

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. 30-015-55222
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 06/07/2024

Additional Operator Remarks

Location of Well

0. SHL: NESW / 2210 FSL / 1582 FWL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2892811 / LONG: -103.8551869 (TVD: 0 feet, MD: 0 feet)
PPP: SENW / 2540 FSL / 1869 FWL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2907594 / LONG: -103.8542676 (TVD: 11179 feet, MD: 11506 feet)
PPP: SESW / 1 FSL / 1869 FWL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.31228 / LONG: -103.8542459 (TVD: 11180 feet, MD: 19340 feet)
PPP: SESW / 1 FSL / 1869 FWL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977408 / LONG: -103.8543081 (TVD: 11180 feet, MD: 13720 feet)
BHL: NENW / 50 FNL / 1869 FWL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3266825 / LONG: -103.8542378 (TVD: 11180 feet, MD: 24574 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- 55222	² Pool Code 98358 96597	³ Pool Name Los Medanos WC23S30E; Wolfcamp (Gas)
⁴ Property Code 336009	⁵ Property Name THUNDERDOME FED COM	⁶ Well Number 704H
⁷ OGRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 3,250.78'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	23	23-S	30-E		2,210'	SOUTH	1,582'	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	11	23-S	30-E		50'	NORTH	1,869'	WEST	EDDY

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

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.

16 SECTION 11 SECTION 14 SECTION 23	SURFACE HOLE LOCATION / KICK OFF POINT 2,210' FSL & 1,582' FWL NEW MEXICO EAST-NAD 83 NORTH:469,302.54' EAST:689,090.66' LAT:32.28928118 LONG:-103.85518694 FIRST TAKE POINT / PENETRATION POINT 1 2,540' FNL & 1,869' FWL NEW MEXICO EAST-NAD 83 NORTH:469,841.58' EAST:689,372.34' LAT:32.29075944 LONG:-103.85426764 PENETRATION POINT 2 1' FSL & 1,869' FWL NEW MEXICO EAST-NAD 83 NORTH:472,381.31' EAST:689,348.49' LAT:32.29774088 LONG:-103.85430810 PENETRATION POINT 3 1' FSL & 1,869' FWL NEW MEXICO EAST-NAD 83 NORTH:477,670.60' EAST:689,344.07' LAT:32.31228002 LONG:-103.85424593 LAST TAKE POINT 100' FNL & 1,869' FWL NEW MEXICO EAST-NAD 83 NORTH:482,860.13' EAST:689,323.77' LAT:32.32654509 LONG:-103.85423654 BOTTOM HOLE LOCATION 50' FNL & 1,869' FWL NEW MEXICO EAST-NAD 83 NORTH:482,910.14' EAST:689,323.15' LAT:32.32668254 LONG:-103.85423780	CORNER COORDINATES NEW MEXICO EAST- NAD 83 A-CALCULATED CORNER N:482,961.73' E:687,453.38' B-FOUND IRON ROD W/ CAP N:482,959.45' E:690,132.18' C-FOUND IRON ROD W/ CAP N:482,957.17' E:692,810.98' D-FOUND 1" MONUMENT N:480,315.20' E:692,820.19' E-FOUND 1" MONUMENT N:477,674.32' E:692,829.39' F-FOUND BENT IRON ROD W/ CAP N:477,671.15' E:690,152.19' G-FOUND BENT IRON ROD W/ CAP N:477,669.34' E:687,475.07' H-CALCULATED CORNER N:480,315.52' E:687,485.82' I-FOUND 1" MONUMENT N:475,033.03' E:692,835.76' J-FOUND IRON ROD W/ CAP N:472,390.77' E:692,844.23' K-FOUND BENT IRON ROD W/ CAP N:472,383.40' E:690,160.90' L-FOUND IRON ROD W/ CAP N:472,376.50' E:687,479.50' M-CALCULATED CORNER N:475,022.92' E:687,477.28' N-FOUND IRON ROD W/ CAP N:469,750.12' E:692,862.25' O-CALCULATED CORNER N:467,108.30' E:692,881.70' P-FOUND IRON ROD W/ CAP N:467,097.40' E:690,206.20' Q-FOUND IRON ROD W/ CAP N:467,084.70' E:687,530.34' R-FOUND BENT IRON ROD W/ CAP N:469,732.12' E:687,504.28'	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 Stan Wagner Printed Name Date Email Address Date	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

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

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

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

I. Operator: ConocoPhillips Company

OGRID: 217817

Date: 10/10/2023

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

If Other, please describe: _____

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

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

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

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

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

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

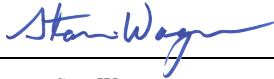
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

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

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

VIII. Best Management Practices

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

COG Operating, LLC - Thunderdome Fed Com #704H

1. Geologic Formations

TVD of target	11,180' EOL	Pilot hole depth	NA
MD at TD:	24,572'	Deepest expected fresh water:	103'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	375	Water	
Top of Salt	483	Salt	
Base of Salt	3570	Salt	
Lamar	3793	Salt Water	
Bell Canyon	3809	Salt Water	
Brushy Canyon	5163	Oil/Gas	
Bone Spring Lime	7694	Oil/Gas	
1st Bone Spring Sand	8697	Oil/Gas	
2nd Bone Spring Sand	9356	Oil/Gas	
3rd Bone Spring Sand	10637	Oil/Gas	
Wolfcamp A	11197	Target	
Wolfcamp B	11515	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	400	13.375"	54.5	J55	BTC	6.17	19.09	39.13	41.70
12.25"	0	3795	10.75"	45.5	J55	BTC	1.25	1.84	6.35	6.02
9.875"	0	7400	7.625"	29.7	L80-ICY	BTC	1.74	1.19	3.30	3.34
8.750"	7400	10500	7.625"	29.7	P110 ICY	W513	1.32	1.54	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	24,572	5.5"	23	P110 CY	W441	2.00	2.36	2.84	2.75
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 #704H

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

COG Operating, LLC - Thunderdome Fed Com #704H

3. Cementing Program

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

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

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

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

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

Casing String	TOC	% Excess
Surface	0'	50%
1st Intermediate	0'	50%
2nd Intermediate	7,100'	0%
Production	9,500'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #704H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
---	---

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 #704H

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
---	-----------------------------

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 #704H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7270 psi at 11180' 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

704H

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 785' X 850'

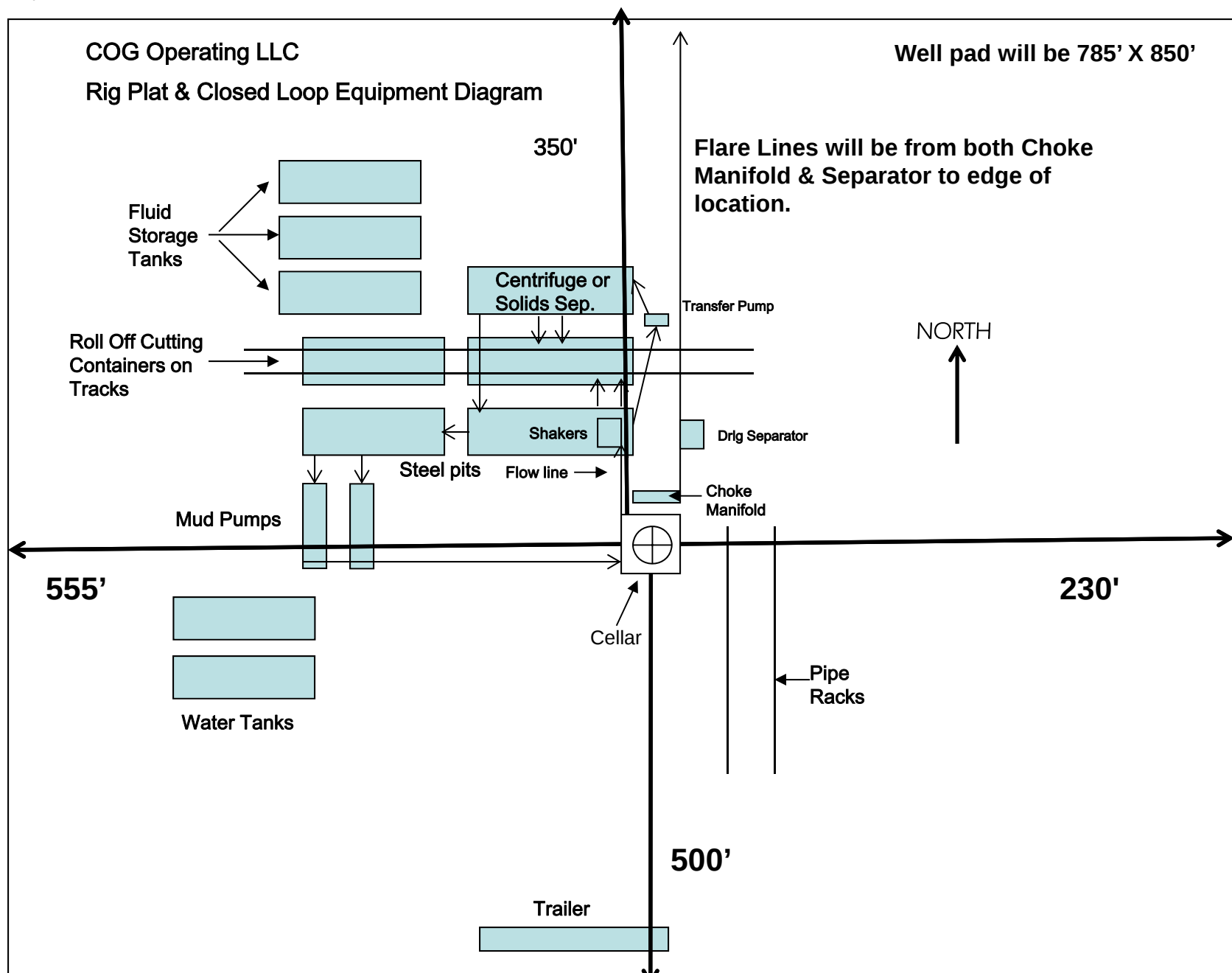


Exhibit 1

"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 #704H**

OWB

PWP0

Anticollision Report

10 July, 2023

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	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	24,574.0	PWP0 (OWB)	r.5 MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction rev.5	

Summary						
Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured	Measured	Between	Between		
	Depth (usft)	Depth (usft)	Centres (usft)	Ellipses (usft)		
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #701H - OWB - PWP0	1,500.0	1,500.0	90.0	78.3	7.670	CC, ES
*THUNDERDOME FED COM #701H - OWB - PWP0	24,574.2	24,841.3	1,548.4	1,338.3	7.371	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	2,500.0	2,500.0	59.9	45.5	4.158	CC, ES, SF
*THUNDERDOME FED COM #703H - OWB - PWP0	2,500.0	2,500.0	30.0	15.6	2.080	CC, ES, SF
*THUNDERDOME FED COM #705H - OWB - PWP0	1,800.0	1,800.0	30.0	17.4	2.386	CC, ES, SF
*THUNDERDOME FED COM #706H - OWB - PWP0	5,290.5	5,272.6	1,077.1	1,052.3	43.354	CC
*THUNDERDOME FED COM #706H - OWB - PWP0	24,574.2	24,469.4	1,104.1	898.0	5.357	ES, SF
*THUNDERDOME FED COM #707H - OWB - PWP0	2,000.0	2,000.0	1,391.9	1,378.8	106.127	CC, ES
*THUNDERDOME FED COM #707H - OWB - PWP0	24,574.2	24,750.1	1,626.0	1,420.5	7.910	SF
*THUNDERDOME FED COM #708H - OWB - PWP0	3,495.1	3,300.0	1,401.2	1,383.7	80.171	CC, ES
*THUNDERDOME FED COM #708H - OWB - PWP0	7,300.0	6,950.0	1,994.5	1,955.5	51.074	SF
*THUNDERDOME FED COM #709H - OWB - PWP0	2,200.0	2,200.0	1,451.8	1,438.2	106.431	CC, ES
*THUNDERDOME FED COM #709H - OWB - PWP0	6,200.0	5,791.6	1,981.0	1,946.3	57.040	SF
*THUNDERDOME FED COM #710H - OWB - PWP0	1,800.0	1,800.0	1,481.8	1,469.2	117.830	CC, ES
*THUNDERDOME FED COM #710H - OWB - PWP0	5,700.0	5,253.8	1,984.1	1,950.7	59.452	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	2,329.7	2,331.4	157.3	143.4	11.356	CC, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	2,400.0	2,400.8	157.6	143.6	11.247	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	3,013.3	3,024.6	142.2	126.7	9.155	CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	24,574.2	23,109.0	1,504.8	1,290.6	7.025	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	9,309.9	9,319.1	770.8	736.3	22.331	CC, ES
*THUNDERDOME FED COM 503H - OWB - PWP0	24,574.2	23,140.7	1,646.7	1,425.3	7.438	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,800.0	1,800.0	1,437.2	1,424.7	114.288	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	7,100.0	6,864.4	1,989.9	1,948.5	48.141	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,800.0	1,800.0	1,466.9	1,454.3	116.646	CC, ES
*THUNDERDOME FED COM 505H - OWB - PWP0	5,600.0	5,161.5	1,989.8	1,956.7	60.135	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 #704H
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 #704H	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
Offset Well - Wellbore - Design						
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #701H - OWB - PWP0	24,574.2	24,841.3	1,548.4	1,338.3	7.371	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	24,574.2	24,626.4	1,026.0	816.7	4.903	
*THUNDERDOME FED COM #703H - OWB - PWP0	24,574.2	24,723.0	540.4	331.5	2.587	
*THUNDERDOME FED COM #705H - OWB - PWP0	24,574.2	24,799.9	540.4	339.2	2.685	
*THUNDERDOME FED COM #706H - OWB - PWP0	24,574.2	24,469.4	1,104.1	898.0	5.357	ES, SF
*THUNDERDOME FED COM #707H - OWB - PWP0	24,574.2	24,750.1	1,626.0	1,420.5	7.910	SF
*THUNDERDOME FED COM #708H - OWB - PWP0	24,574.2	24,486.5				Out of Range @TD
*THUNDERDOME FED COM #709H - OWB - PWP0	24,574.2	24,802.4				Out of Range @TD
*THUNDERDOME FED COM #710H - OWB - PWP0	24,574.2	24,734.5				Out of Range @TD
*THUNDERDOME FED COM 501H - OWB - PWP0	24,574.2	23,193.1				Out of Range @TD
*THUNDERDOME FED COM 502H - OWB - PWP0	24,574.2	23,109.0	1,504.8	1,290.6	7.025	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	24,574.2	23,140.7	1,646.7	1,425.3	7.438	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	24,574.2	22,854.8				Out of Range @TD
*THUNDERDOME FED COM 505H - OWB - PWP0	24,574.2	23,061.6				Out of Range @TD

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program:		0-r.5 MWD+IFR1+MS				Rule Assigned:				Offset Well Error:		3.0 usft		
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		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	-90.08	-0.1	-90.0	90.0	83.6	6.43	13.999		
100.0	100.0	100.0	100.0	3.2	3.2	-90.08	-0.1	-90.0	90.0	83.1	6.89	13.058		
200.0	200.0	200.0	200.0	3.5	3.5	-90.08	-0.1	-90.0	90.0	82.7	7.33	12.281		
300.0	300.0	300.0	300.0	3.7	3.7	-90.08	-0.1	-90.0	90.0	82.3	7.74	11.626		
400.0	400.0	400.0	400.0	3.9	3.9	-90.08	-0.1	-90.0	90.0	81.9	8.14	11.063		
500.0	500.0	500.0	500.0	4.1	4.1	-90.08	-0.1	-90.0	90.0	81.5	8.51	10.571		
600.0	600.0	600.0	600.0	4.2	4.2	-90.08	-0.1	-90.0	90.0	81.1	8.88	10.138		
700.0	700.0	700.0	700.0	4.4	4.4	-90.08	-0.1	-90.0	90.0	80.8	9.23	9.751		
800.0	800.0	800.0	800.0	4.6	4.6	-90.08	-0.1	-90.0	90.0	80.4	9.57	9.404		
900.0	900.0	900.0	900.0	4.8	4.8	-90.08	-0.1	-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	-90.08	-0.1	-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	-90.08	-0.1	-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	-90.08	-0.1	-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	-90.08	-0.1	-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	-90.08	-0.1	-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	-90.08	-0.1	-90.0	90.0	78.3	11.73	7.670	CC, ES	
1,600.0	1,600.0	1,598.1	1,598.1	5.8	5.9	-90.53	-0.8	-91.0	91.1	79.0	12.02	7.572		

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
1,700.0	1,700.0	1,696.0	1,696.0	6.0	6.0	-91.83	-3.0	-94.1	94.3	82.0	12.30	7.661	
1,800.0	1,800.0	1,793.7	1,793.4	6.1	6.2	-93.80	-6.6	-99.2	99.7	87.1	12.59	7.919	
1,900.0	1,900.0	1,891.0	1,890.4	6.3	6.4	-96.22	-11.6	-106.4	107.4	94.6	12.89	8.339	
2,000.0	2,000.0	1,990.3	1,989.1	6.4	6.6	-98.68	-17.5	-114.9	116.7	103.5	13.20	8.844	
2,100.0	2,100.0	2,089.7	2,088.0	6.5	6.8	-100.78	-23.5	-123.4	126.2	112.7	13.53	9.328	
2,200.0	2,200.0	2,189.2	2,186.9	6.7	7.0	-102.59	-29.5	-131.9	135.8	121.9	13.87	9.787	
2,300.0	2,300.0	2,288.6	2,285.8	6.8	7.2	-104.16	-35.4	-140.4	145.5	131.3	14.24	10.221	
2,400.0	2,400.0	2,388.1	2,384.7	6.9	7.5	-105.53	-41.4	-148.9	155.3	140.7	14.61	10.630	
2,500.0	2,500.0	2,487.5	2,483.6	7.0	7.8	-106.74	-47.3	-157.4	165.2	150.2	15.00	11.013	
2,600.0	2,600.0	2,586.9	2,582.4	7.2	8.0	-109.28	-53.3	-166.0	176.4	161.0	15.42	11.437	
2,700.0	2,699.9	2,683.4	2,678.3	7.3	8.3	-108.89	-58.7	-174.9	190.6	174.8	15.82	12.045	
2,800.0	2,799.7	2,778.5	2,772.7	7.5	8.6	-109.28	-62.7	-185.7	208.7	192.5	16.24	12.853	
2,900.0	2,899.3	2,872.4	2,865.7	7.7	8.9	-110.25	-65.4	-198.3	230.9	214.2	16.68	13.846	
3,000.0	2,998.6	2,964.7	2,956.9	7.9	9.2	-111.57	-66.9	-212.6	257.2	240.1	17.13	15.011	
3,100.0	3,097.6	3,055.3	3,046.1	8.0	9.5	-113.15	-67.3	-228.5	287.1	269.5	17.53	16.373	
3,200.0	3,196.6	3,148.4	3,137.5	8.2	9.8	-114.75	-66.7	-246.1	318.5	300.5	18.02	17.671	
3,300.0	3,295.7	3,243.0	3,230.4	8.4	10.1	-116.10	-66.1	-264.2	350.2	331.6	18.57	18.855	
3,400.0	3,394.7	3,337.5	3,323.2	8.7	10.4	-117.22	-65.4	-282.2	382.0	362.9	19.14	19.964	
3,500.0	3,493.7	3,432.1	3,416.0	8.9	10.8	-118.17	-64.8	-300.2	414.0	394.2	19.72	20.991	
3,600.0	3,592.8	3,526.6	3,508.8	9.2	11.1	-118.98	-64.2	-318.3	446.0	425.7	20.33	21.941	
3,700.0	3,691.8	3,621.2	3,601.6	9.5	11.5	-119.69	-63.5	-336.3	478.1	457.1	20.95	22.819	
3,800.0	3,790.8	3,715.7	3,694.4	9.8	11.8	-120.30	-62.9	-354.3	510.3	488.7	21.59	23.631	
3,900.0	3,889.8	3,810.3	3,787.3	10.1	12.2	-120.85	-62.3	-372.4	542.5	520.2	22.25	24.382	
4,000.0	3,988.9	3,904.8	3,880.1	10.4	12.5	-121.33	-61.6	-390.4	574.7	551.8	22.92	25.076	
4,100.0	4,087.9	3,999.4	3,972.9	10.7	12.9	-121.76	-61.0	-408.4	607.0	583.4	23.60	25.719	
4,200.0	4,186.9	4,094.0	4,065.7	11.0	13.3	-122.15	-60.4	-426.5	639.3	615.0	24.30	26.314	
4,300.0	4,285.9	4,188.5	4,158.5	11.4	13.7	-122.50	-59.8	-444.5	671.6	646.6	25.00	26.866	
4,400.0	4,385.0	4,283.1	4,251.3	11.7	14.1	-122.82	-59.1	-462.5	704.0	678.3	25.71	27.378	
4,500.0	4,484.1	4,377.8	4,344.3	12.0	14.4	-123.14	-58.5	-480.6	735.9	709.5	26.41	27.860	
4,600.0	4,583.4	4,473.0	4,437.8	12.4	14.8	-123.42	-57.9	-498.7	766.2	739.1	27.14	28.234	
4,700.0	4,682.9	4,568.8	4,531.8	12.7	15.2	-123.67	-57.2	-517.0	794.9	767.1	27.87	28.527	
4,800.0	4,782.5	4,665.0	4,626.3	13.0	15.6	-123.88	-56.6	-535.3	822.0	793.4	28.59	28.749	
4,900.0	4,882.3	4,761.7	4,721.2	13.3	16.0	-124.07	-55.9	-553.8	847.3	818.0	29.31	28.906	
5,000.0	4,982.2	4,858.8	4,816.5	13.6	16.4	-124.24	-55.3	-572.3	871.0	841.0	30.03	29.009	
5,100.0	5,082.1	4,956.4	4,912.3	13.9	16.9	-124.38	-54.6	-590.9	893.0	862.3	30.72	29.066	
5,200.0	5,182.1	5,054.3	5,008.4	14.1	17.3	-124.50	-54.0	-609.6	913.3	881.9	31.39	29.098	
5,300.0	5,282.1	5,152.4	5,104.7	14.2	17.7	-124.40	-53.3	-628.3	932.4	900.5	31.92	29.214	
5,400.0	5,382.1	5,250.6	5,201.1	14.3	18.1	-124.31	-52.7	-647.0	951.4	919.0	32.46	29.315	
5,500.0	5,482.1	5,348.7	5,297.4	14.3	18.5	-124.23	-52.0	-665.7	970.5	937.5	33.00	29.409	
5,600.0	5,582.1	5,446.9	5,393.8	14.4	19.0	-124.15	-51.4	-684.5	989.5	955.9	33.55	29.496	
5,700.0	5,682.1	5,545.1	5,490.2	14.5	19.4	-124.07	-50.7	-703.2	1,008.5	974.4	34.10	29.577	
5,800.0	5,782.1	5,643.2	5,586.5	14.5	19.8	-123.99	-50.1	-721.9	1,027.6	992.9	34.65	29.652	
5,900.0	5,882.1	5,741.4	5,682.9	14.6	20.3	-123.92	-49.4	-740.6	1,046.6	1,011.4	35.21	29.722	
6,000.0	5,982.1	5,839.6	5,779.2	14.6	20.7	-123.85	-48.8	-759.3	1,065.6	1,029.9	35.78	29.787	
6,100.0	6,082.1	5,937.7	5,875.6	14.7	21.1	-123.78	-48.1	-778.0	1,084.7	1,048.3	36.34	29.847	
6,200.0	6,182.1	6,035.9	5,972.0	14.8	21.6	-123.72	-47.5	-796.8	1,103.7	1,066.8	36.91	29.902	
6,300.0	6,282.1	6,134.1	6,068.3	14.8	22.0	-123.65	-46.8	-815.5	1,122.8	1,085.3	37.48	29.954	
6,400.0	6,382.1	6,232.2	6,164.7	14.9	22.4	-123.59	-46.1	-834.2	1,141.8	1,103.7	38.06	30.001	
6,500.0	6,482.1	6,330.4	6,261.0	15.0	22.9	-123.53	-45.5	-852.9	1,160.8	1,122.2	38.64	30.045	
6,600.0	6,582.1	6,428.5	6,357.4	15.0	23.3	-123.48	-44.8	-871.6	1,179.9	1,140.7	39.22	30.086	
6,700.0	6,682.1	6,526.7	6,453.8	15.1	23.7	-123.42	-44.2	-890.4	1,198.9	1,159.1	39.80	30.124	
6,800.0	6,782.1	6,624.9	6,550.1	15.2	24.2	-123.37	-43.5	-909.1	1,218.0	1,177.6	40.39	30.159	

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 #704H
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 #704H	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		Semi Major Axis		Highside		Offset Wellbore Centre		Rule Assigned:		Offset Well Error: 3.0 usft	
Measured Depth (usft)	Reference Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
6,900.0	6,882.1	6,723.0	6,646.5	15.2	24.6	-91.32	-42.9	-927.8	1,237.0	1,196.1	40.97	30.191			
7,000.0	6,982.1	6,821.2	6,742.8	15.3	25.1	-91.27	-42.2	-946.5	1,256.1	1,214.5	41.56	30.220			
7,100.0	7,082.1	6,919.4	6,839.2	15.4	25.5	-91.22	-41.6	-965.2	1,275.1	1,233.0	42.16	30.247			
7,200.0	7,182.1	7,017.5	6,935.5	15.4	25.9	-91.17	-40.9	-984.0	1,294.2	1,251.4	42.75	30.272			
7,300.0	7,282.1	7,115.7	7,031.9	15.5	26.4	-91.12	-40.3	-1,002.7	1,313.2	1,269.9	43.35	30.295			
7,400.0	7,382.1	7,213.8	7,128.3	15.6	26.8	-91.08	-39.6	-1,021.4	1,332.3	1,288.3	43.95	30.316			
7,500.0	7,482.1	7,312.0	7,224.6	15.6	27.3	-91.03	-39.0	-1,040.1	1,351.4	1,306.8	44.55	30.336			
7,600.0	7,582.1	7,410.2	7,321.0	15.7	27.7	-90.99	-38.3	-1,058.8	1,370.4	1,325.3	45.15	30.353			
7,700.0	7,682.1	7,508.3	7,417.3	15.8	28.2	-90.95	-37.7	-1,077.6	1,389.5	1,343.7	45.75	30.369			
7,800.0	7,782.1	7,606.5	7,513.7	15.8	28.6	-90.91	-37.0	-1,096.3	1,408.5	1,362.2	46.36	30.383			
7,900.0	7,882.1	7,704.7	7,610.1	15.9	29.1	-90.87	-36.3	-1,115.0	1,427.6	1,380.6	46.97	30.396			
8,000.0	7,982.1	7,802.8	7,706.4	16.0	29.5	-90.83	-35.7	-1,133.7	1,446.6	1,399.1	47.57	30.408			
8,100.0	8,082.1	7,908.9	7,810.6	16.0	30.0	-90.80	-35.0	-1,153.9	1,465.6	1,417.4	48.22	30.392			
8,200.0	8,182.1	8,041.5	7,941.1	16.1	30.6	-90.75	-34.2	-1,176.9	1,483.0	1,434.0	49.04	30.243			
8,300.0	8,282.1	8,175.0	8,073.2	16.2	31.1	-90.71	-33.5	-1,197.1	1,498.1	1,448.3	49.81	30.077			
8,400.0	8,382.1	8,309.5	8,206.5	16.2	31.7	-90.68	-32.9	-1,214.3	1,510.9	1,460.4	50.54	29.893			
8,500.0	8,482.1	8,444.7	8,340.9	16.3	32.2	-90.66	-32.4	-1,228.4	1,521.4	1,470.1	51.22	29.701			
8,600.0	8,582.1	8,580.5	8,476.3	16.4	32.8	-90.64	-32.0	-1,239.4	1,529.5	1,477.6	51.85	29.499			
8,700.0	8,682.1	8,716.7	8,612.3	16.4	33.2	-90.62	-31.7	-1,247.3	1,535.2	1,482.8	52.41	29.292			
8,800.0	8,782.1	8,853.2	8,748.7	16.5	33.6	-90.62	-31.6	-1,251.9	1,538.6	1,485.7	52.87	29.103			
8,900.0	8,882.1	8,989.9	8,885.4	16.6	33.9	-90.61	-31.5	-1,253.2	1,539.5	1,486.4	53.10	28.993			
8,930.6	8,912.7	9,017.3	8,912.7	16.6	33.9	-90.61	-31.5	-1,253.2	1,539.6	1,486.4	53.11	28.987			
9,000.0	8,982.1	9,086.6	8,982.1	16.6	33.9	-90.61	-31.5	-1,253.2	1,539.6	1,486.4	53.16	28.958			
9,100.0	9,082.1	9,186.6	9,082.1	16.7	33.9	-90.61	-31.5	-1,253.2	1,539.6	1,486.3	53.24	28.919			
9,200.0	9,182.1	9,286.6	9,182.1	16.8	33.9	-90.61	-31.5	-1,253.2	1,539.6	1,486.2	53.31	28.879			
9,300.0	9,282.1	9,386.6	9,282.1	16.9	34.0	-90.61	-31.5	-1,253.2	1,539.6	1,486.2	53.38	28.840			
9,400.0	9,382.1	9,486.6	9,382.1	16.9	34.0	-90.61	-31.5	-1,253.2	1,539.6	1,486.1	53.46	28.801			
9,500.0	9,482.1	9,586.6	9,482.1	17.0	34.0	-90.61	-31.5	-1,253.2	1,539.6	1,486.0	53.53	28.761			
9,600.0	9,582.1	9,686.6	9,582.1	17.1	34.0	-90.61	-31.5	-1,253.2	1,539.6	1,486.0	53.60	28.721			
9,700.0	9,682.1	9,786.6	9,682.1	17.1	34.1	-90.61	-31.5	-1,253.2	1,539.6	1,485.9	53.68	28.681			
9,800.0	9,782.1	9,886.6	9,782.1	17.2	34.1	-90.61	-31.5	-1,253.2	1,539.6	1,485.8	53.75	28.642			
9,900.0	9,882.1	9,986.6	9,882.1	17.3	34.1	-90.61	-31.5	-1,253.2	1,539.6	1,485.7	53.83	28.602			
10,000.0	9,982.1	10,086.6	9,982.1	17.3	34.1	-90.61	-31.5	-1,253.2	1,539.6	1,485.7	53.90	28.562			
10,100.0	10,082.1	10,186.6	10,082.1	17.4	34.2	-90.61	-31.5	-1,253.2	1,539.6	1,485.6	53.98	28.521			
10,200.0	10,182.1	10,286.6	10,182.1	17.5	34.2	-90.61	-31.5	-1,253.2	1,539.6	1,485.5	54.06	28.481			
10,300.0	10,282.1	10,386.6	10,282.1	17.5	34.2	-90.61	-31.5	-1,253.2	1,539.6	1,485.4	54.13	28.441			
10,400.0	10,382.1	10,486.6	10,382.1	17.6	34.2	-90.61	-31.5	-1,253.2	1,539.6	1,485.3	54.21	28.401			
10,500.0	10,482.1	10,586.6	10,482.1	17.7	34.3	-90.61	-31.5	-1,253.2	1,539.6	1,485.3	54.29	28.360			
10,600.0	10,582.1	10,686.6	10,582.1	17.8	34.3	-90.61	-31.5	-1,253.2	1,539.6	1,485.2	54.36	28.319			
10,604.4	10,586.6	10,691.1	10,586.6	17.8	34.3	-90.39	-31.5	-1,253.2	1,539.6	1,485.2	54.37	28.318			
10,700.0	10,681.9	10,786.4	10,681.9	17.8	34.3	-90.56	-31.5	-1,253.2	1,539.6	1,485.2	54.43	28.288			
10,800.0	10,779.4	10,884.1	10,779.6	17.8	34.3	-91.31	-31.5	-1,253.2	1,540.0	1,485.5	54.49	28.263			
10,900.0	10,871.7	10,989.2	10,884.1	17.9	34.3	-92.36	-21.4	-1,253.2	1,540.9	1,486.5	54.48	28.285			
11,000.0	10,955.9	11,100.9	10,991.1	17.9	34.4	-93.37	10.0	-1,253.4	1,542.4	1,488.0	54.41	28.349			
11,100.0	11,029.5	11,220.0	11,096.1	18.0	34.4	-94.31	65.6	-1,253.6	1,544.1	1,489.9	54.29	28.443			
11,200.0	11,090.3	11,346.5	11,192.6	18.1	34.4	-95.14	147.0	-1,253.9	1,546.0	1,491.8	54.15	28.547			
11,300.0	11,136.4	11,480.1	11,272.5	18.2	34.4	-95.78	253.7	-1,254.3	1,547.5	1,493.5	54.05	28.630			
11,400.0	11,166.4	11,619.1	11,327.1	18.3	34.5	-96.19	381.2	-1,254.8	1,548.6	1,494.5	54.03	28.663			
11,500.0	11,179.4	11,761.0	11,349.6	18.4	34.6	-96.31	520.9	-1,255.4	1,548.9	1,494.8	54.11	28.624			
11,600.0	11,180.0	11,867.1	11,350.0	18.5	34.7	-96.30	627.0	-1,255.8	1,548.9	1,494.6	54.27	28.540			
11,700.0	11,180.0	11,967.1	11,350.0	18.7	34.8	-96.30	727.0	-1,256.2	1,548.9	1,494.4	54.47	28.434			
11,800.0	11,180.0	12,067.1	11,350.0	18.9	34.9	-96.30	827.0	-1,256.6	1,548.8	1,494.1	54.72	28.307			

