	92.998	
3,700.0	3,700.0	3,344.4	3,321.3	8.5	10.0	-89.60	11.4	-1,646.3	1,689.3	1,670.9	18.41	91.738	
3,800.0	3,800.0	3,441.8	3,416.2	8.6	10.4	-89.67	9.6	-1,668.1	1,711.7	1,692.8	18.92	90.484	
3,900.0	3,900.0	3,539.2	3,511.2	8.7	10.7	-89.73	7.9	-1,690.0	1,734.1	1,714.7	19.43	89.242	
4,000.0	4,000.0	3,636.7	3,606.1	8.8	11.1	-89.79	6.2	-1,711.8	1,756.5	1,736.6	19.96	88.017	
4,100.0	4,100.0	3,734.1	3,701.1	8.9	11.5	-89.85	4.5	-1,733.7	1,779.0	1,758.5	20.49	86.815	
4,200.0	4,200.0	3,831.6	3,796.0	9.1	11.9	-89.91	2.8	-1,755.5	1,801.4	1,780.4	21.04	85.636	
4,300.0	4,300.0	3,929.0	3,890.9	9.2	12.3	-89.97	1.0	-1,777.4	1,823.8	1,802.2	21.59	84.485	
4,400.0	4,400.0	4,026.4	3,985.9	9.3	12.6	-90.02	-0.7	-1,799.2	1,846.3	1,824.1	22.15	83.363	
4,500.0	4,500.0	4,123.9	4,080.8	9.4	13.1	-90.08	-2.4	-1,821.1	1,868.7	1,846.0	22.71	82.270	
4,600.0	4,600.0	4,221.3	4,175.8	9.5	13.5	-90.13	-4.1	-1,842.9	1,891.1	1,867.8	23.29	81.208	
4,700.0	4,700.0	4,318.7	4,270.7	9.6	13.9	-90.18	-5.8	-1,864.8	1,913.6	1,889.7	23.87	80.176	
4,800.0	4,800.0	4,416.2	4,365.6	9.7	14.3	-90.23	-7.6	-1,886.6	1,936.0	1,911.5	24.45	79.175	
4,900.0	4,900.0	4,513.6	4,460.6	9.8	14.7	-90.28	-9.3	-1,908.5	1,958.4	1,933.4	25.04	78.204	
5,000.0	5,000.0	4,611.1	4,555.5	9.9	15.1	-90.33	-11.0	-1,930.3	1,980.9	1,955.2	25.64	77.264	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 #706H
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 #706H	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)			
0.0	0.0	0.0	0.0	3.0	3.0	-86.77	78.4	-1,390.0	1,392.2	1,385.8	6.43	216.561	
100.0	100.0	100.0	100.0	3.2	3.2	-86.77	78.4	-1,390.0	1,392.2	1,385.4	6.89	201.999	
200.0	200.0	200.0	200.0	3.5	3.5	-86.77	78.4	-1,390.0	1,392.2	1,384.9	7.33	189.986	
300.0	300.0	300.0	300.0	3.7	3.7	-86.77	78.4	-1,390.0	1,392.2	1,384.5	7.74	179.846	
400.0	400.0	400.0	400.0	3.9	3.9	-86.77	78.4	-1,390.0	1,392.2	1,384.1	8.14	171.132	
500.0	500.0	500.0	500.0	4.1	4.1	-86.77	78.4	-1,390.0	1,392.2	1,383.7	8.51	163.533	
600.0	600.0	600.0	600.0	4.2	4.2	-86.77	78.4	-1,390.0	1,392.2	1,383.4	8.88	156.827	
700.0	700.0	700.0	700.0	4.4	4.4	-86.77	78.4	-1,390.0	1,392.2	1,383.0	9.23	150.848	
800.0	800.0	800.0	800.0	4.6	4.6	-86.77	78.4	-1,390.0	1,392.2	1,382.7	9.57	145.473	
900.0	900.0	900.0	900.0	4.8	4.8	-86.77	78.4	-1,390.0	1,392.2	1,382.3	9.90	140.604	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.77	78.4	-1,390.0	1,392.2	1,382.0	10.22	136.165	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.77	78.4	-1,390.0	1,392.2	1,381.7	10.54	132.096	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.77	78.4	-1,390.0	1,392.2	1,381.4	10.85	128.347	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.77	78.4	-1,390.0	1,392.2	1,381.1	11.15	124.877	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.77	78.4	-1,390.0	1,392.2	1,380.8	11.44	121.653	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.77	78.4	-1,390.0	1,392.2	1,380.5	11.73	118.646	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.77	78.4	-1,390.0	1,392.2	1,380.2	12.02	115.833	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.77	78.4	-1,390.0	1,392.2	1,379.9	12.30	113.194	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.77	78.4	-1,390.0	1,392.2	1,379.7	12.58	110.711	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-86.77	78.4	-1,390.0	1,392.2	1,379.4	12.85	108.368	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-86.77	78.4	-1,390.0	1,392.2	1,379.1	13.12	106.154	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-86.77	78.4	-1,390.0	1,392.2	1,378.9	13.38	104.055	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-86.77	78.4	-1,390.0	1,392.2	1,378.6	13.64	102.064	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-86.77	78.4	-1,390.0	1,392.2	1,378.3	13.90	100.170	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-86.77	78.4	-1,390.0	1,392.2	1,378.1	14.15	98.365	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-86.77	78.4	-1,390.0	1,392.2	1,377.8	14.41	96.643 CC, ES	
2,600.0	2,600.0	2,589.5	2,589.5	7.2	7.2	-86.81	77.4	-1,390.4	1,392.6	1,378.0	14.62	95.226	
2,700.0	2,700.0	2,678.9	2,678.8	7.3	7.3	-86.94	74.5	-1,391.6	1,393.8	1,378.9	14.82	94.027	
2,800.0	2,800.0	2,768.1	2,767.8	7.4	7.4	-87.14	69.7	-1,393.6	1,395.7	1,380.7	15.02	92.930	
2,900.0	2,900.0	2,857.0	2,856.4	7.5	7.5	-87.42	62.9	-1,396.3	1,398.4	1,383.2	15.21	91.914	
3,000.0	3,000.0	2,945.5	2,944.5	7.7	7.7	-87.78	54.3	-1,399.8	1,401.9	1,386.5	15.41	90.975	
3,100.0	3,100.0	3,033.5	3,031.8	7.8	7.8	-88.21	43.9	-1,404.0	1,406.3	1,390.7	15.58	90.248	
3,200.0	3,200.0	3,132.6	3,129.9	7.9	8.0	-88.73	31.1	-1,409.1	1,411.2	1,395.5	15.77	89.492	
3,300.0	3,300.0	3,231.6	3,227.9	8.0	8.2	-89.26	18.3	-1,414.3	1,416.3	1,400.3	15.99	88.591	
3,400.0	3,400.0	3,330.6	3,326.0	8.1	8.4	-89.78	5.6	-1,419.5	1,421.4	1,405.2	16.21	87.697	
3,500.0	3,500.0	3,429.6	3,424.1	8.3	8.6	-90.29	-7.2	-1,424.6	1,426.7	1,410.2	16.44	86.793	
3,600.0	3,600.0	3,530.4	3,523.9	8.4	8.9	-90.81	-20.2	-1,429.9	1,432.0	1,415.4	16.68	85.871	
3,700.0	3,700.0	3,637.5	3,630.1	8.5	9.1	-91.32	-33.0	-1,435.0	1,437.1	1,420.2	16.92	84.941	
3,800.0	3,800.0	3,745.0	3,736.8	8.6	9.4	-91.77	-44.5	-1,439.7	1,441.8	1,424.6	17.17	83.966	
3,900.0	3,900.0	3,852.8	3,844.1	8.7	9.7	-92.17	-54.6	-1,443.8	1,445.9	1,428.5	17.42	82.982	
4,000.0	4,000.0	3,960.9	3,951.8	8.8	10.0	-92.51	-63.3	-1,447.3	1,449.5	1,431.8	17.68	81.992	
4,100.0	4,100.0	4,069.2	4,059.8	8.9	10.3	-92.79	-70.7	-1,450.3	1,452.5	1,434.6	17.93	81.003	
4,200.0	4,200.0	4,177.8	4,168.1	9.1	10.6	-93.02	-76.6	-1,452.6	1,455.0	1,436.8	18.18	80.020	
4,300.0	4,300.0	4,286.5	4,276.7	9.2	10.9	-93.19	-81.1	-1,454.5	1,456.9	1,438.5	18.43	79.050	
4,400.0	4,400.0	4,395.3	4,385.5	9.3	11.1	-93.31	-84.1	-1,455.7	1,458.2	1,439.5	18.67	78.098	
4,500.0	4,500.0	4,504.2	4,494.4	9.4	11.4	-93.37	-85.8	-1,456.4	1,458.9	1,440.0	18.90	77.185	
4,600.0	4,600.0	4,609.8	4,600.0	9.5	11.4	-93.38	-86.0	-1,456.5	1,459.0	1,439.9	19.07	76.513	
4,700.0	4,700.0	4,709.8	4,700.0	9.6	11.5	-93.38	-86.0	-1,456.5	1,459.0	1,439.8	19.26	75.754	
4,800.0	4,800.0	4,809.8	4,800.0	9.7	11.6	-93.38	-86.0	-1,456.5	1,459.0	1,439.6	19.45	75.022	
4,900.0	4,900.0	4,909.8	4,900.0	9.8	11.6	-93.38	-86.0	-1,456.5	1,459.0	1,439.4	19.64	74.306	
5,000.0	5,000.0	5,009.8	5,000.0	9.9	11.7	-93.38	-86.0	-1,456.5	1,459.0	1,439.2	19.82	73.606	
5,100.0	5,100.0	5,109.8	5,100.0	10.0	11.8	-93.38	-86.0	-1,456.5	1,459.0	1,439.0	20.01	72.920	

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 #706H
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 #706H	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)			
5,200.0	5,200.0	5,209.8	5,200.0	10.1	11.9	-93.38	-86.0	-1,456.5	1,459.0	1,438.8	20.19	72.249	
5,300.0	5,300.0	5,309.8	5,300.0	10.2	11.9	-93.38	-86.0	-1,456.5	1,459.0	1,438.6	20.38	71.591	
5,400.0	5,400.0	5,409.8	5,400.0	10.4	12.0	-93.38	-86.0	-1,456.5	1,459.0	1,438.5	20.56	70.947	
5,500.0	5,500.0	5,509.8	5,500.0	10.5	12.1	-93.38	-86.0	-1,456.5	1,459.0	1,438.3	20.75	70.315	
5,600.0	5,600.0	5,609.8	5,600.0	10.6	12.1	-93.38	-86.0	-1,456.5	1,459.0	1,438.1	20.93	69.696	
5,700.0	5,700.0	5,709.8	5,700.0	10.7	12.2	-93.38	-86.0	-1,456.5	1,459.0	1,437.9	21.12	69.089	
5,800.0	5,800.0	5,809.8	5,800.0	10.8	12.3	-93.38	-86.0	-1,456.5	1,459.0	1,437.7	21.30	68.494	
5,900.0	5,900.0	5,909.8	5,900.0	10.9	12.3	-93.38	-86.0	-1,456.5	1,459.0	1,437.5	21.48	67.910	
6,000.0	6,000.0	6,009.8	6,000.0	11.0	12.4	-93.38	-86.0	-1,456.5	1,459.0	1,437.3	21.67	67.337	
6,100.0	6,100.0	6,109.8	6,100.0	11.1	12.5	-93.38	-86.0	-1,456.5	1,459.0	1,437.2	21.85	66.775	
6,200.0	6,200.0	6,209.8	6,200.0	11.2	12.6	-93.38	-86.0	-1,456.5	1,459.0	1,437.0	22.03	66.223	
6,300.0	6,300.0	6,309.8	6,300.0	11.3	12.6	-93.38	-86.0	-1,456.5	1,459.0	1,436.8	22.21	65.682	
6,400.0	6,400.0	6,409.8	6,400.0	11.4	12.7	-93.38	-86.0	-1,456.5	1,459.0	1,436.6	22.39	65.150	
6,500.0	6,500.0	6,509.8	6,500.0	11.5	12.8	-93.38	-86.0	-1,456.5	1,459.0	1,436.4	22.58	64.627	
6,600.0	6,600.0	6,609.8	6,600.0	11.6	12.8	-93.38	-86.0	-1,456.5	1,459.0	1,436.3	22.76	64.113	
6,700.0	6,700.0	6,709.8	6,700.0	11.7	12.9	-93.38	-86.0	-1,456.5	1,459.0	1,436.1	22.94	63.609	
6,800.0	6,800.0	6,809.8	6,800.0	11.8	13.0	-93.38	-86.0	-1,456.5	1,459.0	1,435.9	23.12	63.113	
6,900.0	6,900.0	6,909.8	6,900.0	11.9	13.1	-93.38	-86.0	-1,456.5	1,459.0	1,435.7	23.30	62.626	
7,000.0	7,000.0	7,009.8	7,000.0	12.0	13.1	-93.38	-86.0	-1,456.5	1,459.0	1,435.5	23.48	62.147	
7,100.0	7,100.0	7,109.8	7,100.0	12.1	13.2	-93.38	-86.0	-1,456.5	1,459.0	1,435.4	23.66	61.676	
7,200.0	7,200.0	7,209.8	7,200.0	12.2	13.3	-93.38	-86.0	-1,456.5	1,459.0	1,435.2	23.84	61.212	
7,300.0	7,300.0	7,309.8	7,300.0	12.3	13.3	-93.38	-86.0	-1,456.5	1,459.0	1,435.0	24.01	60.756	
7,400.0	7,400.0	7,409.8	7,400.0	12.4	13.4	-93.38	-86.0	-1,456.5	1,459.0	1,434.8	24.19	60.308	
7,500.0	7,500.0	7,509.8	7,500.0	12.5	13.5	-93.38	-86.0	-1,456.5	1,459.0	1,434.6	24.37	59.867	
7,600.0	7,600.0	7,609.8	7,600.0	12.6	13.6	-93.38	-86.0	-1,456.5	1,459.0	1,434.5	24.55	59.432	
7,700.0	7,700.0	7,709.8	7,700.0	12.7	13.6	-93.38	-86.0	-1,456.5	1,459.0	1,434.3	24.73	59.005	
7,800.0	7,800.0	7,809.8	7,800.0	12.8	13.7	-93.38	-86.0	-1,456.5	1,459.0	1,434.1	24.90	58.584	
7,900.0	7,900.0	7,909.8	7,900.0	12.9	13.8	-93.38	-86.0	-1,456.5	1,459.0	1,433.9	25.08	58.170	
8,000.0	8,000.0	8,009.8	8,000.0	13.0	13.9	-93.38	-86.0	-1,456.5	1,459.0	1,433.8	25.26	57.762	
8,100.0	8,100.0	8,109.8	8,100.0	13.1	13.9	-93.38	-86.0	-1,456.5	1,459.0	1,433.6	25.44	57.360	
8,200.0	8,200.0	8,209.8	8,200.0	13.2	14.0	-93.38	-86.0	-1,456.5	1,459.0	1,433.4	25.61	56.965	
8,300.0	8,300.0	8,309.8	8,300.0	13.3	14.1	-93.38	-86.0	-1,456.5	1,459.0	1,433.2	25.79	56.575	
8,400.0	8,400.0	8,409.8	8,400.0	13.4	14.1	-93.38	-86.0	-1,456.5	1,459.0	1,433.1	25.97	56.191	
8,500.0	8,500.0	8,509.8	8,500.0	13.5	14.2	-93.38	-86.0	-1,456.5	1,459.0	1,432.9	26.14	55.812	
8,600.0	8,600.0	8,609.8	8,600.0	13.6	14.3	-93.38	-86.0	-1,456.5	1,459.0	1,432.7	26.32	55.439	
8,700.0	8,700.0	8,709.8	8,700.0	13.6	14.4	-93.38	-86.0	-1,456.5	1,459.0	1,432.5	26.49	55.072	
8,800.0	8,800.0	8,809.8	8,800.0	13.7	14.4	-93.38	-86.0	-1,456.5	1,459.0	1,432.3	26.67	54.709	
8,900.0	8,900.0	8,909.8	8,900.0	13.8	14.5	-93.38	-86.0	-1,456.5	1,459.0	1,432.2	26.84	54.352	
9,000.0	9,000.0	9,009.8	9,000.0	13.9	14.6	-93.38	-86.0	-1,456.5	1,459.0	1,432.0	27.02	53.999	
9,100.0	9,100.0	9,109.8	9,100.0	14.0	14.7	-93.38	-86.0	-1,456.5	1,459.0	1,431.8	27.19	53.657	
9,200.0	9,200.0	9,217.4	9,207.5	14.1	14.7	-93.28	-83.3	-1,456.5	1,458.9	1,431.6	27.33	53.376	
9,300.0	9,300.0	9,328.9	9,316.8	14.2	14.7	-92.43	-61.8	-1,456.6	1,458.0	1,430.5	27.44	53.140	
9,400.0	9,400.0	9,428.9	9,409.5	14.3	14.6	-90.98	-24.9	-1,456.7	1,457.0	1,429.5	27.52	52.949	
9,444.0	9,444.0	9,468.2	9,444.0	14.4	14.6	-90.24	-6.0	-1,456.8	1,456.8	1,429.3	27.55	52.879	
9,500.0	9,500.0	9,514.0	9,482.5	14.4	14.6	-89.26	18.9	-1,456.9	1,457.1	1,429.5	27.60	52.803	
9,600.0	9,600.0	9,584.5	9,537.4	14.5	14.5	-87.53	62.9	-1,457.1	1,459.8	1,432.1	27.70	52.702	
9,700.0	9,700.0	9,642.1	9,578.0	14.6	14.5	-85.93	103.8	-1,457.3	1,466.0	1,438.2	27.85	52.642	
9,800.0	9,800.0	9,689.2	9,608.0	14.7	14.5	-84.51	140.1	-1,457.4	1,476.6	1,448.6	28.06	52.620 SF	
9,900.0	9,900.0	9,728.0	9,630.4	14.8	14.5	-83.28	171.7	-1,457.5	1,492.2	1,463.8	28.35	52.635	
10,000.0	10,000.0	9,750.0	9,642.2	14.9	14.4	-82.56	190.3	-1,457.6	1,512.9	1,484.2	28.73	52.668	
10,100.0	10,100.0	9,787.1	9,660.4	15.0	14.4	-81.32	222.6	-1,457.7	1,538.8	1,509.6	29.15	52.787	
10,200.0	10,200.0	9,800.0	9,666.2	15.1	14.4	-80.88	234.1	-1,457.8	1,570.0	1,540.3	29.67	52.917	