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
11,900.0	11,180.0	12,167.1	11,350.0	19.1	35.1	-96.30	927.0	-1,257.0	1,548.8	1,493.8	55.00	28.160	
12,000.0	11,180.0	12,267.1	11,350.0	19.3	35.2	-96.30	1,027.0	-1,257.4	1,548.8	1,493.5	55.33	27.994	
12,100.0	11,180.0	12,367.1	11,350.0	19.6	35.4	-96.30	1,127.0	-1,257.8	1,548.8	1,493.1	55.69	27.810	
12,200.0	11,180.0	12,467.1	11,350.0	19.9	35.6	-96.30	1,227.0	-1,258.2	1,548.8	1,492.7	56.10	27.610	
12,300.0	11,180.0	12,567.1	11,350.0	20.2	35.8	-96.30	1,327.0	-1,258.6	1,548.8	1,492.3	56.54	27.394	
12,400.0	11,180.0	12,667.1	11,350.0	20.6	36.0	-96.30	1,427.0	-1,259.0	1,548.8	1,491.8	57.02	27.164	
12,500.0	11,180.0	12,767.1	11,350.0	21.0	36.3	-96.30	1,527.0	-1,259.4	1,548.8	1,491.3	57.53	26.921	
12,600.0	11,180.0	12,867.1	11,350.0	21.4	36.5	-96.30	1,627.0	-1,259.8	1,548.8	1,490.7	58.08	26.666	
12,700.0	11,180.0	12,967.1	11,350.0	21.8	36.8	-96.30	1,727.0	-1,260.2	1,548.8	1,490.1	58.67	26.400	
12,800.0	11,180.0	13,067.1	11,350.0	22.2	37.1	-96.30	1,827.0	-1,260.5	1,548.8	1,489.5	59.28	26.125	
12,900.0	11,180.0	13,167.1	11,350.0	22.7	37.4	-96.30	1,927.0	-1,260.9	1,548.8	1,488.9	59.93	25.842	
13,000.0	11,180.0	13,267.1	11,350.0	23.2	37.7	-96.30	2,027.0	-1,261.3	1,548.8	1,488.2	60.61	25.552	
13,100.0	11,180.0	13,367.1	11,350.0	23.7	38.0	-96.30	2,127.0	-1,261.7	1,548.8	1,487.5	61.32	25.256	
13,200.0	11,180.0	13,467.1	11,350.0	24.2	38.3	-96.30	2,227.0	-1,262.1	1,548.8	1,486.7	62.06	24.955	
13,300.0	11,180.0	13,567.1	11,350.0	24.7	38.7	-96.30	2,327.0	-1,262.5	1,548.8	1,486.0	62.83	24.650	
13,400.0	11,180.0	13,667.1	11,350.0	25.2	39.0	-96.30	2,427.0	-1,262.9	1,548.8	1,485.2	63.63	24.342	
13,500.0	11,180.0	13,767.1	11,350.0	25.8	39.4	-96.30	2,527.0	-1,263.3	1,548.8	1,484.3	64.45	24.032	
13,600.0	11,180.0	13,867.1	11,350.0	26.3	39.8	-96.30	2,627.0	-1,263.7	1,548.8	1,483.5	65.29	23.721	
13,700.0	11,180.0	13,967.1	11,350.0	26.9	40.2	-96.30	2,727.0	-1,264.1	1,548.8	1,482.6	66.16	23.409	
13,800.0	11,180.0	14,067.1	11,350.0	27.4	40.6	-96.30	2,827.0	-1,264.5	1,548.8	1,481.7	67.05	23.098	
13,900.0	11,180.0	14,167.1	11,350.0	28.0	41.0	-96.30	2,927.0	-1,264.9	1,548.8	1,480.8	67.97	22.787	
14,000.0	11,180.0	14,267.1	11,350.0	28.6	41.4	-96.30	3,027.0	-1,265.3	1,548.8	1,479.9	68.90	22.477	
14,100.0	11,180.0	14,367.1	11,350.0	29.2	41.9	-96.30	3,127.0	-1,265.7	1,548.8	1,478.9	69.86	22.170	
14,200.0	11,180.0	14,467.1	11,350.0	29.8	42.3	-96.30	3,227.0	-1,266.1	1,548.8	1,477.9	70.83	21.864	
14,300.0	11,180.0	14,567.1	11,350.0	30.5	42.8	-96.30	3,327.0	-1,266.5	1,548.8	1,476.9	71.83	21.562	
14,400.0	11,180.0	14,667.1	11,350.0	31.1	43.2	-96.30	3,427.0	-1,266.9	1,548.8	1,475.9	72.84	21.262	
14,500.0	11,180.0	14,767.1	11,350.0	31.7	43.7	-96.30	3,527.0	-1,267.3	1,548.7	1,474.9	73.87	20.966	
14,600.0	11,180.0	14,867.1	11,350.0	32.3	44.2	-96.30	3,627.0	-1,267.7	1,548.7	1,473.8	74.92	20.673	
14,700.0	11,180.0	14,967.1	11,350.0	33.0	44.7	-96.30	3,727.0	-1,268.1	1,548.7	1,472.8	75.98	20.384	
14,800.0	11,180.0	15,067.1	11,350.0	33.6	45.2	-96.30	3,827.0	-1,268.5	1,548.7	1,471.7	77.06	20.099	
14,900.0	11,180.0	15,167.1	11,350.0	34.3	45.7	-96.30	3,927.0	-1,268.8	1,548.7	1,470.6	78.15	19.818	
15,000.0	11,180.0	15,267.1	11,350.0	34.9	46.2	-96.30	4,027.0	-1,269.2	1,548.7	1,469.5	79.25	19.542	
15,100.0	11,180.0	15,367.1	11,350.0	35.6	46.7	-96.30	4,127.0	-1,269.6	1,548.7	1,468.4	80.37	19.270	
15,200.0	11,180.0	15,467.1	11,350.0	36.3	47.2	-96.30	4,227.0	-1,270.0	1,548.7	1,467.2	81.50	19.002	
15,300.0	11,180.0	15,567.1	11,350.0	36.9	47.7	-96.30	4,327.0	-1,270.4	1,548.7	1,466.1	82.65	18.739	
15,400.0	11,180.0	15,667.1	11,350.0	37.6	48.3	-96.30	4,427.0	-1,270.8	1,548.7	1,464.9	83.80	18.481	
15,500.0	11,180.0	15,767.1	11,350.0	38.3	48.8	-96.30	4,527.0	-1,271.2	1,548.7	1,463.7	84.97	18.227	
15,600.0	11,180.0	15,867.1	11,350.0	39.0	49.4	-96.30	4,627.0	-1,271.6	1,548.7	1,462.6	86.15	17.978	
15,700.0	11,180.0	15,967.1	11,350.0	39.6	49.9	-96.30	4,727.0	-1,272.0	1,548.7	1,461.4	87.33	17.733	
15,800.0	11,180.0	16,067.1	11,350.0	40.3	50.5	-96.30	4,827.0	-1,272.4	1,548.7	1,460.2	88.53	17.493	
15,900.0	11,180.0	16,167.1	11,350.0	41.0	51.1	-96.30	4,927.0	-1,272.8	1,548.7	1,459.0	89.74	17.258	
16,000.0	11,180.0	16,267.1	11,350.0	41.7	51.6	-96.30	5,027.0	-1,273.2	1,548.7	1,457.7	90.96	17.027	
16,100.0	11,180.0	16,367.1	11,350.0	42.4	52.2	-96.30	5,127.0	-1,273.6	1,548.7	1,456.5	92.18	16.800	
16,200.0	11,180.0	16,467.1	11,350.0	43.1	52.8	-96.30	5,227.0	-1,274.0	1,548.7	1,455.3	93.42	16.578	
16,300.0	11,180.0	16,567.1	11,350.0	43.8	53.4	-96.30	5,327.0	-1,274.4	1,548.7	1,454.0	94.66	16.361	
16,400.0	11,180.0	16,667.1	11,350.0	44.5	54.0	-96.30	5,427.0	-1,274.8	1,548.7	1,452.8	95.91	16.148	
16,500.0	11,180.0	16,767.1	11,350.0	45.2	54.6	-96.30	5,527.0	-1,275.2	1,548.7	1,451.5	97.16	15.939	
16,600.0	11,180.0	16,867.1	11,350.0	45.9	55.2	-96.30	5,627.0	-1,275.6	1,548.7	1,450.2	98.43	15.734	
16,700.0	11,180.0	16,967.1	11,350.0	46.6	55.8	-96.30	5,727.0	-1,276.0	1,548.7	1,449.0	99.70	15.533	
16,800.0	11,180.0	17,067.1	11,350.0	47.3	56.4	-96.30	5,827.0	-1,276.4	1,548.7	1,447.7	100.98	15.336	
16,900.0	11,180.0	17,167.1	11,350.0	48.0	57.0	-96.30	5,927.0	-1,276.7	1,548.7	1,446.4	102.26	15.144	
17,000.0	11,180.0	17,267.1	11,350.0	48.7	57.6	-96.30	6,027.0	-1,277.1	1,548.7	1,445.1	103.55	14.955	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
17,100.0	11,180.0	17,367.1	11,350.0	49.5	58.2	-96.30	6,126.9	-1,277.5	1,548.7	1,443.8	104.85	14.770		
17,200.0	11,180.0	17,467.1	11,350.0	50.2	58.8	-96.30	6,226.9	-1,277.9	1,548.6	1,442.5	106.15	14.589		
17,300.0	11,180.0	17,567.1	11,350.0	50.9	59.4	-96.30	6,326.9	-1,278.3	1,548.6	1,441.2	107.46	14.411		
17,400.0	11,180.0	17,667.1	11,350.0	51.6	60.1	-96.30	6,426.9	-1,278.7	1,548.6	1,439.9	108.78	14.237		
17,500.0	11,180.0	17,767.1	11,350.0	52.3	60.7	-96.30	6,526.9	-1,279.1	1,548.6	1,438.5	110.09	14.067		
17,600.0	11,180.0	17,867.1	11,350.0	53.0	61.3	-96.30	6,626.9	-1,279.5	1,548.6	1,437.2	111.42	13.899		
17,700.0	11,180.0	17,967.1	11,350.0	53.8	62.0	-96.30	6,726.9	-1,279.9	1,548.6	1,435.9	112.75	13.736		
17,800.0	11,180.0	18,067.1	11,350.0	54.5	62.6	-96.30	6,826.9	-1,280.3	1,548.6	1,434.5	114.08	13.575		
17,900.0	11,180.0	18,167.1	11,350.0	55.2	63.3	-96.30	6,926.9	-1,280.7	1,548.6	1,433.2	115.42	13.418		
18,000.0	11,180.0	18,267.1	11,350.0	55.9	63.9	-96.30	7,026.9	-1,281.1	1,548.6	1,431.9	116.76	13.264		
18,100.0	11,180.0	18,367.1	11,350.0	56.7	64.5	-96.30	7,126.9	-1,281.5	1,548.6	1,430.5	118.10	13.112		
18,200.0	11,180.0	18,467.1	11,350.0	57.4	65.2	-96.30	7,226.9	-1,281.9	1,548.6	1,429.2	119.45	12.964		
18,300.0	11,180.0	18,567.1	11,350.0	58.1	65.9	-96.30	7,326.9	-1,282.3	1,548.6	1,427.8	120.81	12.819		
18,400.0	11,180.0	18,667.1	11,350.0	58.8	66.5	-96.30	7,426.9	-1,282.7	1,548.6	1,426.4	122.16	12.676		
18,500.0	11,180.0	18,767.1	11,350.0	59.6	67.2	-96.30	7,526.9	-1,283.1	1,548.6	1,425.1	123.52	12.537		
18,600.0	11,180.0	18,867.1	11,350.0	60.3	67.8	-96.30	7,626.9	-1,283.5	1,548.6	1,423.7	124.89	12.400		
18,700.0	11,180.0	18,967.1	11,350.0	61.0	68.5	-96.30	7,726.9	-1,283.9	1,548.6	1,422.3	126.26	12.265		
18,800.0	11,180.0	19,067.1	11,350.0	61.8	69.1	-96.30	7,826.9	-1,284.3	1,548.6	1,421.0	127.63	12.134		
18,900.0	11,180.0	19,167.1	11,350.0	62.5	69.8	-96.30	7,926.9	-1,284.7	1,548.6	1,419.6	129.00	12.004		
19,000.0	11,180.0	19,267.1	11,350.0	63.2	70.5	-96.30	8,026.9	-1,285.0	1,548.6	1,418.2	130.38	11.877		
19,100.0	11,180.0	19,367.1	11,350.0	64.0	71.2	-96.30	8,126.9	-1,285.4	1,548.6	1,416.8	131.76	11.753		
19,200.0	11,180.0	19,467.1	11,350.0	64.7	71.8	-96.30	8,226.9	-1,285.8	1,548.6	1,415.4	133.14	11.631		
19,300.0	11,180.0	19,567.1	11,350.0	65.5	72.5	-96.30	8,326.9	-1,286.2	1,548.6	1,414.0	134.53	11.511		
19,400.0	11,180.0	19,667.1	11,350.0	66.2	73.2	-96.30	8,426.9	-1,286.6	1,548.6	1,412.6	135.92	11.393		
19,500.0	11,180.0	19,767.1	11,350.0	66.9	73.9	-96.30	8,526.9	-1,287.0	1,548.6	1,411.3	137.31	11.278		
19,600.0	11,180.0	19,867.1	11,350.0	67.7	74.5	-96.30	8,626.9	-1,287.4	1,548.6	1,409.9	138.70	11.165		
19,700.0	11,180.0	19,967.1	11,350.0	68.4	75.2	-96.30	8,726.9	-1,287.8	1,548.6	1,408.5	140.10	11.053		
19,800.0	11,180.0	20,067.1	11,350.0	69.1	75.9	-96.30	8,826.9	-1,288.2	1,548.6	1,407.1	141.50	10.944		
19,900.0	11,180.0	20,167.1	11,350.0	69.9	76.6	-96.30	8,926.9	-1,288.6	1,548.5	1,405.6	142.90	10.837		
20,000.0	11,180.0	20,267.1	11,350.0	70.6	77.3	-96.30	9,026.9	-1,289.0	1,548.5	1,404.2	144.30	10.731		
20,100.0	11,180.0	20,367.1	11,350.0	71.4	77.9	-96.30	9,126.9	-1,289.4	1,548.5	1,402.8	145.71	10.628		
20,200.0	11,180.0	20,467.1	11,350.0	72.1	78.6	-96.30	9,226.9	-1,289.8	1,548.5	1,401.4	147.12	10.526		
20,300.0	11,180.0	20,567.1	11,350.0	72.9	79.3	-96.30	9,326.9	-1,290.2	1,548.5	1,400.0	148.53	10.426		
20,400.0	11,180.0	20,667.1	11,350.0	73.6	80.0	-96.30	9,426.9	-1,290.6	1,548.5	1,398.6	149.94	10.328		
20,500.0	11,180.0	20,767.1	11,350.0	74.3	80.7	-96.30	9,526.9	-1,291.0	1,548.5	1,397.2	151.35	10.231		
20,600.0	11,180.0	20,867.1	11,350.0	75.1	81.4	-96.30	9,626.9	-1,291.4	1,548.5	1,395.8	152.77	10.136		
20,700.0	11,180.0	20,967.1	11,350.0	75.8	82.1	-96.30	9,726.9	-1,291.8	1,548.5	1,394.3	154.18	10.043		
20,800.0	11,180.0	21,067.1	11,350.0	76.6	82.8	-96.30	9,826.9	-1,292.2	1,548.5	1,392.9	155.60	9.952		
20,900.0	11,180.0	21,167.1	11,350.0	77.3	83.5	-96.30	9,926.9	-1,292.6	1,548.5	1,391.5	157.03	9.862		
21,000.0	11,180.0	21,267.1	11,350.0	78.1	84.2	-96.30	10,026.9	-1,292.9	1,548.5	1,390.1	158.45	9.773		
21,100.0	11,180.0	21,367.1	11,350.0	78.8	84.9	-96.30	10,126.9	-1,293.3	1,548.5	1,388.6	159.87	9.686		
21,200.0	11,180.0	21,467.1	11,350.0	79.6	85.6	-96.30	10,226.9	-1,293.7	1,548.5	1,387.2	161.30	9.600		
21,300.0	11,180.0	21,567.1	11,350.0	80.3	86.3	-96.30	10,326.9	-1,294.1	1,548.5	1,385.8	162.73	9.516		
21,400.0	11,180.0	21,667.1	11,350.0	81.0	87.0	-96.30	10,426.9	-1,294.5	1,548.5	1,384.3	164.15	9.433		
21,500.0	11,180.0	21,767.1	11,350.0	81.8	87.7	-96.30	10,526.9	-1,294.9	1,548.5	1,382.9	165.59	9.352		
21,600.0	11,180.0	21,867.1	11,350.0	82.5	88.4	-96.30	10,626.9	-1,295.3	1,548.5	1,381.5	167.02	9.271		
21,700.0	11,180.0	21,967.1	11,350.0	83.3	89.1	-96.30	10,726.9	-1,295.7	1,548.5	1,380.0	168.45	9.192		
21,800.0	11,180.0	22,067.1	11,350.0	84.0	89.8	-96.30	10,826.9	-1,296.1	1,548.5	1,378.6	169.89	9.115		
21,900.0	11,180.0	22,167.1	11,350.0	84.8	90.5	-96.30	10,926.9	-1,296.5	1,548.5	1,377.2	171.32	9.038		
22,000.0	11,180.0	22,267.1	11,350.0	85.5	91.2	-96.30	11,026.9	-1,296.9	1,548.5	1,375.7	172.76	8.963		
22,100.0	11,180.0	22,367.1	11,350.0	86.3	91.9	-96.30	11,126.9	-1,297.3	1,548.5	1,374.3	174.20	8.889		
22,200.0	11,180.0	22,467.1	11,350.0	87.0	92.7	-96.30	11,226.9	-1,297.7	1,548.5	1,372.8	175.64	8.816		

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 #704H
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 #704H	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:				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		
22,300.0	11,180.0	22,567.1	11,350.0	87.8	93.4	-96.30	11,326.9	-1,298.1	1,548.5	1,371.4	177.08	8.744		
22,400.0	11,180.0	22,667.1	11,350.0	88.5	94.1	-96.30	11,426.9	-1,298.5	1,548.5	1,369.9	178.52	8.674		
22,500.0	11,180.0	22,767.1	11,350.0	89.3	94.8	-96.30	11,526.9	-1,298.9	1,548.5	1,368.5	179.96	8.604		
22,600.0	11,180.0	22,867.1	11,350.0	90.0	95.5	-96.30	11,626.9	-1,299.3	1,548.4	1,367.0	181.41	8.536		
22,700.0	11,180.0	22,967.1	11,350.0	90.8	96.2	-96.30	11,726.9	-1,299.7	1,548.4	1,365.6	182.86	8.468		
22,800.0	11,180.0	23,067.1	11,350.0	91.5	96.9	-96.30	11,826.9	-1,300.1	1,548.4	1,364.1	184.30	8.402		
22,900.0	11,180.0	23,167.1	11,350.0	92.3	97.7	-96.30	11,926.9	-1,300.5	1,548.4	1,362.7	185.75	8.336		
23,000.0	11,180.0	23,267.1	11,350.0	93.0	98.4	-96.30	12,026.9	-1,300.9	1,548.4	1,361.2	187.20	8.272		
23,100.0	11,180.0	23,367.1	11,350.0	93.8	99.1	-96.30	12,126.9	-1,301.2	1,548.4	1,359.8	188.65	8.208		
23,200.0	11,180.0	23,467.1	11,350.0	94.6	99.8	-96.30	12,226.9	-1,301.6	1,548.4	1,358.3	190.10	8.145		
23,300.0	11,180.0	23,567.1	11,350.0	95.3	100.5	-96.30	12,326.9	-1,302.0	1,548.4	1,356.9	191.55	8.084		
23,400.0	11,180.0	23,667.1	11,350.0	96.1	101.2	-96.30	12,426.9	-1,302.4	1,548.4	1,355.4	193.00	8.023		
23,500.0	11,180.0	23,767.1	11,350.0	96.8	102.0	-96.30	12,526.9	-1,302.8	1,548.4	1,354.0	194.46	7.963		
23,600.0	11,180.0	23,867.1	11,350.0	97.6	102.7	-96.30	12,626.9	-1,303.2	1,548.4	1,352.5	195.91	7.904		
23,700.0	11,180.0	23,967.1	11,350.0	98.3	103.4	-96.30	12,726.9	-1,303.6	1,548.4	1,351.0	197.37	7.845		
23,800.0	11,180.0	24,067.1	11,350.0	99.1	104.1	-96.30	12,826.9	-1,304.0	1,548.4	1,349.6	198.82	7.788		
23,900.0	11,180.0	24,167.1	11,350.0	99.8	104.9	-96.30	12,926.9	-1,304.4	1,548.4	1,348.1	200.28	7.731		
24,000.0	11,180.0	24,267.1	11,350.0	100.6	105.6	-96.30	13,026.9	-1,304.8	1,548.4	1,346.7	201.74	7.675		
24,100.0	11,180.0	24,367.1	11,350.0	101.3	106.3	-96.30	13,126.9	-1,305.2	1,548.4	1,345.2	203.20	7.620		
24,200.0	11,180.0	24,467.1	11,350.0	102.1	107.0	-96.30	13,226.9	-1,305.6	1,548.4	1,343.7	204.66	7.566		
24,300.0	11,180.0	24,567.1	11,350.0	102.8	107.8	-96.30	13,326.9	-1,306.0	1,548.4	1,342.3	206.12	7.512		
24,400.0	11,180.0	24,667.1	11,350.0	103.6	108.5	-96.30	13,426.9	-1,306.4	1,548.4	1,340.8	207.58	7.459		
24,500.0	11,180.0	24,767.1	11,350.0	104.3	109.2	-96.30	13,526.9	-1,306.8	1,548.4	1,339.3	209.04	7.407		
24,574.2	11,180.0	24,841.3	11,350.0	104.9	109.7	-96.30	13,601.1	-1,307.1	1,548.4	1,338.3	210.06	7.371 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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Separation Factor	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)			
0.0	0.0	0.0	0.0	3.0	3.0	-90.04	0.0	-59.9	59.9	53.5	6.43	9.317		
100.0	100.0	100.0	100.0	3.2	3.2	-90.04	0.0	-59.9	59.9	53.0	6.89	8.691		
200.0	200.0	200.0	200.0	3.5	3.5	-90.04	0.0	-59.9	59.9	52.6	7.33	8.174		
300.0	300.0	300.0	300.0	3.7	3.7	-90.04	0.0	-59.9	59.9	52.2	7.74	7.738		
400.0	400.0	400.0	400.0	3.9	3.9	-90.04	0.0	-59.9	59.9	51.8	8.14	7.363		
500.0	500.0	500.0	500.0	4.1	4.1	-90.04	0.0	-59.9	59.9	51.4	8.51	7.036		
600.0	600.0	600.0	600.0	4.2	4.2	-90.04	0.0	-59.9	59.9	51.0	8.88	6.747		
700.0	700.0	700.0	700.0	4.4	4.4	-90.04	0.0	-59.9	59.9	50.7	9.23	6.490		
800.0	800.0	800.0	800.0	4.6	4.6	-90.04	0.0	-59.9	59.9	50.3	9.57	6.259		
900.0	900.0	900.0	900.0	4.8	4.8	-90.04	0.0	-59.9	59.9	50.0	9.90	6.049		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.04	0.0	-59.9	59.9	49.7	10.22	5.858		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.04	0.0	-59.9	59.9	49.4	10.54	5.683		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.04	0.0	-59.9	59.9	49.1	10.85	5.522		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.04	0.0	-59.9	59.9	48.8	11.15	5.373		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.04	0.0	-59.9	59.9	48.5	11.44	5.234		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.04	0.0	-59.9	59.9	48.2	11.73	5.105		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-90.04	0.0	-59.9	59.9	47.9	12.02	4.984		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.04	0.0	-59.9	59.9	47.6	12.30	4.870		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-90.04	0.0	-59.9	59.9	47.3	12.58	4.763		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-90.04	0.0	-59.9	59.9	47.1	12.85	4.662		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-90.04	0.0	-59.9	59.9	46.8	13.12	4.567		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-90.04	0.0	-59.9	59.9	46.5	13.38	4.477		
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-90.04	0.0	-59.9	59.9	46.3	13.64	4.391		
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-90.04	0.0	-59.9	59.9	46.0	13.90	4.310		
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-90.04	0.0	-59.9	59.9	45.7	14.15	4.232		
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-90.04	0.0	-59.9	59.9	45.5	14.41	4.158 CC, ES, SF		
2,600.0	2,600.0	2,598.4	2,598.4	7.2	7.2	176.96	-0.1	-61.2	62.5	47.8	14.68	4.256		
2,700.0	2,699.9	2,696.4	2,696.3	7.3	7.3	176.96	-0.3	-64.9	70.3	55.3	14.95	4.700		
2,800.0	2,799.7	2,793.6	2,793.3	7.5	7.5	176.96	-0.6	-71.2	83.2	67.9	15.23	5.459		
2,900.0	2,899.3	2,891.1	2,890.5	7.7	7.6	176.97	-1.1	-79.4	100.7	85.2	15.49	6.502		
3,000.0	2,998.6	2,989.1	2,988.0	7.9	7.7	177.04	-1.5	-88.0	121.1	105.2	15.84	7.644		
3,100.0	3,097.6	3,086.5	3,085.1	8.0	7.9	177.13	-2.0	-96.5	143.4	127.2	16.15	8.879		
3,200.0	3,196.6	3,184.0	3,182.2	8.2	8.1	177.20	-2.4	-104.9	165.9	149.3	16.54	10.030		
3,300.0	3,295.7	3,281.4	3,279.3	8.4	8.3	177.26	-2.8	-113.4	188.3	171.4	16.95	11.109		
3,400.0	3,394.7	3,378.9	3,376.4	8.7	8.5	177.30	-3.3	-121.9	210.8	193.4	17.40	12.117		
3,500.0	3,493.7	3,476.3	3,473.4	8.9	8.7	177.34	-3.7	-130.4	233.2	215.4	17.86	13.056		
3,600.0	3,592.8	3,573.7	3,570.5	9.2	9.0	177.37	-4.2	-138.9	255.7	237.4	18.36	13.930		
3,700.0	3,691.8	3,671.2	3,667.6	9.5	9.2	177.39	-4.6	-147.3	278.2	259.3	18.87	14.742		
3,800.0	3,790.8	3,768.6	3,764.7	9.8	9.5	177.41	-5.1	-155.8	300.6	281.2	19.41	15.492		
3,900.0	3,889.8	3,859.8	3,855.4	10.1	9.7	177.43	-5.5	-164.3	323.7	303.8	19.94	16.234		
4,000.0	3,988.9	3,946.3	3,941.3	10.4	10.0	177.41	-6.1	-174.8	349.5	329.1	20.47	17.075		
4,100.0	4,087.9	4,031.3	4,025.3	10.7	10.3	177.37	-6.7	-187.6	378.2	357.2	20.99	18.017		
4,200.0	4,186.9	4,119.8	4,112.4	11.0	10.6	177.32	-7.6	-203.3	409.5	387.9	21.54	19.012		
4,300.0	4,285.9	4,214.7	4,205.7	11.4	10.9	177.26	-8.5	-220.6	441.1	419.0	22.18	19.890		
4,400.0	4,385.0	4,309.5	4,298.9	11.7	11.2	177.21	-9.4	-237.9	472.8	450.0	22.83	20.713		
4,500.0	4,484.1	4,404.5	4,392.3	12.0	11.6	177.18	-10.3	-255.1	504.0	480.6	23.46	21.482		
4,600.0	4,583.4	4,500.0	4,486.3	12.4	11.9	177.15	-11.2	-272.5	533.7	509.5	24.13	22.116		
4,700.0	4,682.9	4,596.1	4,580.7	12.7	12.3	177.11	-12.1	-290.0	561.6	536.8	24.80	22.646		
4,800.0	4,782.5	4,692.5	4,675.5	13.0	12.6	177.07	-13.0	-307.6	587.9	562.4	25.47	23.081		
4,900.0	4,882.3	4,789.5	4,770.8	13.3	13.0	177.02	-13.9	-325.2	612.5	586.3	26.14	23.433		
5,000.0	4,982.2	4,886.8	4,866.5	13.6	13.3	176.97	-14.9	-342.9	635.4	608.6	26.80	23.711		
5,100.0	5,082.1	4,984.5	4,962.6	13.9	13.7	176.91	-15.8	-360.7	656.6	629.1	27.44	23.927		

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,182.1	5,082.6	5,059.1	14.1	14.1	176.85	-16.7	-378.5	676.1	648.0	28.05	24.105	
5,300.0	5,282.1	5,180.9	5,155.7	14.2	14.5	-90.22	-17.7	-396.4	694.3	665.8	28.50	24.360	
5,400.0	5,382.1	5,279.3	5,252.4	14.3	14.9	-90.30	-18.6	-414.3	712.5	683.5	28.97	24.594	
5,500.0	5,482.1	5,377.6	5,349.1	14.3	15.3	-90.36	-19.6	-432.2	730.7	701.3	29.45	24.815	
5,600.0	5,582.1	5,475.9	5,445.8	14.4	15.7	-90.43	-20.5	-450.1	748.9	719.0	29.93	25.022	
5,700.0	5,682.1	5,574.2	5,542.5	14.5	16.1	-90.49	-21.4	-468.0	767.1	736.7	30.42	25.218	
5,800.0	5,782.1	5,672.6	5,639.1	14.5	16.5	-90.55	-22.4	-485.9	785.3	754.4	30.92	25.403	
5,900.0	5,882.1	5,770.9	5,735.8	14.6	16.9	-90.60	-23.3	-503.8	803.5	772.1	31.42	25.576	
6,000.0	5,982.1	5,869.2	5,832.5	14.6	17.3	-90.66	-24.2	-521.7	821.7	789.8	31.93	25.740	
6,100.0	6,082.1	5,967.5	5,929.2	14.7	17.7	-90.71	-25.2	-539.6	840.0	807.5	32.44	25.894	
6,200.0	6,182.1	6,065.9	6,025.9	14.8	18.1	-90.75	-26.1	-557.5	858.2	825.2	32.96	26.040	
6,300.0	6,282.1	6,164.2	6,122.5	14.8	18.5	-90.80	-27.1	-575.4	876.4	842.9	33.48	26.177	
6,400.0	6,382.1	6,262.5	6,219.2	14.9	19.0	-90.85	-28.0	-593.3	894.6	860.6	34.01	26.306	
6,500.0	6,482.1	6,360.8	6,315.9	15.0	19.4	-90.89	-28.9	-611.2	912.8	878.3	34.54	26.428	
6,600.0	6,582.1	6,459.2	6,412.6	15.0	19.8	-90.93	-29.9	-629.1	931.0	895.9	35.08	26.543	
6,700.0	6,682.1	6,562.4	6,514.1	15.1	20.2	-90.97	-30.8	-647.8	949.2	913.5	35.64	26.634	
6,800.0	6,782.1	6,680.7	6,630.8	15.2	20.7	-91.01	-31.9	-667.5	965.9	929.5	36.31	26.602	
6,900.0	6,882.1	6,799.9	6,748.6	15.2	21.2	-91.05	-32.8	-684.9	980.5	943.5	36.96	26.526	
7,000.0	6,982.1	6,919.7	6,867.5	15.3	21.7	-91.08	-33.6	-700.0	993.1	955.5	37.59	26.417	
7,100.0	7,082.1	7,040.1	6,987.3	15.4	22.2	-91.10	-34.2	-712.6	1,003.6	965.4	38.19	26.276	
7,200.0	7,182.1	7,161.0	7,107.7	15.4	22.6	-91.12	-34.8	-722.8	1,012.0	973.2	38.76	26.108	
7,300.0	7,282.1	7,282.3	7,228.8	15.5	23.0	-91.14	-35.2	-730.4	1,018.3	979.0	39.29	25.919	
7,400.0	7,382.1	7,403.9	7,350.2	15.6	23.4	-91.15	-35.4	-735.5	1,022.5	982.7	39.76	25.714	
7,500.0	7,482.1	7,525.6	7,471.9	15.6	23.7	-91.15	-35.6	-738.0	1,024.5	984.4	40.12	25.533	
7,600.0	7,582.1	7,635.8	7,582.1	15.7	23.8	-91.15	-35.6	-738.3	1,024.7	984.5	40.27	25.448	
7,700.0	7,682.1	7,735.8	7,682.1	15.8	23.8	-91.15	-35.6	-738.3	1,024.7	984.4	40.37	25.385	
7,800.0	7,782.1	7,835.8	7,782.1	15.8	23.9	-91.15	-35.6	-738.3	1,024.7	984.3	40.46	25.325	
7,900.0	7,882.1	7,935.8	7,882.1	15.9	23.9	-91.15	-35.6	-738.3	1,024.7	984.2	40.56	25.265	
8,000.0	7,982.1	8,035.8	7,982.1	16.0	24.0	-91.15	-35.6	-738.3	1,024.7	984.1	40.66	25.205	
8,100.0	8,082.1	8,135.8	8,082.1	16.0	24.0	-91.15	-35.6	-738.3	1,024.7	984.0	40.75	25.145	
8,200.0	8,182.1	8,235.8	8,182.1	16.1	24.0	-91.15	-35.6	-738.3	1,024.7	983.9	40.85	25.086	
8,300.0	8,282.1	8,335.8	8,282.1	16.2	24.1	-91.15	-35.6	-738.3	1,024.7	983.8	40.95	25.026	
8,400.0	8,382.1	8,435.8	8,382.1	16.2	24.1	-91.15	-35.6	-738.3	1,024.7	983.7	41.05	24.966	
8,500.0	8,482.1	8,535.8	8,482.1	16.3	24.2	-91.15	-35.6	-738.3	1,024.7	983.6	41.14	24.907	
8,600.0	8,582.1	8,635.8	8,582.1	16.4	24.2	-91.15	-35.6	-738.3	1,024.7	983.5	41.24	24.847	
8,700.0	8,682.1	8,735.8	8,682.1	16.4	24.2	-91.15	-35.6	-738.3	1,024.7	983.4	41.34	24.788	
8,800.0	8,782.1	8,835.8	8,782.1	16.5	24.3	-91.15	-35.6	-738.3	1,024.7	983.3	41.44	24.728	
8,900.0	8,882.1	8,935.8	8,882.1	16.6	24.3	-91.15	-35.6	-738.3	1,024.7	983.2	41.54	24.669	
9,000.0	8,982.1	9,035.8	8,982.1	16.6	24.4	-91.15	-35.6	-738.3	1,024.7	983.1	41.64	24.609	
9,100.0	9,082.1	9,135.8	9,082.1	16.7	24.4	-91.15	-35.6	-738.3	1,024.7	983.0	41.74	24.550	
9,200.0	9,182.1	9,235.8	9,182.1	16.8	24.4	-91.15	-35.6	-738.3	1,024.7	982.9	41.84	24.491	
9,300.0	9,282.1	9,335.8	9,282.1	16.9	24.5	-91.15	-35.6	-738.3	1,024.7	982.8	41.94	24.432	
9,400.0	9,382.1	9,435.8	9,382.1	16.9	24.5	-91.15	-35.6	-738.3	1,024.7	982.7	42.05	24.372	
9,500.0	9,482.1	9,535.8	9,482.1	17.0	24.6	-91.15	-35.6	-738.3	1,024.7	982.6	42.15	24.313	
9,600.0	9,582.1	9,635.8	9,582.1	17.1	24.6	-91.15	-35.6	-738.3	1,024.7	982.5	42.25	24.254	
9,700.0	9,682.1	9,735.8	9,682.1	17.1	24.6	-91.15	-35.6	-738.3	1,024.7	982.4	42.35	24.196	
9,800.0	9,782.1	9,835.8	9,782.1	17.2	24.7	-91.15	-35.6	-738.3	1,024.7	982.3	42.46	24.137	
9,900.0	9,882.1	9,935.8	9,882.1	17.3	24.7	-91.15	-35.6	-738.3	1,024.7	982.2	42.56	24.078	
10,000.0	9,982.1	10,035.8	9,982.1	17.3	24.8	-91.15	-35.6	-738.3	1,024.7	982.1	42.66	24.019	
10,100.0	10,082.1	10,135.8	10,082.1	17.4	24.8	-91.15	-35.6	-738.3	1,024.7	982.0	42.77	23.961	
10,200.0	10,182.1	10,235.8	10,182.1	17.5	24.8	-91.15	-35.6	-738.3	1,024.7	981.9	42.87	23.902	
10,300.0	10,282.1	10,335.8	10,282.1	17.5	24.9	-91.15	-35.6	-738.3	1,024.7	981.8	42.98	23.844	

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 #704H
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 #704H	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 (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,400.0	10,382.1	10,435.8	10,382.1	17.6	24.9	-91.15	-35.6	-738.3	1,024.7	981.7	43.08	23.785		
10,500.0	10,482.1	10,535.8	10,482.1	17.7	25.0	-91.15	-35.6	-738.3	1,024.7	981.6	43.19	23.727		
10,600.0	10,582.1	10,635.8	10,582.1	17.8	25.0	-91.15	-35.6	-738.3	1,024.7	981.5	43.29	23.672		
10,700.0	10,681.9	10,738.0	10,684.1	17.8	25.0	-90.91	-30.4	-738.3	1,024.7	981.4	43.34	23.642		
10,800.0	10,779.4	10,840.9	10,784.2	17.8	25.0	-90.88	-7.5	-738.4	1,024.7	981.4	43.39	23.619		
10,900.0	10,871.7	10,943.6	10,878.5	17.9	25.1	-90.82	32.8	-738.6	1,024.7	981.3	43.42	23.601		
11,000.0	10,955.9	11,046.0	10,963.9	17.9	25.1	-90.73	89.2	-738.8	1,024.7	981.3	43.45	23.583		
11,100.0	11,029.5	11,148.1	11,037.7	18.0	25.1	-90.62	159.6	-739.1	1,024.7	981.2	43.49	23.560		
11,200.0	11,090.3	11,249.9	11,097.7	18.1	25.2	-90.49	241.6	-739.4	1,024.7	981.1	43.56	23.523		
11,300.0	11,136.4	11,351.1	11,142.1	18.2	25.2	-90.34	332.4	-739.8	1,024.7	981.0	43.66	23.468		
11,388.7	11,163.8	11,440.5	11,167.4	18.3	25.3	-90.20	418.1	-740.1	1,024.7	980.9	43.79	23.398		
11,400.0	11,166.4	11,451.9	11,169.7	18.3	25.3	-90.19	429.2	-740.2	1,024.7	980.9	43.81	23.389		
11,500.0	11,179.4	11,552.2	11,179.9	18.4	25.4	-90.03	528.9	-740.6	1,024.7	980.7	44.01	23.285		
11,600.0	11,180.0	11,652.2	11,180.0	18.5	25.5	-90.00	628.9	-741.0	1,024.7	980.4	44.25	23.155		
11,700.0	11,180.0	11,752.2	11,180.0	18.7	25.6	-90.00	728.9	-741.4	1,024.7	980.1	44.56	22.996		
11,800.0	11,180.0	11,852.2	11,180.0	18.9	25.8	-90.00	828.9	-741.8	1,024.7	979.8	44.92	22.813		
11,900.0	11,180.0	11,952.2	11,180.0	19.1	26.0	-90.00	928.9	-742.2	1,024.7	979.4	45.32	22.610		
12,000.0	11,180.0	12,052.2	11,180.0	19.3	26.2	-90.00	1,028.9	-742.6	1,024.7	978.9	45.77	22.387		
12,100.0	11,180.0	12,152.2	11,180.0	19.6	26.4	-90.00	1,128.9	-743.0	1,024.7	978.5	46.27	22.147		
12,200.0	11,180.0	12,252.2	11,180.0	19.9	26.6	-90.00	1,228.9	-743.5	1,024.7	977.9	46.81	21.891		
12,300.0	11,180.0	12,352.2	11,180.0	20.2	26.9	-90.00	1,328.9	-743.9	1,024.8	977.4	47.39	21.622		
12,400.0	11,180.0	12,452.2	11,180.0	20.6	27.2	-90.00	1,428.9	-744.3	1,024.8	976.7	48.02	21.341		
12,500.0	11,180.0	12,552.2	11,180.0	21.0	27.5	-90.00	1,528.9	-744.7	1,024.8	976.1	48.68	21.051		
12,600.0	11,180.0	12,652.2	11,180.0	21.4	27.8	-90.00	1,628.9	-745.1	1,024.8	975.4	49.38	20.752		
12,700.0	11,180.0	12,752.2	11,180.0	21.8	28.1	-90.00	1,728.9	-745.5	1,024.8	974.7	50.12	20.447		
12,800.0	11,180.0	12,852.2	11,180.0	22.2	28.5	-90.00	1,828.9	-745.9	1,024.8	973.9	50.89	20.137		
12,900.0	11,180.0	12,952.2	11,180.0	22.7	28.9	-90.00	1,928.9	-746.3	1,024.8	973.1	51.70	19.823		
13,000.0	11,180.0	13,052.2	11,180.0	23.2	29.2	-90.00	2,028.9	-746.7	1,024.8	972.3	52.53	19.508		
13,100.0	11,180.0	13,152.2	11,180.0	23.7	29.6	-90.00	2,128.9	-747.1	1,024.8	971.4	53.40	19.191		
13,200.0	11,180.0	13,252.2	11,180.0	24.2	30.1	-90.00	2,228.9	-747.5	1,024.8	970.5	54.30	18.875		
13,300.0	11,180.0	13,352.2	11,180.0	24.7	30.5	-90.00	2,328.9	-748.0	1,024.9	969.6	55.22	18.560		
13,400.0	11,180.0	13,452.2	11,180.0	25.2	30.9	-90.00	2,428.9	-748.4	1,024.9	968.7	56.17	18.247		
13,500.0	11,180.0	13,552.2	11,180.0	25.8	31.4	-90.00	2,528.9	-748.8	1,024.9	967.7	57.14	17.936		
13,600.0	11,180.0	13,652.2	11,180.0	26.3	31.9	-90.00	2,628.9	-749.2	1,024.9	966.8	58.14	17.629		
13,700.0	11,180.0	13,752.2	11,180.0	26.9	32.3	-90.00	2,728.9	-749.6	1,024.9	965.7	59.15	17.326		
13,800.0	11,180.0	13,852.2	11,180.0	27.4	32.8	-90.00	2,828.9	-750.0	1,024.9	964.7	60.19	17.027		
13,900.0	11,180.0	13,952.2	11,180.0	28.0	33.3	-90.00	2,928.9	-750.4	1,024.9	963.7	61.25	16.733		
14,000.0	11,180.0	14,052.2	11,180.0	28.6	33.8	-90.00	3,028.9	-750.8	1,024.9	962.6	62.33	16.444		
14,100.0	11,180.0	14,152.2	11,180.0	29.2	34.4	-90.00	3,128.9	-751.2	1,024.9	961.5	63.42	16.160		
14,200.0	11,180.0	14,252.2	11,180.0	29.8	34.9	-90.00	3,228.9	-751.6	1,024.9	960.4	64.54	15.882		
14,300.0	11,180.0	14,352.2	11,180.0	30.5	35.4	-90.00	3,328.9	-752.0	1,025.0	959.3	65.66	15.609		
14,400.0	11,180.0	14,452.2	11,180.0	31.1	36.0	-90.00	3,428.9	-752.4	1,025.0	958.2	66.81	15.342		
14,500.0	11,180.0	14,552.2	11,180.0	31.7	36.5	-90.00	3,528.9	-752.9	1,025.0	957.0	67.97	15.081		
14,600.0	11,180.0	14,652.2	11,180.0	32.3	37.1	-90.00	3,628.9	-753.3	1,025.0	955.8	69.14	14.825		
14,700.0	11,180.0	14,752.2	11,180.0	33.0	37.6	-90.00	3,728.9	-753.7	1,025.0	954.7	70.32	14.576		
14,800.0	11,180.0	14,852.2	11,180.0	33.6	38.2	-90.00	3,828.9	-754.1	1,025.0	953.5	71.52	14.332		
14,900.0	11,180.0	14,952.2	11,180.0	34.3	38.8	-90.00	3,928.9	-754.5	1,025.0	952.3	72.73	14.094		
15,000.0	11,180.0	15,052.2	11,180.0	34.9	39.4	-90.00	4,028.9	-754.9	1,025.0	951.1	73.95	13.861		
15,100.0	11,180.0	15,152.2	11,180.0	35.6	40.0	-90.00	4,128.9	-755.3	1,025.0	949.9	75.18	13.634		
15,200.0	11,180.0	15,252.2	11,180.0	36.3	40.6	-90.00	4,228.9	-755.7	1,025.0	948.6	76.42	13.413		
15,300.0	11,180.0	15,352.2	11,180.0	36.9	41.2	-90.00	4,328.9	-756.1	1,025.1	947.4	77.67	13.197		
15,400.0	11,180.0	15,452.2	11,180.0	37.6	41.8	-90.00	4,428.9	-756.5	1,025.1	946.1	78.93	12.987		

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 #704H
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 #704H	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				Reference		Offset		Semi Major Axis		Highside		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)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning						
15,500.0	11,180.0	15,552.2	11,180.0	38.3	42.4	-90.00	4,528.9	-756.9	1,025.1	944.9	80.20	12.781							
15,600.0	11,180.0	15,652.2	11,180.0	39.0	43.0	-90.00	4,628.9	-757.4	1,025.1	943.6	81.48	12.581							
15,700.0	11,180.0	15,752.2	11,180.0	39.6	43.7	-90.00	4,728.8	-757.8	1,025.1	942.3	82.76	12.386							
15,800.0	11,180.0	15,852.2	11,180.0	40.3	44.3	-90.00	4,828.8	-758.2	1,025.1	941.1	84.06	12.195							
15,900.0	11,180.0	15,952.2	11,180.0	41.0	44.9	-90.00	4,928.8	-758.6	1,025.1	939.8	85.36	12.010							
16,000.0	11,180.0	16,052.2	11,180.0	41.7	45.6	-90.00	5,028.8	-759.0	1,025.1	938.5	86.66	11.829							
16,100.0	11,180.0	16,152.2	11,180.0	42.4	46.2	-90.00	5,128.8	-759.4	1,025.1	937.2	87.98	11.652							
16,200.0	11,180.0	16,252.2	11,180.0	43.1	46.9	-90.00	5,228.8	-759.8	1,025.2	935.9	89.30	11.480							
16,300.0	11,180.0	16,352.2	11,180.0	43.8	47.5	-90.00	5,328.8	-760.2	1,025.2	934.5	90.62	11.312							
16,400.0	11,180.0	16,452.2	11,180.0	44.5	48.2	-90.00	5,428.8	-760.6	1,025.2	933.2	91.95	11.149							
16,500.0	11,180.0	16,552.2	11,180.0	45.2	48.8	-90.00	5,528.8	-761.0	1,025.2	931.9	93.29	10.989							
16,600.0	11,180.0	16,652.2	11,180.0	45.9	49.5	-90.00	5,628.8	-761.4	1,025.2	930.6	94.63	10.833							
16,700.0	11,180.0	16,752.2	11,180.0	46.6	50.1	-90.00	5,728.8	-761.9	1,025.2	929.2	95.98	10.681							
16,800.0	11,180.0	16,852.2	11,180.0	47.3	50.8	-90.00	5,828.8	-762.3	1,025.2	927.9	97.33	10.533							
16,900.0	11,180.0	16,952.2	11,180.0	48.0	51.5	-90.00	5,928.8	-762.7	1,025.2	926.5	98.69	10.388							
17,000.0	11,180.0	17,052.2	11,180.0	48.7	52.2	-90.00	6,028.8	-763.1	1,025.2	925.2	100.05	10.247							
17,100.0	11,180.0	17,152.2	11,180.0	49.5	52.8	-90.00	6,128.8	-763.5	1,025.2	923.8	101.42	10.109							
17,200.0	11,180.0	17,252.2	11,180.0	50.2	53.5	-90.00	6,228.8	-763.9	1,025.3	922.5	102.79	9.975							
17,300.0	11,180.0	17,352.2	11,180.0	50.9	54.2	-90.00	6,328.8	-764.3	1,025.3	921.1	104.16	9.843							
17,400.0	11,180.0	17,452.2	11,180.0	51.6	54.9	-90.00	6,428.8	-764.7	1,025.3	919.7	105.54	9.715							
17,500.0	11,180.0	17,552.2	11,180.0	52.3	55.5	-90.00	6,528.8	-765.1	1,025.3	918.4	106.92	9.589							
17,600.0	11,180.0	17,652.2	11,180.0	53.0	56.2	-90.00	6,628.8	-765.5	1,025.3	917.0	108.30	9.467							
17,700.0	11,180.0	17,752.2	11,180.0	53.8	56.9	-90.00	6,728.8	-765.9	1,025.3	915.6	109.69	9.347							
17,800.0	11,180.0	17,852.2	11,180.0	54.5	57.6	-90.00	6,828.8	-766.4	1,025.3	914.2	111.08	9.230							
17,900.0	11,180.0	17,952.2	11,180.0	55.2	58.3	-90.00	6,928.8	-766.8	1,025.3	912.8	112.48	9.116							
18,000.0	11,180.0	18,052.2	11,180.0	55.9	59.0	-90.00	7,028.8	-767.2	1,025.3	911.5	113.88	9.004							
18,100.0	11,180.0	18,152.2	11,180.0	56.7	59.7	-90.00	7,128.8	-767.6	1,025.3	910.1	115.28	8.895							
18,200.0	11,180.0	18,252.2	11,180.0	57.4	60.4	-90.00	7,228.8	-768.0	1,025.4	908.7	116.68	8.788							
18,300.0	11,180.0	18,352.2	11,180.0	58.1	61.1	-90.00	7,328.8	-768.4	1,025.4	907.3	118.08	8.683							
18,400.0	11,180.0	18,452.2	11,180.0	58.8	61.8	-90.00	7,428.8	-768.8	1,025.4	905.9	119.49	8.581							
18,500.0	11,180.0	18,552.2	11,180.0	59.6	62.5	-90.00	7,528.8	-769.2	1,025.4	904.5	120.90	8.481							
18,600.0	11,180.0	18,652.2	11,180.0	60.3	63.2	-90.00	7,628.8	-769.6	1,025.4	903.1	122.32	8.383							
18,700.0	11,180.0	18,752.2	11,180.0	61.0	63.9	-90.00	7,728.8	-770.0	1,025.4	901.7	123.73	8.287							
18,800.0	11,180.0	18,852.2	11,180.0	61.8	64.6	-90.00	7,828.8	-770.4	1,025.4	900.3	125.15	8.193							
18,900.0	11,180.0	18,952.2	11,180.0	62.5	65.3	-90.00	7,928.8	-770.9	1,025.4	898.9	126.57	8.102							
19,000.0	11,180.0	19,052.2	11,180.0	63.2	66.0	-90.00	8,028.8	-771.3	1,025.4	897.4	127.99	8.012							
19,100.0	11,180.0	19,152.2	11,180.0	64.0	66.7	-90.00	8,128.8	-771.7	1,025.4	896.0	129.42	7.924							
19,200.0	11,180.0	19,252.2	11,180.0	64.7	67.4	-90.00	8,228.8	-772.1	1,025.5	894.6	130.84	7.837							
19,300.0	11,180.0	19,352.2	11,180.0	65.5	68.1	-90.00	8,328.8	-772.5	1,025.5	893.2	132.27	7.753							
19,400.0	11,180.0	19,452.2	11,180.0	66.2	68.8	-90.00	8,428.8	-772.9	1,025.5	891.8	133.70	7.670							
19,500.0	11,180.0	19,552.2	11,180.0	66.9	69.6	-90.00	8,528.8	-773.3	1,025.5	890.4	135.13	7.589							
19,600.0	11,180.0	19,652.2	11,180.0	67.7	70.3	-90.00	8,628.8	-773.7	1,025.5	888.9	136.57	7.509							
19,700.0	11,180.0	19,752.2	11,180.0	68.4	71.0	-90.00	8,728.8	-774.1	1,025.5	887.5	138.00	7.431							
19,800.0	11,180.0	19,852.2	11,180.0	69.1	71.7	-90.00	8,828.8	-774.5	1,025.5	886.1	139.44	7.355							
19,900.0	11,180.0	19,952.2	11,180.0	69.9	72.4	-90.00	8,928.8	-774.9	1,025.5	884.7	140.88	7.280							
20,000.0	11,180.0	20,052.2	11,180.0	70.6	73.1	-90.00	9,028.8	-775.4	1,025.5	883.2	142.32	7.206							
20,100.0	11,180.0	20,152.2	11,180.0	71.4	73.9	-90.00	9,128.8	-775.8	1,025.6	881.8	143.76	7.134							
20,200.0	11,180.0	20,252.2	11,180.0	72.1	74.6	-90.00	9,228.8	-776.2	1,025.6	880.4	145.20	7.063							
20,300.0	11,180.0	20,352.2	11,180.0	72.9	75.3	-90.00	9,328.8	-776.6	1,025.6	878.9	146.65	6.994							
20,400.0	11,180.0	20,452.2	11,180.0	73.6	76.0	-90.00	9,428.8	-777.0	1,025.6	877.5	148.09	6.925							
20,500.0	11,180.0	20,552.2	11,180.0	74.3	76.8	-90.00	9,528.8	-777.4	1,025.6	876.1	149.54	6.858							
20,600.0	11,180.0	20,652.2	11,180.0	75.1	77.5	-90.00	9,628.8	-777.8	1,025.6	874.6	150.99	6.793							

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,180.0	20,752.2	11,180.0	75.8	78.2	-90.00	9,728.8	-778.2	1,025.6	873.2	152.43	6.728	
20,800.0	11,180.0	20,852.2	11,180.0	76.6	78.9	-90.00	9,828.8	-778.6	1,025.6	871.7	153.89	6.665	
20,900.0	11,180.0	20,952.2	11,180.0	77.3	79.7	-90.00	9,928.8	-779.0	1,025.6	870.3	155.34	6.603	
21,000.0	11,180.0	21,052.2	11,180.0	78.1	80.4	-90.00	10,028.8	-779.4	1,025.6	868.9	156.79	6.542	
21,100.0	11,180.0	21,152.2	11,180.0	78.8	81.1	-90.00	10,128.8	-779.9	1,025.7	867.4	158.24	6.481	
21,200.0	11,180.0	21,252.2	11,180.0	79.6	81.8	-90.00	10,228.8	-780.3	1,025.7	866.0	159.70	6.422	
21,300.0	11,180.0	21,352.2	11,180.0	80.3	82.6	-90.00	10,328.8	-780.7	1,025.7	864.5	161.16	6.365	
21,400.0	11,180.0	21,452.2	11,180.0	81.0	83.3	-90.00	10,428.8	-781.1	1,025.7	863.1	162.61	6.308	
21,500.0	11,180.0	21,552.2	11,180.0	81.8	84.0	-90.00	10,528.8	-781.5	1,025.7	861.6	164.07	6.252	
21,600.0	11,180.0	21,652.2	11,180.0	82.5	84.8	-90.00	10,628.8	-781.9	1,025.7	860.2	165.53	6.197	
21,700.0	11,180.0	21,752.2	11,180.0	83.3	85.5	-90.00	10,728.8	-782.3	1,025.7	858.7	166.99	6.142	
21,800.0	11,180.0	21,852.2	11,180.0	84.0	86.2	-90.00	10,828.8	-782.7	1,025.7	857.3	168.45	6.089	
21,900.0	11,180.0	21,952.2	11,180.0	84.8	87.0	-90.00	10,928.8	-783.1	1,025.7	855.8	169.91	6.037	
22,000.0	11,180.0	22,052.2	11,180.0	85.5	87.7	-90.00	11,028.8	-783.5	1,025.7	854.4	171.37	5.985	
22,100.0	11,180.0	22,152.2	11,180.0	86.3	88.4	-90.00	11,128.8	-783.9	1,025.8	852.9	172.84	5.935	
22,200.0	11,180.0	22,252.2	11,180.0	87.0	89.2	-90.00	11,228.8	-784.4	1,025.8	851.5	174.30	5.885	
22,300.0	11,180.0	22,352.2	11,180.0	87.8	89.9	-90.00	11,328.8	-784.8	1,025.8	850.0	175.77	5.836	
22,400.0	11,180.0	22,452.2	11,180.0	88.5	90.6	-90.00	11,428.8	-785.2	1,025.8	848.6	177.23	5.788	
22,500.0	11,180.0	22,552.2	11,180.0	89.3	91.4	-90.00	11,528.8	-785.6	1,025.8	847.1	178.70	5.740	
22,600.0	11,180.0	22,652.2	11,180.0	90.0	92.1	-90.00	11,628.8	-786.0	1,025.8	845.6	180.17	5.694	
22,700.0	11,180.0	22,752.2	11,180.0	90.8	92.9	-90.00	11,728.8	-786.4	1,025.8	844.2	181.64	5.648	
22,800.0	11,180.0	22,852.2	11,180.0	91.5	93.6	-90.00	11,828.8	-786.8	1,025.8	842.7	183.10	5.602	
22,900.0	11,180.0	22,952.2	11,180.0	92.3	94.3	-90.00	11,928.8	-787.2	1,025.8	841.3	184.57	5.558	
23,000.0	11,180.0	23,052.2	11,180.0	93.0	95.1	-90.00	12,028.8	-787.6	1,025.8	839.8	186.04	5.514	
23,100.0	11,180.0	23,152.2	11,180.0	93.8	95.8	-90.00	12,128.8	-788.0	1,025.9	838.3	187.52	5.471	
23,200.0	11,180.0	23,252.2	11,180.0	94.6	96.5	-90.00	12,228.8	-788.4	1,025.9	836.9	188.99	5.428	
23,300.0	11,180.0	23,352.2	11,180.0	95.3	97.3	-90.00	12,328.8	-788.9	1,025.9	835.4	190.46	5.386	
23,400.0	11,180.0	23,452.2	11,180.0	96.1	98.0	-90.00	12,428.8	-789.3	1,025.9	834.0	191.93	5.345	
23,500.0	11,180.0	23,552.2	11,180.0	96.8	98.8	-90.00	12,528.8	-789.7	1,025.9	832.5	193.41	5.304	
23,600.0	11,180.0	23,652.2	11,180.0	97.6	99.5	-90.00	12,628.8	-790.1	1,025.9	831.0	194.88	5.264	
23,700.0	11,180.0	23,752.2	11,180.0	98.3	100.3	-90.00	12,728.8	-790.5	1,025.9	829.6	196.35	5.225	
23,800.0	11,180.0	23,852.2	11,180.0	99.1	101.0	-90.00	12,828.8	-790.9	1,025.9	828.1	197.83	5.186	
23,900.0	11,180.0	23,952.2	11,180.0	99.8	101.7	-90.00	12,928.8	-791.3	1,025.9	826.6	199.31	5.148	
24,000.0	11,180.0	24,052.2	11,180.0	100.6	102.5	-90.00	13,028.8	-791.7	1,025.9	825.2	200.78	5.110	
24,100.0	11,180.0	24,152.2	11,180.0	101.3	103.2	-90.00	13,128.8	-792.1	1,026.0	823.7	202.26	5.073	
24,200.0	11,180.0	24,252.2	11,180.0	102.1	104.0	-90.00	13,228.8	-792.5	1,026.0	822.2	203.74	5.036	
24,300.0	11,180.0	24,352.2	11,180.0	102.8	104.7	-90.00	13,328.8	-792.9	1,026.0	820.8	205.21	5.000	
24,400.0	11,180.0	24,452.2	11,180.0	103.6	105.5	-90.00	13,428.8	-793.4	1,026.0	819.3	206.69	4.964	
24,500.0	11,180.0	24,552.2	11,180.0	104.3	106.2	-90.00	13,528.8	-793.8	1,026.0	817.8	208.17	4.929	
24,574.2	11,180.0	24,626.4	11,180.0	104.9	106.7	-90.00	13,603.0	-794.1	1,026.0	816.7	209.27	4.903	

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 #704H
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 #704H	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)				
0.0	0.0	0.0	0.0	3.0	3.0	-90.10	0.0	-30.0	30.0	23.5	6.43	4.660		
100.0	100.0	100.0	100.0	3.2	3.2	-90.10	0.0	-30.0	30.0	23.1	6.89	4.347		
200.0	200.0	200.0	200.0	3.5	3.5	-90.10	0.0	-30.0	30.0	22.6	7.33	4.088		
300.0	300.0	300.0	300.0	3.7	3.7	-90.10	0.0	-30.0	30.0	22.2	7.74	3.870		
400.0	400.0	400.0	400.0	3.9	3.9	-90.10	0.0	-30.0	30.0	21.8	8.14	3.683		
500.0	500.0	500.0	500.0	4.1	4.1	-90.10	0.0	-30.0	30.0	21.4	8.51	3.519		
600.0	600.0	600.0	600.0	4.2	4.2	-90.10	0.0	-30.0	30.0	21.1	8.88	3.375		
700.0	700.0	700.0	700.0	4.4	4.4	-90.10	0.0	-30.0	30.0	20.7	9.23	3.246		
800.0	800.0	800.0	800.0	4.6	4.6	-90.10	0.0	-30.0	30.0	20.4	9.57	3.130		
900.0	900.0	900.0	900.0	4.8	4.8	-90.10	0.0	-30.0	30.0	20.1	9.90	3.026		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.10	0.0	-30.0	30.0	19.7	10.22	2.930		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.10	0.0	-30.0	30.0	19.4	10.54	2.843		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.10	0.0	-30.0	30.0	19.1	10.85	2.762		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.10	0.0	-30.0	30.0	18.8	11.15	2.687		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.10	0.0	-30.0	30.0	18.5	11.44	2.618		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.10	0.0	-30.0	30.0	18.2	11.73	2.553		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-90.10	0.0	-30.0	30.0	17.9	12.02	2.493		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.10	0.0	-30.0	30.0	17.7	12.30	2.436		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-90.10	0.0	-30.0	30.0	17.4	12.58	2.382		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-90.10	0.0	-30.0	30.0	17.1	12.85	2.332		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-90.10	0.0	-30.0	30.0	16.8	13.12	2.284		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-90.10	0.0	-30.0	30.0	16.6	13.38	2.239		
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-90.10	0.0	-30.0	30.0	16.3	13.64	2.196		
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-90.10	0.0	-30.0	30.0	16.1	13.90	2.156		
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-90.10	0.0	-30.0	30.0	15.8	14.15	2.117		
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-90.10	0.0	-30.0	30.0	15.6	14.41	2.080 CC, ES, SF		
2,600.0	2,600.0	2,600.0	2,600.0	7.2	7.2	177.03	0.0	-30.0	31.3	16.6	14.67	2.131		
2,700.0	2,699.9	2,699.9	2,699.9	7.3	7.3	177.36	0.0	-30.0	35.2	20.3	14.93	2.356		
2,800.0	2,799.7	2,799.7	2,799.7	7.5	7.4	177.77	0.0	-30.0	41.7	26.5	15.21	2.743		
2,900.0	2,899.3	2,899.3	2,899.3	7.7	7.5	178.17	0.0	-30.0	50.9	35.4	15.50	3.281		
3,000.0	2,998.6	2,998.6	2,998.6	7.9	7.7	178.51	0.0	-30.0	62.6	46.8	15.82	3.959		
3,100.0	3,097.6	3,095.7	3,095.7	8.0	7.8	178.73	-0.1	-31.2	77.6	61.5	16.08	4.826		
3,200.0	3,196.6	3,191.9	3,191.9	8.2	7.9	178.80	-0.1	-34.8	95.2	78.8	16.40	5.808		
3,300.0	3,295.7	3,287.3	3,287.0	8.4	8.1	178.79	-0.2	-40.8	115.3	98.6	16.73	6.891		
3,400.0	3,394.7	3,381.6	3,381.0	8.7	8.2	178.74	-0.4	-49.0	137.8	120.7	17.09	8.065		
3,500.0	3,493.7	3,474.8	3,473.6	8.9	8.4	178.66	-0.6	-59.4	162.7	145.3	17.47	9.317		
3,600.0	3,592.8	3,568.4	3,566.4	9.2	8.5	178.57	-0.8	-72.0	189.8	172.0	17.83	10.644		
3,700.0	3,691.8	3,664.6	3,661.6	9.5	8.7	178.50	-1.0	-85.4	217.4	199.1	18.28	11.892		
3,800.0	3,790.8	3,760.7	3,756.8	9.8	8.9	178.44	-1.3	-98.8	244.9	226.1	18.76	13.056		
3,900.0	3,889.8	3,856.8	3,852.0	10.1	9.1	178.39	-1.5	-112.1	272.4	253.2	19.25	14.155		
4,000.0	3,988.9	3,955.1	3,949.3	10.4	9.3	178.36	-1.7	-125.5	299.7	279.9	19.78	15.153		
4,100.0	4,087.9	4,054.2	4,047.6	10.7	9.5	178.33	-1.9	-138.2	326.2	305.8	20.35	16.025		
4,200.0	4,186.9	4,153.8	4,146.5	11.0	9.8	178.32	-2.1	-150.1	351.8	330.9	20.94	16.797		
4,300.0	4,285.9	4,253.9	4,245.9	11.4	10.1	178.31	-2.3	-161.2	376.6	355.0	21.55	17.475		
4,400.0	4,385.0	4,354.4	4,345.9	11.7	10.3	178.31	-2.5	-171.4	400.5	378.3	22.17	18.067		
4,500.0	4,484.1	4,455.4	4,446.5	12.0	10.6	178.32	-2.7	-180.9	423.1	400.4	22.77	18.582		
4,600.0	4,583.4	4,557.2	4,547.9	12.4	10.9	178.32	-2.8	-189.4	443.2	419.8	23.40	18.941		
4,700.0	4,682.9	4,659.7	4,650.1	12.7	11.2	178.33	-3.0	-197.2	460.7	436.7	24.02	19.177		
4,800.0	4,782.5	4,762.8	4,753.0	13.0	11.4	178.33	-3.1	-204.1	475.6	451.0	24.64	19.302		
4,900.0	4,882.3	4,866.4	4,856.4	13.3	11.7	178.32	-3.2	-210.0	487.9	462.6	25.24	19.327		
5,000.0	4,982.2	4,970.4	4,960.3	13.6	12.0	178.32	-3.3	-215.1	497.5	471.7	25.82	19.266		
5,100.0	5,082.1	5,074.7	5,064.5	13.9	12.3	178.31	-3.4	-219.2	504.5	478.2	26.37	19.130		

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 #704H
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 #704H	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	5,182.1	5,179.2	5,169.0	14.1	12.5	178.31	-3.4	-222.4	508.9	482.0	26.86	18.944	
5,300.0	5,282.1	5,283.8	5,273.6	14.2	12.8	-88.70	-3.4	-224.6	511.0	483.9	27.16	18.814	
5,400.0	5,382.1	5,388.5	5,378.3	14.3	13.0	-88.71	-3.5	-225.9	512.3	484.8	27.45	18.664	
5,500.0	5,482.1	5,492.4	5,482.1	14.3	13.1	-88.71	-3.5	-226.2	512.6	484.9	27.62	18.555	
5,600.0	5,582.1	5,592.4	5,582.1	14.4	13.2	-88.71	-3.5	-226.2	512.6	484.8	27.76	18.467	
5,700.0	5,682.1	5,692.4	5,682.1	14.5	13.3	-88.71	-3.5	-226.2	512.6	484.7	27.89	18.379	
5,800.0	5,782.1	5,792.4	5,782.1	14.5	13.4	-88.71	-3.5	-226.2	512.6	484.6	28.02	18.291	
5,900.0	5,882.1	5,892.4	5,882.1	14.6	13.4	-88.71	-3.5	-226.2	512.6	484.4	28.16	18.205	
6,000.0	5,982.1	5,992.4	5,982.1	14.6	13.5	-88.71	-3.5	-226.2	512.6	484.3	28.29	18.119	
6,100.0	6,082.1	6,092.4	6,082.1	14.7	13.6	-88.71	-3.5	-226.2	512.6	484.1	28.42	18.034	
6,200.0	6,182.1	6,192.4	6,182.1	14.8	13.6	-88.71	-3.5	-226.2	512.6	484.0	28.56	17.949	
6,300.0	6,282.1	6,292.4	6,282.1	14.8	13.7	-88.71	-3.5	-226.2	512.6	483.9	28.69	17.865	
6,400.0	6,382.1	6,392.4	6,382.1	14.9	13.8	-88.71	-3.5	-226.2	512.6	483.7	28.83	17.781	
6,500.0	6,482.1	6,492.4	6,482.1	15.0	13.9	-88.71	-3.5	-226.2	512.6	483.6	28.96	17.699	
6,600.0	6,582.1	6,592.4	6,582.1	15.0	13.9	-88.71	-3.5	-226.2	512.6	483.5	29.10	17.616	
6,700.0	6,682.1	6,692.4	6,682.1	15.1	14.0	-88.71	-3.5	-226.2	512.6	483.3	29.23	17.535	
6,800.0	6,782.1	6,792.4	6,782.1	15.2	14.1	-88.71	-3.5	-226.2	512.6	483.2	29.37	17.454	
6,900.0	6,882.1	6,892.4	6,882.1	15.2	14.1	-88.71	-3.5	-226.2	512.6	483.1	29.50	17.373	
7,000.0	6,982.1	6,992.4	6,982.1	15.3	14.2	-88.71	-3.5	-226.2	512.6	482.9	29.64	17.293	
7,100.0	7,082.1	7,092.4	7,082.1	15.4	14.3	-88.71	-3.5	-226.2	512.6	482.8	29.78	17.214	
7,200.0	7,182.1	7,192.4	7,182.1	15.4	14.4	-88.71	-3.5	-226.2	512.6	482.7	29.91	17.135	
7,300.0	7,282.1	7,292.4	7,282.1	15.5	14.4	-88.71	-3.5	-226.2	512.6	482.5	30.05	17.057	
7,400.0	7,382.1	7,392.4	7,382.1	15.6	14.5	-88.71	-3.5	-226.2	512.6	482.4	30.19	16.980	
7,500.0	7,482.1	7,492.4	7,482.1	15.6	14.6	-88.71	-3.5	-226.2	512.6	482.2	30.32	16.903	
7,600.0	7,582.1	7,592.4	7,582.1	15.7	14.7	-88.71	-3.5	-226.2	512.6	482.1	30.46	16.826	
7,700.0	7,682.1	7,692.4	7,682.1	15.8	14.7	-88.71	-3.5	-226.2	512.6	482.0	30.60	16.751	
7,800.0	7,782.1	7,792.4	7,782.1	15.8	14.8	-88.71	-3.5	-226.2	512.6	481.8	30.74	16.675	
7,900.0	7,882.1	7,892.4	7,882.1	15.9	14.9	-88.71	-3.5	-226.2	512.6	481.7	30.88	16.601	
8,000.0	7,982.1	7,992.4	7,982.1	16.0	14.9	-88.71	-3.5	-226.2	512.6	481.6	31.02	16.526	
8,100.0	8,082.1	8,092.4	8,082.1	16.0	15.0	-88.71	-3.5	-226.2	512.6	481.4	31.15	16.453	
8,200.0	8,182.1	8,192.4	8,182.1	16.1	15.1	-88.71	-3.5	-226.2	512.6	481.3	31.29	16.380	
8,300.0	8,282.1	8,292.4	8,282.1	16.2	15.2	-88.71	-3.5	-226.2	512.6	481.1	31.43	16.307	
8,400.0	8,382.1	8,392.4	8,382.1	16.2	15.2	-88.71	-3.5	-226.2	512.6	481.0	31.57	16.235	
8,500.0	8,482.1	8,492.4	8,482.1	16.3	15.3	-88.71	-3.5	-226.2	512.6	480.9	31.71	16.164	
8,600.0	8,582.1	8,592.4	8,582.1	16.4	15.4	-88.71	-3.5	-226.2	512.6	480.7	31.85	16.093	
8,700.0	8,682.1	8,692.4	8,682.1	16.4	15.5	-88.71	-3.5	-226.2	512.6	480.6	31.99	16.022	
8,800.0	8,782.1	8,792.4	8,782.1	16.5	15.5	-88.71	-3.5	-226.2	512.6	480.4	32.13	15.952	
8,900.0	8,882.1	8,892.4	8,882.1	16.6	15.6	-88.71	-3.5	-226.2	512.6	480.3	32.27	15.883	
9,000.0	8,982.1	8,992.4	8,982.1	16.6	15.7	-88.71	-3.5	-226.2	512.6	480.2	32.41	15.814	
9,100.0	9,082.1	9,092.4	9,082.1	16.7	15.8	-88.71	-3.5	-226.2	512.6	480.0	32.55	15.745	
9,200.0	9,182.1	9,192.4	9,182.1	16.8	15.8	-88.71	-3.5	-226.2	512.6	479.9	32.69	15.678	
9,300.0	9,282.1	9,292.4	9,282.1	16.9	15.9	-88.71	-3.5	-226.2	512.6	479.7	32.84	15.610	
9,400.0	9,382.1	9,392.4	9,382.1	16.9	16.0	-88.71	-3.5	-226.2	512.6	479.6	32.98	15.543	
9,500.0	9,482.1	9,492.4	9,482.1	17.0	16.1	-88.71	-3.5	-226.2	512.6	479.5	33.12	15.477	
9,600.0	9,582.1	9,592.4	9,582.1	17.1	16.1	-88.71	-3.5	-226.2	512.6	479.3	33.26	15.411	
9,700.0	9,682.1	9,692.4	9,682.1	17.1	16.2	-88.71	-3.5	-226.2	512.6	479.2	33.40	15.345	
9,800.0	9,782.1	9,792.4	9,782.1	17.2	16.3	-88.71	-3.5	-226.2	512.6	479.0	33.54	15.280	
9,900.0	9,882.1	9,892.4	9,882.1	17.3	16.4	-88.71	-3.5	-226.2	512.6	478.9	33.69	15.216	
10,000.0	9,982.1	9,992.4	9,982.1	17.3	16.4	-88.71	-3.5	-226.2	512.6	478.7	33.83	15.152	
10,100.0	10,082.1	10,092.4	10,082.1	17.4	16.5	-88.71	-3.5	-226.2	512.6	478.6	33.97	15.088	
10,200.0	10,182.1	10,192.4	10,182.1	17.5	16.6	-88.71	-3.5	-226.2	512.6	478.5	34.11	15.025	
10,300.0	10,282.1	10,292.4	10,282.1	17.5	16.7	-88.71	-3.5	-226.2	512.6	478.3	34.26	14.962	

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 #704H
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 #704H	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								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	10,382.1	10,392.4	10,382.1	17.6	16.7	-88.71	-3.5	-226.2	512.6	478.2	34.40	14.900				
10,500.0	10,482.1	10,492.4	10,482.1	17.7	16.8	-88.71	-3.5	-226.2	512.6	478.0	34.54	14.838				
10,600.0	10,582.1	10,592.4	10,582.1	17.8	16.9	-88.71	-3.5	-226.2	512.6	477.9	34.69	14.777				
10,700.0	10,681.9	10,692.2	10,681.9	17.8	17.0	-89.04	-3.5	-226.2	512.5	477.7	34.80	14.727				
10,749.8	10,731.0	10,741.2	10,731.0	17.8	17.0	-90.00	-3.5	-226.2	512.4	477.5	34.85	14.704				
10,800.0	10,779.4	10,789.7	10,779.5	17.8	17.0	-91.39	-3.5	-226.2	512.6	477.7	34.90	14.687				
10,900.0	10,871.7	10,890.1	10,879.3	17.9	17.1	-94.55	5.7	-226.2	514.2	479.2	34.97	14.702				
11,000.0	10,955.9	10,996.4	10,981.5	17.9	17.1	-97.66	34.3	-226.3	517.4	482.4	35.06	14.759				
11,100.0	11,029.5	11,109.5	11,082.5	18.0	17.2	-100.60	84.8	-226.5	522.0	486.7	35.22	14.819				
11,200.0	11,090.3	11,230.0	11,177.0	18.1	17.3	-103.27	159.2	-226.8	527.2	491.7	35.54	14.833				
11,300.0	11,136.4	11,358.0	11,257.9	18.2	17.5	-105.53	258.0	-227.2	532.5	496.4	36.04	14.775				
11,400.0	11,166.4	11,492.8	11,317.3	18.3	17.6	-107.22	378.7	-227.7	536.8	500.2	36.64	14.652				
11,500.0	11,179.4	11,632.7	11,347.4	18.4	17.8	-108.20	515.0	-228.3	539.5	502.3	37.18	14.508				
11,600.0	11,180.0	11,748.8	11,350.0	18.5	17.9	-108.35	631.0	-228.7	539.9	502.3	37.54	14.383				
11,700.0	11,180.0	11,848.8	11,350.0	18.7	18.0	-108.35	731.0	-229.1	539.9	502.0	37.92	14.239				
11,800.0	11,180.0	11,948.8	11,350.0	18.9	18.2	-108.35	831.0	-229.5	539.9	501.5	38.35	14.077				
11,900.0	11,180.0	12,048.8	11,350.0	19.1	18.4	-108.35	931.0	-230.0	539.9	501.1	38.84	13.899				
12,000.0	11,180.0	12,148.8	11,350.0	19.3	18.7	-108.35	1,031.0	-230.4	539.9	500.5	39.39	13.707				
12,100.0	11,180.0	12,248.8	11,350.0	19.6	18.9	-108.35	1,131.0	-230.8	539.9	499.9	39.98	13.503				
12,200.0	11,180.0	12,348.8	11,350.0	19.9	19.2	-108.35	1,231.0	-231.2	539.9	499.3	40.63	13.289				
12,300.0	11,180.0	12,448.8	11,350.0	20.2	19.6	-108.35	1,331.0	-231.6	539.9	498.6	41.32	13.068				
12,400.0	11,180.0	12,548.8	11,350.0	20.6	19.9	-108.35	1,431.0	-232.0	539.9	497.9	42.05	12.840				
12,500.0	11,180.0	12,648.8	11,350.0	21.0	20.3	-108.35	1,531.0	-232.4	539.9	497.1	42.83	12.607				
12,600.0	11,180.0	12,748.8	11,350.0	21.4	20.7	-108.35	1,631.0	-232.8	539.9	496.3	43.64	12.372				
12,700.0	11,180.0	12,848.8	11,350.0	21.8	21.2	-108.35	1,731.0	-233.2	539.9	495.4	44.49	12.135				
12,800.0	11,180.0	12,948.8	11,350.0	22.2	21.6	-108.35	1,831.0	-233.6	539.9	494.6	45.38	11.898				
12,900.0	11,180.0	13,048.8	11,350.0	22.7	22.1	-108.35	1,931.0	-234.0	539.9	493.6	46.30	11.662				
13,000.0	11,180.0	13,148.8	11,350.0	23.2	22.5	-108.35	2,031.0	-234.4	539.9	492.7	47.25	11.427				
13,100.0	11,180.0	13,248.8	11,350.0	23.7	23.0	-108.35	2,131.0	-234.8	539.9	491.7	48.23	11.195				
13,200.0	11,180.0	13,348.8	11,350.0	24.2	23.6	-108.35	2,231.0	-235.2	540.0	490.7	49.24	10.966				
13,300.0	11,180.0	13,448.8	11,350.0	24.7	24.1	-108.35	2,331.0	-235.6	540.0	489.7	50.27	10.740				
13,400.0	11,180.0	13,548.8	11,350.0	25.2	24.6	-108.35	2,431.0	-236.0	540.0	488.6	51.33	10.519				
13,500.0	11,180.0	13,648.8	11,350.0	25.8	25.2	-108.35	2,531.0	-236.4	540.0	487.6	52.41	10.302				
13,600.0	11,180.0	13,748.8	11,350.0	26.3	25.7	-108.35	2,631.0	-236.8	540.0	486.5	53.51	10.090				
13,700.0	11,180.0	13,848.8	11,350.0	26.9	26.3	-108.35	2,731.0	-237.2	540.0	485.3	54.64	9.883				
13,800.0	11,180.0	13,948.8	11,350.0	27.4	26.9	-108.35	2,831.0	-237.6	540.0	484.2	55.78	9.681				
13,900.0	11,180.0	14,048.8	11,350.0	28.0	27.5	-108.35	2,931.0	-238.0	540.0	483.0	56.94	9.484				
14,000.0	11,180.0	14,148.8	11,350.0	28.6	28.1	-108.35	3,031.0	-238.4	540.0	481.9	58.11	9.292				
14,100.0	11,180.0	14,248.8	11,350.0	29.2	28.7	-108.35	3,131.0	-238.8	540.0	480.7	59.30	9.106				
14,200.0	11,180.0	14,348.8	11,350.0	29.8	29.3	-108.35	3,231.0	-239.2	540.0	479.5	60.51	8.924				
14,300.0	11,180.0	14,448.8	11,350.0	30.5	29.9	-108.35	3,331.0	-239.6	540.0	478.3	61.73	8.748				
14,400.0	11,180.0	14,548.8	11,350.0	31.1	30.6	-108.35	3,431.0	-240.0	540.0	477.0	62.96	8.577				
14,500.0	11,180.0	14,648.8	11,350.0	31.7	31.2	-108.35	3,531.0	-240.4	540.0	475.8	64.20	8.411				
14,600.0	11,180.0	14,748.8	11,350.0	32.3	31.9	-108.35	3,631.0	-240.8	540.0	474.6	65.46	8.249				
14,700.0	11,180.0	14,848.8	11,350.0	33.0	32.5	-108.35	3,731.0	-241.2	540.0	473.3	66.73	8.093				
14,800.0	11,180.0	14,948.8	11,350.0	33.6	33.2	-108.35	3,831.0	-241.6	540.0	472.0	68.01	7.941				
14,900.0	11,180.0	15,048.8	11,350.0	34.3	33.8	-108.35	3,931.0	-242.1	540.0	470.7	69.29	7.793				
15,000.0	11,180.0	15,148.8	11,350.0	34.9	34.5	-108.35	4,031.0	-242.5	540.0	469.4	70.59	7.650				
15,100.0	11,180.0	15,248.8	11,350.0	35.6	35.1	-108.35	4,131.0	-242.9	540.0	468.1	71.89	7.512				
15,200.0	11,180.0	15,348.8	11,350.0	36.3	35.8	-108.35	4,231.0	-243.3	540.0	466.8	73.21	7.377				
15,300.0	11,180.0	15,448.8	11,350.0	36.9	36.5	-108.35	4,331.0	-243.7	540.0	465.5	74.53	7.246				
15,400.0	11,180.0	15,548.8	11,350.0	37.6	37.2	-108.35	4,431.0	-244.1	540.0	464.2	75.86	7.119				

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 #704H
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 #704H	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)			
15,500.0	11,180.0	15,648.8	11,350.0	38.3	37.8	-108.35	4,531.0	-244.5	540.1	462.9	77.19	6.996	
15,600.0	11,180.0	15,748.8	11,350.0	39.0	38.5	-108.35	4,631.0	-244.9	540.1	461.5	78.53	6.877	
15,700.0	11,180.0	15,848.8	11,350.0	39.6	39.2	-108.35	4,731.0	-245.3	540.1	460.2	79.88	6.761	
15,800.0	11,180.0	15,948.8	11,350.0	40.3	39.9	-108.35	4,831.0	-245.7	540.1	458.8	81.24	6.648	
15,900.0	11,180.0	16,048.8	11,350.0	41.0	40.6	-108.35	4,931.0	-246.1	540.1	457.5	82.60	6.539	
16,000.0	11,180.0	16,148.8	11,350.0	41.7	41.3	-108.35	5,031.0	-246.5	540.1	456.1	83.96	6.432	
16,100.0	11,180.0	16,248.8	11,350.0	42.4	42.0	-108.35	5,131.0	-246.9	540.1	454.7	85.33	6.329	
16,200.0	11,180.0	16,348.8	11,350.0	43.1	42.7	-108.35	5,231.0	-247.3	540.1	453.4	86.71	6.229	
16,300.0	11,180.0	16,448.8	11,350.0	43.8	43.4	-108.35	5,331.0	-247.7	540.1	452.0	88.09	6.131	
16,400.0	11,180.0	16,548.8	11,350.0	44.5	44.1	-108.35	5,431.0	-248.1	540.1	450.6	89.47	6.037	
16,500.0	11,180.0	16,648.8	11,350.0	45.2	44.8	-108.35	5,531.0	-248.5	540.1	449.2	90.86	5.944	
16,600.0	11,180.0	16,748.8	11,350.0	45.9	45.5	-108.35	5,631.0	-248.9	540.1	447.8	92.25	5.855	
16,700.0	11,180.0	16,848.8	11,350.0	46.6	46.2	-108.35	5,731.0	-249.3	540.1	446.5	93.65	5.767	
16,800.0	11,180.0	16,948.8	11,350.0	47.3	46.9	-108.35	5,831.0	-249.7	540.1	445.1	95.05	5.682	
16,900.0	11,180.0	17,048.8	11,350.0	48.0	47.7	-108.35	5,931.0	-250.1	540.1	443.7	96.45	5.600	
17,000.0	11,180.0	17,148.8	11,350.0	48.7	48.4	-108.35	6,031.0	-250.5	540.1	442.3	97.86	5.519	
17,100.0	11,180.0	17,248.8	11,350.0	49.5	49.1	-108.35	6,131.0	-250.9	540.1	440.9	99.27	5.441	
17,200.0	11,180.0	17,348.8	11,350.0	50.2	49.8	-108.35	6,231.0	-251.3	540.1	439.4	100.68	5.365	
17,300.0	11,180.0	17,448.8	11,350.0	50.9	50.5	-108.35	6,331.0	-251.7	540.1	438.0	102.10	5.290	
17,400.0	11,180.0	17,548.8	11,350.0	51.6	51.2	-108.34	6,431.0	-252.1	540.1	436.6	103.52	5.218	
17,500.0	11,180.0	17,648.8	11,350.0	52.3	52.0	-108.34	6,531.0	-252.5	540.1	435.2	104.94	5.147	
17,600.0	11,180.0	17,748.8	11,350.0	53.0	52.7	-108.34	6,631.0	-252.9	540.1	433.8	106.37	5.078	
17,700.0	11,180.0	17,848.8	11,350.0	53.8	53.4	-108.34	6,731.0	-253.3	540.1	432.4	107.79	5.011	
17,800.0	11,180.0	17,948.8	11,350.0	54.5	54.1	-108.34	6,831.0	-253.7	540.1	430.9	109.22	4.945	
17,900.0	11,180.0	18,048.8	11,350.0	55.2	54.9	-108.34	6,931.0	-254.2	540.2	429.5	110.65	4.881	
18,000.0	11,180.0	18,148.8	11,350.0	55.9	55.6	-108.34	7,031.0	-254.6	540.2	428.1	112.09	4.819	
18,100.0	11,180.0	18,248.8	11,350.0	56.7	56.3	-108.34	7,131.0	-255.0	540.2	426.6	113.52	4.758	
18,200.0	11,180.0	18,348.8	11,350.0	57.4	57.1	-108.34	7,231.0	-255.4	540.2	425.2	114.96	4.699	
18,300.0	11,180.0	18,448.8	11,350.0	58.1	57.8	-108.34	7,331.0	-255.8	540.2	423.8	116.40	4.641	
18,400.0	11,180.0	18,548.8	11,350.0	58.8	58.5	-108.34	7,431.0	-256.2	540.2	422.3	117.84	4.584	
18,500.0	11,180.0	18,648.8	11,350.0	59.6	59.3	-108.34	7,531.0	-256.6	540.2	420.9	119.29	4.528	
18,600.0	11,180.0	18,748.8	11,350.0	60.3	60.0	-108.34	7,631.0	-257.0	540.2	419.4	120.73	4.474	
18,700.0	11,180.0	18,848.8	11,350.0	61.0	60.7	-108.34	7,731.0	-257.4	540.2	418.0	122.18	4.421	
18,800.0	11,180.0	18,948.8	11,350.0	61.8	61.5	-108.34	7,830.9	-257.8	540.2	416.6	123.63	4.369	
18,900.0	11,180.0	19,048.8	11,350.0	62.5	62.2	-108.34	7,930.9	-258.2	540.2	415.1	125.08	4.319	
19,000.0	11,180.0	19,148.8	11,350.0	63.2	62.9	-108.34	8,030.9	-258.6	540.2	413.7	126.53	4.269	
19,100.0	11,180.0	19,248.8	11,350.0	64.0	63.7	-108.34	8,130.9	-259.0	540.2	412.2	127.99	4.221	
19,200.0	11,180.0	19,348.8	11,350.0	64.7	64.4	-108.34	8,230.9	-259.4	540.2	410.8	129.44	4.173	
19,300.0	11,180.0	19,448.8	11,350.0	65.5	65.1	-108.34	8,330.9	-259.8	540.2	409.3	130.90	4.127	
19,400.0	11,180.0	19,548.8	11,350.0	66.2	65.9	-108.34	8,430.9	-260.2	540.2	407.9	132.36	4.081	
19,500.0	11,180.0	19,648.8	11,350.0	66.9	66.6	-108.34	8,530.9	-260.6	540.2	406.4	133.82	4.037	
19,600.0	11,180.0	19,748.8	11,350.0	67.7	67.4	-108.34	8,630.9	-261.0	540.2	404.9	135.28	3.993	
19,700.0	11,180.0	19,848.8	11,350.0	68.4	68.1	-108.34	8,730.9	-261.4	540.2	403.5	136.74	3.951	
19,800.0	11,180.0	19,948.8	11,350.0	69.1	68.8	-108.34	8,830.9	-261.8	540.2	402.0	138.20	3.909	
19,900.0	11,180.0	20,048.8	11,350.0	69.9	69.6	-108.34	8,930.9	-262.2	540.2	400.6	139.67	3.868	
20,000.0	11,180.0	20,148.8	11,350.0	70.6	70.3	-108.34	9,030.9	-262.6	540.2	399.1	141.13	3.828	
20,100.0	11,180.0	20,248.8	11,350.0	71.4	71.1	-108.34	9,130.9	-263.0	540.2	397.6	142.60	3.789	
20,200.0	11,180.0	20,348.8	11,350.0	72.1	71.8	-108.34	9,230.9	-263.4	540.3	396.2	144.07	3.750	
20,300.0	11,180.0	20,448.8	11,350.0	72.9	72.6	-108.34	9,330.9	-263.8	540.3	394.7	145.53	3.712	
20,400.0	11,180.0	20,548.8	11,350.0	73.6	73.3	-108.34	9,430.9	-264.2	540.3	393.3	147.00	3.675	
20,500.0	11,180.0	20,648.8	11,350.0	74.3	74.1	-108.34	9,530.9	-264.6	540.3	391.8	148.47	3.639	
20,600.0	11,180.0	20,748.8	11,350.0	75.1	74.8	-108.34	9,630.9	-265.0	540.3	390.3	149.95	3.603	