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 #706H
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 #706H	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		Semi Major Axis		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	
10,300.0	10,300.0	9,829.4	9,678.5	15.2	14.4	-79.85	260.9	-1,457.9	1,606.2	1,576.0	30.22	53.149		
10,400.0	10,400.0	9,850.0	9,686.3	15.3	14.4	-79.13	279.9	-1,458.0	1,647.3	1,616.4	30.83	53.439		
10,500.0	10,500.0	9,850.0	9,686.3	15.3	14.4	-79.13	279.9	-1,458.0	1,693.0	1,661.5	31.49	53.771		
10,600.0	10,600.0	9,873.8	9,694.4	15.4	14.4	-78.29	302.3	-1,458.1	1,742.8	1,710.7	32.15	54.216		
10,700.0	10,699.6	9,900.0	9,702.3	15.6	14.4	-74.20	327.3	-1,458.2	1,795.6	1,762.8	32.80	54.745		
10,800.0	10,796.4	9,900.0	9,702.3	15.8	14.4	-68.40	327.3	-1,458.2	1,847.8	1,814.3	33.47	55.206		
10,900.0	10,887.4	9,925.9	9,708.9	16.0	14.4	-62.49	352.2	-1,458.3	1,897.9	1,863.8	34.11	55.641		
11,000.0	10,969.9	9,950.0	9,714.1	16.2	14.4	-57.50	375.8	-1,458.4	1,944.3	1,909.6	34.72	55.999		
11,100.0	11,041.4	9,973.4	9,718.2	16.4	14.4	-53.43	398.9	-1,458.5	1,985.5	1,950.2	35.29	56.261		

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 #706H
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 #706H	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	11.31	150.0	30.0	152.9	146.5	6.43	23.790		
100.0	100.0	100.0	100.0	3.2	3.2	11.31	150.0	30.0	152.9	146.0	6.89	22.190		
200.0	200.0	200.0	200.0	3.5	3.5	11.31	150.0	30.0	152.9	145.6	7.33	20.870		
300.0	300.0	300.0	300.0	3.7	3.7	11.31	150.0	30.0	152.9	145.2	7.74	19.756		
400.0	400.0	400.0	400.0	3.9	3.9	11.31	150.0	30.0	152.9	144.8	8.14	18.799		
500.0	500.0	500.0	500.0	4.1	4.1	11.31	150.0	30.0	152.9	144.4	8.51	17.964		
600.0	600.0	600.0	600.0	4.2	4.2	11.31	150.0	30.0	152.9	144.1	8.88	17.228		
700.0	700.0	700.0	700.0	4.4	4.4	11.31	150.0	30.0	152.9	143.7	9.23	16.571		
800.0	800.0	800.0	800.0	4.6	4.6	11.31	150.0	30.0	152.9	143.4	9.57	15.980		
900.0	900.0	900.0	900.0	4.8	4.8	11.31	150.0	30.0	152.9	143.0	9.90	15.446		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	11.31	150.0	30.0	152.9	142.7	10.22	14.958		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	11.31	150.0	30.0	152.9	142.4	10.54	14.511		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	11.31	150.0	30.0	152.9	142.1	10.85	14.099		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	11.31	150.0	30.0	152.9	141.8	11.15	13.718		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	11.31	150.0	30.0	152.9	141.5	11.44	13.364		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	11.31	150.0	30.0	152.9	141.2	11.73	13.034		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	11.31	150.0	30.0	152.9	140.9	12.02	12.725		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	11.31	150.0	30.0	152.9	140.6	12.30	12.435		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	11.31	150.0	30.0	152.9	140.4	12.58	12.162		
1,900.0	1,900.0	1,903.1	1,903.0	6.3	6.3	10.96	149.1	28.9	151.9	139.1	12.85	11.822		
2,000.0	2,000.0	2,006.0	2,005.9	6.4	6.4	9.89	146.6	25.6	149.0	135.8	13.11	11.360		
2,100.0	2,100.0	2,108.6	2,108.2	6.5	6.6	8.01	142.5	20.1	144.1	130.7	13.37	10.775		
2,200.0	2,200.0	2,210.7	2,209.9	6.7	6.8	5.18	136.7	12.4	137.6	124.0	13.64	10.092		
2,300.0	2,300.0	2,312.3	2,310.8	6.8	7.0	1.15	129.3	2.6	129.8	115.9	13.88	9.351		
2,400.0	2,400.0	2,411.8	2,409.3	6.9	7.2	-3.97	121.0	-8.4	121.7	107.6	14.08	8.642		
2,500.0	2,500.0	2,510.8	2,507.4	7.0	7.4	-9.77	112.7	-19.4	114.6	100.3	14.31	8.009		
2,600.0	2,600.0	2,609.8	2,605.4	7.2	7.6	-16.24	104.4	-30.4	108.9	94.4	14.53	7.497		
2,700.0	2,700.0	2,708.9	2,703.5	7.3	7.9	-23.31	96.1	-41.4	104.7	90.0	14.73	7.110		
2,800.0	2,800.0	2,807.9	2,801.5	7.4	8.2	-30.83	87.9	-52.4	102.3	87.4	14.94	6.850		
2,879.8	2,879.8	2,886.9	2,879.8	7.5	8.4	-37.00	81.2	-61.2	101.7	86.6	15.11	6.730 CC		
2,900.0	2,900.0	2,906.9	2,899.6	7.5	8.4	-38.57	79.6	-63.4	101.8	86.6	15.16	6.711 ES		
3,000.0	3,000.0	3,005.9	2,997.7	7.7	8.7	-46.25	71.3	-74.4	103.1	87.7	15.43	6.679 SF		
3,100.0	3,100.0	3,105.0	3,095.7	7.8	9.0	-53.61	63.0	-85.5	106.2	90.5	15.76	6.739		
3,200.0	3,200.0	3,204.0	3,193.8	7.9	9.4	-60.46	54.7	-96.5	111.1	94.9	16.16	6.874		
3,300.0	3,300.0	3,303.0	3,291.9	8.0	9.7	-66.66	46.4	-107.5	117.3	100.7	16.61	7.066		
3,400.0	3,400.0	3,402.1	3,389.9	8.1	10.0	-72.18	38.1	-118.5	124.9	107.8	17.10	7.302		
3,500.0	3,500.0	3,501.1	3,488.0	8.3	10.4	-77.04	29.8	-129.5	133.4	115.8	17.62	7.570		
3,600.0	3,600.0	3,600.1	3,586.0	8.4	10.7	-81.30	21.5	-140.5	142.8	124.6	18.17	7.860		
3,700.0	3,700.0	3,699.1	3,684.1	8.5	11.1	-85.02	13.2	-151.5	152.9	134.2	18.73	8.164		
3,800.0	3,800.0	3,798.2	3,782.2	8.6	11.4	-88.27	4.9	-162.5	163.5	144.3	19.29	8.477		
3,900.0	3,900.0	3,897.2	3,880.2	8.7	11.8	-91.12	-3.4	-173.5	174.7	154.8	19.87	8.792		
4,000.0	4,000.0	3,996.2	3,978.3	8.8	12.1	-93.62	-11.7	-184.5	186.2	165.7	20.44	9.108		
4,100.0	4,100.0	4,095.2	4,076.4	8.9	12.5	-95.83	-20.0	-195.5	198.0	176.9	21.01	9.420		
4,200.0	4,200.0	4,194.3	4,174.4	9.1	12.9	-97.79	-28.3	-206.5	210.0	188.4	21.59	9.727		
4,300.0	4,300.0	4,293.9	4,273.1	9.2	13.2	-99.54	-36.6	-217.6	222.3	200.1	22.14	10.040		
4,400.0	4,400.0	4,394.8	4,373.1	9.3	13.6	-101.06	-44.6	-228.2	234.1	211.3	22.72	10.304		
4,500.0	4,500.0	4,496.0	4,473.5	9.4	14.0	-102.34	-52.1	-238.1	245.2	221.9	23.29	10.529		
4,600.0	4,600.0	4,597.3	4,574.2	9.5	14.4	-103.43	-59.1	-247.4	255.7	231.8	23.85	10.720		
4,700.0	4,700.0	4,698.9	4,675.2	9.6	14.8	-104.36	-65.5	-256.0	265.4	241.0	24.40	10.876		
4,800.0	4,800.0	4,800.6	4,776.5	9.7	15.1	-105.15	-71.5	-263.8	274.4	249.4	24.94	11.000		
4,900.0	4,900.0	4,902.6	4,878.0	9.8	15.5	-105.83	-76.8	-271.0	282.5	257.1	25.47	11.093		
5,000.0	5,000.0	5,004.6	4,979.7	9.9	15.9	-106.41	-81.7	-277.4	289.9	263.9	25.98	11.158		

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 #706H
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 #706H	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		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)		
5,100.0	5,100.0	5,106.8	5,081.7	10.0	16.2	-106.90	-86.0	-283.2	296.5	270.0	26.49	11.195	
5,200.0	5,200.0	5,209.2	5,183.8	10.1	16.6	-107.31	-89.8	-288.2	302.3	275.3	26.97	11.206	
5,300.0	5,300.0	5,311.6	5,286.1	10.2	16.9	-107.64	-93.0	-292.5	307.2	279.8	27.44	11.194	
5,400.0	5,400.0	5,414.1	5,388.5	10.4	17.2	-107.92	-95.7	-296.0	311.3	283.4	27.90	11.160	
5,500.0	5,500.0	5,516.7	5,491.1	10.5	17.5	-108.13	-97.8	-298.8	314.6	286.2	28.33	11.105	
5,600.0	5,600.0	5,619.3	5,593.7	10.6	17.8	-108.28	-99.4	-300.9	317.0	288.3	28.73	11.033	
5,700.0	5,700.0	5,722.0	5,696.4	10.7	18.1	-108.38	-100.4	-302.3	318.5	289.5	29.10	10.947	
5,800.0	5,800.0	5,824.7	5,799.1	10.8	18.3	-108.42	-100.9	-302.9	319.3	289.9	29.40	10.861	
5,900.0	5,900.0	5,925.7	5,900.0	10.9	18.3	-108.43	-100.9	-303.0	319.3	289.8	29.52	10.816	
6,000.0	6,000.0	6,025.7	6,000.0	11.0	18.4	-108.43	-100.9	-303.0	319.3	289.7	29.65	10.771	
6,100.0	6,100.0	6,125.7	6,100.0	11.1	18.4	-108.43	-100.9	-303.0	319.3	289.6	29.77	10.727	
6,200.0	6,200.0	6,225.7	6,200.0	11.2	18.5	-108.43	-100.9	-303.0	319.3	289.4	29.89	10.683	
6,300.0	6,300.0	6,325.7	6,300.0	11.3	18.5	-108.43	-100.9	-303.0	319.3	289.3	30.01	10.640	
6,400.0	6,400.0	6,425.7	6,400.0	11.4	18.5	-108.43	-100.9	-303.0	319.3	289.2	30.14	10.596	
6,500.0	6,500.0	6,525.7	6,500.0	11.5	18.6	-108.43	-100.9	-303.0	319.3	289.1	30.26	10.553	
6,600.0	6,600.0	6,625.7	6,600.0	11.6	18.6	-108.43	-100.9	-303.0	319.3	288.9	30.38	10.510	
6,700.0	6,700.0	6,725.7	6,700.0	11.7	18.7	-108.43	-100.9	-303.0	319.3	288.8	30.51	10.467	
6,800.0	6,800.0	6,825.7	6,800.0	11.8	18.7	-108.43	-100.9	-303.0	319.3	288.7	30.63	10.425	
6,900.0	6,900.0	6,925.7	6,900.0	11.9	18.7	-108.43	-100.9	-303.0	319.3	288.6	30.76	10.382	
7,000.0	7,000.0	7,025.7	7,000.0	12.0	18.8	-108.43	-100.9	-303.0	319.3	288.4	30.88	10.340	
7,100.0	7,100.0	7,125.7	7,100.0	12.1	18.8	-108.43	-100.9	-303.0	319.3	288.3	31.01	10.298	
7,200.0	7,200.0	7,225.7	7,200.0	12.2	18.9	-108.43	-100.9	-303.0	319.3	288.2	31.13	10.257	
7,300.0	7,300.0	7,325.7	7,300.0	12.3	18.9	-108.43	-100.9	-303.0	319.3	288.1	31.26	10.215	
7,400.0	7,400.0	7,425.7	7,400.0	12.4	18.9	-108.43	-100.9	-303.0	319.3	287.9	31.38	10.174	
7,500.0	7,500.0	7,525.7	7,500.0	12.5	19.0	-108.43	-100.9	-303.0	319.3	287.8	31.51	10.133	
7,600.0	7,600.0	7,625.7	7,600.0	12.6	19.0	-108.43	-100.9	-303.0	319.3	287.7	31.64	10.093	
7,700.0	7,700.0	7,725.7	7,700.0	12.7	19.1	-108.43	-100.9	-303.0	319.3	287.6	31.77	10.052	
7,800.0	7,800.0	7,825.7	7,800.0	12.8	19.1	-108.43	-100.9	-303.0	319.3	287.4	31.89	10.012	
7,900.0	7,900.0	7,925.7	7,900.0	12.9	19.2	-108.43	-100.9	-303.0	319.3	287.3	32.02	9.972	
8,000.0	8,000.0	8,025.7	8,000.0	13.0	19.2	-108.43	-100.9	-303.0	319.3	287.2	32.15	9.932	
8,100.0	8,100.0	8,125.7	8,100.0	13.1	19.2	-108.43	-100.9	-303.0	319.3	287.0	32.28	9.893	
8,200.0	8,200.0	8,225.7	8,200.0	13.2	19.3	-108.43	-100.9	-303.0	319.3	286.9	32.41	9.853	
8,300.0	8,300.0	8,325.7	8,300.0	13.3	19.3	-108.43	-100.9	-303.0	319.3	286.8	32.54	9.814	
8,400.0	8,400.0	8,425.7	8,400.0	13.4	19.4	-108.43	-100.9	-303.0	319.3	286.7	32.67	9.775	
8,500.0	8,500.0	8,525.7	8,500.0	13.5	19.4	-108.43	-100.9	-303.0	319.3	286.5	32.80	9.737	
8,600.0	8,600.0	8,625.7	8,600.0	13.6	19.5	-108.43	-100.9	-303.0	319.3	286.4	32.93	9.698	
8,700.0	8,700.0	8,725.7	8,700.0	13.6	19.5	-108.43	-100.9	-303.0	319.3	286.3	33.06	9.660	
8,800.0	8,800.0	8,825.7	8,800.0	13.7	19.6	-108.43	-100.9	-303.0	319.3	286.1	33.19	9.622	
8,900.0	8,900.0	8,925.7	8,900.0	13.8	19.6	-108.43	-100.9	-303.0	319.3	286.0	33.32	9.584	
9,000.0	9,000.0	9,025.7	9,000.0	13.9	19.7	-108.43	-100.9	-303.0	319.3	285.9	33.45	9.547	
9,100.0	9,100.0	9,125.7	9,100.0	14.0	19.7	-108.43	-100.9	-303.0	319.3	285.7	33.58	9.510	
9,200.0	9,200.0	9,235.6	9,209.8	14.1	19.7	-107.93	-98.0	-303.0	318.6	285.0	33.58	9.487	
9,300.0	9,300.0	9,351.3	9,323.0	14.2	19.5	-103.87	-74.8	-303.1	313.0	279.8	33.23	9.419	
9,400.0	9,400.0	9,454.2	9,418.0	14.3	19.3	-96.67	-35.5	-303.2	305.8	273.1	32.70	9.352	
9,475.0	9,475.0	9,520.8	9,475.0	14.4	19.2	-90.23	-1.2	-303.3	303.4	271.1	32.26	9.403	
9,500.0	9,500.0	9,541.0	9,491.4	14.4	19.2	-88.03	10.4	-303.4	303.7	271.6	32.13	9.452	
9,600.0	9,600.0	9,612.0	9,545.9	14.5	19.1	-79.56	55.9	-303.6	313.4	281.6	31.81	9.853	
9,700.0	9,700.0	9,669.6	9,585.6	14.6	19.0	-72.19	97.5	-303.7	338.9	306.9	31.99	10.593	
9,800.0	9,800.0	9,716.3	9,614.7	14.7	18.9	-66.19	134.1	-303.9	380.4	347.7	32.65	11.649	
9,900.0	9,900.0	9,750.0	9,633.8	14.8	18.9	-61.96	161.9	-304.0	435.3	401.7	33.61	12.953	
10,000.0	10,000.0	9,786.0	9,652.3	14.9	18.9	-57.62	192.8	-304.1	500.5	466.1	34.45	14.528	
10,100.0	10,100.0	9,812.4	9,664.6	15.0	18.9	-54.61	216.1	-304.2	573.4	538.1	35.31	16.240	