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 #704H
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 #704H	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			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	
20,700.0	11,180.0	20,848.8	11,350.0	75.8	75.5	-108.34	9,730.9	-265.4	540.3	388.9	151.42	3.568	
20,800.0	11,180.0	20,948.8	11,350.0	76.6	76.3	-108.34	9,830.9	-265.8	540.3	387.4	152.89	3.534	
20,900.0	11,180.0	21,048.8	11,350.0	77.3	77.0	-108.34	9,930.9	-266.3	540.3	385.9	154.36	3.500	
21,000.0	11,180.0	21,148.8	11,350.0	78.1	77.8	-108.34	10,030.9	-266.7	540.3	384.4	155.84	3.467	
21,100.0	11,180.0	21,248.8	11,350.0	78.8	78.5	-108.34	10,130.9	-267.1	540.3	383.0	157.31	3.434	
21,200.0	11,180.0	21,348.8	11,350.0	79.6	79.3	-108.34	10,230.9	-267.5	540.3	381.5	158.79	3.403	
21,300.0	11,180.0	21,448.8	11,350.0	80.3	80.0	-108.34	10,330.9	-267.9	540.3	380.0	160.27	3.371	
21,400.0	11,180.0	21,548.8	11,350.0	81.0	80.8	-108.34	10,430.9	-268.3	540.3	378.6	161.74	3.340	
21,500.0	11,180.0	21,648.8	11,350.0	81.8	81.5	-108.34	10,530.9	-268.7	540.3	377.1	163.22	3.310	
21,600.0	11,180.0	21,748.8	11,350.0	82.5	82.3	-108.34	10,630.9	-269.1	540.3	375.6	164.70	3.281	
21,700.0	11,180.0	21,848.8	11,350.0	83.3	83.0	-108.34	10,730.9	-269.5	540.3	374.1	166.18	3.251	
21,800.0	11,180.0	21,948.8	11,350.0	84.0	83.8	-108.34	10,830.9	-269.9	540.3	372.7	167.66	3.223	
21,900.0	11,180.0	22,048.8	11,350.0	84.8	84.5	-108.34	10,930.9	-270.3	540.3	371.2	169.14	3.194	
22,000.0	11,180.0	22,148.8	11,350.0	85.5	85.3	-108.34	11,030.9	-270.7	540.3	369.7	170.63	3.167	
22,100.0	11,180.0	22,248.8	11,350.0	86.3	86.0	-108.34	11,130.9	-271.1	540.3	368.2	172.11	3.140	
22,200.0	11,180.0	22,348.8	11,350.0	87.0	86.8	-108.34	11,230.9	-271.5	540.3	366.7	173.59	3.113	
22,300.0	11,180.0	22,448.8	11,350.0	87.8	87.5	-108.34	11,330.9	-271.9	540.3	365.3	175.07	3.086	
22,400.0	11,180.0	22,548.8	11,350.0	88.5	88.3	-108.34	11,430.9	-272.3	540.3	363.8	176.56	3.060	
22,500.0	11,180.0	22,648.8	11,350.0	89.3	89.0	-108.34	11,530.9	-272.7	540.3	362.3	178.04	3.035	
22,600.0	11,180.0	22,748.8	11,350.0	90.0	89.8	-108.34	11,630.9	-273.1	540.4	360.8	179.53	3.010	
22,700.0	11,180.0	22,848.8	11,350.0	90.8	90.5	-108.34	11,730.9	-273.5	540.4	359.3	181.01	2.985	
22,800.0	11,180.0	22,948.8	11,350.0	91.5	91.3	-108.34	11,830.9	-273.9	540.4	357.9	182.50	2.961	
22,900.0	11,180.0	23,048.8	11,350.0	92.3	92.0	-108.34	11,930.9	-274.3	540.4	356.4	183.99	2.937	
23,000.0	11,180.0	23,148.8	11,350.0	93.0	92.8	-108.34	12,030.9	-274.7	540.4	354.9	185.47	2.913	
23,100.0	11,180.0	23,248.8	11,350.0	93.8	93.5	-108.34	12,130.9	-275.1	540.4	353.4	186.96	2.890	
23,200.0	11,180.0	23,348.8	11,350.0	94.6	94.3	-108.34	12,230.9	-275.5	540.4	351.9	188.45	2.868	
23,300.0	11,180.0	23,448.8	11,350.0	95.3	95.1	-108.34	12,330.9	-275.9	540.4	350.4	189.94	2.845	
23,400.0	11,180.0	23,548.8	11,350.0	96.1	95.8	-108.34	12,430.9	-276.3	540.4	349.0	191.43	2.823	
23,500.0	11,180.0	23,648.8	11,350.0	96.8	96.6	-108.34	12,530.9	-276.7	540.4	347.5	192.91	2.801	
23,600.0	11,180.0	23,748.8	11,350.0	97.6	97.3	-108.34	12,630.9	-277.1	540.4	346.0	194.40	2.780	
23,700.0	11,180.0	23,848.8	11,350.0	98.3	98.1	-108.34	12,730.9	-277.5	540.4	344.5	195.89	2.759	
23,800.0	11,180.0	23,948.8	11,350.0	99.1	98.8	-108.34	12,830.9	-277.9	540.4	343.0	197.39	2.738	
23,900.0	11,180.0	24,048.8	11,350.0	99.8	99.6	-108.34	12,930.9	-278.4	540.4	341.5	198.88	2.717	
24,000.0	11,180.0	24,148.8	11,350.0	100.6	100.3	-108.34	13,030.9	-278.8	540.4	340.0	200.37	2.697	
24,100.0	11,180.0	24,248.8	11,350.0	101.3	101.1	-108.33	13,130.9	-279.2	540.4	338.6	201.86	2.677	
24,200.0	11,180.0	24,348.8	11,350.0	102.1	101.8	-108.33	13,230.9	-279.6	540.4	337.1	203.35	2.658	
24,300.0	11,180.0	24,448.8	11,350.0	102.8	102.6	-108.33	13,330.9	-280.0	540.4	335.6	204.84	2.638	
24,400.0	11,180.0	24,548.8	11,350.0	103.6	103.4	-108.33	13,430.9	-280.4	540.4	334.1	206.34	2.619	
24,500.0	11,180.0	24,648.8	11,350.0	104.3	104.1	-108.33	13,530.9	-280.8	540.4	332.6	207.83	2.600	
24,574.2	11,180.0	24,723.0	11,350.0	104.9	104.6	-108.33	13,605.1	-281.1	540.4	331.5	208.90	2.587	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	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)				
0.0	0.0	0.0	0.0	3.0	3.0	89.98	0.0	30.0	30.0	23.6	6.43	4.668		
100.0	100.0	100.0	100.0	3.2	3.2	89.98	0.0	30.0	30.0	23.1	6.89	4.354		
200.0	200.0	200.0	200.0	3.5	3.5	89.98	0.0	30.0	30.0	22.7	7.33	4.095		
300.0	300.0	300.0	300.0	3.7	3.7	89.98	0.0	30.0	30.0	22.3	7.74	3.877		
400.0	400.0	400.0	400.0	3.9	3.9	89.98	0.0	30.0	30.0	21.9	8.14	3.689		
500.0	500.0	500.0	500.0	4.1	4.1	89.98	0.0	30.0	30.0	21.5	8.51	3.525		
600.0	600.0	600.0	600.0	4.2	4.2	89.98	0.0	30.0	30.0	21.1	8.88	3.380		
700.0	700.0	700.0	700.0	4.4	4.4	89.98	0.0	30.0	30.0	20.8	9.23	3.252		
800.0	800.0	800.0	800.0	4.6	4.6	89.98	0.0	30.0	30.0	20.4	9.57	3.136		
900.0	900.0	900.0	900.0	4.8	4.8	89.98	0.0	30.0	30.0	20.1	9.90	3.031		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.98	0.0	30.0	30.0	19.8	10.22	2.935		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.98	0.0	30.0	30.0	19.5	10.54	2.847		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.98	0.0	30.0	30.0	19.2	10.85	2.767		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.98	0.0	30.0	30.0	18.9	11.15	2.692		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.98	0.0	30.0	30.0	18.6	11.44	2.622		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.98	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	89.98	0.0	30.0	30.0	18.0	12.02	2.497		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	89.98	0.0	30.0	30.0	17.7	12.30	2.440		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	89.98	0.0	30.0	30.0	17.4	12.58	2.386	CC, ES, SF	
1,900.0	1,900.0	1,899.4	1,899.4	6.3	6.3	91.68	-0.9	30.9	30.9	18.1	12.85	2.409		
2,000.0	2,000.0	1,998.7	1,998.6	6.4	6.4	96.18	-3.6	33.7	33.9	20.8	13.10	2.586		
2,100.0	2,100.0	2,097.7	2,097.4	6.5	6.6	102.10	-8.2	38.2	39.2	25.8	13.37	2.928		
2,200.0	2,200.0	2,196.4	2,195.7	6.7	6.8	108.06	-14.5	44.5	47.0	33.4	13.66	3.444		
2,300.0	2,300.0	2,295.8	2,294.5	6.8	6.9	112.85	-21.9	51.9	56.6	42.6	13.96	4.052		
2,400.0	2,400.0	2,395.2	2,393.4	6.9	7.1	116.25	-29.2	59.2	66.4	52.1	14.28	4.647		
2,500.0	2,500.0	2,494.7	2,492.3	7.0	7.3	118.77	-36.6	66.6	76.4	61.7	14.62	5.223		
2,600.0	2,600.0	2,594.2	2,591.3	7.2	7.6	28.06	-43.9	73.9	85.3	70.3	14.98	5.693		
2,700.0	2,699.9	2,693.9	2,690.5	7.3	7.8	30.72	-51.3	81.3	92.1	76.7	15.36	5.994		
2,800.0	2,799.7	2,792.9	2,788.9	7.5	8.1	33.03	-57.7	89.7	97.2	81.5	15.75	6.172		
2,900.0	2,899.3	2,892.0	2,887.3	7.7	8.3	34.07	-62.0	100.7	101.1	84.9	16.17	6.251		
3,000.0	2,998.6	2,991.2	2,985.5	7.9	8.6	34.01	-64.0	114.4	103.6	87.0	16.62	6.233		
3,100.0	3,097.6	3,090.4	3,083.4	8.0	8.8	32.78	-63.9	130.6	105.2	88.2	16.98	6.194		
3,200.0	3,196.6	3,190.4	3,181.8	8.2	9.1	30.95	-62.9	147.9	107.1	89.6	17.45	6.135		
3,300.0	3,295.7	3,290.3	3,280.2	8.4	9.4	29.18	-61.9	165.2	109.1	91.1	17.95	6.075		
3,400.0	3,394.7	3,390.2	3,378.6	8.7	9.7	27.48	-60.9	182.6	111.1	92.7	18.48	6.014		
3,500.0	3,493.7	3,490.1	3,477.0	8.9	10.0	25.84	-59.9	199.9	113.3	94.3	19.04	5.952		
3,600.0	3,592.8	3,590.1	3,575.4	9.2	10.3	24.27	-58.9	217.2	115.6	96.0	19.63	5.890		
3,700.0	3,691.8	3,690.0	3,673.9	9.5	10.7	22.75	-58.0	234.5	117.9	97.7	20.24	5.828		
3,800.0	3,790.8	3,789.9	3,772.3	9.8	11.0	21.30	-57.0	251.8	120.4	99.5	20.87	5.768		
3,900.0	3,889.8	3,889.8	3,870.7	10.1	11.4	19.91	-56.0	269.2	122.9	101.4	21.53	5.709		
4,000.0	3,988.9	3,989.8	3,969.1	10.4	11.7	18.57	-55.0	286.5	125.5	103.3	22.20	5.651		
4,100.0	4,087.9	4,089.7	4,067.5	10.7	12.1	17.29	-54.0	303.8	128.1	105.2	22.89	5.596		
4,200.0	4,186.9	4,189.6	4,165.9	11.0	12.5	16.05	-53.0	321.1	130.8	107.2	23.60	5.542		
4,300.0	4,285.9	4,289.5	4,264.3	11.4	12.8	14.87	-52.1	338.5	133.6	109.2	24.33	5.491		
4,400.0	4,385.0	4,389.5	4,362.7	11.7	13.2	13.74	-51.1	355.8	136.4	111.3	25.06	5.442		
4,500.0	4,484.1	4,489.4	4,461.1	12.0	13.6	12.62	-50.1	373.1	139.7	113.9	25.78	5.419		
4,600.0	4,583.4	4,589.2	4,559.4	12.4	14.0	11.42	-49.1	390.4	144.8	118.2	26.54	5.456		
4,700.0	4,682.9	4,688.9	4,657.6	12.7	14.4	10.18	-48.1	407.7	151.6	124.3	27.28	5.556		
4,800.0	4,782.5	4,788.5	4,755.7	13.0	14.8	8.96	-47.1	425.0	160.2	132.2	28.03	5.716		
4,900.0	4,882.3	4,887.9	4,853.5	13.3	15.2	7.78	-46.2	442.2	170.6	141.8	28.76	5.932		
5,000.0	4,982.2	4,987.1	4,951.2	13.6	15.6	6.68	-45.2	459.4	182.8	153.3	29.48	6.201		
5,100.0	5,082.1	5,086.0	5,048.7	13.9	16.0	5.67	-44.2	476.6	196.8	166.6	30.17	6.522		

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 #704H
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 #704H	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	5,182.1	5,184.7	5,145.9	14.1	16.4	4.75	-43.2	493.7	212.5	181.7	30.81	6.896		
5,300.0	5,282.1	5,283.2	5,242.9	14.2	16.8	96.93	-42.3	510.7	229.5	198.2	31.31	7.330		
5,400.0	5,382.1	5,381.7	5,339.9	14.3	17.2	96.21	-41.3	527.8	246.6	214.8	31.82	7.751		
5,500.0	5,482.1	5,480.2	5,436.8	14.3	17.6	95.59	-40.3	544.9	263.8	231.5	32.33	8.160		
5,600.0	5,582.1	5,578.7	5,533.8	14.4	18.0	95.05	-39.4	562.0	281.0	248.1	32.84	8.556		
5,700.0	5,682.1	5,677.1	5,630.8	14.5	18.4	94.57	-38.4	579.0	298.2	264.8	33.35	8.939		
5,800.0	5,782.1	5,775.6	5,727.8	14.5	18.8	94.14	-37.4	596.1	315.4	281.5	33.88	9.310		
5,900.0	5,882.1	5,874.1	5,824.8	14.6	19.3	93.76	-36.5	613.2	332.6	298.2	34.40	9.669		
6,000.0	5,982.1	5,972.6	5,921.8	14.6	19.7	93.41	-35.5	630.3	349.9	314.9	34.93	10.016		
6,100.0	6,082.1	6,071.1	6,018.8	14.7	20.1	93.09	-34.5	647.3	367.1	331.6	35.46	10.352		
6,200.0	6,182.1	6,169.5	6,115.7	14.8	20.5	92.81	-33.6	664.4	384.4	348.4	36.00	10.678		
6,300.0	6,282.1	6,268.0	6,212.7	14.8	20.9	92.55	-32.6	681.5	401.6	365.1	36.54	10.993		
6,400.0	6,382.1	6,366.5	6,309.7	14.9	21.4	92.31	-31.6	698.6	418.9	381.8	37.08	11.298		
6,500.0	6,482.1	6,466.4	6,408.1	15.0	21.8	92.08	-30.6	715.8	436.2	398.6	37.62	11.594		
6,600.0	6,582.1	6,573.3	6,513.6	15.0	22.2	91.88	-29.7	733.1	452.3	414.0	38.21	11.837		
6,700.0	6,682.1	6,680.9	6,620.1	15.1	22.7	91.71	-28.8	748.4	466.5	427.7	38.78	12.028		
6,800.0	6,782.1	6,789.0	6,727.4	15.2	23.1	91.57	-28.0	761.8	478.9	439.5	39.34	12.174		
6,900.0	6,882.1	6,897.6	6,835.3	15.2	23.5	91.46	-27.4	773.2	489.4	449.5	39.86	12.276		
7,000.0	6,982.1	7,006.6	6,943.9	15.3	24.0	91.37	-26.8	782.6	498.0	457.6	40.36	12.337		
7,100.0	7,082.1	7,115.9	7,053.0	15.4	24.3	91.30	-26.4	790.0	504.7	463.9	40.83	12.362		
7,200.0	7,182.1	7,225.4	7,162.4	15.4	24.7	91.25	-26.1	795.3	509.5	468.3	41.25	12.352		
7,300.0	7,282.1	7,335.2	7,272.1	15.5	25.0	91.22	-25.9	798.5	512.4	470.8	41.61	12.314		
7,400.0	7,382.1	7,445.0	7,381.9	15.6	25.2	91.21	-25.9	799.6	513.4	471.6	41.85	12.270		
7,500.0	7,482.1	7,545.2	7,482.1	15.6	25.3	91.21	-25.9	799.6	513.4	471.5	41.93	12.247		
7,600.0	7,582.1	7,645.2	7,582.1	15.7	25.3	91.21	-25.9	799.6	513.4	471.4	42.01	12.221		
7,700.0	7,682.1	7,745.2	7,682.1	15.8	25.3	91.21	-25.9	799.6	513.4	471.3	42.10	12.195		
7,800.0	7,782.1	7,845.2	7,782.1	15.8	25.4	91.21	-25.9	799.6	513.4	471.3	42.19	12.170		
7,900.0	7,882.1	7,945.2	7,882.1	15.9	25.4	91.21	-25.9	799.6	513.4	471.2	42.28	12.144		
8,000.0	7,982.1	8,045.2	7,982.1	16.0	25.4	91.21	-25.9	799.6	513.4	471.1	42.37	12.118		
8,100.0	8,082.1	8,145.2	8,082.1	16.0	25.5	91.21	-25.9	799.6	513.4	471.0	42.46	12.093		
8,200.0	8,182.1	8,245.2	8,182.1	16.1	25.5	91.21	-25.9	799.6	513.4	470.9	42.55	12.067		
8,300.0	8,282.1	8,345.2	8,282.1	16.2	25.5	91.21	-25.9	799.6	513.4	470.8	42.64	12.041		
8,400.0	8,382.1	8,445.2	8,382.1	16.2	25.6	91.21	-25.9	799.6	513.4	470.7	42.73	12.015		
8,500.0	8,482.1	8,545.2	8,482.1	16.3	25.6	91.21	-25.9	799.6	513.4	470.6	42.82	11.990		
8,600.0	8,582.1	8,645.2	8,582.1	16.4	25.6	91.21	-25.9	799.6	513.4	470.5	42.92	11.964		
8,700.0	8,682.1	8,745.2	8,682.1	16.4	25.7	91.21	-25.9	799.6	513.4	470.4	43.01	11.938		
8,800.0	8,782.1	8,845.2	8,782.1	16.5	25.7	91.21	-25.9	799.6	513.4	470.3	43.10	11.912		
8,900.0	8,882.1	8,945.2	8,882.1	16.6	25.7	91.21	-25.9	799.6	513.4	470.2	43.19	11.887		
9,000.0	8,982.1	9,045.2	8,982.1	16.6	25.8	91.21	-25.9	799.6	513.4	470.2	43.29	11.861		
9,100.0	9,082.1	9,145.2	9,082.1	16.7	25.8	91.21	-25.9	799.6	513.4	470.1	43.38	11.835		
9,200.0	9,182.1	9,245.2	9,182.1	16.8	25.8	91.21	-25.9	799.6	513.4	470.0	43.48	11.809		
9,300.0	9,282.1	9,345.2	9,282.1	16.9	25.9	91.21	-25.9	799.6	513.4	469.9	43.57	11.784		
9,400.0	9,382.1	9,445.2	9,382.1	16.9	25.9	91.21	-25.9	799.6	513.4	469.8	43.67	11.758		
9,500.0	9,482.1	9,545.2	9,482.1	17.0	26.0	91.21	-25.9	799.6	513.4	469.7	43.76	11.732		
9,600.0	9,582.1	9,645.2	9,582.1	17.1	26.0	91.21	-25.9	799.6	513.4	469.6	43.86	11.707		
9,700.0	9,682.1	9,745.2	9,682.1	17.1	26.0	91.21	-25.9	799.6	513.4	469.5	43.96	11.681		
9,800.0	9,782.1	9,845.2	9,782.1	17.2	26.1	91.21	-25.9	799.6	513.4	469.4	44.05	11.655		
9,900.0	9,882.1	9,945.2	9,882.1	17.3	26.1	91.21	-25.9	799.6	513.4	469.3	44.15	11.630		
10,000.0	9,982.1	10,045.2	9,982.1	17.3	26.1	91.21	-25.9	799.6	513.4	469.2	44.25	11.604		
10,100.0	10,082.1	10,145.2	10,082.1	17.4	26.2	91.21	-25.9	799.6	513.4	469.1	44.35	11.578		
10,200.0	10,182.1	10,245.2	10,182.1	17.5	26.2	91.21	-25.9	799.6	513.4	469.0	44.44	11.553		
10,300.0	10,282.1	10,345.2	10,282.1	17.5	26.3	91.21	-25.9	799.6	513.4	468.9	44.54	11.527		

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	10,382.1	10,445.2	10,382.1	17.6	26.3	91.21	-25.9	799.6	513.4	468.8	44.64	11.501	
10,500.0	10,482.1	10,545.2	10,482.1	17.7	26.3	91.21	-25.9	799.6	513.4	468.7	44.74	11.476	
10,600.0	10,582.1	10,645.2	10,582.1	17.8	26.4	91.21	-25.9	799.6	513.4	468.6	44.84	11.450	
10,604.4	10,586.6	10,649.7	10,586.6	17.8	26.4	91.44	-25.9	799.6	513.4	468.6	44.84	11.449	
10,700.0	10,681.9	10,745.0	10,681.9	17.8	26.4	91.97	-25.9	799.6	513.6	468.7	44.92	11.433	
10,800.0	10,779.4	10,842.7	10,779.6	17.8	26.4	94.20	-25.9	799.6	514.8	469.8	44.98	11.446	
10,900.0	10,871.7	10,948.3	10,884.6	17.9	26.5	97.31	-15.7	799.5	517.9	473.1	44.81	11.557	
11,000.0	10,955.9	11,060.7	10,992.1	17.9	26.5	100.27	16.1	799.4	522.3	477.8	44.45	11.749	
11,100.0	11,029.5	11,180.3	11,097.6	18.0	26.5	102.98	72.2	799.2	527.5	483.5	44.03	11.980	
11,200.0	11,090.3	11,307.5	11,194.3	18.1	26.5	105.28	154.4	798.9	532.8	489.1	43.63	12.211	
11,300.0	11,136.4	11,441.6	11,274.0	18.2	26.6	107.04	261.9	798.4	537.2	493.8	43.39	12.382	
11,400.0	11,166.4	11,581.1	11,328.0	18.3	26.7	108.10	390.1	797.9	540.1	496.8	43.31	12.470	
11,500.0	11,179.4	11,723.1	11,349.7	18.4	26.8	108.36	530.1	797.4	540.8	497.4	43.36	12.471	
11,592.1	11,181.6	11,820.2	11,350.0	18.5	26.9	108.16	627.2	797.0	540.2	496.8	43.36	12.459	
11,600.0	11,180.0	11,828.2	11,350.0	18.5	26.9	108.33	635.1	796.9	540.7	497.4	43.34	12.476	
11,700.0	11,180.0	11,928.2	11,350.0	18.7	27.0	108.33	735.1	796.5	540.7	497.3	43.35	12.472	
11,800.0	11,180.0	12,028.2	11,350.0	18.9	27.2	108.33	835.1	796.1	540.7	497.3	43.42	12.451	
11,900.0	11,180.0	12,128.2	11,350.0	19.1	27.3	108.33	935.1	795.7	540.7	497.1	43.55	12.416	
12,000.0	11,180.0	12,228.2	11,350.0	19.3	27.5	108.33	1,035.1	795.3	540.7	497.0	43.72	12.366	
12,100.0	11,180.0	12,328.2	11,350.0	19.6	27.8	108.33	1,135.1	794.9	540.7	496.7	43.95	12.302	
12,200.0	11,180.0	12,428.2	11,350.0	19.9	28.0	108.33	1,235.1	794.5	540.7	496.4	44.23	12.225	
12,300.0	11,180.0	12,528.2	11,350.0	20.2	28.3	108.33	1,335.1	794.1	540.7	496.1	44.56	12.134	
12,400.0	11,180.0	12,628.2	11,350.0	20.6	28.5	108.33	1,435.1	793.7	540.7	495.7	44.94	12.032	
12,500.0	11,180.0	12,728.2	11,350.0	21.0	28.8	108.33	1,535.1	793.3	540.7	495.3	45.36	11.919	
12,600.0	11,180.0	12,828.2	11,350.0	21.4	29.1	108.33	1,635.1	792.9	540.7	494.8	45.84	11.796	
12,700.0	11,180.0	12,928.2	11,350.0	21.8	29.5	108.33	1,735.1	792.5	540.7	494.3	46.36	11.664	
12,800.0	11,180.0	13,028.2	11,350.0	22.2	29.8	108.33	1,835.1	792.1	540.7	493.7	46.92	11.524	
12,900.0	11,180.0	13,128.2	11,350.0	22.7	30.2	108.33	1,935.1	791.7	540.7	493.1	47.52	11.377	
13,000.0	11,180.0	13,228.2	11,350.0	23.2	30.5	108.33	2,035.1	791.3	540.7	492.5	48.17	11.225	
13,100.0	11,180.0	13,328.2	11,350.0	23.7	30.9	108.33	2,135.1	790.9	540.7	491.8	48.85	11.068	
13,200.0	11,180.0	13,428.2	11,350.0	24.2	31.3	108.33	2,235.1	790.5	540.7	491.1	49.57	10.907	
13,300.0	11,180.0	13,528.2	11,350.0	24.7	31.8	108.33	2,335.1	790.1	540.7	490.3	50.33	10.743	
13,400.0	11,180.0	13,628.2	11,350.0	25.2	32.2	108.33	2,435.1	789.7	540.7	489.5	51.12	10.577	
13,500.0	11,180.0	13,728.2	11,350.0	25.8	32.6	108.33	2,535.1	789.3	540.7	488.7	51.94	10.409	
13,600.0	11,180.0	13,828.2	11,350.0	26.3	33.1	108.33	2,635.1	788.9	540.7	487.9	52.79	10.241	
13,700.0	11,180.0	13,928.2	11,350.0	26.9	33.6	108.33	2,735.1	788.5	540.6	487.0	53.68	10.072	
13,800.0	11,180.0	14,028.2	11,350.0	27.4	34.0	108.33	2,835.1	788.1	540.6	486.1	54.59	9.904	
13,900.0	11,180.0	14,128.2	11,350.0	28.0	34.5	108.33	2,935.1	787.7	540.6	485.1	55.52	9.737	
14,000.0	11,180.0	14,228.2	11,350.0	28.6	35.0	108.33	3,035.1	787.3	540.6	484.2	56.49	9.571	
14,100.0	11,180.0	14,328.2	11,350.0	29.2	35.5	108.33	3,135.1	786.9	540.6	483.2	57.47	9.407	
14,200.0	11,180.0	14,428.2	11,350.0	29.8	36.0	108.33	3,235.1	786.5	540.6	482.2	58.48	9.244	
14,300.0	11,180.0	14,528.2	11,350.0	30.5	36.6	108.33	3,335.1	786.1	540.6	481.1	59.52	9.084	
14,400.0	11,180.0	14,628.2	11,350.0	31.1	37.1	108.33	3,435.1	785.7	540.6	480.1	60.57	8.926	
14,500.0	11,180.0	14,728.2	11,350.0	31.7	37.6	108.33	3,535.1	785.3	540.6	479.0	61.64	8.771	
14,600.0	11,180.0	14,828.2	11,350.0	32.3	38.2	108.33	3,635.1	784.9	540.6	477.9	62.73	8.619	
14,700.0	11,180.0	14,928.2	11,350.0	33.0	38.7	108.33	3,735.1	784.5	540.6	476.8	63.84	8.469	
14,800.0	11,180.0	15,028.2	11,350.0	33.6	39.3	108.33	3,835.1	784.1	540.6	475.7	64.96	8.323	
14,900.0	11,180.0	15,128.2	11,350.0	34.3	39.9	108.33	3,935.1	783.7	540.6	474.5	66.10	8.179	
15,000.0	11,180.0	15,228.2	11,350.0	34.9	40.5	108.33	4,035.1	783.3	540.6	473.4	67.25	8.039	
15,100.0	11,180.0	15,328.2	11,350.0	35.6	41.0	108.33	4,135.1	782.9	540.6	472.2	68.42	7.901	
15,200.0	11,180.0	15,428.2	11,350.0	36.3	41.6	108.33	4,235.1	782.5	540.6	471.0	69.60	7.767	
15,300.0	11,180.0	15,528.2	11,350.0	36.9	42.2	108.33	4,335.1	782.1	540.6	469.8	70.80	7.636	

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 #704H
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 #704H	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)			
15,400.0	11,180.0	15,628.2	11,350.0	37.6	42.8	108.33	4,435.1	781.7	540.6	468.6	72.00	7.508	
15,500.0	11,180.0	15,728.2	11,350.0	38.3	43.4	108.33	4,535.1	781.3	540.6	467.4	73.22	7.383	
15,600.0	11,180.0	15,828.2	11,350.0	39.0	44.0	108.33	4,635.1	780.9	540.6	466.2	74.45	7.261	
15,700.0	11,180.0	15,928.2	11,350.0	39.6	44.7	108.33	4,735.1	780.5	540.6	464.9	75.69	7.142	
15,800.0	11,180.0	16,028.2	11,350.0	40.3	45.3	108.33	4,835.1	780.1	540.6	463.7	76.94	7.026	
15,900.0	11,180.0	16,128.2	11,350.0	41.0	45.9	108.33	4,935.1	779.7	540.6	462.4	78.20	6.913	
16,000.0	11,180.0	16,228.2	11,350.0	41.7	46.5	108.33	5,035.1	779.3	540.6	461.1	79.47	6.803	
16,100.0	11,180.0	16,328.2	11,350.0	42.4	47.2	108.33	5,135.1	778.9	540.6	459.9	80.74	6.695	
16,200.0	11,180.0	16,428.2	11,350.0	43.1	47.8	108.33	5,235.1	778.5	540.6	458.6	82.03	6.590	
16,300.0	11,180.0	16,528.2	11,350.0	43.8	48.4	108.33	5,335.1	778.1	540.6	457.3	83.32	6.488	
16,400.0	11,180.0	16,628.2	11,350.0	44.5	49.1	108.33	5,435.1	777.7	540.6	456.0	84.62	6.388	
16,500.0	11,180.0	16,728.2	11,350.0	45.2	49.7	108.33	5,535.1	777.3	540.6	454.7	85.93	6.291	
16,600.0	11,180.0	16,828.2	11,350.0	45.9	50.4	108.33	5,635.1	776.9	540.6	453.4	87.24	6.197	
16,700.0	11,180.0	16,928.2	11,350.0	46.6	51.0	108.33	5,735.1	776.5	540.6	452.0	88.56	6.104	
16,800.0	11,180.0	17,028.2	11,350.0	47.3	51.7	108.33	5,835.1	776.1	540.6	450.7	89.89	6.014	
16,900.0	11,180.0	17,128.2	11,350.0	48.0	52.4	108.33	5,935.1	775.7	540.6	449.4	91.22	5.926	
17,000.0	11,180.0	17,228.2	11,350.0	48.7	53.0	108.33	6,035.1	775.3	540.6	448.0	92.56	5.841	
17,100.0	11,180.0	17,328.2	11,350.0	49.5	53.7	108.33	6,135.1	774.9	540.6	446.7	93.90	5.757	
17,200.0	11,180.0	17,428.2	11,350.0	50.2	54.3	108.33	6,235.1	774.5	540.6	445.3	95.25	5.675	
17,300.0	11,180.0	17,528.2	11,350.0	50.9	55.0	108.33	6,335.1	774.1	540.6	444.0	96.60	5.596	
17,400.0	11,180.0	17,628.2	11,350.0	51.6	55.7	108.33	6,435.1	773.7	540.6	442.6	97.96	5.518	
17,500.0	11,180.0	17,728.2	11,350.0	52.3	56.4	108.33	6,535.1	773.3	540.6	441.3	99.32	5.443	
17,600.0	11,180.0	17,828.2	11,350.0	53.0	57.0	108.33	6,635.1	772.9	540.6	439.9	100.69	5.369	
17,700.0	11,180.0	17,928.2	11,350.0	53.8	57.7	108.33	6,735.1	772.5	540.6	438.5	102.06	5.297	
17,800.0	11,180.0	18,028.2	11,350.0	54.5	58.4	108.33	6,835.1	772.1	540.6	437.1	103.43	5.226	
17,900.0	11,180.0	18,128.2	11,350.0	55.2	59.1	108.33	6,935.1	771.7	540.6	435.8	104.81	5.157	
18,000.0	11,180.0	18,228.2	11,350.0	55.9	59.8	108.33	7,035.1	771.3	540.6	434.4	106.20	5.090	
18,100.0	11,180.0	18,328.2	11,350.0	56.7	60.5	108.33	7,135.1	770.9	540.6	433.0	107.58	5.025	
18,200.0	11,180.0	18,428.2	11,350.0	57.4	61.2	108.33	7,235.1	770.5	540.6	431.6	108.97	4.961	
18,300.0	11,180.0	18,528.2	11,350.0	58.1	61.8	108.33	7,335.1	770.1	540.6	430.2	110.36	4.898	
18,400.0	11,180.0	18,628.2	11,350.0	58.8	62.5	108.33	7,435.1	769.7	540.6	428.8	111.76	4.837	
18,500.0	11,180.0	18,728.2	11,350.0	59.6	63.2	108.33	7,535.1	769.3	540.6	427.4	113.16	4.777	
18,600.0	11,180.0	18,828.2	11,350.0	60.3	63.9	108.33	7,635.1	768.9	540.6	426.0	114.56	4.718	
18,700.0	11,180.0	18,928.2	11,350.0	61.0	64.6	108.33	7,735.1	768.5	540.6	424.6	115.97	4.661	
18,800.0	11,180.0	19,028.2	11,350.0	61.8	65.3	108.33	7,835.1	768.1	540.5	423.2	117.37	4.605	
18,900.0	11,180.0	19,128.2	11,350.0	62.5	66.0	108.33	7,935.1	767.7	540.5	421.8	118.78	4.551	
19,000.0	11,180.0	19,228.2	11,350.0	63.2	66.7	108.33	8,035.1	767.3	540.5	420.3	120.20	4.497	
19,100.0	11,180.0	19,328.2	11,350.0	64.0	67.4	108.33	8,135.1	766.9	540.5	418.9	121.61	4.445	
19,200.0	11,180.0	19,428.2	11,350.0	64.7	68.1	108.33	8,235.1	766.5	540.5	417.5	123.03	4.394	
19,300.0	11,180.0	19,528.2	11,350.0	65.5	68.8	108.33	8,335.1	766.1	540.5	416.1	124.45	4.343	
19,400.0	11,180.0	19,628.2	11,350.0	66.2	69.6	108.33	8,435.1	765.7	540.5	414.7	125.87	4.294	
19,500.0	11,180.0	19,728.2	11,350.0	66.9	70.3	108.33	8,535.1	765.3	540.5	413.2	127.30	4.246	
19,600.0	11,180.0	19,828.2	11,350.0	67.7	71.0	108.33	8,635.1	764.9	540.5	411.8	128.72	4.199	
19,700.0	11,180.0	19,928.2	11,350.0	68.4	71.7	108.33	8,735.1	764.5	540.5	410.4	130.15	4.153	
19,800.0	11,180.0	20,028.2	11,350.0	69.1	72.4	108.33	8,835.1	764.1	540.5	408.9	131.58	4.108	
19,900.0	11,180.0	20,128.2	11,350.0	69.9	73.1	108.33	8,935.1	763.7	540.5	407.5	133.01	4.064	
20,000.0	11,180.0	20,228.2	11,350.0	70.6	73.8	108.33	9,035.1	763.3	540.5	406.1	134.45	4.020	
20,100.0	11,180.0	20,328.2	11,350.0	71.4	74.5	108.33	9,135.1	762.9	540.5	404.6	135.88	3.978	
20,200.0	11,180.0	20,428.2	11,350.0	72.1	75.3	108.33	9,235.1	762.5	540.5	403.2	137.32	3.936	
20,300.0	11,180.0	20,528.2	11,350.0	72.9	76.0	108.33	9,335.1	762.1	540.5	401.8	138.76	3.895	
20,400.0	11,180.0	20,628.2	11,350.0	73.6	76.7	108.33	9,435.1	761.7	540.5	400.3	140.20	3.855	
20,500.0	11,180.0	20,728.2	11,350.0	74.3	77.4	108.33	9,535.1	761.3	540.5	398.9	141.64	3.816	

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 #704H
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 #704H	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)				
20,600.0	11,180.0	20,828.2	11,350.0	75.1	78.1	108.33	9,635.1	760.9	540.5	397.4	143.09	3.778		
20,700.0	11,180.0	20,928.2	11,350.0	75.8	78.9	108.33	9,735.1	760.5	540.5	396.0	144.53	3.740		
20,800.0	11,180.0	21,028.2	11,350.0	76.6	79.6	108.33	9,835.1	760.1	540.5	394.5	145.98	3.703		
20,900.0	11,180.0	21,128.2	11,350.0	77.3	80.3	108.33	9,935.1	759.7	540.5	393.1	147.43	3.666		
21,000.0	11,180.0	21,228.2	11,350.0	78.1	81.0	108.33	10,035.1	759.3	540.5	391.6	148.87	3.631		
21,100.0	11,180.0	21,328.2	11,350.0	78.8	81.7	108.33	10,135.1	758.9	540.5	390.2	150.33	3.596		
21,200.0	11,180.0	21,428.2	11,350.0	79.6	82.5	108.33	10,235.1	758.5	540.5	388.7	151.78	3.561		
21,300.0	11,180.0	21,528.2	11,350.0	80.3	83.2	108.33	10,335.1	758.1	540.5	387.3	153.23	3.527		
21,400.0	11,180.0	21,628.2	11,350.0	81.0	83.9	108.33	10,435.1	757.7	540.5	385.8	154.68	3.494		
21,500.0	11,180.0	21,728.2	11,350.0	81.8	84.7	108.33	10,535.1	757.3	540.5	384.4	156.14	3.462		
21,600.0	11,180.0	21,828.2	11,350.0	82.5	85.4	108.33	10,635.1	756.9	540.5	382.9	157.60	3.430		
21,700.0	11,180.0	21,928.2	11,350.0	83.3	86.1	108.33	10,735.1	756.5	540.5	381.4	159.05	3.398		
21,800.0	11,180.0	22,028.2	11,350.0	84.0	86.8	108.33	10,835.1	756.1	540.5	380.0	160.51	3.367		
21,900.0	11,180.0	22,128.2	11,350.0	84.8	87.6	108.33	10,935.0	755.7	540.5	378.5	161.97	3.337		
22,000.0	11,180.0	22,228.2	11,350.0	85.5	88.3	108.33	11,035.0	755.2	540.5	377.1	163.43	3.307		
22,100.0	11,180.0	22,328.2	11,350.0	86.3	89.0	108.33	11,135.0	754.8	540.5	375.6	164.89	3.278		
22,200.0	11,180.0	22,428.2	11,350.0	87.0	89.8	108.33	11,235.0	754.4	540.5	374.1	166.36	3.249		
22,300.0	11,180.0	22,528.2	11,350.0	87.8	90.5	108.33	11,335.0	754.0	540.5	372.7	167.82	3.221		
22,400.0	11,180.0	22,628.2	11,350.0	88.5	91.2	108.33	11,435.0	753.6	540.5	371.2	169.28	3.193		
22,500.0	11,180.0	22,728.2	11,350.0	89.3	92.0	108.33	11,535.0	753.2	540.5	369.7	170.75	3.165		
22,600.0	11,180.0	22,828.2	11,350.0	90.0	92.7	108.33	11,635.0	752.8	540.5	368.3	172.21	3.138		
22,700.0	11,180.0	22,928.2	11,350.0	90.8	93.4	108.33	11,735.0	752.4	540.5	366.8	173.68	3.112		
22,800.0	11,180.0	23,028.2	11,350.0	91.5	94.2	108.33	11,835.0	752.0	540.5	365.3	175.15	3.086		
22,900.0	11,180.0	23,128.2	11,350.0	92.3	94.9	108.33	11,935.0	751.6	540.5	363.9	176.62	3.060		
23,000.0	11,180.0	23,228.2	11,350.0	93.0	95.6	108.33	12,035.0	751.2	540.5	362.4	178.09	3.035		
23,100.0	11,180.0	23,328.2	11,350.0	93.8	96.4	108.33	12,135.0	750.8	540.5	360.9	179.56	3.010		
23,200.0	11,180.0	23,428.2	11,350.0	94.6	97.1	108.33	12,235.0	750.4	540.5	359.4	181.03	2.986		
23,300.0	11,180.0	23,528.2	11,350.0	95.3	97.8	108.33	12,335.0	750.0	540.5	358.0	182.50	2.961		
23,400.0	11,180.0	23,628.2	11,350.0	96.1	98.6	108.33	12,435.0	749.6	540.5	356.5	183.97	2.938		
23,500.0	11,180.0	23,728.2	11,350.0	96.8	99.3	108.33	12,535.0	749.2	540.5	355.0	185.44	2.914		
23,600.0	11,180.0	23,828.2	11,350.0	97.6	100.1	108.33	12,635.0	748.8	540.5	353.5	186.92	2.891		
23,700.0	11,180.0	23,928.2	11,350.0	98.3	100.8	108.33	12,735.0	748.4	540.5	352.1	188.39	2.869		
23,800.0	11,180.0	24,028.2	11,350.0	99.1	101.5	108.33	12,835.0	748.0	540.5	350.6	189.87	2.846		
23,900.0	11,180.0	24,128.2	11,350.0	99.8	102.3	108.33	12,935.0	747.6	540.5	349.1	191.34	2.825		
24,000.0	11,180.0	24,228.2	11,350.0	100.6	103.0	108.33	13,035.0	747.2	540.4	347.6	192.82	2.803		
24,100.0	11,180.0	24,328.2	11,350.0	101.3	103.8	108.33	13,135.0	746.8	540.4	346.2	194.29	2.782		
24,200.0	11,180.0	24,428.2	11,350.0	102.1	104.5	108.33	13,235.0	746.4	540.4	344.7	195.77	2.761		
24,300.0	11,180.0	24,528.2	11,350.0	102.8	105.2	108.33	13,335.0	746.0	540.4	343.2	197.25	2.740		
24,400.0	11,180.0	24,628.2	11,350.0	103.6	106.0	108.33	13,435.0	745.6	540.4	341.7	198.73	2.720		
24,500.0	11,180.0	24,728.2	11,350.0	104.3	106.7	108.33	13,535.0	745.2	540.4	340.2	200.21	2.699		
24,571.1	11,180.0	24,799.2	11,350.0	104.9	107.3	108.33	13,606.1	744.9	540.4	339.2	201.26	2.685		
24,574.2	11,180.0	24,799.9	11,350.0	104.9	107.3	108.33	13,606.8	744.9	540.4	339.2	201.29	2.685		

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	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	86.99	71.6	1,360.0	1,361.9	1,347.5	14.41	94.539	
2,600.0	2,600.0	2,600.0	2,600.0	7.2	7.2	-6.02	71.6	1,360.0	1,360.6	1,346.0	14.67	92.737	
2,700.0	2,699.9	2,699.9	2,699.9	7.3	7.3	-6.05	71.6	1,360.0	1,356.7	1,341.8	14.93	90.849	
2,800.0	2,799.7	2,799.7	2,799.7	7.5	7.4	-6.09	71.6	1,360.0	1,350.2	1,335.0	15.21	88.776	
2,900.0	2,899.3	2,899.3	2,899.3	7.7	7.5	-6.14	71.6	1,360.0	1,341.1	1,325.6	15.50	86.515	
3,000.0	2,998.6	2,998.6	2,998.6	7.9	7.7	-6.21	71.6	1,360.0	1,329.4	1,313.6	15.81	84.075	
3,100.0	3,097.6	3,097.6	3,097.6	8.0	7.8	-6.29	71.6	1,360.0	1,315.7	1,299.7	16.07	81.869	
3,200.0	3,196.6	3,196.6	3,196.6	8.2	7.9	-6.35	71.6	1,360.0	1,301.9	1,285.5	16.39	79.416	
3,300.0	3,295.7	3,295.7	3,295.7	8.4	8.0	-6.42	71.6	1,360.0	1,288.1	1,271.3	16.73	76.981	
3,400.0	3,394.7	3,394.7	3,394.7	8.7	8.1	-6.49	71.6	1,360.0	1,274.3	1,257.2	17.09	74.574	
3,500.0	3,493.7	3,493.7	3,493.7	8.9	8.3	-6.56	71.6	1,360.0	1,260.4	1,243.0	17.46	72.205	
3,600.0	3,592.8	3,592.8	3,592.8	9.2	8.4	-6.64	71.6	1,360.0	1,246.6	1,228.8	17.84	69.880	
3,700.0	3,691.8	3,691.8	3,691.8	9.5	8.5	-6.71	71.6	1,360.0	1,232.8	1,214.5	18.23	67.606	
3,800.0	3,790.8	3,790.8	3,790.8	9.8	8.6	-6.79	71.6	1,360.0	1,218.9	1,200.3	18.64	65.386	
3,900.0	3,889.8	3,889.8	3,889.8	10.1	8.7	-6.87	71.6	1,360.0	1,205.1	1,186.1	19.06	63.225	
4,000.0	3,988.9	3,988.9	3,988.9	10.4	8.8	-6.95	71.6	1,360.0	1,191.3	1,171.8	19.49	61.124	
4,100.0	4,087.9	4,087.9	4,087.9	10.7	8.9	-7.03	71.6	1,360.0	1,177.5	1,157.6	19.93	59.085	
4,200.0	4,186.9	4,186.9	4,186.9	11.0	9.0	-7.11	71.6	1,360.0	1,163.7	1,143.3	20.38	57.109	
4,300.0	4,285.9	4,285.9	4,285.9	11.4	9.1	-7.20	71.6	1,360.0	1,149.9	1,129.0	20.83	55.196	
4,400.0	4,385.0	4,385.0	4,385.0	11.7	9.3	-7.29	71.6	1,360.0	1,136.1	1,114.8	21.30	53.345	
4,500.0	4,484.1	4,484.1	4,484.1	12.0	9.4	-7.36	71.6	1,360.0	1,122.7	1,101.0	21.74	51.648	
4,600.0	4,583.4	4,583.4	4,583.4	12.4	9.5	-7.42	71.6	1,360.0	1,111.1	1,088.9	22.20	50.040	
4,700.0	4,682.9	4,682.9	4,682.9	12.7	9.6	-7.48	71.6	1,360.0	1,101.1	1,078.5	22.66	48.586	
4,800.0	4,782.5	4,782.5	4,782.5	13.0	9.7	-7.52	71.6	1,360.0	1,092.9	1,069.8	23.11	47.282	
4,900.0	4,882.3	4,882.3	4,882.3	13.3	9.8	-7.56	71.6	1,360.0	1,086.4	1,062.9	23.55	46.127	
5,000.0	4,982.2	4,982.2	4,982.2	13.6	9.9	-7.59	71.6	1,360.0	1,081.7	1,057.7	23.97	45.120	
5,100.0	5,082.1	5,082.1	5,082.1	13.9	10.0	-7.60	71.6	1,360.0	1,078.6	1,054.3	24.37	44.268	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,182.1	5,182.1	5,182.1	14.1	10.1	-7.61	71.6	1,360.0	1,077.3	1,052.6	24.71	43.605	
5,290.5	5,272.6	5,272.6	5,272.6	14.2	10.2	-7.61	71.6	1,360.0	1,077.1	1,052.3	24.84	43.354	CC
5,300.0	5,282.1	5,282.1	5,282.1	14.2	10.2	85.39	71.6	1,360.0	1,077.3	1,052.4	24.86	43.335	
5,400.0	5,382.1	5,382.1	5,382.1	14.3	10.3	85.39	71.6	1,360.0	1,077.3	1,052.3	25.02	43.061	
5,500.0	5,482.1	5,482.1	5,482.1	14.3	10.4	85.39	71.6	1,360.0	1,077.3	1,052.1	25.18	42.791	
5,600.0	5,582.1	5,582.1	5,582.1	14.4	10.5	85.39	71.6	1,360.0	1,077.3	1,051.9	25.33	42.524	
5,700.0	5,682.1	5,682.1	5,682.1	14.5	10.6	85.39	71.6	1,360.0	1,077.3	1,051.8	25.49	42.260	
5,800.0	5,782.1	5,782.1	5,782.1	14.5	10.7	85.39	71.6	1,360.0	1,077.3	1,051.6	25.65	42.000	
5,900.0	5,882.1	5,882.1	5,882.1	14.6	10.9	85.39	71.6	1,360.0	1,077.3	1,051.5	25.81	41.742	
6,000.0	5,982.1	5,982.1	5,982.1	14.6	11.0	85.39	71.6	1,360.0	1,077.3	1,051.3	25.97	41.488	
6,100.0	6,082.1	6,082.1	6,082.1	14.7	11.1	85.39	71.6	1,360.0	1,077.3	1,051.2	26.12	41.237	
6,200.0	6,182.1	6,182.1	6,182.1	14.8	11.2	85.39	71.6	1,360.0	1,077.3	1,051.0	26.28	40.988	
6,300.0	6,282.1	6,282.1	6,282.1	14.8	11.3	85.39	71.6	1,360.0	1,077.3	1,050.8	26.44	40.743	
6,400.0	6,382.1	6,382.1	6,382.1	14.9	11.4	85.39	71.6	1,360.0	1,077.3	1,050.7	26.60	40.501	
6,500.0	6,482.1	6,482.1	6,482.1	15.0	11.5	85.39	71.6	1,360.0	1,077.3	1,050.5	26.76	40.261	
6,600.0	6,582.1	6,582.1	6,582.1	15.0	11.6	85.39	71.6	1,360.0	1,077.3	1,050.4	26.92	40.024	
6,700.0	6,682.1	6,682.1	6,682.1	15.1	11.7	85.39	71.6	1,360.0	1,077.3	1,050.2	27.07	39.790	
6,800.0	6,782.1	6,782.1	6,782.1	15.2	11.8	85.39	71.6	1,360.0	1,077.3	1,050.0	27.23	39.558	
6,900.0	6,882.1	6,882.1	6,882.1	15.2	11.9	85.39	71.6	1,360.0	1,077.3	1,049.9	27.39	39.329	
7,000.0	6,982.1	6,982.1	6,982.1	15.3	12.0	85.39	71.6	1,360.0	1,077.3	1,049.7	27.55	39.103	
7,100.0	7,082.1	7,082.1	7,082.1	15.4	12.1	85.39	71.6	1,360.0	1,077.3	1,049.6	27.71	38.879	
7,200.0	7,182.1	7,182.1	7,182.1	15.4	12.2	85.39	71.6	1,360.0	1,077.3	1,049.4	27.87	38.658	
7,300.0	7,282.1	7,282.1	7,282.1	15.5	12.3	85.39	71.6	1,360.0	1,077.3	1,049.3	28.03	38.439	
7,400.0	7,382.1	7,382.1	7,382.1	15.6	12.4	85.39	71.6	1,360.0	1,077.3	1,049.1	28.18	38.223	
7,500.0	7,482.1	7,482.1	7,482.1	15.6	12.5	85.39	71.6	1,360.0	1,077.3	1,048.9	28.34	38.009	
7,600.0	7,582.1	7,582.1	7,582.1	15.7	12.6	85.39	71.6	1,360.0	1,077.3	1,048.8	28.50	37.797	
7,700.0	7,682.1	7,682.1	7,682.1	15.8	12.7	85.39	71.6	1,360.0	1,077.3	1,048.6	28.66	37.588	
7,800.0	7,782.1	7,782.1	7,782.1	15.8	12.8	85.39	71.6	1,360.0	1,077.3	1,048.5	28.82	37.381	
7,900.0	7,882.1	7,882.1	7,882.1	15.9	12.9	85.39	71.6	1,360.0	1,077.3	1,048.3	28.98	37.176	
8,000.0	7,982.1	7,982.1	7,982.1	16.0	13.0	85.39	71.6	1,360.0	1,077.3	1,048.1	29.14	36.974	
8,100.0	8,082.1	8,082.1	8,082.1	16.0	13.1	85.39	71.6	1,360.0	1,077.3	1,048.0	29.30	36.773	
8,200.0	8,182.1	8,182.1	8,182.1	16.1	13.1	85.39	71.6	1,360.0	1,077.3	1,047.8	29.45	36.575	
8,300.0	8,282.1	8,282.1	8,282.1	16.2	13.2	85.39	71.6	1,360.0	1,077.3	1,047.7	29.61	36.379	
8,400.0	8,382.1	8,382.1	8,382.1	16.2	13.3	85.39	71.6	1,360.0	1,077.3	1,047.5	29.77	36.185	
8,500.0	8,482.1	8,482.1	8,482.1	16.3	13.4	85.39	71.6	1,360.0	1,077.3	1,047.3	29.93	35.993	
8,600.0	8,582.1	8,582.1	8,582.1	16.4	13.5	85.39	71.6	1,360.0	1,077.3	1,047.2	30.09	35.802	
8,700.0	8,682.1	8,682.1	8,682.1	16.4	13.6	85.39	71.6	1,360.0	1,077.3	1,047.0	30.25	35.614	
8,800.0	8,782.1	8,782.1	8,782.1	16.5	13.7	85.39	71.6	1,360.0	1,077.3	1,046.9	30.41	35.428	
8,900.0	8,882.1	8,882.1	8,882.1	16.6	13.8	85.39	71.6	1,360.0	1,077.3	1,046.7	30.57	35.244	
9,000.0	8,982.1	8,982.1	8,982.1	16.6	13.9	85.39	71.6	1,360.0	1,077.3	1,046.6	30.73	35.062	
9,100.0	9,082.1	9,082.1	9,082.1	16.7	14.0	85.39	71.6	1,360.0	1,077.3	1,046.4	30.88	34.881	
9,200.0	9,182.1	9,182.1	9,182.1	16.8	14.1	85.39	71.6	1,360.0	1,077.3	1,046.2	31.04	34.702	
9,300.0	9,282.1	9,282.1	9,282.1	16.9	14.2	85.39	71.6	1,360.0	1,077.3	1,046.1	31.20	34.525	
9,400.0	9,382.1	9,382.1	9,382.1	16.9	14.3	85.39	71.6	1,360.0	1,077.3	1,045.9	31.36	34.350	
9,500.0	9,482.1	9,482.1	9,482.1	17.0	14.4	85.39	71.6	1,360.0	1,077.3	1,045.8	31.52	34.177	
9,600.0	9,582.1	9,582.1	9,582.1	17.1	14.5	85.39	71.6	1,360.0	1,077.3	1,045.6	31.68	34.005	
9,700.0	9,682.1	9,682.1	9,682.1	17.1	14.6	85.39	71.6	1,360.0	1,077.3	1,045.4	31.84	33.835	
9,800.0	9,782.1	9,782.1	9,782.1	17.2	14.7	85.39	71.6	1,360.0	1,077.3	1,045.3	32.00	33.667	
9,900.0	9,882.1	9,882.1	9,882.1	17.3	14.8	85.39	71.6	1,360.0	1,077.3	1,045.1	32.16	33.500	
10,000.0	9,982.1	9,982.1	9,982.1	17.3	14.9	85.39	71.6	1,360.0	1,077.3	1,045.0	32.32	33.335	
10,100.0	10,082.1	10,082.1	10,082.1	17.4	15.0	85.39	71.6	1,360.0	1,077.3	1,044.8	32.48	33.172	
10,200.0	10,182.1	10,182.1	10,182.1	17.5	15.0	85.39	71.6	1,360.0	1,077.3	1,044.6	32.63	33.010	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	10,282.1	10,282.1	10,282.1	17.5	15.1	85.39	71.6	1,360.0	1,077.3	1,044.5	32.79	32.850	
10,400.0	10,382.1	10,382.1	10,382.1	17.6	15.2	85.39	71.6	1,360.0	1,077.3	1,044.3	32.95	32.691	
10,500.0	10,482.1	10,482.1	10,482.1	17.7	15.3	85.39	71.6	1,360.0	1,077.3	1,044.2	33.11	32.534	
10,600.0	10,582.1	10,582.1	10,582.1	17.8	15.4	85.39	71.6	1,360.0	1,077.3	1,044.0	33.28	32.374	
10,700.0	10,681.9	10,668.1	10,668.0	17.8	15.6	85.65	74.9	1,360.2	1,077.4	1,044.0	33.39	32.264	
10,800.0	10,779.4	10,750.0	10,748.5	17.8	15.7	85.78	89.4	1,360.8	1,077.9	1,044.4	33.51	32.169	
10,900.0	10,871.7	10,831.8	10,826.0	17.9	15.9	86.00	115.1	1,361.9	1,078.8	1,045.2	33.61	32.098	
11,000.0	10,955.9	10,914.6	10,900.1	17.9	16.1	86.33	152.2	1,363.4	1,080.2	1,046.5	33.70	32.056	
11,100.0	11,029.5	11,000.0	10,969.9	18.0	16.2	86.75	201.1	1,365.5	1,082.0	1,048.3	33.77	32.042	
11,200.0	11,090.3	11,084.1	11,030.9	18.1	16.4	87.23	258.9	1,367.9	1,084.4	1,050.5	33.83	32.050	
11,300.0	11,136.4	11,171.5	11,084.5	18.2	16.5	87.78	327.7	1,370.8	1,087.2	1,053.3	33.90	32.073	
11,400.0	11,166.4	11,261.2	11,128.0	18.3	16.7	88.40	406.0	1,374.1	1,090.6	1,056.7	33.98	32.097	
11,500.0	11,179.4	11,353.7	11,159.6	18.4	16.8	89.06	492.7	1,377.7	1,094.5	1,060.5	34.09	32.103	
11,600.0	11,180.0	11,450.0	11,177.1	18.5	16.8	89.85	587.2	1,381.7	1,098.9	1,064.7	34.28	32.059	
11,700.0	11,180.0	11,576.6	11,180.0	18.7	16.9	90.00	713.7	1,386.1	1,103.0	1,068.3	34.68	31.807	
11,800.0	11,180.0	11,700.4	11,180.0	18.9	16.9	90.00	837.4	1,386.3	1,103.4	1,068.3	35.13	31.405	
11,900.0	11,180.0	11,800.4	11,180.0	19.1	16.9	90.00	937.4	1,385.9	1,103.4	1,067.8	35.59	31.000	
12,000.0	11,180.0	11,900.4	11,180.0	19.3	16.9	90.00	1,037.4	1,385.5	1,103.4	1,067.3	36.11	30.555	
12,100.0	11,180.0	12,000.4	11,180.0	19.6	17.1	90.00	1,137.4	1,385.1	1,103.4	1,066.7	36.69	30.077	
12,200.0	11,180.0	12,100.4	11,180.0	19.9	17.4	90.00	1,237.4	1,384.7	1,103.4	1,066.1	37.31	29.572	
12,300.0	11,180.0	12,200.4	11,180.0	20.2	17.7	90.00	1,337.4	1,384.3	1,103.4	1,065.5	37.99	29.045	
12,400.0	11,180.0	12,300.4	11,180.0	20.6	18.1	90.00	1,437.4	1,383.9	1,103.5	1,064.7	38.72	28.501	
12,500.0	11,180.0	12,400.4	11,180.0	21.0	18.5	90.00	1,537.4	1,383.5	1,103.5	1,064.0	39.49	27.945	
12,600.0	11,180.0	12,500.4	11,180.0	21.4	18.9	90.00	1,637.4	1,383.1	1,103.5	1,063.2	40.30	27.381	
12,700.0	11,180.0	12,600.4	11,180.0	21.8	19.4	90.00	1,737.4	1,382.7	1,103.5	1,062.3	41.15	26.814	
12,800.0	11,180.0	12,700.4	11,180.0	22.2	19.8	90.00	1,837.4	1,382.4	1,103.5	1,061.4	42.04	26.246	
12,900.0	11,180.0	12,800.4	11,180.0	22.7	20.3	90.00	1,937.4	1,382.0	1,103.5	1,060.5	42.97	25.681	
13,000.0	11,180.0	12,900.4	11,180.0	23.2	20.8	90.00	2,037.4	1,381.6	1,103.5	1,059.6	43.93	25.120	
13,100.0	11,180.0	13,000.4	11,180.0	23.7	21.3	90.00	2,137.4	1,381.2	1,103.5	1,058.6	44.92	24.567	
13,200.0	11,180.0	13,100.4	11,180.0	24.2	21.8	90.00	2,237.4	1,380.8	1,103.5	1,057.6	45.94	24.023	
13,300.0	11,180.0	13,200.4	11,180.0	24.7	22.4	90.00	2,337.4	1,380.4	1,103.5	1,056.5	46.98	23.488	
13,400.0	11,180.0	13,300.4	11,180.0	25.2	22.9	90.00	2,437.4	1,380.0	1,103.5	1,055.5	48.05	22.965	
13,500.0	11,180.0	13,400.4	11,180.0	25.8	23.5	90.00	2,537.4	1,379.6	1,103.5	1,054.4	49.14	22.454	
13,600.0	11,180.0	13,500.4	11,180.0	26.3	24.1	90.00	2,637.4	1,379.2	1,103.5	1,053.3	50.26	21.956	
13,700.0	11,180.0	13,600.4	11,180.0	26.9	24.7	90.00	2,737.4	1,378.8	1,103.5	1,052.1	51.40	21.471	
13,800.0	11,180.0	13,700.4	11,180.0	27.4	25.3	90.00	2,837.4	1,378.4	1,103.5	1,051.0	52.55	20.999	
13,900.0	11,180.0	13,800.4	11,180.0	28.0	25.9	90.00	2,937.4	1,378.0	1,103.5	1,049.8	53.72	20.541	
14,000.0	11,180.0	13,900.4	11,180.0	28.6	26.5	90.00	3,037.4	1,377.6	1,103.5	1,048.6	54.91	20.096	
14,100.0	11,180.0	14,000.4	11,180.0	29.2	27.1	90.00	3,137.4	1,377.2	1,103.5	1,047.4	56.12	19.664	
14,200.0	11,180.0	14,100.4	11,180.0	29.8	27.7	90.00	3,237.4	1,376.8	1,103.5	1,046.2	57.34	19.246	
14,300.0	11,180.0	14,200.4	11,180.0	30.5	28.4	90.00	3,337.4	1,376.5	1,103.6	1,045.0	58.57	18.841	
14,400.0	11,180.0	14,300.4	11,180.0	31.1	29.0	90.00	3,437.4	1,376.1	1,103.6	1,043.7	59.82	18.448	
14,500.0	11,180.0	14,400.4	11,180.0	31.7	29.7	90.00	3,537.4	1,375.7	1,103.6	1,042.5	61.08	18.068	
14,600.0	11,180.0	14,500.4	11,180.0	32.3	30.3	90.00	3,637.4	1,375.3	1,103.6	1,041.2	62.35	17.700	
14,700.0	11,180.0	14,600.4	11,180.0	33.0	31.0	90.00	3,737.4	1,374.9	1,103.6	1,039.9	63.63	17.344	
14,800.0	11,180.0	14,700.4	11,180.0	33.6	31.6	90.00	3,837.4	1,374.5	1,103.6	1,038.7	64.92	16.999	
14,900.0	11,180.0	14,800.4	11,180.0	34.3	32.3	90.00	3,937.4	1,374.1	1,103.6	1,037.4	66.22	16.666	
15,000.0	11,180.0	14,900.4	11,180.0	34.9	33.0	90.00	4,037.4	1,373.7	1,103.6	1,036.1	67.53	16.343	
15,100.0	11,180.0	15,000.4	11,180.0	35.6	33.7	90.00	4,137.4	1,373.3	1,103.6	1,034.7	68.84	16.030	
15,200.0	11,180.0	15,100.4	11,180.0	36.3	34.3	90.00	4,237.4	1,372.9	1,103.6	1,033.4	70.17	15.728	
15,300.0	11,180.0	15,200.4	11,180.0	36.9	35.0	90.00	4,337.4	1,372.5	1,103.6	1,032.1	71.50	15.434	
15,400.0	11,180.0	15,300.4	11,180.0	37.6	35.7	90.00	4,437.4	1,372.1	1,103.6	1,030.8	72.84	15.151	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program:		0-r.5 MWD+IFR1+MS		Rule Assigned:								Warning	Offset Well Error:	3.0 usft
Reference	Offset	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Minimum	Separation			
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)			
15,500.0	11,180.0	15,400.4	11,180.0	38.3	36.4	90.00	4,537.4	1,371.7	1,103.6	1,029.4	74.19	14.876		
15,600.0	11,180.0	15,500.4	11,180.0	39.0	37.1	90.00	4,637.4	1,371.3	1,103.6	1,028.1	75.54	14.610		
15,700.0	11,180.0	15,600.4	11,180.0	39.6	37.8	90.00	4,737.4	1,370.9	1,103.6	1,026.7	76.90	14.351		
15,800.0	11,180.0	15,700.4	11,180.0	40.3	38.5	90.00	4,837.4	1,370.5	1,103.6	1,025.4	78.26	14.101		
15,900.0	11,180.0	15,800.4	11,180.0	41.0	39.2	90.00	4,937.4	1,370.2	1,103.6	1,024.0	79.63	13.859		
16,000.0	11,180.0	15,900.4	11,180.0	41.7	39.9	90.00	5,037.4	1,369.8	1,103.6	1,022.6	81.01	13.624		
16,100.0	11,180.0	16,000.4	11,180.0	42.4	40.6	90.00	5,137.4	1,369.4	1,103.6	1,021.3	82.39	13.396		
16,200.0	11,180.0	16,100.4	11,180.0	43.1	41.3	90.00	5,237.4	1,369.0	1,103.7	1,019.9	83.77	13.174		
16,300.0	11,180.0	16,200.4	11,180.0	43.8	42.0	90.00	5,337.4	1,368.6	1,103.7	1,018.5	85.16	12.960		
16,400.0	11,180.0	16,300.4	11,180.0	44.5	42.7	90.00	5,437.4	1,368.2	1,103.7	1,017.1	86.55	12.751		
16,500.0	11,180.0	16,400.4	11,180.0	45.2	43.4	90.00	5,537.4	1,367.8	1,103.7	1,015.7	87.95	12.549		
16,600.0	11,180.0	16,500.4	11,180.0	45.9	44.1	90.00	5,637.4	1,367.4	1,103.7	1,014.3	89.35	12.352		
16,700.0	11,180.0	16,600.4	11,180.0	46.6	44.9	90.00	5,737.4	1,367.0	1,103.7	1,012.9	90.75	12.161		
16,800.0	11,180.0	16,700.4	11,180.0	47.3	45.6	90.00	5,837.4	1,366.6	1,103.7	1,011.5	92.16	11.976		
16,900.0	11,180.0	16,800.4	11,180.0	48.0	46.3	90.00	5,937.4	1,366.2	1,103.7	1,010.1	93.57	11.795		
17,000.0	11,180.0	16,900.4	11,180.0	48.7	47.0	90.00	6,037.4	1,365.8	1,103.7	1,008.7	94.99	11.620		
17,100.0	11,180.0	17,000.4	11,180.0	49.5	47.7	90.00	6,137.4	1,365.4	1,103.7	1,007.3	96.40	11.449		
17,200.0	11,180.0	17,100.4	11,180.0	50.2	48.5	90.00	6,237.4	1,365.0	1,103.7	1,005.9	97.82	11.283		
17,300.0	11,180.0	17,200.4	11,180.0	50.9	49.2	90.00	6,337.4	1,364.6	1,103.7	1,004.5	99.24	11.121		
17,400.0	11,180.0	17,300.4	11,180.0	51.6	49.9	90.00	6,437.4	1,364.3	1,103.7	1,003.0	100.67	10.964		
17,500.0	11,180.0	17,400.4	11,180.0	52.3	50.7	90.00	6,537.4	1,363.9	1,103.7	1,001.6	102.10	10.811		
17,600.0	11,180.0	17,500.4	11,180.0	53.0	51.4	90.00	6,637.4	1,363.5	1,103.7	1,000.2	103.53	10.661		
17,700.0	11,180.0	17,600.4	11,180.0	53.8	52.1	90.00	6,737.4	1,363.1	1,103.7	998.8	104.96	10.516		
17,800.0	11,180.0	17,700.4	11,180.0	54.5	52.8	90.00	6,837.4	1,362.7	1,103.7	997.3	106.39	10.374		
17,900.0	11,180.0	17,800.4	11,180.0	55.2	53.6	90.00	6,937.4	1,362.3	1,103.7	995.9	107.83	10.236		
18,000.0	11,180.0	17,900.4	11,180.0	55.9	54.3	90.00	7,037.4	1,361.9	1,103.7	994.5	109.27	10.101		
18,100.0	11,180.0	18,000.4	11,180.0	56.7	55.0	90.00	7,137.4	1,361.5	1,103.8	993.0	110.71	9.970		
18,200.0	11,180.0	18,100.4	11,180.0	57.4	55.8	90.00	7,237.4	1,361.1	1,103.8	991.6	112.15	9.842		
18,300.0	11,180.0	18,200.4	11,180.0	58.1	56.5	90.00	7,337.4	1,360.7	1,103.8	990.2	113.60	9.717		
18,400.0	11,180.0	18,300.4	11,180.0	58.8	57.3	90.00	7,437.4	1,360.3	1,103.8	988.7	115.04	9.595		
18,500.0	11,180.0	18,400.4	11,180.0	59.6	58.0	90.00	7,537.4	1,359.9	1,103.8	987.3	116.49	9.475		
18,600.0	11,180.0	18,500.4	11,180.0	60.3	58.7	90.00	7,637.4	1,359.5	1,103.8	985.8	117.94	9.359		
18,700.0	11,180.0	18,600.4	11,180.0	61.0	59.5	90.00	7,737.4	1,359.1	1,103.8	984.4	119.39	9.245		
18,800.0	11,180.0	18,700.4	11,180.0	61.8	60.2	90.00	7,837.4	1,358.7	1,103.8	982.9	120.84	9.134		
18,900.0	11,180.0	18,800.4	11,180.0	62.5	60.9	90.00	7,937.4	1,358.3	1,103.8	981.5	122.29	9.026		
19,000.0	11,180.0	18,900.4	11,180.0	63.2	61.7	90.00	8,037.4	1,358.0	1,103.8	980.1	123.75	8.920		
19,100.0	11,180.0	19,000.4	11,180.0	64.0	62.4	90.00	8,137.4	1,357.6	1,103.8	978.6	125.21	8.816		
19,200.0	11,180.0	19,100.4	11,180.0	64.7	63.2	90.00	8,237.4	1,357.2	1,103.8	977.1	126.66	8.714		
19,300.0	11,180.0	19,200.4	11,180.0	65.5	63.9	90.00	8,337.4	1,356.8	1,103.8	975.7	128.12	8.615		
19,400.0	11,180.0	19,300.4	11,180.0	66.2	64.7	90.00	8,437.4	1,356.4	1,103.8	974.2	129.58	8.518		
19,500.0	11,180.0	19,400.4	11,180.0	66.9	65.4	90.00	8,537.4	1,356.0	1,103.8	972.8	131.04	8.423		
19,600.0	11,180.0	19,500.4	11,180.0	67.7	66.1	90.00	8,637.4	1,355.6	1,103.8	971.3	132.51	8.330		
19,700.0	11,180.0	19,600.4	11,180.0	68.4	66.9	90.00	8,737.4	1,355.2	1,103.8	969.9	133.97	8.239		
19,800.0	11,180.0	19,700.4	11,180.0	69.1	67.6	90.00	8,837.4	1,354.8	1,103.8	968.4	135.44	8.150		
19,900.0	11,180.0	19,800.4	11,180.0	69.9	68.4	90.00	8,937.4	1,354.4	1,103.8	966.9	136.90	8.063		
20,000.0	11,180.0	19,900.4	11,180.0	70.6	69.1	90.00	9,037.4	1,354.0	1,103.9	965.5	138.37	7.978		
20,100.0	11,180.0	20,000.4	11,180.0	71.4	69.9	90.00	9,137.4	1,353.6	1,103.9	964.0	139.84	7.894		
20,200.0	11,180.0	20,100.4	11,180.0	72.1	70.6	90.00	9,237.4	1,353.2	1,103.9	962.6	141.30	7.812		
20,300.0	11,180.0	20,200.4	11,180.0	72.9	71.4	90.00	9,337.4	1,352.8	1,103.9	961.1	142.77	7.732		
20,400.0	11,180.0	20,300.4	11,180.0	73.6	72.1	90.00	9,437.3	1,352.4	1,103.9	959.6	144.24	7.653		
20,500.0	11,180.0	20,400.4	11,180.0	74.3	72.9	90.00	9,537.3	1,352.1	1,103.9	958.2	145.72	7.576		
20,600.0	11,180.0	20,500.4	11,180.0	75.1	73.6	90.00	9,637.3	1,351.7	1,103.9	956.7	147.19	7.500		

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,180.0	20,600.4	11,180.0	75.8	74.4	90.00	9,737.3	1,351.3	1,103.9	955.2	148.66	7.426	
20,800.0	11,180.0	20,700.4	11,180.0	76.6	75.1	90.00	9,837.3	1,350.9	1,103.9	953.8	150.13	7.353	
20,900.0	11,180.0	20,800.4	11,180.0	77.3	75.9	90.00	9,937.3	1,350.5	1,103.9	952.3	151.61	7.281	
21,000.0	11,180.0	20,900.4	11,180.0	78.1	76.6	90.00	10,037.3	1,350.1	1,103.9	950.8	153.08	7.211	
21,100.0	11,180.0	21,000.4	11,180.0	78.8	77.4	90.00	10,137.3	1,349.7	1,103.9	949.4	154.56	7.142	
21,200.0	11,180.0	21,100.4	11,180.0	79.6	78.1	90.00	10,237.3	1,349.3	1,103.9	947.9	156.04	7.075	
21,300.0	11,180.0	21,200.4	11,180.0	80.3	78.9	90.00	10,337.3	1,348.9	1,103.9	946.4	157.51	7.008	
21,400.0	11,180.0	21,300.4	11,180.0	81.0	79.6	90.00	10,437.3	1,348.5	1,103.9	944.9	158.99	6.943	
21,500.0	11,180.0	21,400.4	11,180.0	81.8	80.4	90.00	10,537.3	1,348.1	1,103.9	943.5	160.47	6.879	
21,600.0	11,180.0	21,500.4	11,180.0	82.5	81.1	90.00	10,637.3	1,347.7	1,103.9	942.0	161.95	6.817	
21,700.0	11,180.0	21,600.4	11,180.0	83.3	81.9	90.00	10,737.3	1,347.3	1,103.9	940.5	163.43	6.755	
21,800.0	11,180.0	21,700.4	11,180.0	84.0	82.6	90.00	10,837.3	1,346.9	1,104.0	939.0	164.91	6.694	
21,900.0	11,180.0	21,800.4	11,180.0	84.8	83.4	90.00	10,937.3	1,346.5	1,104.0	937.6	166.39	6.635	
22,000.0	11,180.0	21,900.4	11,180.0	85.5	84.1	90.00	11,037.3	1,346.1	1,104.0	936.1	167.87	6.576	
22,100.0	11,180.0	22,000.4	11,180.0	86.3	84.9	90.00	11,137.3	1,345.8	1,104.0	934.6	169.35	6.519	
22,200.0	11,180.0	22,100.4	11,180.0	87.0	85.6	90.00	11,237.3	1,345.4	1,104.0	933.1	170.83	6.462	
22,300.0	11,180.0	22,200.4	11,180.0	87.8	86.4	90.00	11,337.3	1,345.0	1,104.0	931.7	172.32	6.407	
22,400.0	11,180.0	22,300.4	11,180.0	88.5	87.1	90.00	11,437.3	1,344.6	1,104.0	930.2	173.80	6.352	
22,500.0	11,180.0	22,400.4	11,180.0	89.3	87.9	90.00	11,537.3	1,344.2	1,104.0	928.7	175.28	6.298	
22,600.0	11,180.0	22,500.4	11,180.0	90.0	88.6	90.00	11,637.3	1,343.8	1,104.0	927.2	176.77	6.245	
22,700.0	11,180.0	22,600.4	11,180.0	90.8	89.4	90.00	11,737.3	1,343.4	1,104.0	925.7	178.25	6.193	
22,800.0	11,180.0	22,700.4	11,180.0	91.5	90.2	90.00	11,837.3	1,343.0	1,104.0	924.3	179.74	6.142	
22,900.0	11,180.0	22,800.4	11,180.0	92.3	90.9	90.00	11,937.3	1,342.6	1,104.0	922.8	181.23	6.092	
23,000.0	11,180.0	22,900.4	11,180.0	93.0	91.7	90.00	12,037.3	1,342.2	1,104.0	921.3	182.71	6.042	
23,100.0	11,180.0	23,000.4	11,180.0	93.8	92.4	90.00	12,137.3	1,341.8	1,104.0	919.8	184.20	5.994	
23,200.0	11,180.0	23,100.4	11,180.0	94.6	93.2	90.00	12,237.3	1,341.4	1,104.0	918.3	185.68	5.946	
23,300.0	11,180.0	23,200.4	11,180.0	95.3	93.9	90.00	12,337.3	1,341.0	1,104.0	916.9	187.17	5.898	
23,400.0	11,180.0	23,300.4	11,180.0	96.1	94.7	90.00	12,437.3	1,340.6	1,104.0	915.4	188.66	5.852	
23,500.0	11,180.0	23,400.4	11,180.0	96.8	95.4	90.00	12,537.3	1,340.2	1,104.0	913.9	190.15	5.806	
23,600.0	11,180.0	23,500.4	11,180.0	97.6	96.2	90.00	12,637.3	1,339.9	1,104.0	912.4	191.64	5.761	
23,700.0	11,180.0	23,600.4	11,180.0	98.3	97.0	90.00	12,737.3	1,339.5	1,104.1	910.9	193.13	5.717	
23,800.0	11,180.0	23,700.4	11,180.0	99.1	97.7	90.00	12,837.3	1,339.1	1,104.1	909.4	194.61	5.673	
23,900.0	11,180.0	23,800.4	11,180.0	99.8	98.5	90.00	12,937.3	1,338.7	1,104.1	908.0	196.10	5.630	
24,000.0	11,180.0	23,900.4	11,180.0	100.6	99.2	90.00	13,037.3	1,338.3	1,104.1	906.5	197.59	5.588	
24,100.0	11,180.0	24,000.4	11,180.0	101.3	100.0	90.00	13,137.3	1,337.9	1,104.1	905.0	199.08	5.546	
24,200.0	11,180.0	24,100.4	11,180.0	102.1	100.7	90.00	13,237.3	1,337.5	1,104.1	903.5	200.57	5.505	
24,300.0	11,180.0	24,200.4	11,180.0	102.8	101.5	90.00	13,337.3	1,337.1	1,104.1	902.0	202.07	5.464	
24,400.0	11,180.0	24,300.4	11,180.0	103.6	102.2	90.00	13,437.3	1,336.7	1,104.1	900.5	203.56	5.424	
24,500.0	11,180.0	24,400.4	11,180.0	104.3	103.0	90.00	13,537.3	1,336.3	1,104.1	899.0	205.05	5.385	
24,505.9	11,180.0	24,406.3	11,180.0	104.4	103.1	90.00	13,543.3	1,336.3	1,104.1	899.0	205.14	5.382	
24,574.2	11,180.0	24,469.4	11,180.0	104.9	103.5	90.00	13,606.3	1,336.0	1,104.1	898.0	206.12	5.357 ES, SF	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	87.05	71.6	1,390.0	1,391.9	1,385.5	6.43	216.506	
100.0	100.0	100.0	100.0	3.2	3.2	87.05	71.6	1,390.0	1,391.9	1,385.0	6.89	201.947	
200.0	200.0	200.0	200.0	3.5	3.5	87.05	71.6	1,390.0	1,391.9	1,384.6	7.33	189.937	
300.0	300.0	300.0	300.0	3.7	3.7	87.05	71.6	1,390.0	1,391.9	1,384.2	7.74	179.800	
400.0	400.0	400.0	400.0	3.9	3.9	87.05	71.6	1,390.0	1,391.9	1,383.8	8.14	171.088	
500.0	500.0	500.0	500.0	4.1	4.1	87.05	71.6	1,390.0	1,391.9	1,383.4	8.51	163.491	
600.0	600.0	600.0	600.0	4.2	4.2	87.05	71.6	1,390.0	1,391.9	1,383.0	8.88	156.787	
700.0	700.0	700.0	700.0	4.4	4.4	87.05	71.6	1,390.0	1,391.9	1,382.7	9.23	150.810	
800.0	800.0	800.0	800.0	4.6	4.6	87.05	71.6	1,390.0	1,391.9	1,382.3	9.57	145.436	
900.0	900.0	900.0	900.0	4.8	4.8	87.05	71.6	1,390.0	1,391.9	1,382.0	9.90	140.568	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.05	71.6	1,390.0	1,391.9	1,381.7	10.22	136.131	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.05	71.6	1,390.0	1,391.9	1,381.4	10.54	132.062	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.05	71.6	1,390.0	1,391.9	1,381.0	10.85	128.314	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.05	71.6	1,390.0	1,391.9	1,380.7	11.15	124.845	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.05	71.6	1,390.0	1,391.9	1,380.4	11.44	121.622	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.05	71.6	1,390.0	1,391.9	1,380.2	11.73	118.616	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.05	71.6	1,390.0	1,391.9	1,379.9	12.02	115.804	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.05	71.6	1,390.0	1,391.9	1,379.6	12.30	113.165	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.05	71.6	1,390.0	1,391.9	1,379.3	12.58	110.682	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.05	71.6	1,390.0	1,391.9	1,379.0	12.85	108.341	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.05	71.6	1,390.0	1,391.9	1,378.8	13.12	106.127 CC, ES	
2,100.0	2,100.0	2,074.9	2,074.9	6.5	6.5	87.06	71.4	1,390.7	1,392.8	1,379.4	13.36	104.289	
2,200.0	2,200.0	2,149.7	2,149.6	6.7	6.6	87.10	70.6	1,392.8	1,395.5	1,381.9	13.59	102.710	
2,300.0	2,300.0	2,224.4	2,224.2	6.8	6.7	87.16	69.4	1,396.2	1,400.0	1,386.2	13.82	101.336	
2,400.0	2,400.0	2,300.0	2,299.7	6.9	6.9	87.24	67.6	1,401.1	1,406.3	1,392.3	14.05	100.104	
2,500.0	2,500.0	2,373.2	2,372.6	7.0	7.0	87.34	65.4	1,407.2	1,414.4	1,400.2	14.28	99.018	
2,600.0	2,600.0	2,447.3	2,446.3	7.2	7.1	-5.53	62.7	1,414.6	1,423.0	1,408.5	14.54	97.853	
2,700.0	2,699.9	2,521.3	2,519.7	7.3	7.3	-5.38	59.5	1,423.4	1,430.9	1,416.1	14.78	96.792	
2,800.0	2,799.7	2,616.8	2,614.3	7.5	7.4	-5.20	54.9	1,435.9	1,437.2	1,422.2	15.08	95.310	
2,900.0	2,899.3	2,716.7	2,713.1	7.7	7.7	-5.02	50.2	1,449.0	1,441.1	1,425.6	15.46	93.208	
3,000.0	2,998.6	2,816.6	2,812.1	7.9	7.9	-4.85	45.4	1,462.0	1,442.3	1,426.4	15.88	90.831	
3,100.0	3,097.6	2,916.5	2,911.0	8.0	8.2	-4.69	40.7	1,475.1	1,441.5	1,425.2	16.26	88.645	
3,200.0	3,196.6	3,016.4	3,010.0	8.2	8.4	-4.53	35.9	1,488.2	1,440.6	1,423.8	16.72	86.135	
3,300.0	3,295.7	3,116.3	3,108.9	8.4	8.7	-4.37	31.2	1,501.2	1,439.6	1,422.4	17.22	83.616	
3,400.0	3,394.7	3,216.2	3,207.8	8.7	9.0	-4.21	26.4	1,514.3	1,438.7	1,421.0	17.74	81.112	
3,500.0	3,493.7	3,316.1	3,306.8	8.9	9.3	-4.05	21.6	1,527.4	1,437.8	1,419.6	18.28	78.644	
3,600.0	3,592.8	3,416.0	3,405.7	9.2	9.6	-3.89	16.9	1,540.4	1,437.0	1,418.1	18.85	76.226	
3,700.0	3,691.8	3,516.0	3,504.7	9.5	9.9	-3.73	12.1	1,553.5	1,436.1	1,416.6	19.44	73.871	
3,800.0	3,790.8	3,615.9	3,603.6	9.8	10.3	-3.57	7.4	1,566.6	1,435.2	1,415.2	20.05	71.586	
3,900.0	3,889.8	3,715.8	3,702.6	10.1	10.6	-3.41	2.6	1,579.6	1,434.4	1,413.7	20.67	69.378	
4,000.0	3,988.9	3,814.2	3,800.0	10.4	11.0	-3.25	-2.1	1,592.5	1,433.5	1,412.2	21.30	67.295	
4,100.0	4,087.9	3,907.5	3,892.4	10.7	11.3	-3.16	-5.0	1,605.0	1,433.0	1,411.1	21.94	65.307	
4,145.4	4,132.8	3,949.2	3,933.7	10.9	11.4	-3.16	-5.4	1,610.7	1,432.9	1,410.7	22.22	64.489	
4,200.0	4,186.9	4,003.5	3,987.5	11.0	11.6	-3.17	-5.4	1,618.3	1,432.9	1,410.4	22.57	63.483	
4,300.0	4,285.9	4,103.5	4,086.5	11.4	11.9	-3.20	-5.4	1,632.2	1,433.0	1,409.7	23.27	61.587	
4,400.0	4,385.0	4,203.5	4,185.5	11.7	12.3	-3.23	-5.4	1,646.1	1,433.0	1,409.0	23.97	59.775	
4,500.0	4,484.1	4,303.5	4,284.6	12.0	12.7	-3.26	-5.4	1,660.0	1,433.5	1,408.8	24.66	58.124	
4,600.0	4,583.4	4,403.5	4,383.6	12.4	13.0	-3.29	-5.4	1,673.9	1,435.7	1,410.3	25.38	56.575	
4,700.0	4,682.9	4,503.4	4,482.5	12.7	13.4	-3.31	-5.4	1,687.8	1,439.6	1,413.5	26.09	55.184	
4,800.0	4,782.5	4,603.2	4,581.4	13.0	13.8	-3.33	-5.4	1,701.7	1,445.3	1,418.5	26.79	53.945	
4,900.0	4,882.3	4,702.9	4,680.1	13.3	14.1	-3.34	-5.4	1,715.6	1,452.7	1,425.2	27.49	52.852	
5,000.0	4,982.2	4,802.5	4,778.7	13.6	14.5	-3.36	-5.4	1,729.5	1,461.9	1,433.7	28.17	51.900	