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 #706H
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 #706H	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
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
10,200.0	10,200.0	9,834.7	9,674.2	15.1	18.9	-52.18	236.2	-304.3	651.8	615.7	36.08	18.067		
10,300.0	10,300.0	9,850.0	9,680.3	15.2	18.9	-50.57	250.3	-304.3	734.4	697.6	36.80	19.958		
10,400.0	10,400.0	9,870.0	9,687.7	15.3	18.9	-48.55	268.9	-304.4	819.9	782.5	37.40	21.924		
10,500.0	10,500.0	9,884.2	9,692.6	15.3	18.9	-47.17	282.2	-304.5	907.9	869.9	37.98	23.905		
10,600.0	10,600.0	9,900.0	9,697.6	15.4	18.9	-45.70	297.2	-304.5	997.7	959.2	38.51	25.908		
10,700.0	10,699.6	9,900.0	9,697.6	15.6	18.9	-36.06	297.2	-304.5	1,086.6	1,047.5	39.09	27.797		
10,800.0	10,796.4	9,927.5	9,705.4	15.8	18.9	-27.02	323.6	-304.6	1,169.9	1,130.3	39.64	29.518		
10,900.0	10,887.4	9,950.0	9,710.8	16.0	18.9	-21.69	345.4	-304.7	1,246.3	1,206.1	40.22	30.986		
11,000.0	10,969.9	9,970.6	9,715.0	16.2	18.9	-18.30	365.6	-304.8	1,314.1	1,273.3	40.81	32.197		
11,100.0	11,041.4	10,000.0	9,719.7	16.4	19.0	-15.99	394.6	-304.9	1,372.3	1,330.9	41.39	33.155		
11,200.0	11,099.7	10,021.1	9,722.2	16.6	19.0	-14.49	415.5	-305.0	1,419.9	1,378.0	41.95	33.851		
11,300.0	11,143.0	10,050.0	9,724.3	16.7	19.1	-13.49	444.4	-305.1	1,456.4	1,413.9	42.47	34.288		
11,400.0	11,170.0	10,077.7	9,725.0	16.8	19.1	-12.89	472.0	-305.2	1,481.1	1,438.1	42.95	34.487		
11,500.0	11,179.9	10,169.8	9,725.0	16.8	19.3	-12.74	564.2	-305.6	1,491.8	1,448.3	43.48	34.308		
11,600.0	11,180.0	10,269.8	9,725.0	16.9	19.6	-12.87	664.1	-306.0	1,492.5	1,448.5	43.98	33.939		
11,700.0	11,180.0	10,369.8	9,725.0	16.9	19.9	-12.88	764.1	-306.4	1,492.5	1,448.0	44.51	33.530		
11,800.0	11,180.0	10,469.8	9,725.0	16.9	20.2	-12.88	864.1	-306.8	1,492.5	1,447.4	45.11	33.090		
11,900.0	11,180.0	10,569.8	9,725.0	16.9	20.6	-12.88	964.1	-307.2	1,492.5	1,446.8	45.74	32.628		
12,000.0	11,180.0	10,669.8	9,725.0	17.1	21.0	-12.88	1,064.1	-307.6	1,492.5	1,446.1	46.43	32.149		
12,100.0	11,180.0	10,769.8	9,725.0	17.4	21.4	-12.88	1,164.1	-308.0	1,492.5	1,445.4	47.15	31.655		
12,200.0	11,180.0	10,869.8	9,725.0	17.7	21.9	-12.88	1,264.1	-308.4	1,492.5	1,444.6	47.91	31.150		
12,300.0	11,180.0	10,969.8	9,725.0	18.1	22.5	-12.88	1,364.1	-308.8	1,492.5	1,443.8	48.72	30.637		
12,400.0	11,180.0	11,069.8	9,725.0	18.5	23.0	-12.88	1,464.1	-309.2	1,492.5	1,443.0	49.55	30.119		
12,500.0	11,180.0	11,169.8	9,725.0	18.9	23.6	-12.88	1,564.1	-309.6	1,492.5	1,442.1	50.43	29.597		
12,600.0	11,180.0	11,269.8	9,725.0	19.4	24.2	-12.88	1,664.1	-310.0	1,492.5	1,441.2	51.33	29.075		
12,700.0	11,180.0	11,369.8	9,725.0	19.8	24.9	-12.88	1,764.1	-310.4	1,492.5	1,440.3	52.27	28.554		
12,800.0	11,180.0	11,469.8	9,725.0	20.3	25.5	-12.88	1,864.1	-310.8	1,492.5	1,439.3	53.24	28.036		
12,900.0	11,180.0	11,569.8	9,725.0	20.8	26.2	-12.88	1,964.1	-311.2	1,492.5	1,438.3	54.23	27.522		
13,000.0	11,180.0	11,669.8	9,725.0	21.3	26.9	-12.88	2,064.1	-311.6	1,492.5	1,437.3	55.25	27.014		
13,100.0	11,180.0	11,769.8	9,725.0	21.8	27.6	-12.88	2,164.1	-311.9	1,492.5	1,436.3	56.30	26.513		
13,200.0	11,180.0	11,869.8	9,725.0	22.4	28.4	-12.88	2,264.1	-312.3	1,492.5	1,435.2	57.36	26.019		
13,300.0	11,180.0	11,969.8	9,725.0	22.9	29.1	-12.88	2,364.1	-312.7	1,492.6	1,434.1	58.45	25.533		
13,400.0	11,180.0	12,069.8	9,725.0	23.5	29.9	-12.88	2,464.1	-313.1	1,492.6	1,433.0	59.57	25.057		
13,500.0	11,180.0	12,169.8	9,725.0	24.1	30.6	-12.88	2,564.1	-313.5	1,492.6	1,431.9	60.70	24.590		
13,600.0	11,180.0	12,269.8	9,725.0	24.7	31.4	-12.88	2,664.1	-313.9	1,492.6	1,430.7	61.85	24.133		
13,700.0	11,180.0	12,369.8	9,725.0	25.3	32.2	-12.88	2,764.1	-314.3	1,492.6	1,429.5	63.01	23.686		
13,800.0	11,180.0	12,469.8	9,725.0	25.9	33.0	-12.88	2,864.1	-314.7	1,492.6	1,428.4	64.20	23.249		
13,900.0	11,180.0	12,569.8	9,725.0	26.5	33.9	-12.88	2,964.1	-315.1	1,492.6	1,427.2	65.40	22.823		
14,000.0	11,180.0	12,669.8	9,725.0	27.1	34.7	-12.88	3,064.1	-315.5	1,492.6	1,425.9	66.61	22.406		
14,100.0	11,180.0	12,769.8	9,725.0	27.7	35.5	-12.88	3,164.1	-315.9	1,492.6	1,424.7	67.84	22.001		
14,200.0	11,180.0	12,869.8	9,725.0	28.4	36.4	-12.88	3,264.1	-316.3	1,492.6	1,423.5	69.08	21.605		
14,300.0	11,180.0	12,969.8	9,725.0	29.0	37.2	-12.88	3,364.1	-316.7	1,492.6	1,422.2	70.34	21.220		
14,400.0	11,180.0	13,069.8	9,725.0	29.7	38.1	-12.88	3,464.1	-317.1	1,492.6	1,421.0	71.61	20.844		
14,500.0	11,180.0	13,169.8	9,725.0	30.3	38.9	-12.88	3,564.1	-317.5	1,492.6	1,419.7	72.88	20.479		
14,600.0	11,180.0	13,269.8	9,725.0	31.0	39.8	-12.88	3,664.1	-317.9	1,492.6	1,418.4	74.17	20.123		
14,700.0	11,180.0	13,369.8	9,725.0	31.6	40.6	-12.88	3,764.1	-318.3	1,492.6	1,417.1	75.47	19.777		
14,800.0	11,180.0	13,469.8	9,725.0	32.3	41.5	-12.88	3,864.1	-318.7	1,492.6	1,415.8	76.78	19.440		
14,900.0	11,180.0	13,569.8	9,725.0	33.0	42.4	-12.88	3,964.1	-319.1	1,492.6	1,414.5	78.10	19.112		
15,000.0	11,180.0	13,669.8	9,725.0	33.6	43.3	-12.88	4,064.1	-319.5	1,492.6	1,413.1	79.42	18.792		
15,100.0	11,180.0	13,769.8	9,725.0	34.3	44.2	-12.88	4,164.1	-319.9	1,492.6	1,411.8	80.76	18.482		
15,200.0	11,180.0	13,869.8	9,725.0	35.0	45.0	-12.88	4,264.1	-320.3	1,492.6	1,410.5	82.10	18.180		
15,300.0	11,180.0	13,969.8	9,725.0	35.7	45.9	-12.88	4,364.1	-320.7	1,492.6	1,409.1	83.45	17.885		

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 #706H
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 #706H	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)				
15,400.0	11,180.0	14,069.8	9,725.0	36.4	46.8	-12.88	4,464.1	-321.1	1,492.6	1,407.8	84.81	17.599		
15,500.0	11,180.0	14,169.8	9,725.0	37.1	47.7	-12.88	4,564.1	-321.5	1,492.6	1,406.4	86.17	17.321		
15,600.0	11,180.0	14,269.8	9,725.0	37.8	48.6	-12.88	4,664.1	-321.9	1,492.6	1,405.0	87.54	17.050		
15,700.0	11,180.0	14,369.8	9,725.0	38.5	49.5	-12.88	4,764.1	-322.3	1,492.6	1,403.6	88.92	16.786		
15,800.0	11,180.0	14,469.8	9,725.0	39.2	50.4	-12.88	4,864.1	-322.7	1,492.6	1,402.3	90.30	16.529		
15,900.0	11,180.0	14,569.8	9,725.0	39.9	51.4	-12.88	4,964.1	-323.1	1,492.6	1,400.9	91.69	16.278		
16,000.0	11,180.0	14,669.8	9,725.0	40.6	52.3	-12.88	5,064.1	-323.5	1,492.6	1,399.5	93.08	16.035		
16,100.0	11,180.0	14,769.8	9,725.0	41.3	53.2	-12.88	5,164.1	-323.9	1,492.6	1,398.1	94.48	15.797		
16,200.0	11,180.0	14,869.8	9,725.0	42.0	54.1	-12.88	5,264.1	-324.3	1,492.6	1,396.7	95.89	15.566		
16,300.0	11,180.0	14,969.8	9,725.0	42.7	55.0	-12.88	5,364.1	-324.7	1,492.6	1,395.3	97.29	15.341		
16,400.0	11,180.0	15,069.8	9,725.0	43.4	55.9	-12.88	5,464.1	-325.1	1,492.6	1,393.9	98.71	15.121		
16,500.0	11,180.0	15,169.8	9,725.0	44.1	56.9	-12.88	5,564.1	-325.5	1,492.6	1,392.5	100.12	14.907		
16,600.0	11,180.0	15,269.8	9,725.0	44.9	57.8	-12.88	5,664.1	-325.8	1,492.6	1,391.0	101.55	14.699		
16,700.0	11,180.0	15,369.8	9,725.0	45.6	58.7	-12.88	5,764.1	-326.2	1,492.6	1,389.6	102.97	14.495		
16,800.0	11,180.0	15,469.8	9,725.0	46.3	59.6	-12.88	5,864.1	-326.6	1,492.6	1,388.2	104.40	14.297		
16,900.0	11,180.0	15,569.8	9,725.0	47.0	60.6	-12.88	5,964.1	-327.0	1,492.6	1,386.7	105.83	14.103		
17,000.0	11,180.0	15,669.8	9,725.0	47.7	61.5	-12.88	6,064.1	-327.4	1,492.6	1,385.3	107.27	13.915		
17,100.0	11,180.0	15,769.8	9,725.0	48.5	62.4	-12.88	6,164.1	-327.8	1,492.6	1,383.9	108.71	13.730		
17,200.0	11,180.0	15,869.8	9,725.0	49.2	63.3	-12.88	6,264.1	-328.2	1,492.6	1,382.4	110.15	13.550		
17,300.0	11,180.0	15,969.8	9,725.0	49.9	64.3	-12.88	6,364.1	-328.6	1,492.6	1,381.0	111.60	13.375		
17,400.0	11,180.0	16,069.8	9,725.0	50.7	65.2	-12.89	6,464.1	-329.0	1,492.6	1,379.5	113.04	13.204		
17,500.0	11,180.0	16,169.8	9,725.0	51.4	66.1	-12.89	6,564.1	-329.4	1,492.6	1,378.1	114.50	13.036		
17,600.0	11,180.0	16,269.8	9,725.0	52.1	67.1	-12.89	6,664.1	-329.8	1,492.6	1,376.6	115.95	12.873		
17,700.0	11,180.0	16,369.8	9,725.0	52.8	68.0	-12.89	6,764.1	-330.2	1,492.6	1,375.2	117.41	12.713		
17,800.0	11,180.0	16,469.8	9,725.0	53.6	68.9	-12.89	6,864.1	-330.6	1,492.6	1,373.7	118.87	12.557		
17,900.0	11,180.0	16,569.8	9,725.0	54.3	69.9	-12.89	6,964.1	-331.0	1,492.6	1,372.3	120.33	12.404		
18,000.0	11,180.0	16,669.8	9,725.0	55.0	70.8	-12.89	7,064.1	-331.4	1,492.6	1,370.8	121.79	12.255		
18,100.0	11,180.0	16,769.8	9,725.0	55.8	71.8	-12.89	7,164.1	-331.8	1,492.6	1,369.3	123.26	12.109		
18,200.0	11,180.0	16,869.8	9,725.0	56.5	72.7	-12.89	7,264.1	-332.2	1,492.6	1,367.9	124.73	11.967		
18,300.0	11,180.0	16,969.8	9,725.0	57.3	73.6	-12.89	7,364.1	-332.6	1,492.6	1,366.4	126.20	11.827		
18,400.0	11,180.0	17,069.8	9,725.0	58.0	74.6	-12.89	7,464.1	-333.0	1,492.6	1,364.9	127.67	11.691		
18,500.0	11,180.0	17,169.8	9,725.0	58.7	75.5	-12.89	7,564.0	-333.4	1,492.6	1,363.4	129.15	11.557		
18,600.0	11,180.0	17,269.8	9,725.0	59.5	76.5	-12.89	7,664.0	-333.8	1,492.6	1,362.0	130.62	11.427		
18,700.0	11,180.0	17,369.8	9,725.0	60.2	77.4	-12.89	7,764.0	-334.2	1,492.6	1,360.5	132.10	11.299		
18,800.0	11,180.0	17,469.8	9,725.0	60.9	78.4	-12.89	7,864.0	-334.6	1,492.6	1,359.0	133.58	11.174		
18,900.0	11,180.0	17,569.8	9,725.0	61.7	79.3	-12.89	7,964.0	-335.0	1,492.6	1,357.5	135.06	11.051		
19,000.0	11,180.0	17,669.8	9,725.0	62.4	80.3	-12.89	8,064.0	-335.4	1,492.6	1,356.0	136.55	10.931		
19,100.0	11,180.0	17,769.8	9,725.0	63.2	81.2	-12.89	8,164.0	-335.8	1,492.6	1,354.6	138.03	10.813		
19,200.0	11,180.0	17,869.8	9,725.0	63.9	82.2	-12.89	8,264.0	-336.2	1,492.6	1,353.1	139.52	10.698		
19,300.0	11,180.0	17,969.8	9,725.0	64.7	83.1	-12.89	8,364.0	-336.6	1,492.6	1,351.6	141.01	10.585		
19,400.0	11,180.0	18,069.8	9,725.0	65.4	84.0	-12.89	8,464.0	-337.0	1,492.6	1,350.1	142.50	10.475		
19,500.0	11,180.0	18,169.8	9,725.0	66.1	85.0	-12.89	8,564.0	-337.4	1,492.6	1,348.6	143.99	10.366		
19,600.0	11,180.0	18,269.8	9,725.0	66.9	85.9	-12.89	8,664.0	-337.8	1,492.6	1,347.1	145.48	10.260		
19,700.0	11,180.0	18,369.8	9,725.0	67.6	86.9	-12.89	8,764.0	-338.2	1,492.6	1,345.6	146.98	10.155		
19,800.0	11,180.0	18,469.8	9,725.0	68.4	87.8	-12.89	8,864.0	-338.6	1,492.6	1,344.1	148.47	10.053		
19,900.0	11,180.0	18,569.8	9,725.0	69.1	88.8	-12.89	8,964.0	-339.0	1,492.6	1,342.6	149.97	9.953		
20,000.0	11,180.0	18,669.8	9,725.0	69.9	89.8	-12.89	9,064.0	-339.4	1,492.6	1,341.1	151.47	9.854		
20,100.0	11,180.0	18,769.8	9,725.0	70.6	90.7	-12.89	9,164.0	-339.7	1,492.6	1,339.6	152.96	9.758		
20,200.0	11,180.0	18,869.8	9,725.0	71.4	91.7	-12.89	9,264.0	-340.1	1,492.6	1,338.1	154.46	9.663		
20,300.0	11,180.0	18,969.8	9,725.0	72.1	92.6	-12.89	9,364.0	-340.5	1,492.6	1,336.6	155.97	9.570		
20,400.0	11,180.0	19,069.8	9,725.0	72.9	93.6	-12.89	9,464.0	-340.9	1,492.6	1,335.1	157.47	9.479		
20,500.0	11,180.0	19,169.8	9,725.0	73.6	94.5	-12.89	9,564.0	-341.3	1,492.6	1,333.6	158.97	9.389		

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 #706H
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 #706H	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)			
20,600.0	11,180.0	19,269.8	9,725.0	74.4	95.5	-12.89	9,664.0	-341.7	1,492.6	1,332.1	160.48	9.301	
20,700.0	11,180.0	19,369.8	9,725.0	75.1	96.4	-12.89	9,764.0	-342.1	1,492.6	1,330.6	161.98	9.215	
20,800.0	11,180.0	19,469.8	9,725.0	75.9	97.4	-12.89	9,864.0	-342.5	1,492.6	1,329.1	163.49	9.130	
20,900.0	11,180.0	19,569.8	9,725.0	76.6	98.3	-12.89	9,964.0	-342.9	1,492.6	1,327.6	165.00	9.046	
21,000.0	11,180.0	19,669.8	9,725.0	77.4	99.3	-12.89	10,064.0	-343.3	1,492.6	1,326.1	166.50	8.964	
21,100.0	11,180.0	19,769.8	9,725.0	78.1	100.2	-12.89	10,164.0	-343.7	1,492.6	1,324.6	168.01	8.884	
21,200.0	11,180.0	19,869.8	9,725.0	78.9	101.2	-12.89	10,264.0	-344.1	1,492.6	1,323.1	169.52	8.805	
21,300.0	11,180.0	19,969.8	9,725.0	79.6	102.1	-12.89	10,364.0	-344.5	1,492.6	1,321.6	171.03	8.727	
21,400.0	11,180.0	20,069.8	9,725.0	80.4	103.1	-12.89	10,464.0	-344.9	1,492.6	1,320.1	172.55	8.651	
21,500.0	11,180.0	20,169.8	9,725.0	81.1	104.1	-12.89	10,564.0	-345.3	1,492.6	1,318.6	174.06	8.575	
21,600.0	11,180.0	20,269.8	9,725.0	81.9	105.0	-12.89	10,664.0	-345.7	1,492.6	1,317.0	175.57	8.502	
21,700.0	11,180.0	20,369.8	9,725.0	82.6	106.0	-12.89	10,764.0	-346.1	1,492.6	1,315.5	177.08	8.429	
21,800.0	11,180.0	20,469.8	9,725.0	83.4	106.9	-12.89	10,864.0	-346.5	1,492.6	1,314.0	178.60	8.357	
21,900.0	11,180.0	20,569.8	9,725.0	84.1	107.9	-12.89	10,964.0	-346.9	1,492.6	1,312.5	180.11	8.287	
22,000.0	11,180.0	20,669.8	9,725.0	84.9	108.8	-12.89	11,064.0	-347.3	1,492.6	1,311.0	181.63	8.218	
22,100.0	11,180.0	20,769.8	9,725.0	85.6	109.8	-12.89	11,164.0	-347.7	1,492.6	1,309.5	183.15	8.150	
22,200.0	11,180.0	20,869.8	9,725.0	86.4	110.8	-12.89	11,264.0	-348.1	1,492.6	1,308.0	184.67	8.083	
22,300.0	11,180.0	20,969.8	9,725.0	87.1	111.7	-12.89	11,364.0	-348.5	1,492.6	1,306.4	186.18	8.017	
22,400.0	11,180.0	21,069.8	9,725.0	87.9	112.7	-12.89	11,464.0	-348.9	1,492.6	1,304.9	187.70	7.952	
22,500.0	11,180.0	21,169.8	9,725.0	88.6	113.6	-12.89	11,564.0	-349.3	1,492.6	1,303.4	189.22	7.888	
22,600.0	11,180.0	21,269.8	9,725.0	89.4	114.6	-12.89	11,664.0	-349.7	1,492.6	1,301.9	190.74	7.825	
22,700.0	11,180.0	21,369.8	9,725.0	90.2	115.6	-12.89	11,764.0	-350.1	1,492.6	1,300.4	192.26	7.763	
22,800.0	11,180.0	21,469.8	9,725.0	90.9	116.5	-12.89	11,864.0	-350.5	1,492.6	1,298.8	193.78	7.703	
22,900.0	11,180.0	21,569.8	9,725.0	91.7	117.5	-12.89	11,964.0	-350.9	1,492.6	1,297.3	195.31	7.643	
23,000.0	11,180.0	21,669.8	9,725.0	92.4	118.4	-12.89	12,064.0	-351.3	1,492.6	1,295.8	196.83	7.583	
23,100.0	11,180.0	21,769.8	9,725.0	93.2	119.4	-12.89	12,164.0	-351.7	1,492.6	1,294.3	198.35	7.525	
23,200.0	11,180.0	21,869.8	9,725.0	93.9	120.4	-12.89	12,264.0	-352.1	1,492.6	1,292.8	199.87	7.468	
23,300.0	11,180.0	21,969.8	9,725.0	94.7	121.3	-12.89	12,364.0	-352.5	1,492.6	1,291.2	201.40	7.411	
23,400.0	11,180.0	22,069.8	9,725.0	95.4	122.3	-12.89	12,464.0	-352.9	1,492.6	1,289.7	202.92	7.356	
23,500.0	11,180.0	22,169.8	9,725.0	96.2	123.2	-12.89	12,564.0	-353.3	1,492.6	1,288.2	204.45	7.301	
23,600.0	11,180.0	22,269.8	9,725.0	96.9	124.2	-12.89	12,664.0	-353.7	1,492.6	1,286.7	205.97	7.247	
23,700.0	11,180.0	22,369.8	9,725.0	97.7	125.2	-12.89	12,764.0	-354.0	1,492.6	1,285.1	207.50	7.193	
23,800.0	11,180.0	22,469.8	9,725.0	98.5	126.1	-12.89	12,864.0	-354.4	1,492.6	1,283.6	209.02	7.141	
23,900.0	11,180.0	22,569.8	9,725.0	99.2	127.1	-12.89	12,964.0	-354.8	1,492.6	1,282.1	210.55	7.089	
24,000.0	11,180.0	22,669.8	9,725.0	100.0	128.0	-12.89	13,064.0	-355.2	1,492.6	1,280.6	212.08	7.038	
24,100.0	11,180.0	22,769.8	9,725.0	100.7	129.0	-12.89	13,164.0	-355.6	1,492.6	1,279.0	213.61	6.988	
24,200.0	11,180.0	22,869.8	9,725.0	101.5	130.0	-12.89	13,264.0	-356.0	1,492.6	1,277.5	215.13	6.938	
24,300.0	11,180.0	22,969.8	9,725.0	102.2	130.9	-12.89	13,364.0	-356.4	1,492.6	1,276.0	216.66	6.889	
24,400.0	11,180.0	23,069.8	9,725.0	103.0	131.9	-12.89	13,464.0	-356.8	1,492.6	1,274.4	218.19	6.841	
24,469.4	11,180.0	23,139.1	9,725.0	103.4	132.5	-12.89	13,533.4	-357.1	1,492.6	1,273.6	219.00	6.816	