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 #704H
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 #704H	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)			
5,100.0	5,082.1	4,901.9	4,877.2	13.9	14.9	-3.37	-5.4	1,743.3	1,472.8	1,443.9	28.83	51.093	
5,200.0	5,182.1	5,001.1	4,975.4	14.1	15.3	-3.37	-5.4	1,757.1	1,485.4	1,455.9	29.44	50.453	
5,300.0	5,282.1	5,100.2	5,073.5	14.2	15.7	89.63	-5.4	1,770.9	1,499.2	1,469.3	29.90	50.141	
5,400.0	5,382.1	5,199.2	5,171.5	14.3	16.0	89.63	-5.4	1,784.7	1,513.2	1,482.8	30.37	49.825	
5,500.0	5,482.1	5,298.2	5,269.6	14.3	16.4	89.63	-5.4	1,798.5	1,527.1	1,496.2	30.84	49.510	
5,600.0	5,582.1	5,397.2	5,367.7	14.4	16.8	89.64	-5.4	1,812.2	1,541.0	1,509.7	31.32	49.197	
5,700.0	5,682.1	5,496.3	5,465.7	14.5	17.2	89.64	-5.4	1,826.0	1,554.9	1,523.1	31.81	48.886	
5,800.0	5,782.1	5,595.3	5,563.8	14.5	17.6	89.64	-5.4	1,839.8	1,568.8	1,536.5	32.30	48.578	
5,900.0	5,882.1	5,710.4	5,677.9	14.6	18.0	89.65	-5.4	1,855.5	1,582.5	1,549.7	32.84	48.195	
6,000.0	5,982.1	5,847.9	5,814.3	14.6	18.6	89.65	-5.4	1,871.6	1,594.3	1,560.8	33.48	47.614	
6,100.0	6,082.1	5,986.0	5,951.8	14.7	19.1	89.65	-5.4	1,884.5	1,603.6	1,569.5	34.10	47.030	
6,200.0	6,182.1	6,124.6	6,090.1	14.8	19.6	89.66	-5.4	1,894.1	1,610.5	1,575.8	34.67	46.459	
6,300.0	6,282.1	6,263.6	6,229.0	14.8	20.0	89.66	-5.4	1,900.4	1,615.0	1,579.8	35.17	45.915	
6,400.0	6,382.1	6,402.9	6,368.3	14.9	20.4	89.66	-5.4	1,903.2	1,617.1	1,581.5	35.59	45.435	
6,500.0	6,482.1	6,516.8	6,482.1	15.0	20.5	89.66	-5.4	1,903.5	1,617.2	1,581.5	35.70	45.297	
6,600.0	6,582.1	6,616.8	6,582.1	15.0	20.5	89.66	-5.4	1,903.5	1,617.2	1,581.4	35.80	45.170	
6,700.0	6,682.1	6,716.8	6,682.1	15.1	20.5	89.66	-5.4	1,903.5	1,617.2	1,581.3	35.90	45.044	
6,800.0	6,782.1	6,816.8	6,782.1	15.2	20.6	89.66	-5.4	1,903.5	1,617.2	1,581.2	36.00	44.918	
6,900.0	6,882.1	6,916.8	6,882.1	15.2	20.6	89.66	-5.4	1,903.5	1,617.2	1,581.1	36.11	44.792	
7,000.0	6,982.1	7,016.8	6,982.1	15.3	20.7	89.66	-5.4	1,903.5	1,617.2	1,581.0	36.21	44.666	
7,100.0	7,082.1	7,116.8	7,082.1	15.4	20.7	89.66	-5.4	1,903.5	1,617.2	1,580.9	36.31	44.540	
7,200.0	7,182.1	7,216.8	7,182.1	15.4	20.8	89.66	-5.4	1,903.5	1,617.2	1,580.8	36.41	44.415	
7,300.0	7,282.1	7,316.8	7,282.1	15.5	20.8	89.66	-5.4	1,903.5	1,617.2	1,580.7	36.51	44.290	
7,400.0	7,382.1	7,416.8	7,382.1	15.6	20.8	89.66	-5.4	1,903.5	1,617.2	1,580.6	36.62	44.165	
7,500.0	7,482.1	7,516.8	7,482.1	15.6	20.9	89.66	-5.4	1,903.5	1,617.2	1,580.5	36.72	44.040	
7,600.0	7,582.1	7,616.8	7,582.1	15.7	20.9	89.66	-5.4	1,903.5	1,617.2	1,580.4	36.83	43.915	
7,700.0	7,682.1	7,716.8	7,682.1	15.8	21.0	89.66	-5.4	1,903.5	1,617.2	1,580.3	36.93	43.790	
7,800.0	7,782.1	7,816.8	7,782.1	15.8	21.0	89.66	-5.4	1,903.5	1,617.2	1,580.2	37.04	43.666	
7,900.0	7,882.1	7,916.8	7,882.1	15.9	21.1	89.66	-5.4	1,903.5	1,617.2	1,580.1	37.14	43.542	
8,000.0	7,982.1	8,016.8	7,982.1	16.0	21.1	89.66	-5.4	1,903.5	1,617.2	1,580.0	37.25	43.418	
8,100.0	8,082.1	8,116.8	8,082.1	16.0	21.1	89.66	-5.4	1,903.5	1,617.2	1,579.9	37.35	43.295	
8,200.0	8,182.1	8,216.8	8,182.1	16.1	21.2	89.66	-5.4	1,903.5	1,617.2	1,579.8	37.46	43.171	
8,300.0	8,282.1	8,316.8	8,282.1	16.2	21.2	89.66	-5.4	1,903.5	1,617.2	1,579.7	37.57	43.048	
8,400.0	8,382.1	8,416.8	8,382.1	16.2	21.3	89.66	-5.4	1,903.5	1,617.2	1,579.5	37.68	42.926	
8,500.0	8,482.1	8,516.8	8,482.1	16.3	21.3	89.66	-5.4	1,903.5	1,617.2	1,579.4	37.78	42.803	
8,600.0	8,582.1	8,616.8	8,582.1	16.4	21.4	89.66	-5.4	1,903.5	1,617.2	1,579.3	37.89	42.681	
8,700.0	8,682.1	8,716.8	8,682.1	16.4	21.4	89.66	-5.4	1,903.5	1,617.2	1,579.2	38.00	42.559	
8,800.0	8,782.1	8,816.8	8,782.1	16.5	21.5	89.66	-5.4	1,903.5	1,617.2	1,579.1	38.11	42.437	
8,900.0	8,882.1	8,916.8	8,882.1	16.6	21.5	89.66	-5.4	1,903.5	1,617.2	1,579.0	38.22	42.316	
9,000.0	8,982.1	9,016.8	8,982.1	16.6	21.5	89.66	-5.4	1,903.5	1,617.2	1,578.9	38.33	42.194	
9,100.0	9,082.1	9,116.8	9,082.1	16.7	21.6	89.66	-5.4	1,903.5	1,617.2	1,578.8	38.44	42.074	
9,200.0	9,182.1	9,216.8	9,182.1	16.8	21.6	89.66	-5.4	1,903.5	1,617.2	1,578.7	38.55	41.953	
9,300.0	9,282.1	9,316.8	9,282.1	16.9	21.7	89.66	-5.4	1,903.5	1,617.2	1,578.6	38.66	41.833	
9,400.0	9,382.1	9,416.8	9,382.1	16.9	21.7	89.66	-5.4	1,903.5	1,617.2	1,578.5	38.77	41.713	
9,500.0	9,482.1	9,516.8	9,482.1	17.0	21.8	89.66	-5.4	1,903.5	1,617.2	1,578.3	38.88	41.593	
9,600.0	9,582.1	9,616.8	9,582.1	17.1	21.8	89.66	-5.4	1,903.5	1,617.2	1,578.2	38.99	41.474	
9,700.0	9,682.1	9,716.8	9,682.1	17.1	21.9	89.66	-5.4	1,903.5	1,617.2	1,578.1	39.11	41.355	
9,800.0	9,782.1	9,816.8	9,782.1	17.2	21.9	89.66	-5.4	1,903.5	1,617.2	1,578.0	39.22	41.236	
9,900.0	9,882.1	9,916.8	9,882.1	17.3	22.0	89.66	-5.4	1,903.5	1,617.2	1,577.9	39.33	41.118	
10,000.0	9,982.1	10,016.8	9,982.1	17.3	22.0	89.66	-5.4	1,903.5	1,617.2	1,577.8	39.44	41.000	
10,100.0	10,082.1	10,116.8	10,082.1	17.4	22.1	89.66	-5.4	1,903.5	1,617.2	1,577.7	39.56	40.882	
10,200.0	10,182.1	10,216.8	10,182.1	17.5	22.1	89.66	-5.4	1,903.5	1,617.2	1,577.6	39.67	40.764	

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 #704H
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 #704H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
10,300.0	10,282.1	10,316.8	10,282.1	17.5	22.2	89.66	-5.4	1,903.5	1,617.2	1,577.4	39.79	40.647		
10,400.0	10,382.1	10,416.8	10,382.1	17.6	22.2	89.66	-5.4	1,903.5	1,617.2	1,577.3	39.90	40.531		
10,500.0	10,482.1	10,516.8	10,482.1	17.7	22.3	89.66	-5.4	1,903.5	1,617.2	1,577.2	40.02	40.414		
10,600.0	10,582.1	10,616.8	10,582.1	17.8	22.3	89.66	-5.4	1,903.5	1,617.2	1,577.1	40.13	40.298		
10,669.7	10,651.8	10,686.4	10,651.8	17.8	22.3	90.00	-5.4	1,903.5	1,617.2	1,577.0	40.20	40.231		
10,700.0	10,681.9	10,716.6	10,681.9	17.8	22.4	90.06	-5.4	1,903.5	1,617.2	1,577.0	40.23	40.202		
10,800.0	10,779.4	10,814.2	10,779.5	17.8	22.4	90.79	-5.4	1,903.5	1,617.4	1,577.1	40.33	40.105		
10,900.0	10,871.7	10,916.5	10,881.3	17.9	22.4	91.79	4.2	1,903.4	1,618.1	1,577.7	40.38	40.070		
11,000.0	10,955.9	11,025.2	10,985.6	17.9	22.4	92.77	34.0	1,903.3	1,619.3	1,578.9	40.38	40.104		
11,100.0	11,029.5	11,140.8	11,088.3	18.0	22.4	93.70	86.6	1,903.1	1,620.8	1,580.5	40.33	40.190		
11,200.0	11,090.3	11,263.8	11,183.7	18.1	22.4	94.54	164.0	1,902.8	1,622.6	1,582.3	40.26	40.298		
11,300.0	11,136.4	11,394.2	11,264.3	18.2	22.4	95.24	266.2	1,902.4	1,624.2	1,584.0	40.22	40.382		
11,400.0	11,166.4	11,530.9	11,321.7	18.3	22.5	95.74	389.9	1,901.9	1,625.4	1,585.2	40.24	40.399		
11,500.0	11,179.4	11,671.8	11,348.6	18.4	22.6	95.98	527.8	1,901.3	1,626.1	1,585.7	40.34	40.307		
11,600.0	11,180.0	11,783.6	11,350.0	18.5	22.7	96.00	639.5	1,900.9	1,626.1	1,585.6	40.51	40.143		
11,700.0	11,180.0	11,883.6	11,350.0	18.7	22.8	96.00	739.5	1,900.5	1,626.1	1,585.4	40.73	39.925		
11,800.0	11,180.0	11,983.6	11,350.0	18.9	23.0	96.00	839.5	1,900.1	1,626.1	1,585.1	41.00	39.657		
11,900.0	11,180.0	12,083.6	11,350.0	19.1	23.2	96.00	939.5	1,899.7	1,626.1	1,584.8	41.34	39.340		
12,000.0	11,180.0	12,183.6	11,350.0	19.3	23.4	96.00	1,039.5	1,899.3	1,626.1	1,584.4	41.72	38.979		
12,100.0	11,180.0	12,283.6	11,350.0	19.6	23.7	96.00	1,139.5	1,898.9	1,626.1	1,584.0	42.15	38.577		
12,200.0	11,180.0	12,383.6	11,350.0	19.9	23.9	96.00	1,239.5	1,898.5	1,626.1	1,583.5	42.64	38.139		
12,300.0	11,180.0	12,483.6	11,350.0	20.2	24.2	96.00	1,339.5	1,898.1	1,626.1	1,582.9	43.17	37.669		
12,400.0	11,180.0	12,583.6	11,350.0	20.6	24.5	96.00	1,439.5	1,897.7	1,626.1	1,582.4	43.75	37.171		
12,500.0	11,180.0	12,683.6	11,350.0	21.0	24.8	96.00	1,539.5	1,897.3	1,626.1	1,581.7	44.37	36.649		
12,600.0	11,180.0	12,783.6	11,350.0	21.4	25.2	96.00	1,639.5	1,896.9	1,626.1	1,581.1	45.04	36.107		
12,700.0	11,180.0	12,883.6	11,350.0	21.8	25.5	96.00	1,739.5	1,896.5	1,626.1	1,580.4	45.74	35.549		
12,800.0	11,180.0	12,983.6	11,350.0	22.2	25.9	96.00	1,839.5	1,896.1	1,626.1	1,579.6	46.49	34.979		
12,900.0	11,180.0	13,083.6	11,350.0	22.7	26.3	96.00	1,939.5	1,895.7	1,626.1	1,578.8	47.27	34.401		
13,000.0	11,180.0	13,183.6	11,350.0	23.2	26.7	96.00	2,039.5	1,895.3	1,626.1	1,578.0	48.09	33.816		
13,100.0	11,180.0	13,283.6	11,350.0	23.7	27.2	96.00	2,139.5	1,894.9	1,626.1	1,577.2	48.94	33.228		
13,200.0	11,180.0	13,383.6	11,350.0	24.2	27.6	96.00	2,239.5	1,894.5	1,626.1	1,576.3	49.82	32.639		
13,300.0	11,180.0	13,483.6	11,350.0	24.7	28.1	96.00	2,339.5	1,894.1	1,626.1	1,575.4	50.73	32.052		
13,400.0	11,180.0	13,583.6	11,350.0	25.2	28.5	96.00	2,439.5	1,893.7	1,626.1	1,574.4	51.67	31.468		
13,500.0	11,180.0	13,683.6	11,350.0	25.8	29.0	96.00	2,539.5	1,893.3	1,626.1	1,573.5	52.64	30.890		
13,600.0	11,180.0	13,783.6	11,350.0	26.3	29.5	96.00	2,639.5	1,892.9	1,626.1	1,572.5	53.64	30.318		
13,700.0	11,180.0	13,883.6	11,350.0	26.9	30.0	96.00	2,739.5	1,892.5	1,626.1	1,571.5	54.65	29.753		
13,800.0	11,180.0	13,983.6	11,350.0	27.4	30.5	96.00	2,839.5	1,892.1	1,626.1	1,570.4	55.69	29.198		
13,900.0	11,180.0	14,083.6	11,350.0	28.0	31.1	96.00	2,939.5	1,891.7	1,626.1	1,569.4	56.75	28.652		
14,000.0	11,180.0	14,183.6	11,350.0	28.6	31.6	96.00	3,039.5	1,891.3	1,626.1	1,568.3	57.84	28.116		
14,100.0	11,180.0	14,283.6	11,350.0	29.2	32.1	96.00	3,139.5	1,890.9	1,626.1	1,567.2	58.94	27.591		
14,200.0	11,180.0	14,383.6	11,350.0	29.8	32.7	96.00	3,239.5	1,890.5	1,626.1	1,566.0	60.05	27.077		
14,300.0	11,180.0	14,483.6	11,350.0	30.5	33.3	96.00	3,339.5	1,890.1	1,626.1	1,564.9	61.19	26.574		
14,400.0	11,180.0	14,583.6	11,350.0	31.1	33.8	96.00	3,439.5	1,889.7	1,626.1	1,563.8	62.34	26.083		
14,500.0	11,180.0	14,683.6	11,350.0	31.7	34.4	96.00	3,539.5	1,889.3	1,626.1	1,562.6	63.51	25.604		
14,600.0	11,180.0	14,783.6	11,350.0	32.3	35.0	96.00	3,639.5	1,888.9	1,626.1	1,561.4	64.69	25.137		
14,700.0	11,180.0	14,883.6	11,350.0	33.0	35.6	96.00	3,739.5	1,888.5	1,626.1	1,560.2	65.89	24.681		
14,800.0	11,180.0	14,983.6	11,350.0	33.6	36.2	96.00	3,839.5	1,888.1	1,626.1	1,559.0	67.09	24.236		
14,900.0	11,180.0	15,083.6	11,350.0	34.3	36.8	96.00	3,939.5	1,887.7	1,626.1	1,557.8	68.31	23.803		
15,000.0	11,180.0	15,183.6	11,350.0	34.9	37.4	96.00	4,039.5	1,887.3	1,626.1	1,556.6	69.55	23.382		
15,100.0	11,180.0	15,283.6	11,350.0	35.6	38.0	96.00	4,139.5	1,886.9	1,626.1	1,555.3	70.79	22.971		
15,200.0	11,180.0	15,383.6	11,350.0	36.3	38.6	96.00	4,239.5	1,886.5	1,626.1	1,554.1	72.04	22.572		
15,300.0	11,180.0	15,483.6	11,350.0	36.9	39.3	96.00	4,339.5	1,886.1	1,626.1	1,552.8	73.30	22.183		

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 #704H
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 #704H	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)			
15,400.0	11,180.0	15,583.6	11,350.0	37.6	39.9	96.00	4,439.5	1,885.7	1,626.1	1,551.5	74.58	21.805	
15,500.0	11,180.0	15,683.6	11,350.0	38.3	40.5	96.00	4,539.5	1,885.3	1,626.1	1,550.2	75.86	21.436	
15,600.0	11,180.0	15,783.6	11,350.0	39.0	41.2	96.00	4,639.5	1,884.9	1,626.1	1,548.9	77.15	21.078	
15,700.0	11,180.0	15,883.6	11,350.0	39.6	41.8	96.00	4,739.5	1,884.5	1,626.1	1,547.6	78.44	20.730	
15,800.0	11,180.0	15,983.6	11,350.0	40.3	42.5	96.00	4,839.5	1,884.1	1,626.1	1,546.3	79.75	20.390	
15,900.0	11,180.0	16,083.6	11,350.0	41.0	43.1	96.00	4,939.5	1,883.7	1,626.1	1,545.0	81.06	20.060	
16,000.0	11,180.0	16,183.6	11,350.0	41.7	43.8	96.00	5,039.5	1,883.3	1,626.1	1,543.7	82.38	19.739	
16,100.0	11,180.0	16,283.6	11,350.0	42.4	44.4	96.00	5,139.5	1,882.9	1,626.1	1,542.4	83.70	19.426	
16,200.0	11,180.0	16,383.6	11,350.0	43.1	45.1	96.00	5,239.5	1,882.5	1,626.1	1,541.0	85.04	19.122	
16,300.0	11,180.0	16,483.6	11,350.0	43.8	45.8	96.00	5,339.5	1,882.1	1,626.1	1,539.7	86.37	18.826	
16,400.0	11,180.0	16,583.6	11,350.0	44.5	46.4	96.00	5,439.5	1,881.7	1,626.1	1,538.4	87.72	18.538	
16,500.0	11,180.0	16,683.6	11,350.0	45.2	47.1	96.00	5,539.5	1,881.3	1,626.1	1,537.0	89.07	18.257	
16,600.0	11,180.0	16,783.6	11,350.0	45.9	47.8	96.00	5,639.5	1,880.9	1,626.1	1,535.7	90.42	17.983	
16,700.0	11,180.0	16,883.6	11,350.0	46.6	48.5	96.00	5,739.5	1,880.5	1,626.1	1,534.3	91.78	17.717	
16,800.0	11,180.0	16,983.6	11,350.0	47.3	49.2	96.00	5,839.5	1,880.1	1,626.1	1,532.9	93.14	17.458	
16,900.0	11,180.0	17,083.6	11,350.0	48.0	49.8	96.00	5,939.5	1,879.7	1,626.1	1,531.6	94.51	17.205	
17,000.0	11,180.0	17,183.6	11,350.0	48.7	50.5	96.00	6,039.5	1,879.3	1,626.1	1,530.2	95.88	16.959	
17,100.0	11,180.0	17,283.6	11,350.0	49.5	51.2	96.00	6,139.5	1,878.9	1,626.1	1,528.8	97.26	16.719	
17,200.0	11,180.0	17,383.6	11,350.0	50.2	51.9	96.00	6,239.5	1,878.5	1,626.1	1,527.4	98.64	16.485	
17,300.0	11,180.0	17,483.6	11,350.0	50.9	52.6	96.00	6,339.5	1,878.1	1,626.1	1,526.0	100.03	16.256	
17,400.0	11,180.0	17,583.6	11,350.0	51.6	53.3	96.00	6,439.5	1,877.7	1,626.1	1,524.7	101.42	16.034	
17,500.0	11,180.0	17,683.6	11,350.0	52.3	54.0	96.00	6,539.5	1,877.3	1,626.1	1,523.3	102.81	15.817	
17,600.0	11,180.0	17,783.6	11,350.0	53.0	54.7	96.00	6,639.5	1,876.9	1,626.1	1,521.9	104.20	15.605	
17,700.0	11,180.0	17,883.6	11,350.0	53.8	55.4	96.00	6,739.5	1,876.5	1,626.1	1,520.5	105.60	15.398	
17,800.0	11,180.0	17,983.6	11,350.0	54.5	56.1	96.00	6,839.5	1,876.1	1,626.1	1,519.1	107.00	15.197	
17,900.0	11,180.0	18,083.6	11,350.0	55.2	56.8	96.00	6,939.5	1,875.7	1,626.1	1,517.7	108.41	15.000	
18,000.0	11,180.0	18,183.6	11,350.0	55.9	57.5	96.00	7,039.5	1,875.3	1,626.1	1,516.3	109.81	14.808	
18,100.0	11,180.0	18,283.6	11,350.0	56.7	58.2	96.00	7,139.5	1,874.9	1,626.1	1,514.8	111.22	14.620	
18,200.0	11,180.0	18,383.6	11,350.0	57.4	58.9	96.00	7,239.5	1,874.5	1,626.1	1,513.4	112.64	14.436	
18,300.0	11,180.0	18,483.6	11,350.0	58.1	59.6	96.00	7,339.5	1,874.1	1,626.1	1,512.0	114.05	14.257	
18,400.0	11,180.0	18,583.6	11,350.0	58.8	60.3	96.00	7,439.5	1,873.7	1,626.1	1,510.6	115.47	14.082	
18,500.0	11,180.0	18,683.6	11,350.0	59.6	61.0	96.00	7,539.5	1,873.3	1,626.1	1,509.2	116.89	13.911	
18,600.0	11,180.0	18,783.6	11,350.0	60.3	61.8	96.00	7,639.5	1,872.9	1,626.1	1,507.8	118.31	13.744	
18,700.0	11,180.0	18,883.6	11,350.0	61.0	62.5	96.00	7,739.5	1,872.5	1,626.1	1,506.3	119.74	13.580	
18,800.0	11,180.0	18,983.6	11,350.0	61.8	63.2	96.00	7,839.5	1,872.1	1,626.1	1,504.9	121.16	13.421	
18,900.0	11,180.0	19,083.6	11,350.0	62.5	63.9	96.00	7,939.5	1,871.7	1,626.1	1,503.5	122.59	13.264	
19,000.0	11,180.0	19,183.6	11,350.0	63.2	64.6	96.00	8,039.5	1,871.3	1,626.1	1,502.0	124.02	13.111	
19,100.0	11,180.0	19,283.6	11,350.0	64.0	65.3	96.00	8,139.5	1,870.9	1,626.1	1,500.6	125.45	12.961	
19,200.0	11,180.0	19,383.6	11,350.0	64.7	66.1	96.00	8,239.5	1,870.5	1,626.1	1,499.2	126.89	12.815	
19,300.0	11,180.0	19,483.6	11,350.0	65.5	66.8	96.00	8,339.5	1,870.1	1,626.1	1,497.7	128.32	12.671	
19,400.0	11,180.0	19,583.6	11,350.0	66.2	67.5	96.00	8,439.5	1,869.7	1,626.1	1,496.3	129.76	12.531	
19,500.0	11,180.0	19,683.6	11,350.0	66.9	68.2	96.00	8,539.5	1,869.3	1,626.1	1,494.9	131.20	12.394	
19,600.0	11,180.0	19,783.6	11,350.0	67.7	68.9	96.00	8,639.5	1,868.9	1,626.1	1,493.4	132.64	12.259	
19,700.0	11,180.0	19,883.6	11,350.0	68.4	69.7	96.00	8,739.5	1,868.5	1,626.1	1,492.0	134.09	12.127	
19,800.0	11,180.0	19,983.6	11,350.0	69.1	70.4	96.00	8,839.5	1,868.1	1,626.1	1,490.5	135.53	11.998	
19,900.0	11,180.0	20,083.6	11,350.0	69.9	71.1	96.00	8,939.5	1,867.7	1,626.1	1,489.1	136.98	11.871	
20,000.0	11,180.0	20,183.6	11,350.0	70.6	71.9	96.00	9,039.5	1,867.3	1,626.1	1,487.6	138.42	11.747	
20,100.0	11,180.0	20,283.6	11,350.0	71.4	72.6	96.00	9,139.5	1,866.9	1,626.1	1,486.2	139.87	11.625	
20,200.0	11,180.0	20,383.6	11,350.0	72.1	73.3	96.00	9,239.5	1,866.5	1,626.1	1,484.7	141.32	11.506	
20,300.0	11,180.0	20,483.6	11,350.0	72.9	74.0	96.00	9,339.5	1,866.1	1,626.0	1,483.3	142.77	11.389	
20,400.0	11,180.0	20,583.6	11,350.0	73.6	74.8	96.00	9,439.5	1,865.7	1,626.0	1,481.8	144.23	11.274	
20,500.0	11,180.0	20,683.6	11,350.0	74.3	75.5	96.00	9,539.5	1,865.3	1,626.0	1,480.4	145.68	11.162	

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 #704H
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 #704H	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)			
20,600.0	11,180.0	20,783.6	11,350.0	75.1	76.2	96.00	9,639.5	1,864.9	1,626.0	1,478.9	147.13	11.052	
20,700.0	11,180.0	20,883.6	11,350.0	75.8	77.0	96.00	9,739.5	1,864.5	1,626.0	1,477.5	148.59	10.943	
20,800.0	11,180.0	20,983.6	11,350.0	76.6	77.7	96.00	9,839.5	1,864.1	1,626.0	1,476.0	150.05	10.837	
20,900.0	11,180.0	21,083.6	11,350.0	77.3	78.4	96.00	9,939.5	1,863.7	1,626.0	1,474.5	151.50	10.733	
21,000.0	11,180.0	21,183.6	11,350.0	78.1	79.2	96.00	10,039.5	1,863.3	1,626.0	1,473.1	152.96	10.630	
21,100.0	11,180.0	21,283.6	11,350.0	78.8	79.9	96.00	10,139.5	1,862.9	1,626.0	1,471.6	154.42	10.530	
21,200.0	11,180.0	21,383.6	11,350.0	79.6	80.6	96.00	10,239.5	1,862.5	1,626.0	1,470.2	155.89	10.431	
21,300.0	11,180.0	21,483.6	11,350.0	80.3	81.4	96.00	10,339.5	1,862.1	1,626.0	1,468.7	157.35	10.334	
21,400.0	11,180.0	21,583.6	11,350.0	81.0	82.1	96.00	10,439.5	1,861.7	1,626.0	1,467.2	158.81	10.239	
21,500.0	11,180.0	21,683.6	11,350.0	81.8	82.9	96.00	10,539.5	1,861.3	1,626.0	1,465.8	160.27	10.145	
21,600.0	11,180.0	21,783.6	11,350.0	82.5	83.6	96.00	10,639.5	1,860.9	1,626.0	1,464.3	161.74	10.053	
21,700.0	11,180.0	21,883.6	11,350.0	83.3	84.3	96.00	10,739.5	1,860.5	1,626.0	1,462.8	163.20	9.963	
21,800.0	11,180.0	21,983.6	11,350.0	84.0	85.1	96.00	10,839.5	1,860.1	1,626.0	1,461.4	164.67	9.874	
21,900.0	11,180.0	22,083.6	11,350.0	84.8	85.8	96.00	10,939.5	1,859.7	1,626.0	1,459.9	166.14	9.787	
22,000.0	11,180.0	22,183.6	11,350.0	85.5	86.5	96.00	11,039.5	1,859.3	1,626.0	1,458.4	167.61	9.702	
22,100.0	11,180.0	22,283.6	11,350.0	86.3	87.3	96.00	11,139.5	1,858.9	1,626.0	1,457.0	169.08	9.617	
22,200.0	11,180.0	22,383.6	11,350.0	87.0	88.0	96.00	11,239.5	1,858.5	1,626.0	1,455.5	170.54	9.534	
22,300.0	11,180.0	22,483.6	11,350.0	87.8	88.8	96.00	11,339.5	1,858.1	1,626.0	1,454.0	172.02	9.453	
22,400.0	11,180.0	22,583.6	11,350.0	88.5	89.5	96.00	11,439.5	1,857.7	1,626.0	1,452.5	173.49	9.373	
22,500.0	11,180.0	22,683.6	11,350.0	89.3	90.3	96.00	11,539.5	1,857.3	1,626.0	1,451.1	174.96	9.294	
22,600.0	11,180.0	22,783.6	11,350.0	90.0	91.0	96.00	11,639.5	1,856.9	1,626.0	1,449.6	176.43	9.216	
22,700.0	11,180.0	22,883.6	11,350.0	90.8	91.7	96.00	11,739.5	1,856.5	1,626.0	1,448.1	177.90	9.140	
22,800.0	11,180.0	22,983.6	11,350.0	91.5	92.5	96.00	11,839.4	1,856.1	1,626.0	1,446.7	179.38	9.065	
22,900.0	11,180.0	23,083.6	11,350.0	92.3	93.2	96.00	11,939.4	1,855.7	1,626.0	1,445.2	180.85	8.991	
23,000.0	11,180.0	23,183.6	11,350.0	93.0	94.0	96.00	12,039.4	1,855.3	1,626.0	1,443.7	182.33	8.918	
23,100.0	11,180.0	23,283.6	11,350.0	93.8	94.7	96.00	12,139.4	1,854.9	1,626.0	1,442.2	183.80	8.847	
23,200.0	11,180.0	23,383.6	11,350.0	94.6	95.5	96.00	12,239.4	1,854.5	1,626.0	1,440.7	185.28	8.776	
23,300.0	11,180.0	23,483.6	11,350.0	95.3	96.2	96.00	12,339.4	1,854.1	1,626.0	1,439.3	186.76	8.707	
23,400.0	11,180.0	23,583.6	11,350.0	96.1	96.9	96.00	12,439.4	1,853.7	1,626.0	1,437.8	188.23	8.638	
23,500.0	11,180.0	23,683.6	11,350.0	96.8	97.7	96.00	12,539.4	1,853.3	1,626.0	1,436.3	189.71	8.571	
23,600.0	11,180.0	23,783.6	11,350.0	97.6	98.4	96.00	12,639.4	1,852.9	1,626.0	1,434.8	191.19	8.505	
23,700.0	11,180.0	23,883.6	11,350.0	98.3	99.2	96.00	12,739.4	1,852.5	1,626.0	1,433.4	192.67	8.440	
23,800.0	11,180.0	23,983.6	11,350.0	99.1	99.9	96.00	12,839.4	1,852.1	1,626.0	1,431.9	194.15	8.375	
23,900.0	11,180.0	24,083.6	11,350.0	99.8	100.7	96.00	12,939.4	1,851.7	1,626.0	1,430.4	195.63	8.312	
24,000.0	11,180.0	24,183.6	11,350.0	100.6	101.4	96.00	13,039.4	1,851.3	1,626.0	1,428.9	197.11	8.249	
24,100.0	11,180.0	24,283.6	11,350.0	101.3	102.2	96.00	13,139.4	1,850.9	1,626.0	1,427.4	198.59	8.188	
24,200.0	11,180.0	24,383.6	11,350.0	102.1	102.9	96.00	13,239.4	1,850.5	1,626.0	1,425.9	200.07	8.127	
24,300.0	11,180.0	24,483.6	11,350.0	102.8	103.7	96.00	13,339.4	1,850.1	1,626.0	1,424.5	201.55	8.067	
24,400.0	11,180.0	24,583.6	11,350.0	103.6	104.4	96.00	13,439.4	1,849.7	1,626.0	1,423.0	203.03	8.009	
24,500.0	11,180.0	24,683.6	11,350.0	104.3	105.2	96.00	13,539.4	1,849.3	1,626.0	1,421.5	204.52	7.951	
24,564.5	11,180.0	24,748.1	11,350.0	104.8	105.6	96.00	13,603.9	1,849.1	1,626.0	1,420.5	205.47	7.914	
24,574.2	11,180.0	24,750.1	11,350.0	104.9	105.7	96.00	13,605.9	1,849.0	1,626.0	1,420.5	205.56	7.910 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 #704H
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 #704H	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	87.11	71.6	1,420.0	1,421.9	1,415.4	6.43	221.166	
100.0	100.0	100.0	100.0	3.2	3.2	87.11	71.6	1,420.0	1,421.9	1,415.0	6.89	206.294	
200.0	200.0	200.0	200.0	3.5	3.5	87.11	71.6	1,420.0	1,421.9	1,414.5	7.33	194.026	
300.0	300.0	300.0	300.0	3.7	3.7	87.11	71.6	1,420.0	1,421.9	1,414.1	7.74	183.671	
400.0	400.0	400.0	400.0	3.9	3.9	87.11	71.6	1,420.0	1,421.9	1,413.7	8.14	174.771	
500.0	500.0	500.0	500.0	4.1	4.1	87.11	71.6	1,420.0	1,421.9	1,413.3	8.51	167.011	
600.0	600.0	600.0	600.0	4.2	4.2	87.11	71.6	1,420.0	1,421.9	1,413.0	8.88	160.162	
700.0	700.0	700.0	700.0	4.4	4.4	87.11	71.6	1,420.0	1,421.9	1,412.6	9.23	154.056	
800.0	800.0	800.0	800.0	4.6	4.6	87.11	71.6	1,420.0	1,421.9	1,412.3	9.57	148.566	
900.0	900.0	900.0	900.0	4.8	4.8	87.11	71.6	1,420.0	1,421.9	1,412.0	9.90	143.594	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.11	71.6	1,420.0	1,421.9	1,411.6	10.22	139.061	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.11	71.6	1,420.0	1,421.9	1,411.3	10.54	134.905	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.11	71.6	1,420.0	1,421.9	1,411.0	10.85	131.076	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.11	71.6	1,420.0	1,421.9	1,410.7	11.15	127.532	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.11	71.6	1,420.0	1,421.9	1,410.4	11.44	124.240	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.11	71.6	1,420.0	1,421.9	1,410.1	11.73	121.169	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.11	71.6	1,420.0	1,421.9	1,409.8	12.02	118.297	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.11	71.6	1,420.0	1,421.9	1,409.6	12.30	115.601	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.11	71.6	1,420.0	1,421.9	1,409.3	12.58	113.065	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.11	71.6	1,420.0	1,421.9	1,409.0	12.85	110.673	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.11	71.6	1,420.0	1,421.9	1,408.7	13.12	108.411	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	87.11	71.6	1,420.0	1,421.9	1,408.5	13.38	106.268	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	87.11	71.6	1,420.0	1,421.9	1,408.2	13.64	104.234	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	87.11	71.6	1,420.0	1,421.9	1,408.0	13.90	102.300	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	87.11	71.6	1,420.0	1,421.9	1,407.7	14.15	100.457	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	87.11	71.6	1,420.0	1,421.9	1,407.4	14.41	98.699	
2,600.0	2,600.0	2,575.1	2,575.1	7.2	7.2	-5.91	72.0	1,420.7	1,421.4	1,406.8	14.65	97.013	
2,700.0	2,699.9	2,650.2	2,650.2	7.3	7.3	-5.96	73.1	1,422.6	1,420.1	1,405.3	14.89	95.362	
2,800.0	2,799.7	2,725.3	2,725.2	7.5	7.4	-6.05	74.9	1,425.8	1,418.0	1,402.9	15.15	93.616	
2,900.0	2,899.3	2,800.0	2,799.7	7.7	7.5	-6.18	77.5	1,430.2	1,415.0	1,399.6	15.42	91.751	
3,000.0	2,998.6	2,875.3	2,874.7	7.9	7.7	-6.35	80.8	1,436.0	1,411.2	1,395.5	15.73	89.733	
3,100.0	3,097.6	2,950.3	2,949.2	8.0	7.8	-6.54	84.9	1,443.0	1,407.2	1,391.2	15.98	88.035	
3,200.0	3,196.6	3,025.2	3,023.5	8.2	7.9	-6.77	89.6	1,451.3	1,404.8	1,388.5	16.29	86.224	
3,300.0	3,295.7	3,122.2	3,119.6	8.4	8.1	-7.07	96.4	1,463.0	1,403.5	1,386.8	16.67	84.208	
3,400.0	3,394.7	3,221.9	3,218.3	8.7	8.3	-7.39	103.3	1,475.0	1,402.2	1,385.1	17.10	81.978	
3,495.1	3,488.9	3,300.0	3,295.7	8.9	8.5	-7.64	108.7	1,484.4	1,401.2	1,383.7	17.48	80.171 CC, ES	
3,500.0	3,493.7	3,300.0	3,295.7	8.9	8.5	-7.64	108.7	1,484.4	1,401.2	1,383.7	17.49	80.133	
3,600.0	3,592.8	3,383.7	3,378.5	9.2	8.7	-7.86	113.6	1,495.9	1,401.7	1,383.7	17.96	78.054	
3,700.0	3,691.8	3,456.4	3,450.2	9.5	8.9	-8.00	116.6	1,507.5	1,404.2	1,385.8	18.41	76.289	
3,800.0	3,790.8	3,529.1	3,521.7	9.8	9.1	-8.09	118.6	1,520.6	1,408.6	1,389.7	18.87	74.655	
3,900.0	3,889.8	3,605.1	3,596.1	10.1	9.3	-8.14	119.6	1,535.8	1,415.0	1,395.6	19.36	73.099	
4,000.0	3,988.9	3,704.9	3,693.7	10.4	9.7	-8.17	120.3	1,556.5	1,422.0	1,402.0	20.03	71.009	
4,100.0	4,087.9	3,804.6	3,791.2	10.7	10.0	-8.20	121.0	1,577.2	1,429.1	1,408.5	20.65	69.199	
4,200.0	4,186.9	3,904.4	3,888.8	11.0	10.3	-8.24	121.8	1,598.0	1,436.2	1,414.9	21.30	67.430	
4,300.0	4,285.9	4,004.1	3,986.4	11.4	10.6	-8.27	122.5	1,618.7	1,443.3	1,421.3	21.96	65.710	
4,400.0	4,385.0	4,103.9	4,083.9	11.7	10.9	-8.30	123.2	1,639.4	1,450.4	1,427.7	22.65	64.042	
4,500.0	4,484.1	4,203.6	4,181.5	12.0	11.3	-8.34	123.9	1,660.1	1,458.0	1,434.6	23.32	62.527	
4,600.0	4,583.4	4,303.1	4,278.9	12.4	11.6	-8.37	124.7	1,680.8	1,467.2	1,443.2	24.02	61.090	
4,700.0	4,682.9	4,402.5	4,376.1	12.7	12.0	-8.39	125.4	1,701.5	1,478.1	1,453.4	24.72	59.805	
4,800.0	4,782.5	4,501.7	4,473.1	13.0	12.3	-8.41	126.1	1,722.1	1,490.8	1,465.4	25.41	58.666	
4,900.0	4,882.3	4,600.7	4,569.9	13.3	12.7	-8.42	126.8	1,742.7	1,505.2	1,479.1	26.10	57.670	
5,000.0	4,982.2	4,699.4	4,666.5	13.6	13.1	-8.42	127.5	1,763.2	1,521.3	1,494.5	26.78	56.816	