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 #706H
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 #706H	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		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	21.80	150.0	60.0	161.6	155.1	6.43	25.129	
100.0	100.0	100.0	100.0	3.2	3.2	21.80	150.0	60.0	161.6	154.7	6.89	23.440	
200.0	200.0	200.0	200.0	3.5	3.5	21.80	150.0	60.0	161.6	154.2	7.33	22.046	
300.0	300.0	300.0	300.0	3.7	3.7	21.80	150.0	60.0	161.6	153.8	7.74	20.869	
400.0	400.0	400.0	400.0	3.9	3.9	21.80	150.0	60.0	161.6	153.4	8.14	19.858	
500.0	500.0	500.0	500.0	4.1	4.1	21.80	150.0	60.0	161.6	153.0	8.51	18.976	
600.0	600.0	600.0	600.0	4.2	4.2	21.80	150.0	60.0	161.6	152.7	8.88	18.198	
700.0	700.0	700.0	700.0	4.4	4.4	21.80	150.0	60.0	161.6	152.3	9.23	17.504	
800.0	800.0	800.0	800.0	4.6	4.6	21.80	150.0	60.0	161.6	152.0	9.57	16.881	
900.0	900.0	900.0	900.0	4.8	4.8	21.80	150.0	60.0	161.6	151.7	9.90	16.316	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	21.80	150.0	60.0	161.6	151.3	10.22	15.800	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	21.80	150.0	60.0	161.6	151.0	10.54	15.328	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	21.80	150.0	60.0	161.6	150.7	10.85	14.893	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	21.80	150.0	60.0	161.6	150.4	11.15	14.491	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	21.80	150.0	60.0	161.6	150.1	11.44	14.116	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	21.80	150.0	60.0	161.6	149.8	11.73	13.768	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	21.80	150.0	60.0	161.6	149.5	12.02	13.441	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	21.80	150.0	60.0	161.6	149.3	12.30	13.135	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	21.80	150.0	60.0	161.6	149.0	12.58	12.847	CC, ES
1,900.0	1,900.0	1,897.0	1,897.0	6.3	6.3	22.10	150.5	61.1	162.5	149.6	12.85	12.641	
2,000.0	2,000.0	1,993.9	1,993.8	6.4	6.4	22.97	152.1	64.5	165.3	152.2	13.13	12.592	
2,100.0	2,100.0	2,090.5	2,090.2	6.5	6.6	24.35	154.7	70.0	170.1	156.6	13.40	12.686	
2,200.0	2,200.0	2,186.7	2,186.0	6.7	6.8	26.16	158.3	77.7	176.9	163.2	13.69	12.920	
2,300.0	2,300.0	2,282.5	2,281.2	6.8	7.0	28.27	162.9	87.6	185.9	171.9	13.99	13.289	
2,400.0	2,400.0	2,380.1	2,377.9	6.9	7.2	30.67	168.3	99.8	196.9	182.6	14.26	13.809	
2,500.0	2,500.0	2,480.0	2,476.7	7.0	7.4	33.53	172.4	114.2	208.1	193.5	14.60	14.254	
2,600.0	2,600.0	2,579.5	2,574.9	7.2	7.7	36.74	174.6	130.4	219.4	204.4	14.94	14.684	
2,700.0	2,700.0	2,678.1	2,671.9	7.3	7.9	39.98	175.8	147.4	231.2	215.9	15.32	15.088	
2,800.0	2,800.0	2,776.6	2,768.9	7.4	8.2	42.90	177.0	164.5	243.6	227.9	15.71	15.510	
2,900.0	2,900.0	2,875.0	2,865.9	7.5	8.5	45.53	178.2	181.6	256.7	240.6	16.11	15.938	
3,000.0	3,000.0	2,973.5	2,962.9	7.7	8.8	47.91	179.4	198.6	270.2	253.7	16.52	16.357	
3,100.0	3,100.0	3,072.0	3,059.8	7.8	9.1	50.06	180.6	215.7	284.2	267.2	16.95	16.764	
3,200.0	3,200.0	3,170.5	3,156.8	7.9	9.5	52.01	181.8	232.7	298.5	281.1	17.40	17.155	
3,300.0	3,300.0	3,269.0	3,253.8	8.0	9.8	53.78	183.0	249.8	313.1	295.2	17.86	17.530	
3,400.0	3,400.0	3,367.5	3,350.8	8.1	10.1	55.39	184.2	266.9	328.0	309.6	18.33	17.889	
3,500.0	3,500.0	3,465.9	3,447.8	8.3	10.5	56.86	185.4	283.9	343.1	324.2	18.82	18.229	
3,600.0	3,600.0	3,564.4	3,544.8	8.4	10.8	58.21	186.6	301.0	358.4	339.1	19.32	18.553	
3,700.0	3,700.0	3,662.9	3,641.7	8.5	11.2	59.44	187.8	318.0	373.9	354.1	19.82	18.859	
3,800.0	3,800.0	3,761.4	3,738.7	8.6	11.6	60.58	188.9	335.1	389.5	369.2	20.34	19.150	
3,900.0	3,900.0	3,859.9	3,835.7	8.7	12.0	61.63	190.1	352.2	405.3	384.5	20.87	19.425	
4,000.0	4,000.0	3,958.3	3,932.7	8.8	12.3	62.61	191.3	369.2	421.3	399.9	21.40	19.685	
4,100.0	4,100.0	4,056.8	4,029.7	8.9	12.7	63.51	192.5	386.3	437.3	415.3	21.94	19.931	
4,200.0	4,200.0	4,155.3	4,126.7	9.1	13.1	64.34	193.7	403.3	453.4	430.9	22.49	20.164	
4,300.0	4,300.0	4,253.8	4,223.7	9.2	13.5	65.13	194.9	420.4	469.6	446.6	23.04	20.384	
4,400.0	4,400.0	4,352.3	4,320.6	9.3	13.9	65.85	196.1	437.4	485.9	462.3	23.60	20.593	
4,500.0	4,500.0	4,450.7	4,417.6	9.4	14.3	66.53	197.3	454.5	502.3	478.1	24.16	20.791	
4,600.0	4,600.0	4,549.2	4,514.6	9.5	14.7	67.17	198.5	471.6	518.7	494.0	24.73	20.978	
4,700.0	4,700.0	4,647.7	4,611.6	9.6	15.1	67.77	199.7	488.6	535.2	509.9	25.30	21.156	
4,800.0	4,800.0	4,746.2	4,708.6	9.7	15.5	68.34	200.9	505.7	551.7	525.9	25.87	21.325	
4,900.0	4,900.0	4,844.7	4,805.6	9.8	15.9	68.87	202.1	522.7	568.3	541.9	26.45	21.485	
5,000.0	5,000.0	4,943.1	4,902.5	9.9	16.3	69.37	203.3	539.8	585.0	557.9	27.04	21.637	
5,100.0	5,100.0	5,041.6	4,999.5	10.0	16.8	69.84	204.5	556.9	601.7	574.0	27.62	21.782	

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 #706H
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 #706H	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)			
5,200.0	5,200.0	5,140.1	5,096.5	10.1	17.2	70.29	205.6	573.9	618.4	590.2	28.21	21.920	
5,300.0	5,300.0	5,238.6	5,193.5	10.2	17.6	70.71	206.8	591.0	635.1	606.3	28.80	22.051	
5,400.0	5,400.0	5,337.1	5,290.5	10.4	18.0	71.11	208.0	608.0	651.9	622.5	29.40	22.176	
5,500.0	5,500.0	5,435.5	5,387.5	10.5	18.4	71.49	209.2	625.1	668.7	638.7	29.99	22.296	
5,600.0	5,600.0	5,534.0	5,484.5	10.6	18.9	71.86	210.4	642.2	685.6	655.0	30.59	22.410	
5,700.0	5,700.0	5,632.5	5,581.4	10.7	19.3	72.20	211.6	659.2	702.4	671.2	31.19	22.519	
5,800.0	5,800.0	5,731.0	5,678.4	10.8	19.7	72.53	212.8	676.3	719.3	687.5	31.80	22.623	
5,900.0	5,900.0	5,829.5	5,775.4	10.9	20.1	72.85	214.0	693.3	736.2	703.8	32.40	22.723	
6,000.0	6,000.0	5,928.0	5,872.4	11.0	20.6	73.15	215.2	710.4	753.2	720.2	33.01	22.818	
6,100.0	6,100.0	6,026.4	5,969.4	11.1	21.0	73.43	216.4	727.5	770.1	736.5	33.62	22.910	
6,200.0	6,200.0	6,124.9	6,066.4	11.2	21.4	73.71	217.6	744.5	787.1	752.9	34.23	22.997	
6,300.0	6,300.0	6,223.4	6,163.4	11.3	21.8	73.97	218.8	761.6	804.1	769.2	34.84	23.081	
6,400.0	6,400.0	6,321.9	6,260.3	11.4	22.3	74.23	220.0	778.6	821.1	785.6	35.45	23.162	
6,500.0	6,500.0	6,420.4	6,357.3	11.5	22.7	74.47	221.2	795.7	838.1	802.0	36.06	23.239	
6,600.0	6,600.0	6,518.8	6,454.3	11.6	23.1	74.70	222.3	812.8	855.1	818.4	36.68	23.314	
6,700.0	6,700.0	6,617.3	6,551.3	11.7	23.6	74.92	223.5	829.8	872.2	834.9	37.29	23.386	
6,800.0	6,800.0	6,719.1	6,651.6	11.8	24.0	75.14	224.8	847.4	889.2	851.2	37.95	23.432	
6,900.0	6,900.0	6,835.8	6,766.7	11.9	24.6	75.37	226.1	866.0	904.9	866.2	38.74	23.360	
7,000.0	7,000.0	6,953.2	6,883.0	12.0	25.1	75.56	227.2	882.4	918.6	879.2	39.42	23.306	
7,100.0	7,100.0	7,071.2	7,000.2	12.1	25.6	75.72	228.2	896.4	930.4	890.3	40.06	23.222	
7,200.0	7,200.0	7,189.8	7,118.1	12.2	26.0	75.85	229.0	908.1	940.1	899.4	40.68	23.110	
7,300.0	7,300.0	7,308.8	7,236.8	12.3	26.5	75.94	229.7	917.4	947.8	906.5	41.25	22.977	
7,400.0	7,400.0	7,428.1	7,355.9	12.4	26.9	76.02	230.1	924.2	953.4	911.7	41.77	22.827	
7,500.0	7,500.0	7,547.7	7,475.4	12.5	27.3	76.06	230.4	928.5	957.0	914.8	42.22	22.667	
7,600.0	7,600.0	7,667.4	7,595.1	12.6	27.5	76.08	230.6	930.4	958.6	916.1	42.51	22.548	
7,700.0	7,700.0	7,772.3	7,700.0	12.7	27.6	76.08	230.6	930.5	958.6	915.9	42.70	22.450	
7,800.0	7,800.0	7,872.3	7,800.0	12.8	27.7	76.08	230.6	930.5	958.6	915.8	42.82	22.385	
7,900.0	7,900.0	7,972.3	7,900.0	12.9	27.7	76.08	230.6	930.5	958.6	915.7	42.92	22.333	
8,000.0	8,000.0	8,072.3	8,000.0	13.0	27.7	76.08	230.6	930.5	958.6	915.6	43.02	22.281	
8,100.0	8,100.0	8,172.3	8,100.0	13.1	27.8	76.08	230.6	930.5	958.6	915.5	43.12	22.229	
8,200.0	8,200.0	8,272.3	8,200.0	13.2	27.8	76.08	230.6	930.5	958.6	915.4	43.23	22.178	
8,300.0	8,300.0	8,372.3	8,300.0	13.3	27.8	76.08	230.6	930.5	958.6	915.3	43.33	22.126	
8,400.0	8,400.0	8,472.3	8,400.0	13.4	27.9	76.08	230.6	930.5	958.6	915.2	43.43	22.074	
8,500.0	8,500.0	8,572.3	8,500.0	13.5	27.9	76.08	230.6	930.5	958.6	915.1	43.53	22.023	
8,600.0	8,600.0	8,672.3	8,600.0	13.6	27.9	76.08	230.6	930.5	958.6	915.0	43.63	21.971	
8,700.0	8,700.0	8,772.3	8,700.0	13.6	28.0	76.08	230.6	930.5	958.6	914.9	43.73	21.920	
8,800.0	8,800.0	8,872.3	8,800.0	13.7	28.0	76.08	230.6	930.5	958.6	914.8	43.84	21.868	
8,900.0	8,900.0	8,972.3	8,900.0	13.8	28.0	76.08	230.6	930.5	958.6	914.7	43.94	21.817	
9,000.0	9,000.0	9,072.3	9,000.0	13.9	28.1	76.08	230.6	930.5	958.6	914.6	44.04	21.766	
9,100.0	9,100.0	9,172.3	9,100.0	14.0	28.1	76.08	230.6	930.5	958.6	914.5	44.15	21.714	
9,110.0	9,110.0	9,182.3	9,110.0	14.0	28.1	76.08	230.6	930.5	958.6	914.5	44.16	21.709	
9,200.0	9,200.0	9,258.7	9,186.3	14.1	28.1	76.02	231.6	930.5	959.0	914.7	44.30	21.647	
9,300.0	9,300.0	9,329.2	9,256.3	14.2	28.2	75.53	240.1	930.5	961.9	917.4	44.53	21.601	
9,400.0	9,400.0	9,400.0	9,324.9	14.3	28.2	74.54	257.3	930.4	968.2	923.5	44.75	21.637	
9,500.0	9,500.0	9,459.5	9,380.6	14.4	28.3	73.35	278.2	930.3	978.3	933.3	44.96	21.759	
9,600.0	9,600.0	9,516.9	9,432.0	14.5	28.3	71.92	303.7	930.2	992.8	947.7	45.15	21.990	
9,700.0	9,700.0	9,568.5	9,475.9	14.6	28.4	70.42	330.9	930.1	1,012.3	967.0	45.31	22.342	
9,800.0	9,800.0	9,614.5	9,512.7	14.7	28.4	68.93	358.4	930.0	1,037.2	991.8	45.44	22.826	
9,900.0	9,900.0	9,650.0	9,539.6	14.8	28.5	67.69	381.6	929.9	1,067.8	1,022.3	45.52	23.455	
10,000.0	10,000.0	9,700.0	9,574.9	14.9	28.5	65.84	417.0	929.7	1,104.1	1,058.5	45.61	24.207	
10,100.0	10,100.0	9,722.8	9,589.9	15.0	28.6	64.97	434.1	929.7	1,145.8	1,100.2	45.63	25.113	
10,200.0	10,200.0	9,750.0	9,607.0	15.1	28.6	63.91	455.3	929.6	1,192.9	1,147.3	45.64	26.138	

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 #706H
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 #706H	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)			
10,300.0	10,300.0	9,775.7	9,622.1	15.2	28.6	62.88	476.0	929.5	1,245.0	1,199.4	45.65	27.275	
10,400.0	10,400.0	9,800.0	9,635.6	15.3	28.6	61.90	496.3	929.4	1,301.7	1,256.0	45.66	28.508	
10,500.0	10,500.0	9,817.5	9,644.8	15.3	28.7	61.19	511.2	929.3	1,362.5	1,316.8	45.66	29.838	
10,600.0	10,600.0	9,850.0	9,660.5	15.4	28.7	59.86	539.6	929.2	1,427.3	1,381.6	45.75	31.198	
10,700.0	10,699.6	9,850.0	9,660.5	15.6	28.7	51.10	539.6	929.2	1,491.8	1,446.1	45.74	32.619	
10,800.0	10,796.4	9,874.1	9,671.2	15.8	28.7	44.92	561.2	929.1	1,551.4	1,505.5	45.88	33.814	
10,900.0	10,887.4	9,900.0	9,681.6	16.0	28.7	40.19	584.9	929.0	1,604.1	1,558.0	46.08	34.814	
11,000.0	10,969.9	9,921.9	9,689.6	16.2	28.8	36.75	605.3	929.0	1,648.8	1,602.5	46.29	35.621	
11,100.0	11,041.4	9,950.0	9,698.6	16.4	28.8	34.23	631.9	928.8	1,684.5	1,637.9	46.55	36.186	
11,200.0	11,099.7	9,974.9	9,705.6	16.6	28.8	32.57	655.9	928.7	1,710.4	1,663.6	46.81	36.540	
11,300.0	11,143.0	10,000.0	9,711.5	16.7	28.8	31.60	680.2	928.6	1,726.0	1,678.9	47.07	36.669	
11,400.0	11,170.0	10,030.4	9,717.3	16.8	28.9	31.25	710.1	928.5	1,730.9	1,683.6	47.36	36.546	
11,500.0	11,179.9	10,050.0	9,720.1	16.8	28.9	31.53	729.4	928.4	1,725.2	1,677.6	47.58	36.261	
11,600.0	11,180.0	10,100.0	9,724.4	16.9	28.9	31.75	779.2	928.2	1,716.1	1,668.1	47.96	35.783	
11,700.0	11,180.0	10,114.6	9,724.9	16.9	28.9	31.80	793.8	928.2	1,712.2	1,664.1	48.05	35.631	
11,751.4	11,180.0	10,141.3	9,725.0	16.9	29.0	31.80	820.6	928.1	1,711.9	1,663.7	48.25	35.482	
11,800.0	11,180.0	10,189.9	9,725.0	16.9	29.0	31.80	869.1	927.9	1,711.9	1,663.3	48.61	35.218	
11,900.0	11,180.0	10,289.9	9,725.0	16.9	29.1	31.80	969.1	927.5	1,711.9	1,662.5	49.39	34.660	
12,000.0	11,180.0	10,389.9	9,725.0	17.1	29.3	31.80	1,069.1	927.1	1,711.9	1,661.7	50.21	34.095	
12,100.0	11,180.0	10,489.9	9,725.0	17.4	29.4	31.80	1,169.1	926.6	1,711.9	1,660.8	51.06	33.527	
12,200.0	11,180.0	10,589.9	9,725.0	17.7	29.6	31.80	1,269.1	926.2	1,711.9	1,659.9	51.94	32.956	
12,300.0	11,180.0	10,689.9	9,725.0	18.1	29.8	31.79	1,369.1	925.8	1,711.9	1,659.0	52.86	32.386	
12,400.0	11,180.0	10,789.9	9,725.0	18.5	30.0	31.79	1,469.1	925.4	1,711.9	1,658.1	53.80	31.818	
12,500.0	11,180.0	10,889.9	9,725.0	18.9	30.2	31.79	1,569.1	925.0	1,711.9	1,657.1	54.77	31.255	
12,600.0	11,180.0	10,989.9	9,725.0	19.4	30.5	31.79	1,669.1	924.6	1,711.9	1,656.1	55.77	30.696	
12,700.0	11,180.0	11,089.9	9,725.0	19.8	30.7	31.79	1,769.1	924.2	1,711.9	1,655.1	56.79	30.145	
12,800.0	11,180.0	11,189.9	9,725.0	20.3	31.0	31.79	1,869.1	923.8	1,711.8	1,654.0	57.83	29.601	
12,900.0	11,180.0	11,289.9	9,725.0	20.8	31.3	31.79	1,969.1	923.4	1,711.8	1,652.9	58.90	29.065	
13,000.0	11,180.0	11,389.9	9,725.0	21.3	31.6	31.79	2,069.1	923.0	1,711.8	1,651.8	59.98	28.538	
13,100.0	11,180.0	11,489.9	9,725.0	21.8	32.0	31.79	2,169.1	922.5	1,711.8	1,650.7	61.09	28.022	
13,200.0	11,180.0	11,589.9	9,725.0	22.4	32.3	31.79	2,269.1	922.1	1,711.8	1,649.6	62.21	27.515	
13,300.0	11,180.0	11,689.9	9,725.0	22.9	32.7	31.79	2,369.1	921.7	1,711.8	1,648.4	63.36	27.019	
13,400.0	11,180.0	11,789.9	9,725.0	23.5	33.1	31.79	2,469.1	921.3	1,711.8	1,647.3	64.52	26.533	
13,500.0	11,180.0	11,889.9	9,725.0	24.1	33.5	31.79	2,569.1	920.9	1,711.8	1,646.1	65.69	26.059	
13,600.0	11,180.0	11,989.9	9,725.0	24.7	33.9	31.79	2,669.1	920.5	1,711.8	1,644.9	66.88	25.595	
13,700.0	11,180.0	12,089.9	9,725.0	25.3	34.3	31.79	2,769.1	920.1	1,711.8	1,643.7	68.08	25.142	
13,800.0	11,180.0	12,189.9	9,725.0	25.9	34.7	31.79	2,869.1	919.7	1,711.8	1,642.5	69.30	24.701	
13,900.0	11,180.0	12,289.9	9,725.0	26.5	35.2	31.79	2,969.1	919.3	1,711.7	1,641.2	70.53	24.270	
14,000.0	11,180.0	12,389.9	9,725.0	27.1	35.6	31.79	3,069.1	918.9	1,711.7	1,640.0	71.77	23.850	
14,100.0	11,180.0	12,489.9	9,725.0	27.7	36.1	31.79	3,169.1	918.5	1,711.7	1,638.7	73.02	23.440	
14,200.0	11,180.0	12,589.9	9,725.0	28.4	36.6	31.79	3,269.1	918.0	1,711.7	1,637.4	74.29	23.041	
14,300.0	11,180.0	12,689.9	9,725.0	29.0	37.1	31.79	3,369.1	917.6	1,711.7	1,636.2	75.56	22.653	
14,400.0	11,180.0	12,789.9	9,725.0	29.7	37.6	31.79	3,469.1	917.2	1,711.7	1,634.9	76.85	22.274	
14,500.0	11,180.0	12,889.9	9,725.0	30.3	38.1	31.78	3,569.1	916.8	1,711.7	1,633.6	78.14	21.905	
14,600.0	11,180.0	12,989.9	9,725.0	31.0	38.6	31.78	3,669.1	916.4	1,711.7	1,632.2	79.44	21.546	
14,700.0	11,180.0	13,089.9	9,725.0	31.6	39.1	31.78	3,769.1	916.0	1,711.7	1,630.9	80.75	21.196	
14,800.0	11,180.0	13,189.9	9,725.0	32.3	39.7	31.78	3,869.1	915.6	1,711.7	1,629.6	82.07	20.855	
14,900.0	11,180.0	13,289.9	9,725.0	33.0	40.2	31.78	3,969.1	915.2	1,711.7	1,628.3	83.40	20.524	
15,000.0	11,180.0	13,389.9	9,725.0	33.6	40.8	31.78	4,069.1	914.8	1,711.7	1,626.9	84.73	20.201	
15,100.0	11,180.0	13,489.9	9,725.0	34.3	41.3	31.78	4,169.1	914.4	1,711.6	1,625.6	86.07	19.886	
15,200.0	11,180.0	13,589.9	9,725.0	35.0	41.9	31.78	4,269.1	913.9	1,711.6	1,624.2	87.42	19.579	
15,300.0	11,180.0	13,689.9	9,725.0	35.7	42.4	31.78	4,369.1	913.5	1,711.6	1,622.9	88.77	19.281	

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 #706H
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 #706H	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)			
15,400.0	11,180.0	13,789.9	9,725.0	36.4	43.0	31.78	4,469.1	913.1	1,711.6	1,621.5	90.13	18.990	
15,500.0	11,180.0	13,889.9	9,725.0	37.1	43.6	31.78	4,569.1	912.7	1,711.6	1,620.1	91.50	18.706	
15,600.0	11,180.0	13,989.9	9,725.0	37.8	44.2	31.78	4,669.1	912.3	1,711.6	1,618.7	92.87	18.430	
15,700.0	11,180.0	14,089.9	9,725.0	38.5	44.8	31.78	4,769.1	911.9	1,711.6	1,617.4	94.25	18.161	
15,800.0	11,180.0	14,189.9	9,725.0	39.2	45.4	31.78	4,869.1	911.5	1,711.6	1,616.0	95.63	17.899	
15,900.0	11,180.0	14,289.9	9,725.0	39.9	46.0	31.78	4,969.1	911.1	1,711.6	1,614.6	97.01	17.643	
16,000.0	11,180.0	14,389.9	9,725.0	40.6	46.6	31.78	5,069.1	910.7	1,711.6	1,613.2	98.40	17.394	
16,100.0	11,180.0	14,489.9	9,725.0	41.3	47.2	31.78	5,169.1	910.3	1,711.6	1,611.8	99.80	17.150	
16,200.0	11,180.0	14,589.9	9,725.0	42.0	47.8	31.78	5,269.1	909.9	1,711.6	1,610.4	101.20	16.913	
16,300.0	11,180.0	14,689.9	9,725.0	42.7	48.5	31.78	5,369.1	909.4	1,711.5	1,608.9	102.60	16.682	
16,400.0	11,180.0	14,789.9	9,725.0	43.4	49.1	31.78	5,469.1	909.0	1,711.5	1,607.5	104.01	16.456	
16,500.0	11,180.0	14,889.9	9,725.0	44.1	49.7	31.78	5,569.1	908.6	1,711.5	1,606.1	105.42	16.236	
16,600.0	11,180.0	14,989.9	9,725.0	44.9	50.3	31.78	5,669.1	908.2	1,711.5	1,604.7	106.83	16.021	
16,700.0	11,180.0	15,089.9	9,725.0	45.6	51.0	31.77	5,769.1	907.8	1,711.5	1,603.3	108.25	15.811	
16,800.0	11,180.0	15,189.9	9,725.0	46.3	51.6	31.77	5,869.1	907.4	1,711.5	1,601.8	109.67	15.606	
16,900.0	11,180.0	15,289.9	9,725.0	47.0	52.3	31.77	5,969.1	907.0	1,711.5	1,600.4	111.09	15.406	
17,000.0	11,180.0	15,389.9	9,725.0	47.7	52.9	31.77	6,069.1	906.6	1,711.5	1,599.0	112.52	15.210	
17,100.0	11,180.0	15,489.9	9,725.0	48.5	53.6	31.77	6,169.1	906.2	1,711.5	1,597.5	113.95	15.019	
17,200.0	11,180.0	15,589.9	9,725.0	49.2	54.2	31.77	6,269.1	905.8	1,711.5	1,596.1	115.38	14.833	
17,300.0	11,180.0	15,689.9	9,725.0	49.9	54.9	31.77	6,369.1	905.3	1,711.5	1,594.6	116.82	14.650	
17,400.0	11,180.0	15,789.9	9,725.0	50.7	55.5	31.77	6,469.1	904.9	1,711.5	1,593.2	118.26	14.472	
17,500.0	11,180.0	15,889.9	9,725.0	51.4	56.2	31.77	6,569.1	904.5	1,711.4	1,591.7	119.70	14.298	
17,600.0	11,180.0	15,989.9	9,725.0	52.1	56.9	31.77	6,669.1	904.1	1,711.4	1,590.3	121.14	14.127	
17,700.0	11,180.0	16,089.9	9,725.0	52.8	57.5	31.77	6,769.1	903.7	1,711.4	1,588.8	122.59	13.961	
17,800.0	11,180.0	16,189.9	9,725.0	53.6	58.2	31.77	6,869.1	903.3	1,711.4	1,587.4	124.04	13.798	
17,900.0	11,180.0	16,289.9	9,725.0	54.3	58.9	31.77	6,969.1	902.9	1,711.4	1,585.9	125.49	13.638	
18,000.0	11,180.0	16,389.9	9,725.0	55.0	59.6	31.77	7,069.1	902.5	1,711.4	1,584.5	126.94	13.482	
18,100.0	11,180.0	16,489.9	9,725.0	55.8	60.2	31.77	7,169.1	902.1	1,711.4	1,583.0	128.39	13.329	
18,200.0	11,180.0	16,589.9	9,725.0	56.5	60.9	31.77	7,269.1	901.7	1,711.4	1,581.5	129.85	13.180	
18,300.0	11,180.0	16,689.9	9,725.0	57.3	61.6	31.77	7,369.1	901.3	1,711.4	1,580.1	131.31	13.033	
18,400.0	11,180.0	16,789.9	9,725.0	58.0	62.3	31.77	7,469.1	900.8	1,711.4	1,578.6	132.77	12.890	
18,500.0	11,180.0	16,889.9	9,725.0	58.7	63.0	31.77	7,569.1	900.4	1,711.4	1,577.1	134.23	12.750	
18,600.0	11,180.0	16,989.9	9,725.0	59.5	63.7	31.77	7,669.1	900.0	1,711.4	1,575.7	135.69	12.612	
18,700.0	11,180.0	17,089.9	9,725.0	60.2	64.3	31.77	7,769.1	899.6	1,711.3	1,574.2	137.16	12.477	
18,800.0	11,180.0	17,189.9	9,725.0	60.9	65.0	31.77	7,869.1	899.2	1,711.3	1,572.7	138.62	12.345	
18,900.0	11,180.0	17,289.9	9,725.0	61.7	65.7	31.76	7,969.1	898.8	1,711.3	1,571.2	140.09	12.216	
19,000.0	11,180.0	17,389.9	9,725.0	62.4	66.4	31.76	8,069.1	898.4	1,711.3	1,569.8	141.56	12.089	
19,100.0	11,180.0	17,489.9	9,725.0	63.2	67.1	31.76	8,169.1	898.0	1,711.3	1,568.3	143.03	11.964	
19,200.0	11,180.0	17,589.9	9,725.0	63.9	67.8	31.76	8,269.1	897.6	1,711.3	1,566.8	144.51	11.842	
19,300.0	11,180.0	17,689.9	9,725.0	64.7	68.5	31.76	8,369.1	897.2	1,711.3	1,565.3	145.98	11.723	
19,400.0	11,180.0	17,789.9	9,725.0	65.4	69.2	31.76	8,469.1	896.7	1,711.3	1,563.8	147.46	11.605	
19,500.0	11,180.0	17,889.9	9,725.0	66.1	69.9	31.76	8,569.1	896.3	1,711.3	1,562.3	148.93	11.490	
19,600.0	11,180.0	17,989.9	9,725.0	66.9	70.6	31.76	8,669.1	895.9	1,711.3	1,560.9	150.41	11.377	
19,700.0	11,180.0	18,089.9	9,725.0	67.6	71.3	31.76	8,769.1	895.5	1,711.3	1,559.4	151.89	11.266	
19,800.0	11,180.0	18,189.9	9,725.0	68.4	72.0	31.76	8,869.1	895.1	1,711.2	1,557.9	153.37	11.158	
19,900.0	11,180.0	18,289.9	9,725.0	69.1	72.7	31.76	8,969.1	894.7	1,711.2	1,556.4	154.85	11.051	
20,000.0	11,180.0	18,389.9	9,725.0	69.9	73.4	31.76	9,069.0	894.3	1,711.2	1,554.9	156.34	10.946	
20,100.0	11,180.0	18,489.9	9,725.0	70.6	74.2	31.76	9,169.0	893.9	1,711.2	1,553.4	157.82	10.843	
20,200.0	11,180.0	18,589.9	9,725.0	71.4	74.9	31.76	9,269.0	893.5	1,711.2	1,551.9	159.31	10.742	
20,300.0	11,180.0	18,689.9	9,725.0	72.1	75.6	31.76	9,369.0	893.1	1,711.2	1,550.4	160.79	10.642	
20,400.0	11,180.0	18,789.9	9,725.0	72.9	76.3	31.76	9,469.0	892.6	1,711.2	1,548.9	162.28	10.545	
20,500.0	11,180.0	18,889.9	9,725.0	73.6	77.0	31.76	9,569.0	892.2	1,711.2	1,547.4	163.77	10.449	