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 #704H
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 #704H	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)			
5,100.0	5,082.1	4,797.8	4,762.7	13.9	13.5	-8.42	128.2	1,783.6	1,539.1	1,511.6	27.43	56.107	
5,200.0	5,182.1	4,895.9	4,858.6	14.1	13.8	-8.41	129.0	1,804.0	1,558.5	1,530.5	28.04	55.574	
5,300.0	5,282.1	4,993.7	4,954.3	14.2	14.2	84.63	129.7	1,824.3	1,579.2	1,550.7	28.50	55.408	
5,400.0	5,382.1	5,091.5	5,050.0	14.3	14.6	84.67	130.4	1,844.6	1,600.0	1,571.0	28.97	55.227	
5,500.0	5,482.1	5,189.3	5,145.7	14.3	15.0	84.71	131.1	1,865.0	1,620.8	1,591.3	29.45	55.037	
5,600.0	5,582.1	5,287.1	5,241.4	14.4	15.4	84.75	131.8	1,885.3	1,641.5	1,611.6	29.93	54.840	
5,700.0	5,682.1	5,385.0	5,337.0	14.5	15.8	84.80	132.5	1,905.6	1,662.3	1,631.8	30.43	54.635	
5,800.0	5,782.1	5,482.8	5,432.7	14.5	16.2	84.83	133.2	1,925.9	1,683.0	1,652.1	30.92	54.425	
5,900.0	5,882.1	5,580.6	5,528.4	14.6	16.6	84.87	133.9	1,946.3	1,703.8	1,672.4	31.43	54.210	
6,000.0	5,982.1	5,678.4	5,624.1	14.6	17.1	84.91	134.6	1,966.6	1,724.6	1,692.6	31.94	53.991	
6,100.0	6,082.1	5,776.2	5,719.7	14.7	17.5	84.95	135.3	1,986.9	1,745.3	1,712.9	32.46	53.770	
6,200.0	6,182.1	5,874.0	5,815.4	14.8	17.9	84.98	136.1	2,007.2	1,766.1	1,733.1	32.98	53.546	
6,300.0	6,282.1	5,971.8	5,911.1	14.8	18.3	85.02	136.8	2,027.6	1,786.8	1,753.3	33.51	53.320	
6,400.0	6,382.1	6,069.7	6,006.8	14.9	18.7	85.05	137.5	2,047.9	1,807.6	1,773.6	34.05	53.093	
6,500.0	6,482.1	6,167.5	6,102.5	15.0	19.2	85.09	138.2	2,068.2	1,828.4	1,793.8	34.58	52.866	
6,600.0	6,582.1	6,265.3	6,198.1	15.0	19.6	85.12	138.9	2,088.5	1,849.1	1,814.0	35.13	52.639	
6,700.0	6,682.1	6,363.1	6,293.8	15.1	20.0	85.15	139.6	2,108.9	1,869.9	1,834.2	35.68	52.412	
6,800.0	6,782.1	6,460.9	6,389.5	15.2	20.5	85.18	140.3	2,129.2	1,890.7	1,854.4	36.23	52.186	
6,900.0	6,882.1	6,558.7	6,485.2	15.2	20.9	85.21	141.0	2,149.5	1,911.4	1,874.7	36.79	51.960	
7,000.0	6,982.1	6,656.5	6,580.8	15.3	21.3	85.24	141.7	2,169.8	1,932.2	1,894.9	37.35	51.736	
7,100.0	7,082.1	6,754.4	6,676.5	15.4	21.8	85.27	142.4	2,190.2	1,953.0	1,915.1	37.91	51.514	
7,200.0	7,182.1	6,852.2	6,772.2	15.4	22.2	85.30	143.2	2,210.5	1,973.7	1,935.3	38.48	51.293	
7,300.0	7,282.1	6,950.0	6,867.9	15.5	22.6	85.33	143.9	2,230.8	1,994.5	1,955.5	39.05	51.074 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 #704H
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 #704H	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	87.17	71.6	1,450.0	1,451.8	1,445.4	6.43	225.827	
100.0	100.0	100.0	100.0	3.2	3.2	87.17	71.6	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	87.17	71.6	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	87.17	71.6	1,450.0	1,451.8	1,444.1	7.74	187.541	
400.0	400.0	400.0	400.0	3.9	3.9	87.17	71.6	1,450.0	1,451.8	1,443.7	8.14	178.454	
500.0	500.0	500.0	500.0	4.1	4.1	87.17	71.6	1,450.0	1,451.8	1,443.3	8.51	170.530	
600.0	600.0	600.0	600.0	4.2	4.2	87.17	71.6	1,450.0	1,451.8	1,442.9	8.88	163.537	
700.0	700.0	700.0	700.0	4.4	4.4	87.17	71.6	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	87.17	71.6	1,450.0	1,451.8	1,442.2	9.57	151.697	
900.0	900.0	900.0	900.0	4.8	4.8	87.17	71.6	1,450.0	1,451.8	1,441.9	9.90	146.620	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.17	71.6	1,450.0	1,451.8	1,441.6	10.22	141.991	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.17	71.6	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	87.17	71.6	1,450.0	1,451.8	1,441.0	10.85	133.838	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.17	71.6	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	87.17	71.6	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	87.17	71.6	1,450.0	1,451.8	1,440.1	11.73	123.723	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.17	71.6	1,450.0	1,451.8	1,439.8	12.02	120.789	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.17	71.6	1,450.0	1,451.8	1,439.5	12.30	118.037	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.17	71.6	1,450.0	1,451.8	1,439.2	12.58	115.447	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	87.17	71.6	1,450.0	1,451.8	1,439.0	12.85	113.005	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	87.17	71.6	1,450.0	1,451.8	1,438.7	13.12	110.695	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	87.17	71.6	1,450.0	1,451.8	1,438.4	13.38	108.508	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	87.17	71.6	1,450.0	1,451.8	1,438.2	13.64	106.431	CC, ES
2,300.0	2,300.0	2,272.5	2,272.5	6.8	6.8	87.17	71.6	1,450.7	1,452.8	1,438.9	13.88	104.697	
2,400.0	2,400.0	2,344.9	2,344.9	6.9	6.9	87.18	71.6	1,452.8	1,455.6	1,441.5	14.11	103.198	
2,500.0	2,500.0	2,417.2	2,417.1	7.0	7.0	87.18	71.6	1,456.2	1,460.3	1,446.0	14.33	101.900	
2,600.0	2,600.0	2,500.0	2,499.7	7.2	7.1	-5.80	71.6	1,461.8	1,465.7	1,451.1	14.60	100.396	
2,700.0	2,699.9	2,561.6	2,561.1	7.3	7.2	-5.79	71.6	1,467.2	1,470.3	1,455.4	14.83	99.162	
2,800.0	2,799.7	2,633.8	2,632.8	7.5	7.4	-5.79	71.6	1,474.7	1,474.1	1,459.1	15.10	97.642	
2,900.0	2,899.3	2,700.0	2,698.6	7.7	7.5	-5.80	71.6	1,482.7	1,477.3	1,462.0	15.37	96.093	
3,000.0	2,998.6	2,778.0	2,775.8	7.9	7.7	-5.81	71.6	1,493.7	1,479.8	1,464.0	15.72	94.135	
3,100.0	3,097.6	2,850.1	2,846.9	8.0	7.9	-5.82	71.6	1,505.2	1,482.1	1,466.1	16.00	92.611	
3,200.0	3,196.6	2,922.0	2,917.7	8.2	8.0	-5.84	71.6	1,518.1	1,486.1	1,469.8	16.36	90.827	
3,300.0	3,295.7	3,000.0	2,994.2	8.4	8.3	-5.85	71.6	1,533.5	1,492.1	1,475.3	16.77	88.962	
3,400.0	3,394.7	3,065.6	3,058.2	8.7	8.4	-5.86	71.6	1,547.7	1,499.8	1,482.7	17.16	87.415	
3,500.0	3,493.7	3,138.4	3,129.0	8.9	8.6	-5.87	71.6	1,564.7	1,509.5	1,491.9	17.57	85.938	
3,600.0	3,592.8	3,237.9	3,225.5	9.2	8.9	-5.87	71.6	1,588.8	1,520.0	1,501.9	18.12	83.896	
3,700.0	3,691.8	3,337.3	3,322.0	9.5	9.2	-5.88	71.6	1,612.9	1,530.5	1,511.8	18.72	81.762	
3,800.0	3,790.8	3,436.8	3,418.5	9.8	9.5	-5.89	71.6	1,636.9	1,541.0	1,521.6	19.35	79.653	
3,900.0	3,889.8	3,536.2	3,515.0	10.1	9.9	-5.89	71.6	1,661.0	1,551.5	1,531.5	20.00	77.584	
4,000.0	3,988.9	3,635.7	3,611.5	10.4	10.2	-5.90	71.6	1,685.0	1,562.0	1,541.3	20.67	75.568	
4,100.0	4,087.9	3,735.1	3,708.0	10.7	10.6	-5.91	71.6	1,709.1	1,572.5	1,551.1	21.36	73.612	
4,200.0	4,186.9	3,834.6	3,804.5	11.0	11.0	-5.91	71.6	1,733.2	1,583.0	1,560.9	22.07	71.721	
4,300.0	4,285.9	3,934.0	3,901.0	11.4	11.3	-5.92	71.6	1,757.2	1,593.5	1,570.7	22.80	69.900	
4,400.0	4,385.0	4,033.5	3,997.5	11.7	11.7	-5.93	71.6	1,781.3	1,604.0	1,580.4	23.54	68.150	
4,500.0	4,484.1	4,132.9	4,093.9	12.0	12.1	-5.94	71.6	1,805.3	1,614.9	1,590.7	24.26	66.564	
4,600.0	4,583.4	4,232.0	4,190.2	12.4	12.5	-5.95	71.6	1,829.3	1,627.6	1,602.6	25.01	65.069	
4,700.0	4,682.9	4,331.0	4,286.2	12.7	12.9	-5.96	71.6	1,853.3	1,642.0	1,616.2	25.76	63.733	
4,800.0	4,782.5	4,429.7	4,381.9	13.0	13.3	-5.96	71.6	1,877.1	1,658.0	1,631.5	26.51	62.550	
4,900.0	4,882.3	4,528.1	4,477.4	13.3	13.7	-5.96	71.6	1,900.9	1,675.8	1,648.6	27.24	61.515	
5,000.0	4,982.2	4,626.2	4,572.6	13.6	14.2	-5.96	71.6	1,924.7	1,695.3	1,667.4	27.96	60.626	
5,100.0	5,082.1	4,723.9	4,667.4	13.9	14.6	-5.95	71.6	1,948.3	1,716.5	1,687.9	28.66	59.884	

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 #704H
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 #704H	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		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	5,182.1	4,821.2	4,761.8	14.1	15.0	-5.94	71.6	1,971.9	1,739.4	1,710.1	29.32	59.319	
5,300.0	5,282.1	4,918.3	4,856.0	14.2	15.4	87.10	71.6	1,995.3	1,763.5	1,733.7	29.83	59.115	
5,400.0	5,382.1	5,015.3	4,950.2	14.3	15.8	87.14	71.6	2,018.8	1,787.7	1,757.3	30.35	58.900	
5,500.0	5,482.1	5,112.3	5,044.3	14.3	16.3	87.18	71.6	2,042.3	1,811.8	1,781.0	30.88	58.679	
5,600.0	5,582.1	5,209.4	5,138.4	14.4	16.7	87.21	71.6	2,065.8	1,836.0	1,804.6	31.41	58.453	
5,700.0	5,682.1	5,306.4	5,232.6	14.5	17.1	87.25	71.6	2,089.2	1,860.2	1,828.2	31.95	58.223	
5,800.0	5,782.1	5,403.4	5,326.7	14.5	17.6	87.28	71.6	2,112.7	1,884.3	1,851.8	32.49	57.990	
5,900.0	5,882.1	5,500.5	5,420.9	14.6	18.0	87.32	71.6	2,136.2	1,908.5	1,875.5	33.05	57.754	
6,000.0	5,982.1	5,597.5	5,515.0	14.6	18.4	87.35	71.6	2,159.6	1,932.7	1,899.1	33.60	57.517	
6,100.0	6,082.1	5,694.5	5,609.2	14.7	18.9	87.39	71.6	2,183.1	1,956.8	1,922.7	34.16	57.278	
6,200.0	6,182.1	5,791.6	5,703.3	14.8	19.3	87.42	71.6	2,206.6	1,981.0	1,946.3	34.73	57.040 SF	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #710H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	87.23	71.6	1,480.0	1,481.8	1,475.4	6.43	230.487	
100.0	100.0	100.0	100.0	3.2	3.2	87.23	71.6	1,480.0	1,481.8	1,474.9	6.89	214.989	
200.0	200.0	200.0	200.0	3.5	3.5	87.23	71.6	1,480.0	1,481.8	1,474.5	7.33	202.203	
300.0	300.0	300.0	300.0	3.7	3.7	87.23	71.6	1,480.0	1,481.8	1,474.0	7.74	191.412	
400.0	400.0	400.0	400.0	3.9	3.9	87.23	71.6	1,480.0	1,481.8	1,473.6	8.14	182.137	
500.0	500.0	500.0	500.0	4.1	4.1	87.23	71.6	1,480.0	1,481.8	1,473.3	8.51	174.050	
600.0	600.0	600.0	600.0	4.2	4.2	87.23	71.6	1,480.0	1,481.8	1,472.9	8.88	166.912	
700.0	700.0	700.0	700.0	4.4	4.4	87.23	71.6	1,480.0	1,481.8	1,472.6	9.23	160.549	
800.0	800.0	800.0	800.0	4.6	4.6	87.23	71.6	1,480.0	1,481.8	1,472.2	9.57	154.828	
900.0	900.0	900.0	900.0	4.8	4.8	87.23	71.6	1,480.0	1,481.8	1,471.9	9.90	149.646	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.23	71.6	1,480.0	1,481.8	1,471.6	10.22	144.922	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.23	71.6	1,480.0	1,481.8	1,471.2	10.54	140.591	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.23	71.6	1,480.0	1,481.8	1,470.9	10.85	136.600	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.23	71.6	1,480.0	1,481.8	1,470.6	11.15	132.907	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.23	71.6	1,480.0	1,481.8	1,470.3	11.44	129.476	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.23	71.6	1,480.0	1,481.8	1,470.0	11.73	126.276	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	87.23	71.6	1,480.0	1,481.8	1,469.8	12.02	123.282	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	87.23	71.6	1,480.0	1,481.8	1,469.5	12.30	120.473	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	87.23	71.6	1,480.0	1,481.8	1,469.2	12.58	117.830	CC, ES
1,900.0	1,900.0	1,872.4	1,872.4	6.3	6.2	87.24	71.5	1,480.7	1,482.7	1,469.9	12.82	115.624	
2,000.0	2,000.0	1,944.7	1,944.6	6.4	6.3	87.25	71.2	1,482.8	1,485.5	1,472.4	13.07	113.696	
2,100.0	2,100.0	2,016.9	2,016.8	6.5	6.5	87.27	70.8	1,486.2	1,490.2	1,476.9	13.30	112.005	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	87.31	70.1	1,491.7	1,496.7	1,483.2	13.57	110.290	
2,300.0	2,300.0	2,160.8	2,160.3	6.8	6.7	87.35	69.4	1,496.9	1,505.0	1,491.2	13.80	109.097	
2,400.0	2,400.0	2,232.4	2,231.5	6.9	6.9	87.40	68.4	1,504.3	1,515.2	1,501.2	14.05	107.867	
2,500.0	2,500.0	2,300.0	2,298.6	7.0	7.0	87.45	67.3	1,512.4	1,527.3	1,513.0	14.29	106.862	
2,600.0	2,600.0	2,374.7	2,372.6	7.2	7.2	-5.47	66.0	1,522.8	1,539.8	1,525.3	14.59	105.574	
2,700.0	2,699.9	2,445.7	2,442.6	7.3	7.4	-5.39	64.5	1,534.0	1,551.7	1,536.8	14.87	104.342	
2,800.0	2,799.7	2,516.6	2,512.4	7.5	7.6	-5.31	62.9	1,546.5	1,562.7	1,547.5	15.18	102.953	
2,900.0	2,899.3	2,600.0	2,594.2	7.7	7.8	-5.22	60.7	1,562.8	1,573.0	1,557.5	15.57	101.049	
3,000.0	2,998.6	2,666.7	2,659.2	7.9	8.0	-5.14	58.8	1,577.1	1,582.5	1,566.6	15.88	99.649	
3,100.0	3,097.6	2,754.2	2,744.5	8.0	8.2	-5.06	56.3	1,596.6	1,591.0	1,574.8	16.25	97.933	
3,200.0	3,196.6	2,853.8	2,841.6	8.2	8.5	-4.97	53.3	1,618.9	1,599.5	1,582.7	16.77	95.376	
3,300.0	3,295.7	2,953.4	2,938.7	8.4	8.8	-4.88	50.4	1,641.1	1,608.0	1,590.6	17.33	92.795	
3,400.0	3,394.7	3,053.0	3,035.7	8.7	9.2	-4.79	47.5	1,663.3	1,616.4	1,598.5	17.92	90.223	
3,500.0	3,493.7	3,152.6	3,132.8	8.9	9.5	-4.70	44.6	1,685.5	1,624.9	1,606.4	18.53	87.686	
3,600.0	3,592.8	3,252.3	3,229.8	9.2	9.9	-4.61	41.6	1,707.7	1,633.4	1,614.2	19.17	85.202	
3,700.0	3,691.8	3,351.9	3,326.9	9.5	10.2	-4.53	38.7	1,729.9	1,641.9	1,622.0	19.83	82.786	
3,800.0	3,790.8	3,451.5	3,423.9	9.8	10.6	-4.44	35.8	1,752.1	1,650.3	1,629.8	20.51	80.447	
3,900.0	3,889.8	3,551.1	3,521.0	10.1	11.0	-4.36	32.9	1,774.4	1,658.8	1,637.6	21.21	78.192	
4,000.0	3,988.9	3,650.7	3,618.1	10.4	11.4	-4.28	29.9	1,796.6	1,667.3	1,645.4	21.93	76.025	
4,100.0	4,087.9	3,750.3	3,715.1	10.7	11.8	-4.20	27.0	1,818.8	1,675.8	1,653.2	22.66	73.947	
4,200.0	4,186.9	3,837.4	3,800.0	11.0	12.1	-4.12	24.4	1,838.2	1,684.4	1,661.0	23.32	72.225	
4,300.0	4,285.9	3,913.7	3,874.2	11.4	12.4	-4.08	22.8	1,856.0	1,694.0	1,670.1	23.93	70.784	
4,400.0	4,385.0	3,985.5	3,943.6	11.7	12.7	-4.08	22.5	1,874.1	1,705.5	1,681.0	24.53	69.528	
4,500.0	4,484.1	4,084.7	4,039.4	12.0	13.2	-4.10	22.5	1,899.8	1,718.2	1,692.9	25.29	67.939	
4,600.0	4,583.4	4,183.7	4,135.0	12.4	13.6	-4.13	22.5	1,925.4	1,732.6	1,706.5	26.08	66.437	
4,700.0	4,682.9	4,282.4	4,230.4	12.7	14.0	-4.14	22.5	1,951.0	1,748.7	1,721.8	26.86	65.096	
4,800.0	4,782.5	4,380.8	4,325.4	13.0	14.5	-4.16	22.5	1,976.4	1,766.5	1,738.9	27.64	63.910	
4,900.0	4,882.3	4,478.8	4,420.1	13.3	14.9	-4.17	22.5	2,001.8	1,786.0	1,757.6	28.41	62.872	
5,000.0	4,982.2	4,576.6	4,514.5	13.6	15.3	-4.18	22.5	2,027.1	1,807.2	1,778.1	29.16	61.978	
5,100.0	5,082.1	4,673.9	4,608.6	13.9	15.8	-4.19	22.5	2,052.3	1,830.1	1,800.3	29.89	61.231	

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 #704H
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 #704H	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		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:		3.0 usft	
Reference	Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Distance		Rule Assigned:		Offset Well Error:		3.0 usft			
Depth	Depth	Depth	Depth	Depth	Reference	Offset	Highside	+N/-S	+E/-W	Between	Between	Minimum	Separation	Warning					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	Toolface	(usft)	(usft)	Centres	Ellipses	Separation	Factor						
							(°)			(usft)	(usft)	(usft)							
5,200.0	5,182.1	4,770.8	4,702.2		14.1	16.2	-4.19	22.5	2,077.4	1,854.8	1,824.2	30.58	60.655						
5,300.0	5,282.1	4,867.4	4,795.5		14.2	16.6	88.82	22.5	2,102.4	1,880.6	1,849.5	31.12	60.423						
5,400.0	5,382.1	4,964.0	4,888.8		14.3	17.1	88.83	22.5	2,127.4	1,906.5	1,874.8	31.68	60.184						
5,500.0	5,482.1	5,060.6	4,982.1		14.3	17.5	88.85	22.5	2,152.4	1,932.3	1,900.1	32.24	59.941						
5,600.0	5,582.1	5,157.2	5,075.4		14.4	18.0	88.86	22.5	2,177.4	1,958.2	1,925.4	32.80	59.697						
5,700.0	5,682.1	5,253.8	5,168.7		14.5	18.4	88.88	22.5	2,202.4	1,984.1	1,950.7	33.37	59.452 SF						

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	-21.80	150.0	-60.0	161.6	155.1	6.43	25.130	
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	20.870	
400.0	400.0	400.0	400.0	3.9	3.9	-21.80	150.0	-60.0	161.6	153.4	8.14	19.859	
500.0	500.0	500.0	500.0	4.1	4.1	-21.80	150.0	-60.0	161.6	153.0	8.51	18.977	
600.0	600.0	600.0	600.0	4.2	4.2	-21.80	150.0	-60.0	161.6	152.7	8.88	18.199	
700.0	700.0	700.0	700.0	4.4	4.4	-21.80	150.0	-60.0	161.6	152.3	9.23	17.505	
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	15.801	
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	15.329	
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	14.894	
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	14.117	
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	13.442	
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	
1,900.0	1,900.0	1,901.0	1,900.9	6.3	6.3	-22.26	149.2	-61.1	161.3	148.4	12.83	12.565	
2,000.0	2,000.0	2,001.8	2,001.7	6.4	6.4	-23.65	147.0	-64.4	160.4	147.4	13.08	12.270	
2,100.0	2,100.0	2,102.3	2,102.0	6.5	6.6	-25.99	143.2	-69.8	159.3	146.0	13.31	11.963	
2,200.0	2,200.0	2,202.4	2,201.7	6.7	6.8	-29.29	137.9	-77.3	158.1	144.5	13.55	11.668	
2,300.0	2,300.0	2,302.0	2,300.5	6.8	7.0	-33.56	131.1	-87.0	157.3	143.6	13.78	11.417	
2,329.7	2,329.7	2,331.4	2,329.7	6.8	7.1	-35.00	128.8	-90.2	157.3	143.4	13.85	11.356 CC, ES	
2,400.0	2,400.0	2,400.8	2,398.4	6.9	7.2	-38.73	123.0	-98.6	157.6	143.6	14.01	11.247 SF	
2,500.0	2,500.0	2,497.8	2,494.0	7.0	7.4	-44.58	113.7	-112.1	159.8	145.6	14.20	11.248	
2,600.0	2,600.0	2,592.0	2,586.6	7.2	7.6	-143.38	105.7	-126.8	166.7	152.2	14.48	11.512	
2,700.0	2,699.9	2,685.3	2,678.3	7.3	7.9	-148.89	99.3	-143.1	180.0	165.2	14.77	12.181	
2,800.0	2,799.7	2,777.5	2,768.6	7.5	8.2	-153.70	94.6	-160.7	199.5	184.3	15.12	13.196	
2,900.0	2,899.3	2,868.2	2,857.3	7.7	8.4	-157.65	91.6	-179.6	224.8	209.3	15.51	14.499	
3,000.0	2,998.6	2,959.9	2,946.7	7.9	8.7	-160.87	89.8	-200.0	255.3	239.3	15.97	15.987	
3,100.0	3,097.6	3,053.3	3,037.7	8.0	9.0	-163.66	88.1	-220.9	288.5	272.1	16.44	17.546	
3,200.0	3,196.6	3,146.7	3,128.7	8.2	9.3	-165.93	86.5	-241.9	322.4	305.4	16.98	18.988	
3,300.0	3,295.7	3,240.1	3,219.7	8.4	9.6	-167.77	84.8	-262.8	356.7	339.1	17.54	20.329	
3,400.0	3,394.7	3,333.5	3,310.7	8.7	10.0	-169.29	83.2	-283.8	391.2	373.1	18.13	21.573	
3,500.0	3,493.7	3,426.9	3,401.7	8.9	10.3	-170.56	81.5	-304.7	425.9	407.2	18.75	22.722	
3,600.0	3,592.8	3,520.3	3,492.7	9.2	10.6	-171.65	79.9	-325.6	460.8	441.4	19.38	23.782	
3,700.0	3,691.8	3,613.6	3,583.7	9.5	11.0	-172.58	78.2	-346.6	495.8	475.8	20.03	24.759	
3,800.0	3,790.8	3,707.0	3,674.7	9.8	11.4	-173.39	76.6	-367.5	530.9	510.2	20.69	25.660	
3,900.0	3,889.8	3,800.4	3,765.7	10.1	11.7	-174.10	74.9	-388.5	566.1	544.8	21.37	26.490	
4,000.0	3,988.9	3,893.8	3,856.7	10.4	12.1	-174.72	73.3	-409.4	601.4	579.3	22.06	27.256	
4,100.0	4,087.9	3,987.2	3,947.6	10.7	12.5	-175.28	71.6	-430.4	636.7	613.9	22.77	27.963	
4,200.0	4,186.9	4,080.6	4,038.6	11.0	12.9	-175.78	70.0	-451.3	672.1	648.6	23.49	28.616	
4,300.0	4,285.9	4,174.0	4,129.6	11.4	13.3	-176.23	68.3	-472.2	707.5	683.3	24.21	29.221	
4,400.0	4,385.0	4,267.3	4,220.6	11.7	13.7	-176.63	66.7	-493.2	742.9	718.0	24.95	29.781	
4,500.0	4,484.1	4,360.9	4,311.8	12.0	14.0	-177.02	65.0	-514.2	777.9	752.3	25.67	30.308	
4,600.0	4,583.4	4,455.0	4,403.5	12.4	14.5	-177.36	63.4	-535.3	811.4	785.0	26.41	30.720	
4,700.0	4,682.9	4,549.7	4,495.8	12.7	14.9	-177.68	61.7	-556.5	843.2	816.1	27.16	31.049	
4,800.0	4,782.5	4,645.0	4,588.6	13.0	15.3	-177.96	60.0	-577.9	873.4	845.5	27.90	31.302	
4,900.0	4,882.3	4,740.8	4,681.9	13.3	15.7	-178.22	58.3	-599.4	902.0	873.3	28.64	31.488	
5,000.0	4,982.2	4,837.0	4,775.7	13.6	16.1	-178.46	56.6	-620.9	928.8	899.5	29.38	31.618	

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 #704H
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 #704H	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		Semi Major Axis		Highside		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)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
5,100.0	5,082.1	4,933.7	4,869.9	13.9	16.5	-178.69	54.9	-642.6	954.1	924.0	30.09	31.702			
5,200.0	5,182.1	5,030.9	4,964.6	14.1	17.0	-178.89	53.2	-664.4	977.6	946.8	30.78	31.763			
5,300.0	5,282.1	5,128.3	5,059.5	14.2	17.4	-86.09	51.5	-686.3	999.9	968.6	31.33	31.919			
5,400.0	5,382.1	5,225.7	5,154.4	14.3	17.8	-86.27	49.8	-708.1	1,022.2	990.3	31.89	32.058			
5,500.0	5,482.1	5,323.2	5,249.4	14.3	18.3	-86.45	48.0	-730.0	1,044.4	1,012.0	32.45	32.187			
5,600.0	5,582.1	5,420.6	5,344.3	14.4	18.7	-86.62	46.3	-751.8	1,066.7	1,033.7	33.02	32.307			
5,700.0	5,682.1	5,518.0	5,439.3	14.5	19.2	-86.78	44.6	-773.7	1,089.0	1,055.4	33.59	32.419			
5,800.0	5,782.1	5,615.5	5,534.2	14.5	19.6	-86.94	42.9	-795.5	1,111.3	1,077.2	34.17	32.524			
5,900.0	5,882.1	5,712.9	5,629.1	14.6	20.0	-87.09	41.2	-817.4	1,133.6	1,098.9	34.75	32.621			
6,000.0	5,982.1	5,810.3	5,724.1	14.6	20.5	-87.23	39.5	-839.2	1,156.0	1,120.6	35.34	32.712			
6,100.0	6,082.1	5,907.8	5,819.0	14.7	20.9	-87.37	37.7	-861.1	1,178.3	1,142.4	35.93	32.797			
6,200.0	6,182.1	6,005.2	5,914.0	14.8	21.4	-87.50	36.0	-882.9	1,200.6	1,164.1	36.52	32.876			
6,300.0	6,282.1	6,102.6	6,008.9	14.8	21.8	-87.63	34.3	-904.8	1,223.0	1,185.8	37.12	32.949			
6,400.0	6,382.1	6,200.1	6,103.8	14.9	22.3	-87.75	32.6	-926.6	1,245.3	1,207.6	37.72	33.018			
6,500.0	6,482.1	6,297.5	6,198.8	15.0	22.7	-87.87	30.9	-948.5	1,267.7	1,229.3	38.32	33.082			
6,600.0	6,582.1	6,395.0	6,293.7	15.0	23.2	-87.99	29.1	-970.3	1,290.0	1,251.1	38.92	33.142			
6,700.0	6,682.1	6,492.4	6,388.7	15.1	23.6	-88.10	27.4	-992.2	1,312.4	1,272.8	39.53	33.197			
6,800.0	6,782.1	6,589.8	6,483.6	15.2	24.1	-88.21	25.7	-1,014.0	1,334.7	1,294.6	40.14	33.249			
6,900.0	6,882.1	6,687.3	6,578.5	15.2	24.6	-88.31	24.0	-1,035.9	1,357.1	1,316.3	40.76	33.298			
7,000.0	6,982.1	6,792.3	6,680.9	15.3	25.0	-88.42	22.1	-1,059.3	1,379.4	1,338.0	41.41	33.312			
7,100.0	7,082.1	6,921.2	6,807.0	15.4	25.6	-88.54	20.0	-1,086.1	1,400.2	1,357.9	42.23	33.357			
7,200.0	7,182.1	7,051.3	6,934.8	15.4	26.2	-88.64	18.1	-1,110.3	1,418.7	1,375.7	43.02	32.978			
7,300.0	7,282.1	7,182.4	7,064.1	15.5	26.8	-88.73	16.4	-1,131.8	1,435.0	1,391.2	43.78	32.778			
7,400.0	7,382.1	7,314.5	7,194.9	15.6	27.3	-88.81	15.0	-1,150.4	1,449.1	1,404.6	44.51	32.559			
7,500.0	7,482.1	7,447.4	7,326.8	15.6	27.9	-88.87	13.7	-1,166.0	1,460.9	1,415.7	45.18	32.331			
7,600.0	7,582.1	7,580.9	7,459.8	15.7	28.4	-88.92	12.7	-1,178.7	1,470.3	1,424.5	45.82	32.091			
7,700.0	7,682.1	7,715.0	7,593.5	15.8	28.9	-88.95	12.0	-1,188.3	1,477.5	1,431.1	46.40	31.844			
7,800.0	7,782.1	7,849.5	7,727.8	15.8	29.3	-88.98	11.5	-1,194.8	1,482.3	1,435.4	46.90	31.609			
7,900.0	7,882.1	7,984.1	7,862.4	15.9	29.7	-88.99	11.2	-1,198.2	1,484.8	1,437.5	47.30	31.390			
8,000.0	7,982.1	8,103.9	7,982.1	16.0	29.8	-88.99	11.2	-1,198.7	1,485.2	1,437.8	47.43	31.316			
8,100.0	8,082.1	8,203.9	8,082.1	16.0	29.9	-88.99	11.2	-1,198.7	1,485.2	1,437.7	47.50	31.265			
8,200.0	8,182.1	8,303.9	8,182.1	16.1	29.9	-88.99	11.2	-1,198.7	1,485.2	1,437.6	47.58	31.214			
8,300.0	8,282.1	8,403.9	8,282.1	16.2	29.9	-88.99	11.2	-1,198.7	1,485.2	1,437.6	47.66	31.162			
8,400.0	8,382.1	8,503.9	8,382.1	16.2	30.0	-88.99	11.2	-1,198.7	1,485.2	1,437.5	47.74	31.111			
8,500.0	8,482.1	8,603.9	8,482.1	16.3	30.0	-88.99	11.2	-1,198.7	1,485.2	1,437.4	47.82	31.059			
8,600.0	8,582.1	8,703.9	8,582.1	16.4	30.0	-88.99	11.2	-1,198.7	1,485.2	1,437.3	47.90	31.007			
8,700.0	8,682.1	8,803.9	8,682.1	16.4	30.0	-88.99	11.2	-1,198.7	1,485.2	1,437.2	47.98	30.955			
8,800.0	8,782.1	8,903.9	8,782.1	16.5	30.1	-88.99	11.2	-1,198.7	1,485.2	1,437.2	48.06	30.904			
8,900.0	8,882.1	9,003.9	8,882.1	16.6	30.1	-88.99	11.2	-1,198.7	1,485.2	1,437.1	48.14	30.852			
9,000.0	8,982.1	9,103.9	8,982.1	16.6	30.1	-88.99	11.2	-1,198.7	1,485.2	1,437.0	48.22	30.799			
9,100.0	9,082.1	9,203.9	9,082.1	16.7	30.2	-88.99	11.2	-1,198.7	1,485.2	1,436.9	48.30	30.748			
9,110.0	9,092.1	9,213.9	9,092.1	16.7	30.2	-88.99	11.2	-1,198.7	1,485.2	1,436.9	48.31	30.743			
9,200.0	9,182.1	9,300.0	9,178.2	16.8	30.2	-88.97	11.8	-1,198.8	1,485.3	1,436.9	48.39	30.696			
9,300.0	9,282.1	9,375.7	9,253.5	16.9	30.2	-88.64	20.2	-1,199.5	1,486.4	1,437.9	48.54	30.623			
9,400.0	9,382.1	9,450.0	9,325.5	16.9	30.2	-87.96	38.0	-1,201.0	1,489.3	1,440.6	48.68	30.592			
9,500.0	9,482.1	9,519.1	9,389.9	17.0	30.2	-87.01	62.7	-1,203.0	1,494.2	1,445.4	48.83	30.602			
9,600.0	9,582.1	9,581.1	9,444.9	17.1	30.2	-85.92	91.4	-1,205.5	1,501.8	1,452.8	48.98	30.663			
9,700.0	9,682.1	9,636.1	9,490.7	17.1	30.2	-84.78	121.6	-1,208.0	1,512.6	1,463.5	49.13	30.788			
9,800.0	9,782.1	9,684.4	9,528.4	17.2	30.2	-83.65	151.6	-1,210.5	1,527.3	1,478.0	49.28	30.992			
9,900.0	9,882.1	9,726.4	9,559.0	17.3	30.2	-82.58	180.3	-1,212.9	1,546.0	1,496.6	49.41	31.287			
10,000.0	9,982.1	9,763.1	9,584.0	17.3	30.2	-81.59	207.0	-1,215.2	1,569.1	1,519.6	49.53	31.681			
10,100.0	10,082.1	9,800.0	9,607.3	17.4	30.2	-80.54	235.5	-1,217.6	1,596.8	1,547.2	49.62	32.178			

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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)	Minimum Separation (usft)	Separation Factor		
10,200.0	10,182.1	9,823.0	9,620.9	17.5	30.2	-79.87	254.0	-1,219.1	1,629.0	1,579.3	49.69	32.780		
10,300.0	10,282.1	9,850.0	9,635.9	17.5	30.2	-79.06	276.4	-1,221.0	1,665.6	1,615.9	49.75	33.483		
10,400.0	10,382.1	9,869.2	9,645.9	17.6	30.3	-78.47	292.7	-1,222.4	1,706.7	1,656.9	49.78	34.287		
10,500.0	10,482.1	9,900.0	9,660.8	17.7	30.3	-77.51	319.6	-1,224.6	1,751.9	1,702.1	49.81	35.169		
10,600.0	10,582.1	9,900.0	9,660.8	17.8	30.3	-77.51	319.6	-1,224.6	1,801.0	1,751.2	49.79	36.171		
10,700.0	10,681.9	9,922.2	9,670.6	17.8	30.3	-72.22	339.4	-1,226.3	1,852.7	1,802.9	49.80	37.205		
10,800.0	10,779.4	9,950.0	9,681.8	17.8	30.3	-66.03	364.8	-1,228.4	1,903.5	1,853.7	49.85	38.183		
10,900.0	10,871.7	9,950.0	9,681.8	17.9	30.3	-61.13	364.8	-1,228.4	1,951.5	1,901.7	49.86	39.139		
11,000.0	10,955.9	10,000.0	9,698.8	17.9	30.3	-56.22	411.6	-1,232.3	1,995.0	1,944.9	50.07	39.844		