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 #706H
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 #706H	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)			
20,600.0	11,180.0	18,989.9	9,725.0	74.4	77.7	31.76	9,669.0	891.8	1,711.2	1,545.9	165.26	10.355	
20,700.0	11,180.0	19,089.9	9,725.0	75.1	78.4	31.76	9,769.0	891.4	1,711.2	1,544.4	166.75	10.262	
20,800.0	11,180.0	19,189.9	9,725.0	75.9	79.2	31.76	9,869.0	891.0	1,711.2	1,542.9	168.24	10.171	
20,900.0	11,180.0	19,289.9	9,725.0	76.6	79.9	31.76	9,969.0	890.6	1,711.2	1,541.4	169.73	10.082	
21,000.0	11,180.0	19,389.9	9,725.0	77.4	80.6	31.75	10,069.0	890.2	1,711.1	1,539.9	171.22	9.994	
21,100.0	11,180.0	19,489.9	9,725.0	78.1	81.3	31.75	10,169.0	889.8	1,711.1	1,538.4	172.71	9.907	
21,200.0	11,180.0	19,589.9	9,725.0	78.9	82.0	31.75	10,269.0	889.4	1,711.1	1,536.9	174.21	9.822	
21,300.0	11,180.0	19,689.9	9,725.0	79.6	82.7	31.75	10,369.0	889.0	1,711.1	1,535.4	175.70	9.739	
21,400.0	11,180.0	19,789.9	9,725.0	80.4	83.5	31.75	10,469.0	888.6	1,711.1	1,533.9	177.20	9.656	
21,500.0	11,180.0	19,889.9	9,725.0	81.1	84.2	31.75	10,569.0	888.1	1,711.1	1,532.4	178.69	9.576	
21,600.0	11,180.0	19,989.9	9,725.0	81.9	84.9	31.75	10,669.0	887.7	1,711.1	1,530.9	180.19	9.496	
21,700.0	11,180.0	20,089.9	9,725.0	82.6	85.6	31.75	10,769.0	887.3	1,711.1	1,529.4	181.69	9.418	
21,800.0	11,180.0	20,189.9	9,725.0	83.4	86.4	31.75	10,869.0	886.9	1,711.1	1,527.9	183.19	9.341	
21,900.0	11,180.0	20,289.9	9,725.0	84.1	87.1	31.75	10,969.0	886.5	1,711.1	1,526.4	184.69	9.265	
22,000.0	11,180.0	20,389.9	9,725.0	84.9	87.8	31.75	11,069.0	886.1	1,711.1	1,524.9	186.19	9.190	
22,100.0	11,180.0	20,489.9	9,725.0	85.6	88.5	31.75	11,169.0	885.7	1,711.1	1,523.4	187.69	9.116	
22,200.0	11,180.0	20,589.9	9,725.0	86.4	89.3	31.75	11,269.0	885.3	1,711.0	1,521.9	189.19	9.044	
22,300.0	11,180.0	20,689.9	9,725.0	87.1	90.0	31.75	11,369.0	884.9	1,711.0	1,520.3	190.69	8.973	
22,400.0	11,180.0	20,789.9	9,725.0	87.9	90.7	31.75	11,469.0	884.5	1,711.0	1,518.8	192.19	8.903	
22,500.0	11,180.0	20,889.9	9,725.0	88.6	91.5	31.75	11,569.0	884.0	1,711.0	1,517.3	193.70	8.834	
22,600.0	11,180.0	20,989.9	9,725.0	89.4	92.2	31.75	11,669.0	883.6	1,711.0	1,515.8	195.20	8.765	
22,700.0	11,180.0	21,089.9	9,725.0	90.2	92.9	31.75	11,769.0	883.2	1,711.0	1,514.3	196.70	8.698	
22,800.0	11,180.0	21,189.9	9,725.0	90.9	93.6	31.75	11,869.0	882.8	1,711.0	1,512.8	198.21	8.632	
22,900.0	11,180.0	21,289.9	9,725.0	91.7	94.4	31.75	11,969.0	882.4	1,711.0	1,511.3	199.71	8.567	
23,000.0	11,180.0	21,389.9	9,725.0	92.4	95.1	31.75	12,069.0	882.0	1,711.0	1,509.8	201.22	8.503	
23,100.0	11,180.0	21,489.9	9,725.0	93.2	95.8	31.75	12,169.0	881.6	1,711.0	1,508.2	202.73	8.440	
23,200.0	11,180.0	21,589.9	9,725.0	93.9	96.6	31.74	12,269.0	881.2	1,711.0	1,506.7	204.23	8.377	
23,300.0	11,180.0	21,689.9	9,725.0	94.7	97.3	31.74	12,369.0	880.8	1,711.0	1,505.2	205.74	8.316	
23,400.0	11,180.0	21,789.9	9,725.0	95.4	98.0	31.74	12,469.0	880.4	1,710.9	1,503.7	207.25	8.256	
23,500.0	11,180.0	21,889.9	9,725.0	96.2	98.8	31.74	12,569.0	880.0	1,710.9	1,502.2	208.76	8.196	
23,600.0	11,180.0	21,989.9	9,725.0	96.9	99.5	31.74	12,669.0	879.5	1,710.9	1,500.7	210.27	8.137	
23,700.0	11,180.0	22,089.9	9,725.0	97.7	100.2	31.74	12,769.0	879.1	1,710.9	1,499.1	211.77	8.079	
23,800.0	11,180.0	22,189.9	9,725.0	98.5	101.0	31.74	12,869.0	878.7	1,710.9	1,497.6	213.28	8.022	
23,900.0	11,180.0	22,289.9	9,725.0	99.2	101.7	31.74	12,969.0	878.3	1,710.9	1,496.1	214.79	7.965	
24,000.0	11,180.0	22,389.9	9,725.0	100.0	102.5	31.74	13,069.0	877.9	1,710.9	1,494.6	216.30	7.910	
24,100.0	11,180.0	22,489.9	9,725.0	100.7	103.2	31.74	13,169.0	877.5	1,710.9	1,493.1	217.82	7.855	
24,200.0	11,180.0	22,589.9	9,725.0	101.5	103.9	31.74	13,269.0	877.1	1,710.9	1,491.6	219.33	7.801	
24,300.0	11,180.0	22,689.9	9,725.0	102.2	104.7	31.74	13,369.0	876.7	1,710.9	1,490.0	220.84	7.747	
24,400.0	11,180.0	22,789.9	9,725.0	103.0	105.4	31.74	13,469.0	876.3	1,710.9	1,488.5	222.35	7.694	
24,463.2	11,180.0	22,853.1	9,725.0	103.4	105.9	31.74	13,532.3	876.0	1,710.9	1,487.7	223.11	7.668	
24,469.4	11,180.0	22,854.8	9,725.0	103.4	105.9	31.74	13,534.0	876.0	1,710.9	1,487.7	223.15	7.667 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 #706H
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 #706H	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		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	30.96	150.0	90.0	174.9	168.5	6.43	27.210	
100.0	100.0	100.0	100.0	3.2	3.2	30.96	150.0	90.0	174.9	168.0	6.89	25.380	
200.0	200.0	200.0	200.0	3.5	3.5	30.96	150.0	90.0	174.9	167.6	7.33	23.871	
300.0	300.0	300.0	300.0	3.7	3.7	30.96	150.0	90.0	174.9	167.2	7.74	22.597	
400.0	400.0	400.0	400.0	3.9	3.9	30.96	150.0	90.0	174.9	166.8	8.14	21.502	
500.0	500.0	500.0	500.0	4.1	4.1	30.96	150.0	90.0	174.9	166.4	8.51	20.547	
600.0	600.0	600.0	600.0	4.2	4.2	30.96	150.0	90.0	174.9	166.1	8.88	19.704	
700.0	700.0	700.0	700.0	4.4	4.4	30.96	150.0	90.0	174.9	165.7	9.23	18.953	
800.0	800.0	800.0	800.0	4.6	4.6	30.96	150.0	90.0	174.9	165.4	9.57	18.278	
900.0	900.0	900.0	900.0	4.8	4.8	30.96	150.0	90.0	174.9	165.0	9.90	17.666	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	30.96	150.0	90.0	174.9	164.7	10.22	17.108	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	30.96	150.0	90.0	174.9	164.4	10.54	16.597	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	30.96	150.0	90.0	174.9	164.1	10.85	16.126	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	30.96	150.0	90.0	174.9	163.8	11.15	15.690	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	30.96	150.0	90.0	174.9	163.5	11.44	15.285	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	30.96	150.0	90.0	174.9	163.2	11.73	14.907	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	30.96	150.0	90.0	174.9	162.9	12.02	14.554	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	30.96	150.0	90.0	174.9	162.6	12.30	14.222	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	30.96	150.0	90.0	174.9	162.4	12.58	13.910	CC, ES
1,900.0	1,900.0	1,897.5	1,897.5	6.3	6.3	31.30	150.0	91.2	175.6	162.8	12.84	13.674	
2,000.0	2,000.0	1,995.0	1,994.9	6.4	6.4	32.31	150.2	95.0	177.8	164.7	13.10	13.566	SF
2,100.0	2,100.0	2,092.1	2,091.9	6.5	6.6	33.93	150.4	101.2	181.4	168.1	13.37	13.574	
2,200.0	2,200.0	2,188.9	2,188.3	6.7	6.8	36.07	150.7	109.8	186.8	173.2	13.63	13.701	
2,300.0	2,300.0	2,285.2	2,283.9	6.8	7.0	38.64	151.1	120.8	194.1	180.2	13.91	13.949	
2,400.0	2,400.0	2,380.9	2,378.7	6.9	7.2	41.50	151.5	134.1	203.4	189.2	14.21	14.321	
2,500.0	2,500.0	2,475.8	2,472.3	7.0	7.5	44.53	152.1	149.6	215.1	200.6	14.52	14.819	
2,600.0	2,600.0	2,569.9	2,564.7	7.2	7.7	47.61	152.7	167.3	229.2	214.4	14.84	15.442	
2,700.0	2,700.0	2,663.1	2,655.8	7.3	8.0	50.65	153.4	187.0	245.9	230.7	15.19	16.185	
2,800.0	2,800.0	2,755.3	2,745.3	7.4	8.3	53.56	154.1	208.8	265.2	249.6	15.56	17.041	
2,900.0	2,900.0	2,849.3	2,836.2	7.5	8.6	56.35	155.0	232.8	286.9	270.9	15.97	17.962	
3,000.0	3,000.0	2,945.9	2,929.5	7.7	8.9	58.84	155.9	257.8	309.4	293.0	16.42	18.837	
3,100.0	3,100.0	3,042.5	3,022.8	7.8	9.3	61.00	156.7	282.8	332.4	315.5	16.90	19.671	
3,200.0	3,200.0	3,139.0	3,116.1	7.9	9.6	62.88	157.6	307.8	355.8	338.4	17.39	20.461	
3,300.0	3,300.0	3,235.6	3,209.4	8.0	10.0	64.53	158.5	332.8	379.5	361.6	17.90	21.206	
3,400.0	3,400.0	3,332.2	3,302.7	8.1	10.3	65.99	159.3	357.7	403.5	385.1	18.42	21.907	
3,500.0	3,500.0	3,428.8	3,396.0	8.3	10.7	67.28	160.2	382.7	427.7	408.8	18.96	22.565	
3,600.0	3,600.0	3,525.4	3,489.3	8.4	11.1	68.44	161.1	407.7	452.1	432.6	19.50	23.182	
3,700.0	3,700.0	3,622.0	3,582.6	8.5	11.5	69.48	162.0	432.7	476.7	456.6	20.06	23.761	
3,800.0	3,800.0	3,718.6	3,675.9	8.6	11.9	70.41	162.8	457.7	501.4	480.8	20.63	24.303	
3,900.0	3,900.0	3,815.2	3,769.2	8.7	12.3	71.26	163.7	482.7	526.2	505.0	21.21	24.812	
4,000.0	4,000.0	3,911.8	3,862.5	8.8	12.7	72.04	164.6	507.7	551.1	529.3	21.79	25.289	
4,100.0	4,100.0	4,008.4	3,955.8	8.9	13.1	72.74	165.5	532.6	576.1	553.7	22.38	25.736	
4,200.0	4,200.0	4,105.0	4,049.1	9.1	13.5	73.39	166.3	557.6	601.1	578.2	22.98	26.156	
4,300.0	4,300.0	4,201.6	4,142.4	9.2	13.9	73.99	167.2	582.6	626.3	602.7	23.59	26.550	
4,400.0	4,400.0	4,298.2	4,235.7	9.3	14.3	74.54	168.1	607.6	651.5	627.3	24.20	26.921	
4,500.0	4,500.0	4,394.7	4,329.0	9.4	14.8	75.05	168.9	632.6	676.7	651.9	24.82	27.270	
4,600.0	4,600.0	4,491.3	4,422.3	9.5	15.2	75.52	169.8	657.6	702.0	676.6	25.44	27.598	
4,700.0	4,700.0	4,587.9	4,515.6	9.6	15.6	75.96	170.7	682.5	727.3	701.3	26.06	27.908	
4,800.0	4,800.0	4,684.5	4,608.9	9.7	16.1	76.37	171.6	707.5	752.7	726.0	26.69	28.200	
4,900.0	4,900.0	4,781.1	4,702.2	9.8	16.5	76.75	172.4	732.5	778.1	750.8	27.32	28.476	
5,000.0	5,000.0	4,877.7	4,795.5	9.9	16.9	77.11	173.3	757.5	803.5	775.6	27.96	28.736	
5,100.0	5,100.0	4,974.3	4,888.8	10.0	17.4	77.45	174.2	782.5	829.0	800.4	28.60	28.983	

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 #706H
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 #706H	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		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	5,200.0	5,070.9	4,982.1	10.1	17.8	77.77	175.1	807.5	854.5	825.2	29.25	29.217	
5,300.0	5,300.0	5,167.5	5,075.4	10.2	18.3	78.07	175.9	832.5	880.0	850.1	29.89	29.439	
5,400.0	5,400.0	5,264.1	5,168.7	10.4	18.7	78.35	176.8	857.4	905.5	875.0	30.54	29.649	
5,500.0	5,500.0	5,360.7	5,262.0	10.5	19.2	78.62	177.7	882.4	931.1	899.9	31.19	29.849	
5,600.0	5,600.0	5,457.3	5,355.3	10.6	19.6	78.87	178.5	907.4	956.6	924.8	31.85	30.039	
5,700.0	5,700.0	5,553.9	5,448.6	10.7	20.1	79.11	179.4	932.4	982.2	949.7	32.50	30.219	
5,800.0	5,800.0	5,650.5	5,541.9	10.8	20.5	79.34	180.3	957.4	1,007.8	974.6	33.16	30.391	
5,900.0	5,900.0	5,747.0	5,635.2	10.9	21.0	79.55	181.2	982.4	1,033.4	999.6	33.82	30.555	
6,000.0	6,000.0	5,843.6	5,728.5	11.0	21.5	79.76	182.0	1,007.3	1,059.0	1,024.6	34.48	30.712	
6,100.0	6,100.0	5,940.2	5,821.8	11.1	21.9	79.95	182.9	1,032.3	1,084.7	1,049.5	35.15	30.861	
6,200.0	6,200.0	6,036.8	5,915.1	11.2	22.4	80.14	183.8	1,057.3	1,110.3	1,074.5	35.81	31.003	
6,300.0	6,300.0	6,133.4	6,008.4	11.3	22.8	80.32	184.7	1,082.3	1,136.0	1,099.5	36.48	31.140	
6,400.0	6,400.0	6,230.0	6,101.7	11.4	23.3	80.49	185.5	1,107.3	1,161.7	1,124.5	37.15	31.270	
6,500.0	6,500.0	6,326.6	6,195.1	11.5	23.8	80.65	186.4	1,132.3	1,187.3	1,149.5	37.82	31.395	
6,600.0	6,600.0	6,423.2	6,288.4	11.6	24.2	80.81	187.3	1,157.3	1,213.0	1,174.5	38.49	31.515	
6,700.0	6,700.0	6,519.8	6,381.7	11.7	24.7	80.96	188.1	1,182.2	1,238.7	1,199.6	39.16	31.629	
6,800.0	6,800.0	6,616.4	6,475.0	11.8	25.2	81.10	189.0	1,207.2	1,264.4	1,224.6	39.84	31.739	
6,900.0	6,900.0	6,713.0	6,568.3	11.9	25.6	81.24	189.9	1,232.2	1,290.1	1,249.6	40.51	31.845	
7,000.0	7,000.0	6,809.6	6,661.6	12.0	26.1	81.37	190.8	1,257.2	1,315.9	1,274.7	41.19	31.946	
7,100.0	7,100.0	6,906.2	6,754.9	12.1	26.6	81.50	191.6	1,282.2	1,341.6	1,299.7	41.87	32.044	
7,200.0	7,200.0	7,002.7	6,848.2	12.2	27.0	81.62	192.5	1,307.2	1,367.3	1,324.8	42.55	32.138	
7,300.0	7,300.0	7,099.3	6,941.5	12.3	27.5	81.74	193.4	1,332.1	1,393.0	1,349.8	43.22	32.228	
7,400.0	7,400.0	7,195.9	7,034.8	12.4	28.0	81.85	194.2	1,357.1	1,418.8	1,374.9	43.91	32.314	
7,500.0	7,500.0	7,292.5	7,128.1	12.5	28.4	81.96	195.1	1,382.1	1,444.5	1,399.9	44.59	32.398	
7,600.0	7,600.0	7,389.1	7,221.4	12.6	28.9	82.07	196.0	1,407.1	1,470.3	1,425.0	45.27	32.479	
7,700.0	7,700.0	7,485.7	7,314.7	12.7	29.4	82.17	196.9	1,432.1	1,496.0	1,450.1	45.95	32.556	
7,800.0	7,800.0	7,582.3	7,408.0	12.8	29.8	82.27	197.7	1,457.1	1,521.8	1,475.2	46.64	32.631	
7,900.0	7,900.0	7,678.9	7,501.3	12.9	30.3	82.37	198.6	1,482.1	1,547.6	1,500.2	47.32	32.704	
8,000.0	8,000.0	7,775.5	7,594.6	13.0	30.8	82.46	199.5	1,507.0	1,573.3	1,525.3	48.01	32.773	
8,100.0	8,100.0	7,872.1	7,687.9	13.1	31.3	82.55	200.4	1,532.0	1,599.1	1,550.4	48.69	32.841	
8,200.0	8,200.0	7,968.7	7,781.2	13.2	31.7	82.64	201.2	1,557.0	1,624.9	1,575.5	49.38	32.906	
8,300.0	8,300.0	8,065.3	7,874.5	13.3	32.2	82.72	202.1	1,582.0	1,650.6	1,600.6	50.07	32.969	
8,400.0	8,400.0	8,161.9	7,967.8	13.4	32.7	82.80	203.0	1,607.0	1,676.4	1,625.7	50.75	33.030	
8,500.0	8,500.0	8,258.5	8,061.1	13.5	33.1	82.88	203.8	1,632.0	1,702.2	1,650.8	51.44	33.089	
8,600.0	8,600.0	8,355.0	8,154.4	13.6	33.6	82.96	204.7	1,657.0	1,728.0	1,675.9	52.13	33.151	
8,700.0	8,700.0	8,452.4	8,222.7	13.6	34.4	83.08	206.2	1,698.2	1,751.8	1,698.5	53.27	32.886	
8,800.0	8,800.0	8,709.9	8,500.8	13.7	35.3	83.18	207.4	1,733.2	1,771.0	1,716.7	54.34	32.594	
8,900.0	8,900.0	8,894.5	8,683.4	13.8	36.1	83.25	208.3	1,760.1	1,785.5	1,730.3	55.25	32.316	
9,000.0	9,000.0	9,081.3	8,869.3	13.9	36.9	83.30	209.0	1,778.3	1,795.3	1,739.3	55.99	32.066	
9,100.0	9,100.0	9,269.4	9,057.2	14.0	37.5	83.32	209.3	1,787.4	1,800.1	1,743.6	56.47	31.875	
9,200.0	9,200.0	9,377.9	9,165.7	14.1	37.7	83.32	209.6	1,788.6	1,801.1	1,744.4	56.73	31.750	
9,300.0	9,300.0	9,400.0	9,187.7	14.2	37.7	83.29	210.5	1,789.2	1,805.0	1,747.8	57.15	31.581	
9,400.0	9,400.0	9,450.0	9,237.4	14.3	37.8	83.14	215.6	1,792.1	1,812.3	1,754.8	57.55	31.490	
9,500.0	9,500.0	9,477.1	9,264.0	14.4	37.9	83.01	220.1	1,794.7	1,823.4	1,765.5	57.92	31.480	
9,600.0	9,600.0	9,500.0	9,286.2	14.5	38.0	82.88	224.7	1,797.3	1,838.3	1,780.0	58.23	31.570	
9,700.0	9,700.0	9,550.0	9,334.0	14.6	38.1	82.50	237.5	1,804.7	1,856.7	1,798.2	58.56	31.705	
9,800.0	9,800.0	9,569.1	9,351.8	14.7	38.2	82.33	243.4	1,808.1	1,878.7	1,819.9	58.77	31.966	
9,900.0	9,900.0	9,600.0	9,380.1	14.8	38.3	82.03	254.1	1,814.3	1,904.3	1,845.4	58.98	32.289	
10,000.0	10,000.0	9,624.5	9,402.1	14.9	38.3	81.76	263.5	1,819.8	1,933.5	1,874.4	59.12	32.704	
10,100.0	10,100.0	9,650.0	9,424.4	15.0	38.4	81.46	274.2	1,825.9	1,966.1	1,906.9	59.23	33.195	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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

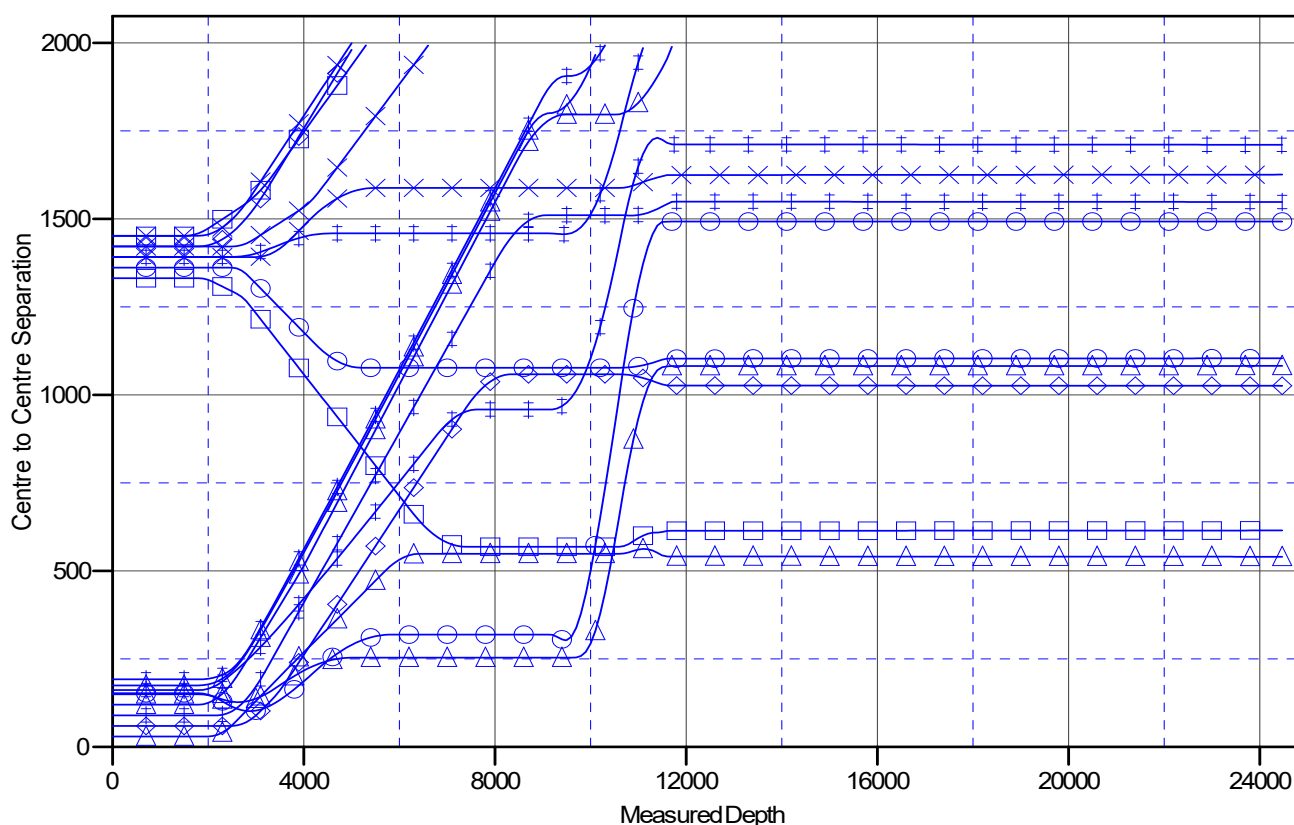
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: *THUNDERDOME FED COM #706H

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

Grid Convergence at Surface is: 0.26°

Ladder Plot



LEGEND

*THUNDERDOME FED COM #621H OWB, PWP0V0	*THUNDERDOME FED COM #706H OWB, PWP0V0	*THUNDERDOME FED COM 501H OWB, PWP0V0
*THUNDERDOME FED COM #623H OWB, PWP0V0	*THUNDERDOME FED COM #706H OWB, PWP0V0	*THUNDERDOME FED COM 503H OWB, PWP0V0
*THUNDERDOME FED COM #623H OWB, PWP0V0	*THUNDERDOME FED COM #707H OWB, PWP0V0	*THUNDERDOME FED COM 503H OWB, PWP0V0
*THUNDERDOME FED COM #701H OWB, PWP0V0	*THUNDERDOME FED COM #708H OWB, PWP0V0	*THUNDERDOME FED COM 504H OWB, PWP0V0
*THUNDERDOME FED COM #702H OWB, PWP0V0	*THUNDERDOME FED COM #708H OWB, PWP0V0	*THUNDERDOME FED COM 504H OWB, PWP0V0
*THUNDERDOME FED COM #703H OWB, PWP0V0	*THUNDERDOME FED COM #710H OWB, PWP0V0	

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 #706H
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 #706H	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

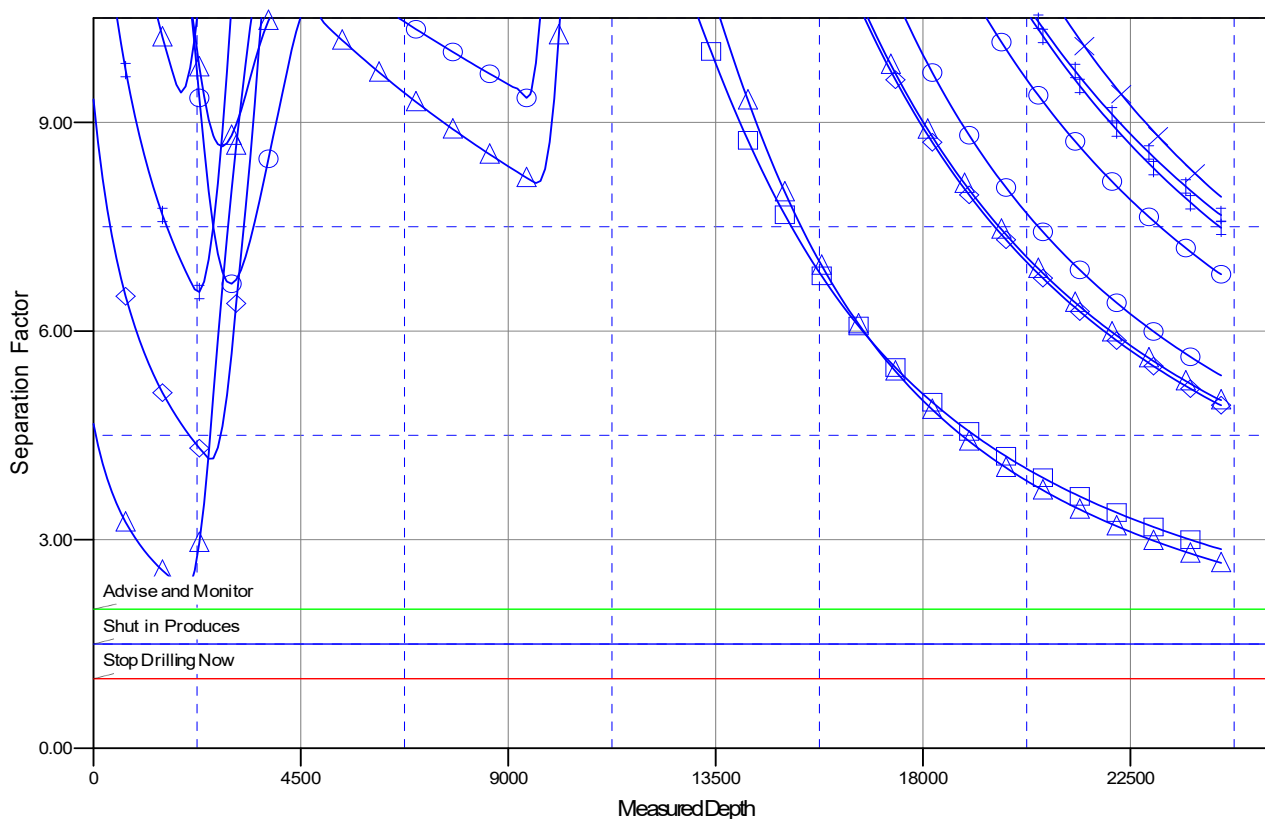
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: *THUNDERDOME FED COM #706H

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

Grid Convergence at Surface is: 0.26°

Separation Factor Plot



LEGEND

*THUNDERDOME FED COM #521H OWB, PWP0V0	*THUNDERDOME FED COM #704H OWB, PWP0V0	*THUNDERDOME FED COM 501H OWB, PWP0V0
*THUNDERDOME FED COM #522H OWB, PWP0V0	*THUNDERDOME FED COM #705H OWB, PWP0V0	*THUNDERDOME FED COM 502H OWB, PWP0V0
*THUNDERDOME FED COM #523H OWB, PWP0V0	*THUNDERDOME FED COM #706H OWB, PWP0V0	*THUNDERDOME FED COM 503H OWB, PWP0V0
*THUNDERDOME FED COM #701H OWB, PWP0V0	*THUNDERDOME FED COM #707H OWB, PWP0V0	*THUNDERDOME FED COM 504H OWB, PWP0V0
*THUNDERDOME FED COM #702H OWB, PWP0V0	*THUNDERDOME FED COM #708H OWB, PWP0V0	*THUNDERDOME FED COM 505H OWB, PWP0V0
*THUNDERDOME FED COM #703H OWB, PWP0V0	*THUNDERDOME FED COM #709H OWB, PWP0V0	

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

DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)

THUNDERDOME PROJECT

***THUNDERDOME FED COM #706H**

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 #706H
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 #706H	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	Latitude:	32° 17' 25.094 N
From:	Map	Easting:	649,012.95 usft	Longitude:	103° 51' 4.015 W
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	

Well	*THUNDERDOME FED COM #706H					
Well Position	+N/-S	0.0 usft	Northing:	469,314.63 usft	Latitude:	32° 17' 21.619 N
	+E/-W	0.0 usft	Easting:	649,267.41 usft	Longitude:	103° 51' 1.068 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft	Ground Level:	3,243.0 usft
Grid Convergence:		0.26 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	12/2/2022	6.70	59.95	47,541.28389815

Design	PWP0				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	359.90	

Plan Survey Tool Program	Date	7/10/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	24,469.2 PWP0 (OWB)	r.5 MWD+IFR1+MS		
			OWSG MWD + IFR1 + Multi-St		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,607.0	0.00	0.00	10,607.0	0.0	0.0	0.00	0.00	0.00	0.00	
11,507.0	90.00	2.40	11,180.0	572.5	24.0	10.00	10.00	0.00	2.40	
11,638.3	90.00	359.77	11,180.0	703.7	26.5	2.00	0.00	-2.00	-90.00	
24,469.4	90.00	359.77	11,180.0	13,534.7	-24.0	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 #706H
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 #706H	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	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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)	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,607.0	0.00	0.00	10,607.0	0.0	0.0	0.0	0.00	0.00	0.00	
10,650.0	4.30	2.40	10,650.0	1.6	0.1	1.6	10.00	10.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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)
10,700.0	9.30	2.40	10,699.6	7.5	0.3	7.5	10.00	10.00	0.00
10,750.0	14.30	2.40	10,748.5	17.7	0.7	17.7	10.00	10.00	0.00
10,800.0	19.30	2.40	10,796.4	32.2	1.3	32.2	10.00	10.00	0.00
10,850.0	24.30	2.40	10,842.8	50.7	2.1	50.7	10.00	10.00	0.00
10,900.0	29.30	2.40	10,887.4	73.2	3.1	73.2	10.00	10.00	0.00
10,950.0	34.30	2.40	10,929.9	99.6	4.2	99.5	10.00	10.00	0.00
11,000.0	39.30	2.40	10,969.9	129.5	5.4	129.5	10.00	10.00	0.00
11,050.0	44.30	2.40	11,007.2	162.8	6.8	162.7	10.00	10.00	0.00
11,100.0	49.30	2.40	11,041.4	199.2	8.3	199.1	10.00	10.00	0.00
11,150.0	54.30	2.40	11,072.3	238.4	10.0	238.4	10.00	10.00	0.00
11,200.0	59.30	2.40	11,099.7	280.2	11.7	280.2	10.00	10.00	0.00
11,250.0	64.30	2.40	11,123.3	324.2	13.6	324.2	10.00	10.00	0.00
11,300.0	69.30	2.40	11,143.0	370.1	15.5	370.1	10.00	10.00	0.00
11,350.0	74.30	2.40	11,158.6	417.5	17.5	417.5	10.00	10.00	0.00
11,400.0	79.30	2.40	11,170.0	466.2	19.5	466.1	10.00	10.00	0.00
11,450.0	84.30	2.40	11,177.1	515.6	21.6	515.6	10.00	10.00	0.00
11,500.0	89.30	2.40	11,179.9	565.5	23.7	565.4	10.00	10.00	0.00
11,507.0	90.00	2.40	11,180.0	572.5	24.0	572.4	10.00	10.00	0.00
11,600.0	90.00	0.54	11,180.0	665.4	26.4	665.4	2.00	0.00	-2.00
11,638.3	90.00	359.77	11,180.0	703.7	26.5	703.6	2.00	0.00	-2.00
11,700.0	90.00	359.77	11,180.0	765.4	26.2	765.4	0.00	0.00	0.00
11,800.0	90.00	359.77	11,180.0	865.4	25.8	865.4	0.00	0.00	0.00
11,900.0	90.00	359.77	11,180.0	965.4	25.5	965.4	0.00	0.00	0.00
12,000.0	90.00	359.77	11,180.0	1,065.4	25.1	1,065.4	0.00	0.00	0.00
12,100.0	90.00	359.77	11,180.0	1,165.4	24.7	1,165.4	0.00	0.00	0.00
12,200.0	90.00	359.77	11,180.0	1,265.4	24.3	1,265.4	0.00	0.00	0.00
12,300.0	90.00	359.77	11,180.0	1,365.4	23.9	1,365.4	0.00	0.00	0.00
12,400.0	90.00	359.77	11,180.0	1,465.4	23.5	1,465.4	0.00	0.00	0.00
12,500.0	90.00	359.77	11,180.0	1,565.4	23.1	1,565.4	0.00	0.00	0.00
12,600.0	90.00	359.77	11,180.0	1,665.4	22.7	1,665.4	0.00	0.00	0.00
12,700.0	90.00	359.77	11,180.0	1,765.4	22.3	1,765.4	0.00	0.00	0.00
12,800.0	90.00	359.77	11,180.0	1,865.4	21.9	1,865.4	0.00	0.00	0.00
12,900.0	90.00	359.77	11,180.0	1,965.4	21.5	1,965.4	0.00	0.00	0.00
13,000.0	90.00	359.77	11,180.0	2,065.4	21.1	2,065.4	0.00	0.00	0.00
13,100.0	90.00	359.77	11,180.0	2,165.4	20.7	2,165.4	0.00	0.00	0.00
13,200.0	90.00	359.77	11,180.0	2,265.4	20.3	2,265.4	0.00	0.00	0.00
13,300.0	90.00	359.77	11,180.0	2,365.4	19.9	2,365.4	0.00	0.00	0.00
13,400.0	90.00	359.77	11,180.0	2,465.4	19.6	2,465.4	0.00	0.00	0.00
13,500.0	90.00	359.77	11,180.0	2,565.4	19.2	2,565.4	0.00	0.00	0.00
13,600.0	90.00	359.77	11,180.0	2,665.4	18.8	2,665.4	0.00	0.00	0.00
13,700.0	90.00	359.77	11,180.0	2,765.4	18.4	2,765.4	0.00	0.00	0.00
13,800.0	90.00	359.77	11,180.0	2,865.4	18.0	2,865.4	0.00	0.00	0.00
13,900.0	90.00	359.77	11,180.0	2,965.4	17.6	2,965.4	0.00	0.00	0.00
14,000.0	90.00	359.77	11,180.0	3,065.4	17.2	3,065.4	0.00	0.00	0.00
14,100.0	90.00	359.77	11,180.0	3,165.4	16.8	3,165.4	0.00	0.00	0.00
14,200.0	90.00	359.77	11,180.0	3,265.4	16.4	3,265.4	0.00	0.00	0.00
14,300.0	90.00	359.77	11,180.0	3,365.4	16.0	3,365.4	0.00	0.00	0.00
14,400.0	90.00	359.77	11,180.0	3,465.4	15.6	3,465.4	0.00	0.00	0.00
14,500.0	90.00	359.77	11,180.0	3,565.4	15.2	3,565.4	0.00	0.00	0.00
14,600.0	90.00	359.77	11,180.0	3,665.4	14.8	3,665.4	0.00	0.00	0.00
14,700.0	90.00	359.77	11,180.0	3,765.4	14.4	3,765.4	0.00	0.00	0.00
14,800.0	90.00	359.77	11,180.0	3,865.4	14.0	3,865.4	0.00	0.00	0.00
14,900.0	90.00	359.77	11,180.0	3,965.4	13.6	3,965.4	0.00	0.00	0.00
15,000.0	90.00	359.77	11,180.0	4,065.4	13.3	4,065.4	0.00	0.00	0.00

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Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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)	
15,100.0	90.00	359.77	11,180.0	4,165.4	12.9	4,165.4	0.00	0.00	0.00	
15,200.0	90.00	359.77	11,180.0	4,265.4	12.5	4,265.4	0.00	0.00	0.00	
15,300.0	90.00	359.77	11,180.0	4,365.4	12.1	4,365.4	0.00	0.00	0.00	
15,400.0	90.00	359.77	11,180.0	4,465.4	11.7	4,465.4	0.00	0.00	0.00	
15,500.0	90.00	359.77	11,180.0	4,565.4	11.3	4,565.4	0.00	0.00	0.00	
15,600.0	90.00	359.77	11,180.0	4,665.4	10.9	4,665.4	0.00	0.00	0.00	
15,700.0	90.00	359.77	11,180.0	4,765.4	10.5	4,765.4	0.00	0.00	0.00	
15,800.0	90.00	359.77	11,180.0	4,865.4	10.1	4,865.4	0.00	0.00	0.00	
15,900.0	90.00	359.77	11,180.0	4,965.4	9.7	4,965.4	0.00	0.00	0.00	
16,000.0	90.00	359.77	11,180.0	5,065.4	9.3	5,065.4	0.00	0.00	0.00	
16,100.0	90.00	359.77	11,180.0	5,165.4	8.9	5,165.4	0.00	0.00	0.00	
16,200.0	90.00	359.77	11,180.0	5,265.4	8.5	5,265.4	0.00	0.00	0.00	
16,300.0	90.00	359.77	11,180.0	5,365.4	8.1	5,365.4	0.00	0.00	0.00	
16,400.0	90.00	359.77	11,180.0	5,465.4	7.7	5,465.4	0.00	0.00	0.00	
16,500.0	90.00	359.77	11,180.0	5,565.4	7.4	5,565.4	0.00	0.00	0.00	
16,600.0	90.00	359.77	11,180.0	5,665.4	7.0	5,665.4	0.00	0.00	0.00	
16,700.0	90.00	359.77	11,180.0	5,765.4	6.6	5,765.4	0.00	0.00	0.00	
16,800.0	90.00	359.77	11,180.0	5,865.4	6.2	5,865.4	0.00	0.00	0.00	
16,900.0	90.00	359.77	11,180.0	5,965.4	5.8	5,965.4	0.00	0.00	0.00	
17,000.0	90.00	359.77	11,180.0	6,065.4	5.4	6,065.4	0.00	0.00	0.00	
17,100.0	90.00	359.77	11,180.0	6,165.4	5.0	6,165.4	0.00	0.00	0.00	
17,200.0	90.00	359.77	11,180.0	6,265.4	4.6	6,265.4	0.00	0.00	0.00	
17,300.0	90.00	359.77	11,180.0	6,365.4	4.2	6,365.4	0.00	0.00	0.00	
17,400.0	90.00	359.77	11,180.0	6,465.4	3.8	6,465.4	0.00	0.00	0.00	
17,500.0	90.00	359.77	11,180.0	6,565.4	3.4	6,565.4	0.00	0.00	0.00	
17,600.0	90.00	359.77	11,180.0	6,665.4	3.0	6,665.4	0.00	0.00	0.00	
17,700.0	90.00	359.77	11,180.0	6,765.4	2.6	6,765.4	0.00	0.00	0.00	
17,800.0	90.00	359.77	11,180.0	6,865.4	2.2	6,865.4	0.00	0.00	0.00	
17,900.0	90.00	359.77	11,180.0	6,965.4	1.8	6,965.4	0.00	0.00	0.00	
18,000.0	90.00	359.77	11,180.0	7,065.4	1.4	7,065.4	0.00	0.00	0.00	
18,100.0	90.00	359.77	11,180.0	7,165.4	1.1	7,165.4	0.00	0.00	0.00	
18,200.0	90.00	359.77	11,180.0	7,265.4	0.7	7,265.4	0.00	0.00	0.00	
18,300.0	90.00	359.77	11,180.0	7,365.4	0.3	7,365.4	0.00	0.00	0.00	
18,400.0	90.00	359.77	11,180.0	7,465.4	-0.1	7,465.4	0.00	0.00	0.00	
18,500.0	90.00	359.77	11,180.0	7,565.4	-0.5	7,565.4	0.00	0.00	0.00	
18,600.0	90.00	359.77	11,180.0	7,665.4	-0.9	7,665.4	0.00	0.00	0.00	
18,700.0	90.00	359.77	11,180.0	7,765.4	-1.3	7,765.4	0.00	0.00	0.00	
18,800.0	90.00	359.77	11,180.0	7,865.4	-1.7	7,865.4	0.00	0.00	0.00	
18,900.0	90.00	359.77	11,180.0	7,965.4	-2.1	7,965.4	0.00	0.00	0.00	
19,000.0	90.00	359.77	11,180.0	8,065.4	-2.5	8,065.4	0.00	0.00	0.00	
19,100.0	90.00	359.77	11,180.0	8,165.4	-2.9	8,165.4	0.00	0.00	0.00	
19,200.0	90.00	359.77	11,180.0	8,265.4	-3.3	8,265.4	0.00	0.00	0.00	
19,300.0	90.00	359.77	11,180.0	8,365.4	-3.7	8,365.4	0.00	0.00	0.00	
19,400.0	90.00	359.77	11,180.0	8,465.4	-4.1	8,465.4	0.00	0.00	0.00	
19,500.0	90.00	359.77	11,180.0	8,565.4	-4.5	8,565.4	0.00	0.00	0.00	
19,600.0	90.00	359.77	11,180.0	8,665.4	-4.8	8,665.4	0.00	0.00	0.00	
19,700.0	90.00	359.77	11,180.0	8,765.4	-5.2	8,765.4	0.00	0.00	0.00	
19,800.0	90.00	359.77	11,180.0	8,865.4	-5.6	8,865.4	0.00	0.00	0.00	
19,900.0	90.00	359.77	11,180.0	8,965.4	-6.0	8,965.4	0.00	0.00	0.00	
20,000.0	90.00	359.77	11,180.0	9,065.4	-6.4	9,065.4	0.00	0.00	0.00	
20,100.0	90.00	359.77	11,180.0	9,165.4	-6.8	9,165.4	0.00	0.00	0.00	
20,200.0	90.00	359.77	11,180.0	9,265.4	-7.2	9,265.4	0.00	0.00	0.00	
20,300.0	90.00	359.77	11,180.0	9,365.4	-7.6	9,365.4	0.00	0.00	0.00	
20,400.0	90.00	359.77	11,180.0	9,465.4	-8.0	9,465.4	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	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)	
20,500.0	90.00	359.77	11,180.0	9,565.4	-8.4	9,565.4	0.00	0.00	0.00	
20,600.0	90.00	359.77	11,180.0	9,665.4	-8.8	9,665.4	0.00	0.00	0.00	
20,700.0	90.00	359.77	11,180.0	9,765.3	-9.2	9,765.4	0.00	0.00	0.00	
20,800.0	90.00	359.77	11,180.0	9,865.3	-9.6	9,865.4	0.00	0.00	0.00	
20,900.0	90.00	359.77	11,180.0	9,965.3	-10.0	9,965.4	0.00	0.00	0.00	
21,000.0	90.00	359.77	11,180.0	10,065.3	-10.4	10,065.3	0.00	0.00	0.00	
21,100.0	90.00	359.77	11,180.0	10,165.3	-10.8	10,165.3	0.00	0.00	0.00	
21,200.0	90.00	359.77	11,180.0	10,265.3	-11.1	10,265.3	0.00	0.00	0.00	
21,300.0	90.00	359.77	11,180.0	10,365.3	-11.5	10,365.3	0.00	0.00	0.00	
21,400.0	90.00	359.77	11,180.0	10,465.3	-11.9	10,465.3	0.00	0.00	0.00	
21,500.0	90.00	359.77	11,180.0	10,565.3	-12.3	10,565.3	0.00	0.00	0.00	
21,600.0	90.00	359.77	11,180.0	10,665.3	-12.7	10,665.3	0.00	0.00	0.00	
21,700.0	90.00	359.77	11,180.0	10,765.3	-13.1	10,765.3	0.00	0.00	0.00	
21,800.0	90.00	359.77	11,180.0	10,865.3	-13.5	10,865.3	0.00	0.00	0.00	
21,900.0	90.00	359.77	11,180.0	10,965.3	-13.9	10,965.3	0.00	0.00	0.00	
22,000.0	90.00	359.77	11,180.0	11,065.3	-14.3	11,065.3	0.00	0.00	0.00	
22,100.0	90.00	359.77	11,180.0	11,165.3	-14.7	11,165.3	0.00	0.00	0.00	
22,200.0	90.00	359.77	11,180.0	11,265.3	-15.1	11,265.3	0.00	0.00	0.00	
22,300.0	90.00	359.77	11,180.0	11,365.3	-15.5	11,365.3	0.00	0.00	0.00	
22,400.0	90.00	359.77	11,180.0	11,465.3	-15.9	11,465.3	0.00	0.00	0.00	
22,500.0	90.00	359.77	11,180.0	11,565.3	-16.3	11,565.3	0.00	0.00	0.00	
22,600.0	90.00	359.77	11,180.0	11,665.3	-16.7	11,665.3	0.00	0.00	0.00	
22,700.0	90.00	359.77	11,180.0	11,765.3	-17.0	11,765.3	0.00	0.00	0.00	
22,800.0	90.00	359.77	11,180.0	11,865.3	-17.4	11,865.3	0.00	0.00	0.00	
22,900.0	90.00	359.77	11,180.0	11,965.3	-17.8	11,965.3	0.00	0.00	0.00	
23,000.0	90.00	359.77	11,180.0	12,065.3	-18.2	12,065.3	0.00	0.00	0.00	
23,100.0	90.00	359.77	11,180.0	12,165.3	-18.6	12,165.3	0.00	0.00	0.00	
23,200.0	90.00	359.77	11,180.0	12,265.3	-19.0	12,265.3	0.00	0.00	0.00	
23,300.0	90.00	359.77	11,180.0	12,365.3	-19.4	12,365.3	0.00	0.00	0.00	
23,400.0	90.00	359.77	11,180.0	12,465.3	-19.8	12,465.3	0.00	0.00	0.00	
23,500.0	90.00	359.77	11,180.0	12,565.3	-20.2	12,565.3	0.00	0.00	0.00	
23,600.0	90.00	359.77	11,180.0	12,665.3	-20.6	12,665.3	0.00	0.00	0.00	
23,700.0	90.00	359.77	11,180.0	12,765.3	-21.0	12,765.3	0.00	0.00	0.00	
23,800.0	90.00	359.77	11,180.0	12,865.3	-21.4	12,865.3	0.00	0.00	0.00	
23,900.0	90.00	359.77	11,180.0	12,965.3	-21.8	12,965.3	0.00	0.00	0.00	
24,000.0	90.00	359.77	11,180.0	13,065.3	-22.2	13,065.3	0.00	0.00	0.00	
24,100.0	90.00	359.77	11,180.0	13,165.3	-22.6	13,165.3	0.00	0.00	0.00	
24,200.0	90.00	359.77	11,180.0	13,265.3	-22.9	13,265.3	0.00	0.00	0.00	
24,300.0	90.00	359.77	11,180.0	13,365.3	-23.3	13,365.3	0.00	0.00	0.00	
24,400.0	90.00	359.77	11,180.0	13,465.3	-23.7	13,465.3	0.00	0.00	0.00	
24,469.4	90.00	359.77	11,180.0	13,534.7	-24.0	13,534.7	0.00	0.00	0.00	

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #706H
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 #706H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

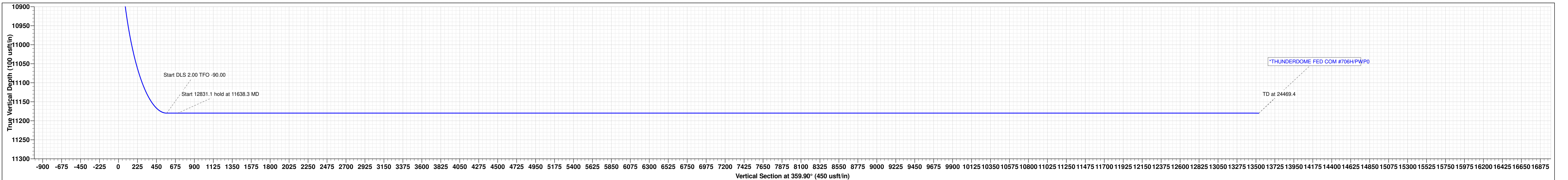
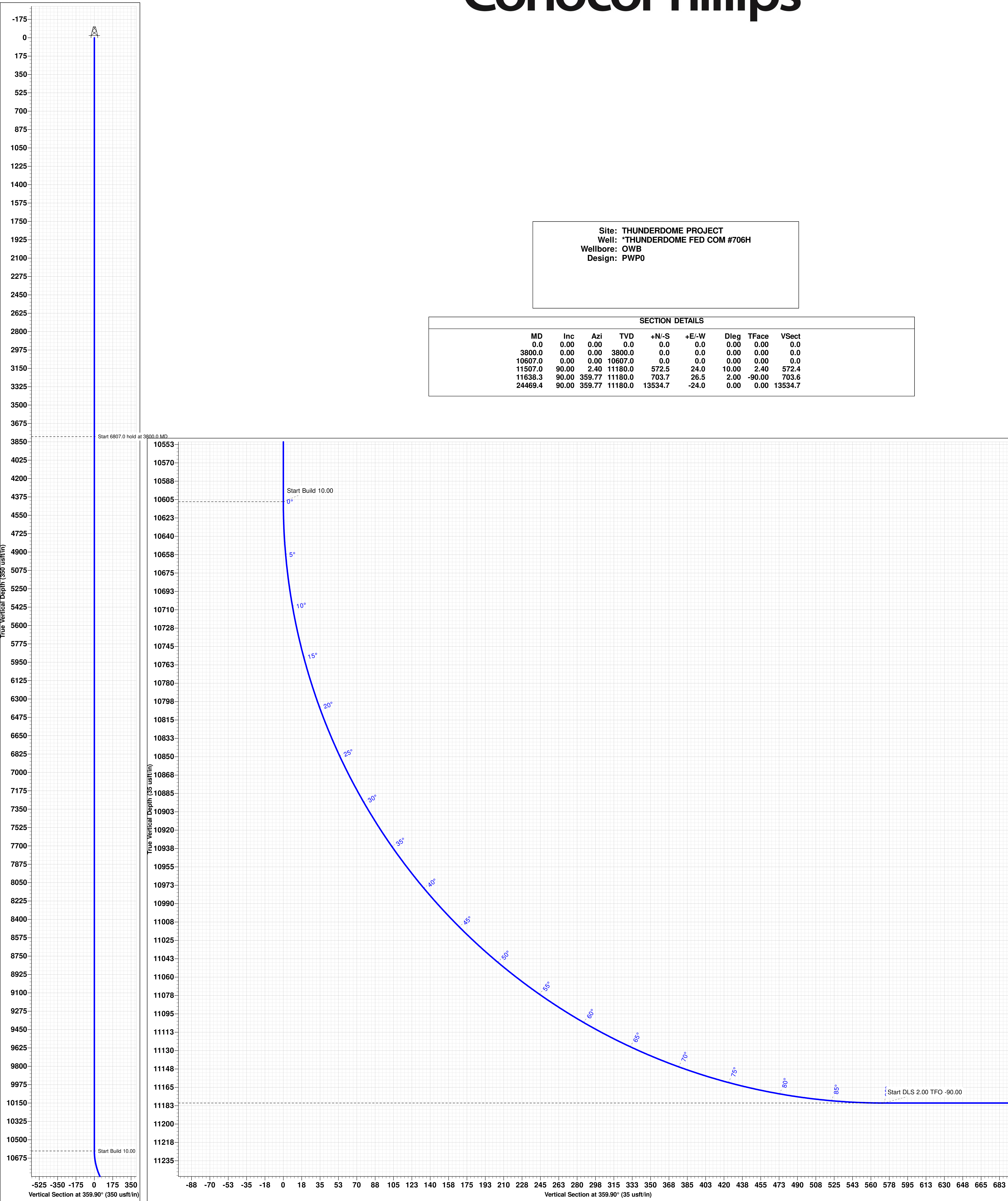
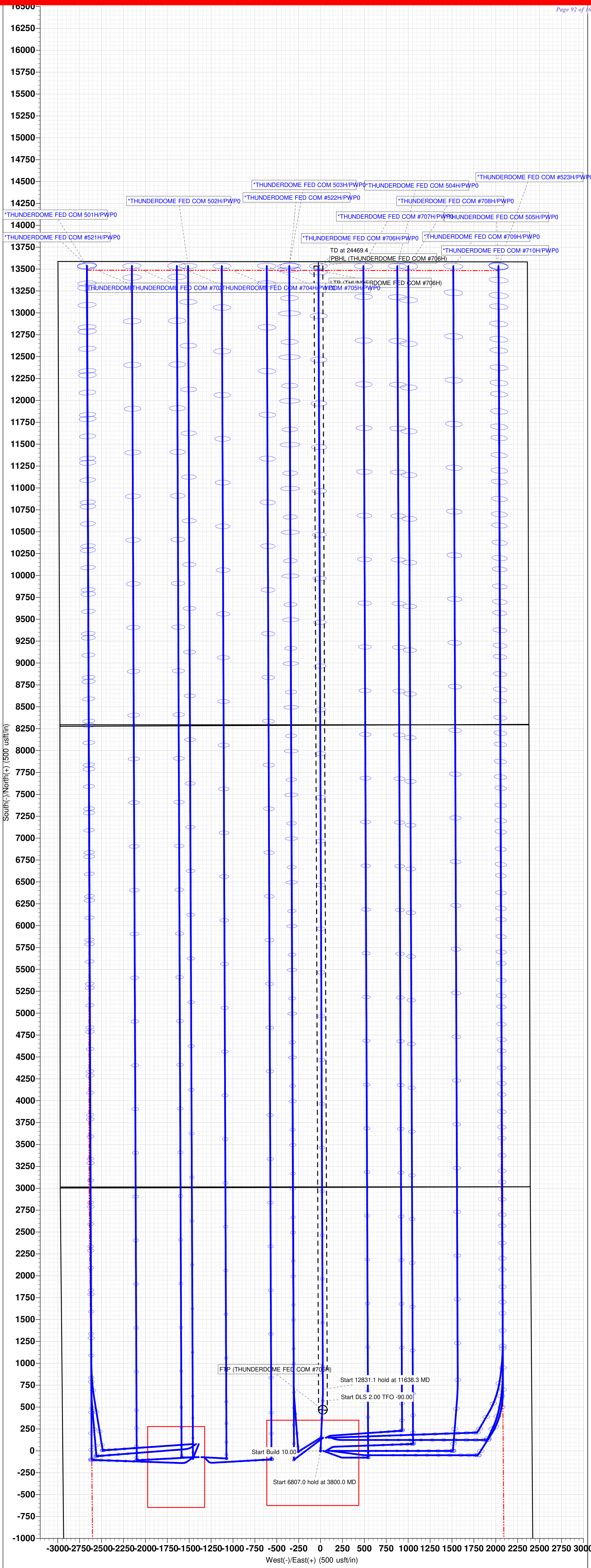
Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
PBHL (THUNDERDOME - plan hits target center - Rectangle (sides W100.0 H13,069.8 D20.0)	0.00	179.78	11,180.0	13,534.7	-24.0	482,849.33	649,243.40	32° 19' 35.558 N	103° 51' 0.638 W
LTP (THUNDERDOME I - plan misses target center by 19.4usft at 24400.0usft MD (11180.0 TVD, 13465.3 N, -23.7 E) - Circle (radius 50.0)	90.00	359.77	11,180.0	13,484.7	-23.7	482,799.33	649,243.66	32° 19' 35.063 N	103° 51' 0.637 W
FTP (THUNDERDOME I - plan misses target center by 10.9usft at 11405.8usft MD (11171.0 TVD, 471.9 N, 19.8 E) - Circle (radius 50.0)	0.00	0.01	11,180.0	470.3	25.8	469,784.97	649,293.26	32° 17' 26.272 N	103° 51' 0.743 W



Site: THUNDERDOME PROJECT
Well: *THUNDERDOME FED COM #706H
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
3800.0	0.00	0.00	3800.0	0.0	0.0	0.00	0.00	0.0
10607.0	0.00	0.00	10607.0	0.0	0.0	0.00	0.00	0.0
11507.0	90.00	2.40	11180.0	572.5	24.0	10.00	2.40	572.4
11638.3	90.00	359.77	11180.0	703.7	26.5	2.00	-90.00	703.6
24469.4	90.00	359.77	11180.0	13534.7	-24.0	0.00	0.00	13534.7



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 706H
SURFACE HOLE FOOTAGE:	2275'/S & 2414'/E
BOTTOM HOLE FOOTAGE:	50'/N & 2385'/E
LOCATION:	Section 23, T.23 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 **10,500** 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 **24,469** 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

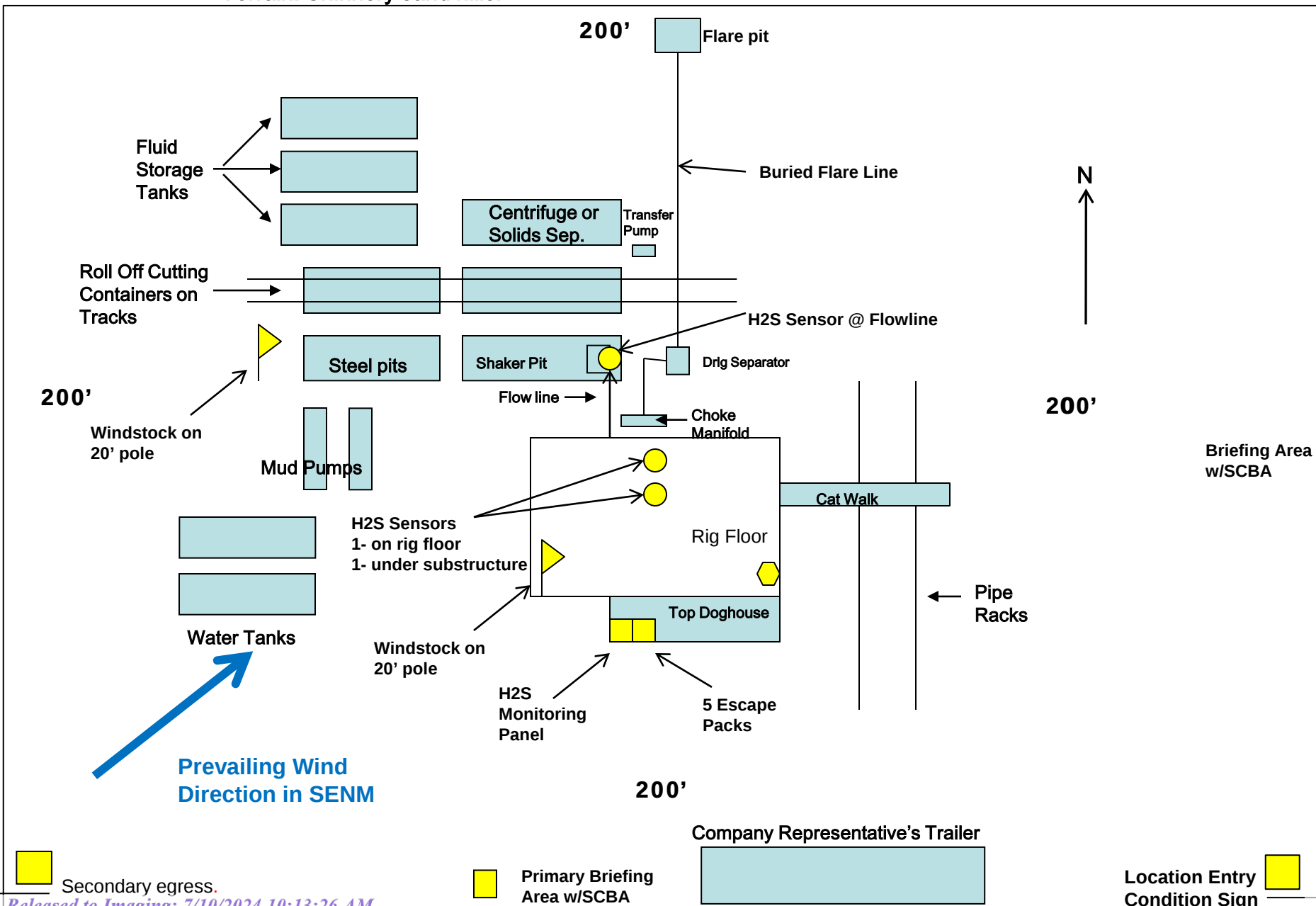
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location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

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

Keith Immatty 6/17/2024

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 355361

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID:
	217817
	Action Number: 355361
	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	7/10/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/10/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	7/10/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	7/10/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	7/10/2024
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	7/10/2024
ward.rikala	Must comply with all R-111-Q requirements.	7/10/2024