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	-11.31	150.0	-30.0	153.0	146.5	6.43	23.795	
100.0	100.0	100.0	100.0	3.2	3.2	-11.31	150.0	-30.0	153.0	146.1	6.89	22.195	
200.0	200.0	200.0	200.0	3.5	3.5	-11.31	150.0	-30.0	153.0	145.6	7.33	20.875	
300.0	300.0	300.0	300.0	3.7	3.7	-11.31	150.0	-30.0	153.0	145.2	7.74	19.761	
400.0	400.0	400.0	400.0	3.9	3.9	-11.31	150.0	-30.0	153.0	144.8	8.14	18.804	
500.0	500.0	500.0	500.0	4.1	4.1	-11.31	150.0	-30.0	153.0	144.5	8.51	17.969	
600.0	600.0	600.0	600.0	4.2	4.2	-11.31	150.0	-30.0	153.0	144.1	8.88	17.232	
700.0	700.0	700.0	700.0	4.4	4.4	-11.31	150.0	-30.0	153.0	143.7	9.23	16.575	
800.0	800.0	800.0	800.0	4.6	4.6	-11.31	150.0	-30.0	153.0	143.4	9.57	15.984	
900.0	900.0	900.0	900.0	4.8	4.8	-11.31	150.0	-30.0	153.0	143.1	9.90	15.449	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-11.31	150.0	-30.0	153.0	142.8	10.22	14.962	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-11.31	150.0	-30.0	153.0	142.4	10.54	14.514	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-11.31	150.0	-30.0	153.0	142.1	10.85	14.103	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-11.31	150.0	-30.0	153.0	141.8	11.15	13.721	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-11.31	150.0	-30.0	153.0	141.5	11.44	13.367	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-11.31	150.0	-30.0	153.0	141.2	11.73	13.037	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-11.31	150.0	-30.0	153.0	141.0	12.02	12.728	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-11.31	150.0	-30.0	153.0	140.7	12.30	12.438	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-11.31	150.0	-30.0	153.0	140.4	12.58	12.165	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-11.31	150.0	-30.0	153.0	140.1	12.85	11.907	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-11.31	150.0	-30.0	153.0	139.9	13.12	11.664	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-11.31	150.0	-30.0	153.0	139.6	13.38	11.433	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-11.31	150.0	-30.0	153.0	139.3	13.64	11.215	
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-11.31	150.0	-30.0	153.0	139.1	13.90	11.006	
2,400.0	2,400.0	2,400.0	2,400.0	6.9	6.9	-11.31	150.0	-30.0	153.0	138.8	14.15	10.808	
2,500.0	2,500.0	2,500.0	2,500.0	7.0	7.0	-11.31	150.0	-30.0	153.0	138.6	14.41	10.619	
2,600.0	2,600.0	2,603.4	2,603.4	7.2	7.2	-105.10	148.7	-30.5	152.2	137.5	14.64	10.392	
2,700.0	2,699.9	2,706.5	2,706.4	7.3	7.3	-107.52	144.8	-32.1	150.0	135.1	14.85	10.099	
2,800.0	2,799.7	2,809.1	2,808.7	7.5	7.4	-111.66	138.4	-34.7	146.9	131.8	15.06	9.751	
2,900.0	2,899.3	2,910.7	2,910.0	7.7	7.6	-117.63	129.6	-38.3	143.8	128.5	15.28	9.409	
3,000.0	2,998.6	3,011.3	3,009.8	7.9	7.8	-125.39	118.3	-42.8	142.2	126.7	15.52	9.166	
3,013.3	3,011.8	3,024.6	3,022.9	7.9	7.8	-126.55	116.7	-43.5	142.2	126.7	15.53	9.155 CC, ES	
3,100.0	3,097.6	3,109.2	3,106.8	8.0	7.9	-134.15	105.8	-47.9	143.8	128.1	15.68	9.168	
3,200.0	3,196.6	3,206.7	3,203.2	8.2	8.1	-142.56	93.2	-53.0	148.8	132.9	15.97	9.320	
3,300.0	3,295.7	3,304.1	3,299.7	8.4	8.3	-150.28	80.6	-58.0	157.0	140.7	16.28	9.639	
3,400.0	3,394.7	3,401.5	3,396.2	8.7	8.5	-157.16	68.0	-63.1	167.7	151.1	16.63	10.087	
3,500.0	3,493.7	3,499.0	3,492.7	8.9	8.8	-163.17	55.5	-68.2	180.7	163.7	17.01	10.621	
3,600.0	3,592.8	3,596.7	3,589.5	9.2	9.0	-168.21	43.3	-73.1	195.3	177.9	17.41	11.220	
3,700.0	3,691.8	3,694.9	3,687.0	9.5	9.3	-172.22	32.3	-77.5	211.0	193.2	17.83	11.833	
3,800.0	3,790.8	3,793.5	3,785.0	9.8	9.5	-175.36	22.4	-81.5	227.3	209.0	18.28	12.436	
3,900.0	3,889.8	3,892.4	3,883.5	10.1	9.8	-177.81	13.7	-85.1	243.7	225.0	18.73	13.012	
4,000.0	3,988.9	3,991.7	3,982.5	10.4	10.1	-179.68	6.1	-88.1	260.1	240.9	19.20	13.552	
4,100.0	4,087.9	4,091.4	4,081.9	10.7	10.3	178.93	-0.4	-90.7	276.3	256.7	19.67	14.049	
4,200.0	4,186.9	4,191.3	4,181.7	11.0	10.6	177.93	-5.6	-92.9	292.2	272.1	20.15	14.504	
4,300.0	4,285.9	4,291.5	4,281.7	11.4	10.9	177.26	-9.6	-94.5	307.7	287.1	20.63	14.914	
4,400.0	4,385.0	4,391.9	4,382.1	11.7	11.1	176.87	-12.4	-95.6	322.7	301.6	21.11	15.284	
4,500.0	4,484.1	4,492.5	4,482.7	12.0	11.3	176.73	-14.0	-96.3	336.8	315.2	21.57	15.614	
4,600.0	4,583.4	4,593.2	4,583.4	12.4	11.4	176.78	-14.4	-96.4	348.7	326.7	22.00	15.848	
4,700.0	4,682.9	4,692.7	4,682.9	12.7	11.5	176.88	-14.4	-96.4	358.7	336.2	22.44	15.983	
4,800.0	4,782.5	4,792.3	4,782.5	13.0	11.6	176.95	-14.4	-96.4	366.9	344.1	22.88	16.040	
4,900.0	4,882.3	4,892.1	4,882.3	13.3	11.6	177.01	-14.4	-96.4	373.5	350.2	23.30	16.030	
5,000.0	4,982.2	4,992.0	4,982.2	13.6	11.7	177.05	-14.4	-96.4	378.3	354.6	23.70	15.958	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,082.1	5,091.9	5,082.1	13.9	11.8	177.08	-14.4	-96.4	381.3	357.2	24.08	15.835	
5,200.0	5,182.1	5,191.9	5,182.1	14.1	11.8	177.09	-14.4	-96.4	382.6	358.2	24.41	15.677	
5,300.0	5,282.1	5,291.9	5,282.1	14.2	11.9	-89.91	-14.4	-96.4	382.7	358.1	24.54	15.595	
5,400.0	5,382.1	5,391.9	5,382.1	14.3	12.0	-89.91	-14.4	-96.4	382.7	358.0	24.68	15.508	
5,500.0	5,482.1	5,491.9	5,482.1	14.3	12.1	-89.91	-14.4	-96.4	382.7	357.9	24.82	15.421	
5,600.0	5,582.1	5,591.9	5,582.1	14.4	12.1	-89.91	-14.4	-96.4	382.7	357.7	24.95	15.335	
5,700.0	5,682.1	5,691.9	5,682.1	14.5	12.2	-89.91	-14.4	-96.4	382.7	357.6	25.09	15.250	
5,800.0	5,782.1	5,791.9	5,782.1	14.5	12.3	-89.91	-14.4	-96.4	382.7	357.5	25.23	15.166	
5,900.0	5,882.1	5,891.9	5,882.1	14.6	12.3	-89.91	-14.4	-96.4	382.7	357.3	25.37	15.083	
6,000.0	5,982.1	5,991.9	5,982.1	14.6	12.4	-89.91	-14.4	-96.4	382.7	357.2	25.51	15.000	
6,100.0	6,082.1	6,091.9	6,082.1	14.7	12.5	-89.91	-14.4	-96.4	382.7	357.0	25.65	14.918	
6,200.0	6,182.1	6,191.9	6,182.1	14.8	12.5	-89.91	-14.4	-96.4	382.7	356.9	25.79	14.837	
6,300.0	6,282.1	6,291.9	6,282.1	14.8	12.6	-89.91	-14.4	-96.4	382.7	356.8	25.93	14.757	
6,400.0	6,382.1	6,391.9	6,382.1	14.9	12.7	-89.91	-14.4	-96.4	382.7	356.6	26.07	14.677	
6,500.0	6,482.1	6,491.9	6,482.1	15.0	12.8	-89.91	-14.4	-96.4	382.7	356.5	26.21	14.598	
6,600.0	6,582.1	6,591.9	6,582.1	15.0	12.8	-89.91	-14.4	-96.4	382.7	356.3	26.36	14.520	
6,700.0	6,682.1	6,691.9	6,682.1	15.1	12.9	-89.91	-14.4	-96.4	382.7	356.2	26.50	14.442	
6,800.0	6,782.1	6,791.9	6,782.1	15.2	13.0	-89.91	-14.4	-96.4	382.7	356.0	26.64	14.366	
6,900.0	6,882.1	6,891.9	6,882.1	15.2	13.0	-89.91	-14.4	-96.4	382.7	355.9	26.78	14.289	
7,000.0	6,982.1	6,991.9	6,982.1	15.3	13.1	-89.91	-14.4	-96.4	382.7	355.8	26.92	14.214	
7,100.0	7,082.1	7,091.9	7,082.1	15.4	13.2	-89.91	-14.4	-96.4	382.7	355.6	27.07	14.139	
7,200.0	7,182.1	7,191.9	7,182.1	15.4	13.3	-89.91	-14.4	-96.4	382.7	355.5	27.21	14.065	
7,300.0	7,282.1	7,291.9	7,282.1	15.5	13.3	-89.91	-14.4	-96.4	382.7	355.3	27.35	13.992	
7,400.0	7,382.1	7,391.9	7,382.1	15.6	13.4	-89.91	-14.4	-96.4	382.7	355.2	27.49	13.919	
7,500.0	7,482.1	7,491.9	7,482.1	15.6	13.5	-89.91	-14.4	-96.4	382.7	355.1	27.64	13.847	
7,600.0	7,582.1	7,591.9	7,582.1	15.7	13.5	-89.91	-14.4	-96.4	382.7	354.9	27.78	13.775	
7,700.0	7,682.1	7,691.9	7,682.1	15.8	13.6	-89.91	-14.4	-96.4	382.7	354.8	27.92	13.705	
7,800.0	7,782.1	7,791.9	7,782.1	15.8	13.7	-89.91	-14.4	-96.4	382.7	354.6	28.07	13.634	
7,900.0	7,882.1	7,891.9	7,882.1	15.9	13.8	-89.91	-14.4	-96.4	382.7	354.5	28.21	13.565	
8,000.0	7,982.1	7,991.9	7,982.1	16.0	13.8	-89.91	-14.4	-96.4	382.7	354.3	28.36	13.496	
8,100.0	8,082.1	8,091.9	8,082.1	16.0	13.9	-89.91	-14.4	-96.4	382.7	354.2	28.50	13.428	
8,200.0	8,182.1	8,191.9	8,182.1	16.1	14.0	-89.91	-14.4	-96.4	382.7	354.0	28.64	13.360	
8,300.0	8,282.1	8,291.9	8,282.1	16.2	14.1	-89.91	-14.4	-96.4	382.7	353.9	28.79	13.293	
8,400.0	8,382.1	8,391.9	8,382.1	16.2	14.1	-89.91	-14.4	-96.4	382.7	353.8	28.93	13.226	
8,500.0	8,482.1	8,491.9	8,482.1	16.3	14.2	-89.91	-14.4	-96.4	382.7	353.6	29.08	13.160	
8,600.0	8,582.1	8,591.9	8,582.1	16.4	14.3	-89.91	-14.4	-96.4	382.7	353.5	29.22	13.095	
8,700.0	8,682.1	8,691.9	8,682.1	16.4	14.3	-89.91	-14.4	-96.4	382.7	353.3	29.37	13.030	
8,800.0	8,782.1	8,791.9	8,782.1	16.5	14.4	-89.91	-14.4	-96.4	382.7	353.2	29.52	12.966	
8,900.0	8,882.1	8,891.9	8,882.1	16.6	14.5	-89.91	-14.4	-96.4	382.7	353.0	29.66	12.902	
9,000.0	8,982.1	8,991.9	8,982.1	16.6	14.6	-89.91	-14.4	-96.4	382.7	352.9	29.81	12.839	
9,100.0	9,082.1	9,091.9	9,082.1	16.7	14.6	-89.91	-14.4	-96.4	382.7	352.7	29.95	12.776	
9,104.9	9,087.0	9,096.8	9,087.0	16.7	14.6	-89.91	-14.4	-96.4	382.7	352.7	29.96	12.773	
9,200.0	9,182.1	9,191.8	9,182.0	16.8	14.7	-89.80	-13.6	-96.4	382.7	352.6	30.07	12.726	
9,300.0	9,282.1	9,289.3	9,278.4	16.9	14.7	-87.80	-0.3	-96.5	383.0	352.9	30.14	12.708	
9,400.0	9,382.1	9,379.9	9,364.9	16.9	14.6	-83.80	26.6	-96.6	385.5	355.3	30.16	12.783	
9,500.0	9,482.1	9,460.4	9,437.2	17.0	14.6	-78.69	61.6	-96.7	393.2	363.0	30.16	13.035	
9,600.0	9,582.1	9,529.7	9,495.2	17.1	14.5	-73.33	99.7	-96.9	409.3	379.0	30.27	13.523	
9,700.0	9,682.1	9,588.5	9,540.3	17.1	14.5	-68.34	137.3	-97.0	436.1	405.6	30.58	14.263	
9,800.0	9,782.1	9,637.9	9,575.2	17.2	14.5	-63.97	172.3	-97.2	474.3	443.1	31.12	15.238	
9,900.0	9,882.1	9,679.5	9,602.1	17.3	14.5	-60.28	204.0	-97.3	523.0	491.1	31.85	16.418	
10,000.0	9,982.1	9,714.7	9,623.0	17.3	14.5	-57.20	232.2	-97.4	580.8	548.1	32.67	17.777	
10,100.0	10,082.1	9,750.0	9,642.2	17.4	14.4	-54.19	261.9	-97.6	646.2	612.7	33.46	19.312	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,200.0	10,182.1	9,770.1	9,652.3	17.5	14.4	-52.53	279.2	-97.6	717.4	683.1	34.32	20.905	
10,300.0	10,282.1	9,800.0	9,666.2	17.5	14.4	-50.13	305.7	-97.7	793.5	758.5	35.03	22.655	
10,400.0	10,382.1	9,800.0	9,666.2	17.6	14.4	-50.13	305.7	-97.7	873.4	837.6	35.87	24.354	
10,500.0	10,482.1	9,828.0	9,677.9	17.7	14.4	-47.97	331.1	-97.8	956.1	919.6	36.47	26.217	
10,600.0	10,582.1	9,850.0	9,686.3	17.8	14.4	-46.35	351.5	-97.9	1,041.4	1,004.3	37.07	28.096	
10,700.0	10,681.9	9,850.0	9,686.3	17.8	14.4	-37.98	351.5	-97.9	1,126.8	1,089.1	37.72	29.872	
10,800.0	10,779.4	9,875.5	9,694.9	17.8	14.4	-29.56	375.5	-98.0	1,206.7	1,168.4	38.29	31.516	
10,900.0	10,871.7	9,900.0	9,702.3	17.9	14.4	-24.21	398.9	-98.1	1,279.4	1,240.5	38.87	32.913	
11,000.0	10,955.9	9,919.7	9,707.4	17.9	14.4	-20.74	417.9	-98.2	1,343.5	1,304.0	39.46	34.045	
11,100.0	11,029.5	9,950.0	9,714.1	18.0	14.4	-18.29	447.4	-98.3	1,397.9	1,357.9	40.01	34.938	
11,200.0	11,090.3	9,971.0	9,717.8	18.1	14.4	-16.70	468.1	-98.4	1,441.7	1,401.1	40.54	35.560	
11,300.0	11,136.4	10,000.0	9,721.6	18.2	14.4	-15.63	496.9	-98.5	1,474.3	1,433.3	41.03	35.935	
11,400.0	11,166.4	10,026.0	9,723.8	18.3	14.4	-15.00	522.8	-98.6	1,495.2	1,453.7	41.47	36.058	
11,500.0	11,179.4	10,050.0	9,724.8	18.4	14.4	-14.75	546.7	-98.7	1,504.2	1,462.3	41.85	35.942	
11,600.0	11,180.0	10,134.8	9,725.0	18.5	14.5	-14.74	631.5	-99.1	1,504.5	1,462.3	42.16	35.690	
11,700.0	11,180.0	10,234.8	9,725.0	18.7	14.5	-14.74	731.5	-99.5	1,504.5	1,462.0	42.53	35.375	
11,800.0	11,180.0	10,334.8	9,725.0	18.9	14.6	-14.74	831.5	-99.9	1,504.5	1,461.5	42.96	35.023	
11,900.0	11,180.0	10,434.8	9,725.0	19.1	14.7	-14.74	931.5	-100.3	1,504.5	1,461.1	43.44	34.637	
12,000.0	11,180.0	10,534.8	9,725.0	19.3	14.9	-14.74	1,031.5	-100.7	1,504.5	1,460.5	43.96	34.221	
12,100.0	11,180.0	10,634.8	9,725.0	19.6	15.2	-14.74	1,131.5	-101.1	1,504.5	1,460.0	44.54	33.778	
12,200.0	11,180.0	10,734.8	9,725.0	19.9	15.6	-14.74	1,231.5	-101.5	1,504.5	1,459.4	45.16	33.312	
12,300.0	11,180.0	10,834.8	9,725.0	20.2	16.0	-14.74	1,331.5	-101.9	1,504.5	1,458.7	45.83	32.828	
12,400.0	11,180.0	10,934.8	9,725.0	20.6	16.4	-14.74	1,431.5	-102.3	1,504.5	1,458.0	46.54	32.328	
12,500.0	11,180.0	11,034.8	9,725.0	21.0	16.8	-14.74	1,531.5	-102.7	1,504.5	1,457.2	47.29	31.815	
12,600.0	11,180.0	11,134.8	9,725.0	21.4	17.3	-14.74	1,631.5	-103.2	1,504.5	1,456.4	48.08	31.294	
12,700.0	11,180.0	11,234.8	9,725.0	21.8	17.8	-14.74	1,731.5	-103.6	1,504.5	1,455.6	48.90	30.767	
12,800.0	11,180.0	11,334.8	9,725.0	22.2	18.4	-14.74	1,831.5	-104.0	1,504.5	1,454.8	49.76	30.236	
12,900.0	11,180.0	11,434.8	9,725.0	22.7	18.9	-14.74	1,931.5	-104.4	1,504.5	1,453.9	50.65	29.704	
13,000.0	11,180.0	11,534.8	9,725.0	23.2	19.5	-14.74	2,031.5	-104.8	1,504.5	1,453.0	51.57	29.172	
13,100.0	11,180.0	11,634.8	9,725.0	23.7	20.0	-14.74	2,131.5	-105.2	1,504.5	1,452.0	52.53	28.643	
13,200.0	11,180.0	11,734.8	9,725.0	24.2	20.6	-14.74	2,231.5	-105.6	1,504.5	1,451.0	53.51	28.118	
13,300.0	11,180.0	11,834.8	9,725.0	24.7	21.2	-14.74	2,331.5	-106.0	1,504.5	1,450.0	54.51	27.599	
13,400.0	11,180.0	11,934.8	9,725.0	25.2	21.8	-14.74	2,431.5	-106.4	1,504.5	1,449.0	55.55	27.086	
13,500.0	11,180.0	12,034.8	9,725.0	25.8	22.4	-14.74	2,531.5	-106.8	1,504.5	1,447.9	56.60	26.581	
13,600.0	11,180.0	12,134.8	9,725.0	26.3	23.1	-14.75	2,631.5	-107.2	1,504.5	1,446.9	57.68	26.085	
13,700.0	11,180.0	12,234.8	9,725.0	26.9	23.7	-14.75	2,731.5	-107.6	1,504.6	1,445.8	58.78	25.597	
13,800.0	11,180.0	12,334.8	9,725.0	27.4	24.3	-14.75	2,831.5	-108.1	1,504.6	1,444.7	59.90	25.119	
13,900.0	11,180.0	12,434.8	9,725.0	28.0	25.0	-14.75	2,931.5	-108.5	1,504.6	1,443.5	61.03	24.651	
14,000.0	11,180.0	12,534.8	9,725.0	28.6	25.6	-14.75	3,031.5	-108.9	1,504.6	1,442.4	62.19	24.193	
14,100.0	11,180.0	12,634.8	9,725.0	29.2	26.3	-14.75	3,131.5	-109.3	1,504.6	1,441.2	63.36	23.746	
14,200.0	11,180.0	12,734.8	9,725.0	29.8	27.0	-14.75	3,231.5	-109.7	1,504.6	1,440.0	64.55	23.309	
14,300.0	11,180.0	12,834.8	9,725.0	30.5	27.6	-14.75	3,331.5	-110.1	1,504.6	1,438.8	65.75	22.883	
14,400.0	11,180.0	12,934.8	9,725.0	31.1	28.3	-14.75	3,431.5	-110.5	1,504.6	1,437.6	66.97	22.467	
14,500.0	11,180.0	13,034.8	9,725.0	31.7	29.0	-14.75	3,531.5	-110.9	1,504.6	1,436.4	68.20	22.062	
14,600.0	11,180.0	13,134.8	9,725.0	32.3	29.7	-14.75	3,631.5	-111.3	1,504.6	1,435.1	69.44	21.667	
14,700.0	11,180.0	13,234.8	9,725.0	33.0	30.4	-14.75	3,731.5	-111.7	1,504.6	1,433.9	70.70	21.282	
14,800.0	11,180.0	13,334.8	9,725.0	33.6	31.1	-14.75	3,831.5	-112.1	1,504.6	1,432.6	71.96	20.908	
14,900.0	11,180.0	13,434.8	9,725.0	34.3	31.8	-14.75	3,931.5	-112.5	1,504.6	1,431.3	73.24	20.544	
15,000.0	11,180.0	13,534.8	9,725.0	34.9	32.5	-14.75	4,031.5	-113.0	1,504.6	1,430.1	74.53	20.189	
15,100.0	11,180.0	13,634.8	9,725.0	35.6	33.2	-14.75	4,131.5	-113.4	1,504.6	1,428.8	75.82	19.843	
15,200.0	11,180.0	13,734.8	9,725.0	36.3	33.9	-14.75	4,231.5	-113.8	1,504.6	1,427.5	77.13	19.507	
15,300.0	11,180.0	13,834.8	9,725.0	36.9	34.6	-14.75	4,331.5	-114.2	1,504.6	1,426.1	78.44	19.180	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	11,180.0	13,934.8	9,725.0	37.6	35.3	-14.75	4,431.5	-114.6	1,504.6	1,424.8	79.77	18.862	
15,500.0	11,180.0	14,034.8	9,725.0	38.3	36.0	-14.75	4,531.5	-115.0	1,504.6	1,423.5	81.10	18.553	
15,600.0	11,180.0	14,134.8	9,725.0	39.0	36.7	-14.75	4,631.5	-115.4	1,504.6	1,422.2	82.44	18.252	
15,700.0	11,180.0	14,234.8	9,725.0	39.6	37.4	-14.75	4,731.5	-115.8	1,504.6	1,420.8	83.78	17.958	
15,800.0	11,180.0	14,334.8	9,725.0	40.3	38.2	-14.75	4,831.5	-116.2	1,504.6	1,419.5	85.14	17.673	
15,900.0	11,180.0	14,434.8	9,725.0	41.0	38.9	-14.75	4,931.5	-116.6	1,504.6	1,418.1	86.49	17.395	
16,000.0	11,180.0	14,534.8	9,725.0	41.7	39.6	-14.75	5,031.5	-117.0	1,504.6	1,416.7	87.86	17.125	
16,100.0	11,180.0	14,634.8	9,725.0	42.4	40.3	-14.75	5,131.5	-117.5	1,504.6	1,415.4	89.23	16.862	
16,200.0	11,180.0	14,734.8	9,725.0	43.1	41.1	-14.75	5,231.5	-117.9	1,504.6	1,414.0	90.61	16.606	
16,300.0	11,180.0	14,834.8	9,725.0	43.8	41.8	-14.75	5,331.5	-118.3	1,504.6	1,412.6	91.99	16.356	
16,400.0	11,180.0	14,934.8	9,725.0	44.5	42.5	-14.76	5,431.5	-118.7	1,504.6	1,411.2	93.38	16.113	
16,500.0	11,180.0	15,034.8	9,725.0	45.2	43.2	-14.76	5,531.5	-119.1	1,504.6	1,409.9	94.77	15.877	
16,600.0	11,180.0	15,134.8	9,725.0	45.9	44.0	-14.76	5,631.5	-119.5	1,504.6	1,408.5	96.17	15.646	
16,700.0	11,180.0	15,234.8	9,725.0	46.6	44.7	-14.76	5,731.5	-119.9	1,504.6	1,407.1	97.57	15.421	
16,800.0	11,180.0	15,334.8	9,725.0	47.3	45.4	-14.76	5,831.5	-120.3	1,504.6	1,405.7	98.97	15.202	
16,900.0	11,180.0	15,434.8	9,725.0	48.0	46.2	-14.76	5,931.5	-120.7	1,504.6	1,404.2	100.38	14.989	
17,000.0	11,180.0	15,534.8	9,725.0	48.7	46.9	-14.76	6,031.5	-121.1	1,504.6	1,402.8	101.80	14.781	
17,100.0	11,180.0	15,634.8	9,725.0	49.5	47.6	-14.76	6,131.5	-121.5	1,504.6	1,401.4	103.21	14.578	
17,200.0	11,180.0	15,734.8	9,725.0	50.2	48.4	-14.76	6,231.5	-121.9	1,504.6	1,400.0	104.63	14.380	
17,300.0	11,180.0	15,834.8	9,725.0	50.9	49.1	-14.76	6,331.5	-122.4	1,504.6	1,398.6	106.06	14.187	
17,400.0	11,180.0	15,934.8	9,725.0	51.6	49.9	-14.76	6,431.5	-122.8	1,504.6	1,397.2	107.49	13.998	
17,500.0	11,180.0	16,034.8	9,725.0	52.3	50.6	-14.76	6,531.5	-123.2	1,504.6	1,395.7	108.92	13.814	
17,600.0	11,180.0	16,134.8	9,725.0	53.0	51.3	-14.76	6,631.5	-123.6	1,504.6	1,394.3	110.35	13.635	
17,700.0	11,180.0	16,234.8	9,725.0	53.8	52.1	-14.76	6,731.5	-124.0	1,504.7	1,392.9	111.79	13.460	
17,800.0	11,180.0	16,334.8	9,725.0	54.5	52.8	-14.76	6,831.5	-124.4	1,504.7	1,391.4	113.23	13.288	
17,900.0	11,180.0	16,434.8	9,725.0	55.2	53.6	-14.76	6,931.5	-124.8	1,504.7	1,390.0	114.67	13.121	
18,000.0	11,180.0	16,534.8	9,725.0	55.9	54.3	-14.76	7,031.5	-125.2	1,504.7	1,388.5	116.12	12.958	
18,100.0	11,180.0	16,634.8	9,725.0	56.7	55.1	-14.76	7,131.5	-125.6	1,504.7	1,387.1	117.57	12.798	
18,200.0	11,180.0	16,734.8	9,725.0	57.4	55.8	-14.76	7,231.5	-126.0	1,504.7	1,385.6	119.02	12.642	
18,300.0	11,180.0	16,834.8	9,725.0	58.1	56.5	-14.76	7,331.5	-126.4	1,504.7	1,384.2	120.47	12.490	
18,400.0	11,180.0	16,934.8	9,725.0	58.8	57.3	-14.76	7,431.5	-126.8	1,504.7	1,382.7	121.92	12.341	
18,500.0	11,180.0	17,034.8	9,725.0	59.6	58.0	-14.76	7,531.5	-127.3	1,504.7	1,381.3	123.38	12.195	
18,600.0	11,180.0	17,134.8	9,725.0	60.3	58.8	-14.76	7,631.5	-127.7	1,504.7	1,379.8	124.84	12.053	
18,700.0	11,180.0	17,234.8	9,725.0	61.0	59.5	-14.76	7,731.5	-128.1	1,504.7	1,378.4	126.30	11.913	
18,800.0	11,180.0	17,334.8	9,725.0	61.8	60.3	-14.76	7,831.5	-128.5	1,504.7	1,376.9	127.77	11.777	
18,900.0	11,180.0	17,434.8	9,725.0	62.5	61.0	-14.76	7,931.5	-128.9	1,504.7	1,375.4	129.23	11.643	
19,000.0	11,180.0	17,534.8	9,725.0	63.2	61.8	-14.76	8,031.5	-129.3	1,504.7	1,374.0	130.70	11.513	
19,100.0	11,180.0	17,634.8	9,725.0	64.0	62.5	-14.76	8,131.5	-129.7	1,504.7	1,372.5	132.17	11.385	
19,200.0	11,180.0	17,734.8	9,725.0	64.7	63.3	-14.77	8,231.5	-130.1	1,504.7	1,371.0	133.64	11.259	
19,300.0	11,180.0	17,834.8	9,725.0	65.5	64.0	-14.77	8,331.5	-130.5	1,504.7	1,369.6	135.11	11.137	
19,400.0	11,180.0	17,934.8	9,725.0	66.2	64.8	-14.77	8,431.5	-130.9	1,504.7	1,368.1	136.58	11.017	
19,500.0	11,180.0	18,034.8	9,725.0	66.9	65.5	-14.77	8,531.5	-131.3	1,504.7	1,366.6	138.06	10.899	
19,600.0	11,180.0	18,134.8	9,725.0	67.7	66.3	-14.77	8,631.4	-131.7	1,504.7	1,365.2	139.54	10.784	
19,700.0	11,180.0	18,234.8	9,725.0	68.4	67.0	-14.77	8,731.4	-132.2	1,504.7	1,363.7	141.02	10.670	
19,800.0	11,180.0	18,334.8	9,725.0	69.1	67.8	-14.77	8,831.4	-132.6	1,504.7	1,362.2	142.50	10.560	
19,900.0	11,180.0	18,434.8	9,725.0	69.9	68.5	-14.77	8,931.4	-133.0	1,504.7	1,360.7	143.98	10.451	
20,000.0	11,180.0	18,534.8	9,725.0	70.6	69.3	-14.77	9,031.4	-133.4	1,504.7	1,359.2	145.46	10.345	
20,100.0	11,180.0	18,634.8	9,725.0	71.4	70.0	-14.77	9,131.4	-133.8	1,504.7	1,357.8	146.94	10.240	
20,200.0	11,180.0	18,734.8	9,725.0	72.1	70.8	-14.77	9,231.4	-134.2	1,504.7	1,356.3	148.43	10.138	
20,300.0	11,180.0	18,834.8	9,725.0	72.9	71.5	-14.77	9,331.4	-134.6	1,504.7	1,354.8	149.91	10.037	
20,400.0	11,180.0	18,934.8	9,725.0	73.6	72.3	-14.77	9,431.4	-135.0	1,504.7	1,353.3	151.40	9.939	
20,500.0	11,180.0	19,034.8	9,725.0	74.3	73.1	-14.77	9,531.4	-135.4	1,504.7	1,351.8	152.89	9.842	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,180.0	19,134.8	9,725.0	75.1	73.8	-14.77	9,631.4	-135.8	1,504.7	1,350.3	154.38	9.747	
20,700.0	11,180.0	19,234.8	9,725.0	75.8	74.6	-14.77	9,731.4	-136.2	1,504.7	1,348.9	155.87	9.654	
20,800.0	11,180.0	19,334.8	9,725.0	76.6	75.3	-14.77	9,831.4	-136.7	1,504.7	1,347.4	157.36	9.562	
20,900.0	11,180.0	19,434.8	9,725.0	77.3	76.1	-14.77	9,931.4	-137.1	1,504.7	1,345.9	158.86	9.472	
21,000.0	11,180.0	19,534.8	9,725.0	78.1	76.8	-14.77	10,031.4	-137.5	1,504.7	1,344.4	160.35	9.384	
21,100.0	11,180.0	19,634.8	9,725.0	78.8	77.6	-14.77	10,131.4	-137.9	1,504.7	1,342.9	161.84	9.297	
21,200.0	11,180.0	19,734.8	9,725.0	79.6	78.3	-14.77	10,231.4	-138.3	1,504.7	1,341.4	163.34	9.212	
21,300.0	11,180.0	19,834.8	9,725.0	80.3	79.1	-14.77	10,331.4	-138.7	1,504.7	1,339.9	164.84	9.129	
21,400.0	11,180.0	19,934.8	9,725.0	81.0	79.8	-14.77	10,431.4	-139.1	1,504.7	1,338.4	166.34	9.046	
21,500.0	11,180.0	20,034.8	9,725.0	81.8	80.6	-14.77	10,531.4	-139.5	1,504.7	1,336.9	167.83	8.966	
21,600.0	11,180.0	20,134.8	9,725.0	82.5	81.4	-14.77	10,631.4	-139.9	1,504.7	1,335.4	169.33	8.886	
21,700.0	11,180.0	20,234.8	9,725.0	83.3	82.1	-14.77	10,731.4	-140.3	1,504.7	1,333.9	170.83	8.808	
21,800.0	11,180.0	20,334.8	9,725.0	84.0	82.9	-14.77	10,831.4	-140.7	1,504.8	1,332.4	172.33	8.732	
21,900.0	11,180.0	20,434.8	9,725.0	84.8	83.6	-14.77	10,931.4	-141.1	1,504.8	1,330.9	173.84	8.656	
22,000.0	11,180.0	20,534.8	9,725.0	85.5	84.4	-14.78	11,031.4	-141.6	1,504.8	1,329.4	175.34	8.582	
22,100.0	11,180.0	20,634.8	9,725.0	86.3	85.1	-14.78	11,131.4	-142.0	1,504.8	1,327.9	176.84	8.509	
22,200.0	11,180.0	20,734.8	9,725.0	87.0	85.9	-14.78	11,231.4	-142.4	1,504.8	1,326.4	178.35	8.437	
22,300.0	11,180.0	20,834.8	9,725.0	87.8	86.7	-14.78	11,331.4	-142.8	1,504.8	1,324.9	179.85	8.367	
22,400.0	11,180.0	20,934.8	9,725.0	88.5	87.4	-14.78	11,431.4	-143.2	1,504.8	1,323.4	181.36	8.297	
22,500.0	11,180.0	21,034.8	9,725.0	89.3	88.2	-14.78	11,531.4	-143.6	1,504.8	1,321.9	182.86	8.229	
22,600.0	11,180.0	21,134.8	9,725.0	90.0	88.9	-14.78	11,631.4	-144.0	1,504.8	1,320.4	184.37	8.162	
22,700.0	11,180.0	21,234.8	9,725.0	90.8	89.7	-14.78	11,731.4	-144.4	1,504.8	1,318.9	185.87	8.096	
22,800.0	11,180.0	21,334.8	9,725.0	91.5	90.5	-14.78	11,831.4	-144.8	1,504.8	1,317.4	187.38	8.030	
22,900.0	11,180.0	21,434.8	9,725.0	92.3	91.2	-14.78	11,931.4	-145.2	1,504.8	1,315.9	188.89	7.966	
23,000.0	11,180.0	21,534.8	9,725.0	93.0	92.0	-14.78	12,031.4	-145.6	1,504.8	1,314.4	190.40	7.903	
23,100.0	11,180.0	21,634.8	9,725.0	93.8	92.7	-14.78	12,131.4	-146.0	1,504.8	1,312.9	191.91	7.841	
23,200.0	11,180.0	21,734.8	9,725.0	94.6	93.5	-14.78	12,231.4	-146.5	1,504.8	1,311.4	193.42	7.780	
23,300.0	11,180.0	21,834.8	9,725.0	95.3	94.2	-14.78	12,331.4	-146.9	1,504.8	1,309.9	194.93	7.720	
23,400.0	11,180.0	21,934.8	9,725.0	96.1	95.0	-14.78	12,431.4	-147.3	1,504.8	1,308.3	196.44	7.660	
23,500.0	11,180.0	22,034.8	9,725.0	96.8	95.8	-14.78	12,531.4	-147.7	1,504.8	1,306.8	197.95	7.602	
23,600.0	11,180.0	22,134.8	9,725.0	97.6	96.5	-14.78	12,631.4	-148.1	1,504.8	1,305.3	199.47	7.544	
23,700.0	11,180.0	22,234.8	9,725.0	98.3	97.3	-14.78	12,731.4	-148.5	1,504.8	1,303.8	200.98	7.487	
23,800.0	11,180.0	22,334.8	9,725.0	99.1	98.0	-14.78	12,831.4	-148.9	1,504.8	1,302.3	202.49	7.431	
23,900.0	11,180.0	22,434.8	9,725.0	99.8	98.8	-14.78	12,931.4	-149.3	1,504.8	1,300.8	204.01	7.376	
24,000.0	11,180.0	22,534.8	9,725.0	100.6	99.6	-14.78	13,031.4	-149.7	1,504.8	1,299.3	205.52	7.322	
24,100.0	11,180.0	22,634.8	9,725.0	101.3	100.3	-14.78	13,131.4	-150.1	1,504.8	1,297.8	207.03	7.268	
24,200.0	11,180.0	22,734.8	9,725.0	102.1	101.1	-14.78	13,231.4	-150.5	1,504.8	1,296.3	208.55	7.216	
24,300.0	11,180.0	22,834.8	9,725.0	102.8	101.8	-14.78	13,331.4	-151.0	1,504.8	1,294.7	210.07	7.164	
24,400.0	11,180.0	22,934.8	9,725.0	103.6	102.6	-14.78	13,431.4	-151.4	1,504.8	1,293.2	211.58	7.112	
24,500.0	11,180.0	23,034.8	9,725.0	104.3	103.4	-14.78	13,531.4	-151.8	1,504.8	1,291.7	213.10	7.062	
24,574.2	11,180.0	23,109.0	9,725.0	104.9	103.9	-14.78	13,605.6	-152.1	1,504.8	1,290.6	214.22	7.025 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 #704H
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 #704H	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	80.94	221.6	1,390.0	1,407.6	1,401.2	6.43	218.949	
100.0	100.0	100.0	100.0	3.2	3.2	80.94	221.6	1,390.0	1,407.6	1,400.7	6.89	204.226	
200.0	200.0	200.0	200.0	3.5	3.5	80.94	221.6	1,390.0	1,407.6	1,400.3	7.33	192.081	
300.0	300.0	300.0	300.0	3.7	3.7	80.94	221.6	1,390.0	1,407.6	1,399.9	7.74	181.829	
400.0	400.0	400.0	400.0	3.9	3.9	80.94	221.6	1,390.0	1,407.6	1,399.5	8.14	173.019	
500.0	500.0	500.0	500.0	4.1	4.1	80.94	221.6	1,390.0	1,407.6	1,399.1	8.51	165.336	
600.0	600.0	600.0	600.0	4.2	4.2	80.94	221.6	1,390.0	1,407.6	1,398.7	8.88	158.556	
700.0	700.0	700.0	700.0	4.4	4.4	80.94	221.6	1,390.0	1,407.6	1,398.4	9.23	152.512	
800.0	800.0	800.0	800.0	4.6	4.6	80.94	221.6	1,390.0	1,407.6	1,398.0	9.57	147.077	
900.0	900.0	900.0	900.0	4.8	4.8	80.94	221.6	1,390.0	1,407.6	1,397.7	9.90	142.154	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	80.94	221.6	1,390.0	1,407.6	1,397.4	10.22	137.667	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	80.94	221.6	1,390.0	1,407.6	1,397.1	10.54	133.553	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	80.94	221.6	1,390.0	1,407.6	1,396.8	10.85	129.762	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	80.94	221.6	1,390.0	1,407.6	1,396.5	11.15	126.254	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	80.94	221.6	1,390.0	1,407.6	1,396.2	11.44	122.994	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	80.94	221.6	1,390.0	1,407.6	1,395.9	11.73	119.954	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	80.94	221.6	1,390.0	1,407.6	1,395.6	12.02	117.111	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	80.94	221.6	1,390.0	1,407.6	1,395.3	12.30	114.442	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	80.94	221.6	1,390.0	1,407.6	1,395.0	12.58	111.931	
1,900.0	1,900.0	1,948.2	1,948.2	6.3	6.3	81.00	219.9	1,387.8	1,405.9	1,393.0	12.92	108.827	
2,000.0	2,000.0	2,095.9	2,095.6	6.4	6.6	81.16	214.7	1,380.9	1,400.8	1,387.5	13.25	105.693	
2,100.0	2,100.0	2,242.8	2,241.8	6.5	6.9	81.44	206.2	1,369.6	1,392.2	1,378.6	13.61	102.294	
2,200.0	2,200.0	2,370.9	2,368.8	6.7	7.1	81.77	196.1	1,356.2	1,380.6	1,366.7	13.91	99.247	
2,300.0	2,300.0	2,469.9	2,466.9	6.8	7.3	82.05	187.8	1,345.2	1,368.4	1,354.2	14.22	96.233	
2,400.0	2,400.0	2,569.0	2,564.9	6.9	7.5	82.34	179.5	1,334.2	1,356.3	1,341.7	14.55	93.183	
2,500.0	2,500.0	2,668.0	2,663.0	7.0	7.8	82.63	171.2	1,323.2	1,344.1	1,329.2	14.90	90.199	
2,600.0	2,600.0	2,766.9	2,760.9	7.2	8.0	-10.12	162.9	1,312.2	1,330.7	1,315.5	15.28	87.118	
2,700.0	2,699.9	2,865.4	2,858.5	7.3	8.3	-9.89	154.7	1,301.2	1,314.8	1,299.2	15.66	83.980	
2,800.0	2,799.7	2,963.5	2,955.6	7.5	8.6	-9.68	146.4	1,290.3	1,296.4	1,280.3	16.06	80.724	
2,900.0	2,899.3	3,061.1	3,052.3	7.7	8.9	-9.49	138.3	1,279.5	1,275.5	1,259.0	16.49	77.365	
3,000.0	2,998.6	3,158.2	3,148.5	7.9	9.2	-9.31	130.1	1,268.7	1,252.1	1,235.1	16.94	73.926	
3,100.0	3,097.6	3,254.8	3,244.1	8.0	9.5	-9.10	122.0	1,257.9	1,226.7	1,209.4	17.35	70.716	
3,200.0	3,196.6	3,351.4	3,339.8	8.2	9.8	-8.87	113.9	1,247.2	1,201.2	1,183.4	17.82	67.416	
3,300.0	3,295.7	3,448.0	3,435.4	8.4	10.2	-8.62	105.9	1,236.5	1,175.8	1,157.5	18.31	64.216	
3,400.0	3,394.7	3,544.6	3,531.1	8.7	10.5	-8.36	97.8	1,225.7	1,150.4	1,131.5	18.82	61.125	
3,500.0	3,493.7	3,641.1	3,626.7	8.9	10.9	-8.09	89.7	1,215.0	1,125.0	1,105.6	19.35	58.149	
3,600.0	3,592.8	3,737.7	3,722.3	9.2	11.2	-7.81	81.6	1,204.3	1,099.6	1,079.7	19.89	55.290	
3,700.0	3,691.8	3,834.3	3,818.0	9.5	11.5	-7.51	73.5	1,193.5	1,074.2	1,053.8	20.44	52.550	
3,800.0	3,790.8	3,930.9	3,913.6	9.8	11.9	-7.20	65.4	1,182.8	1,048.9	1,027.9	21.01	49.928	
3,900.0	3,889.8	4,027.5	4,009.2	10.1	12.3	-6.88	57.3	1,172.1	1,023.6	1,002.0	21.58	47.422	
4,000.0	3,988.9	4,124.0	4,104.9	10.4	12.6	-6.54	49.2	1,161.3	998.3	976.2	22.17	45.029	
4,100.0	4,087.9	4,220.6	4,200.5	10.7	13.0	-6.18	41.1	1,150.6	973.1	950.3	22.76	42.758	
4,200.0	4,186.9	4,313.6	4,292.6	11.0	13.3	-5.82	33.4	1,140.4	948.0	924.7	23.32	40.645	
4,300.0	4,285.9	4,404.2	4,382.5	11.4	13.7	-5.47	26.3	1,130.9	923.6	899.6	23.92	38.610	
4,400.0	4,385.0	4,495.2	4,472.8	11.7	14.0	-5.13	19.6	1,122.0	899.8	875.2	24.52	36.696	
4,500.0	4,484.1	4,586.7	4,563.6	12.0	14.3	-4.79	13.3	1,113.6	877.1	852.0	25.10	34.949	
4,600.0	4,583.4	4,678.8	4,655.2	12.4	14.7	-4.45	7.3	1,105.7	856.8	831.1	25.69	33.349	
4,700.0	4,682.9	4,771.5	4,747.4	12.7	15.0	-4.11	1.8	1,098.4	838.8	812.5	26.28	31.923	
4,800.0	4,782.5	4,864.6	4,840.2	13.0	15.4	-3.79	-3.3	1,091.6	823.2	796.4	26.85	30.661	
4,900.0	4,882.3	4,958.3	4,933.5	13.3	15.7	-3.48	-7.9	1,085.4	810.1	782.6	27.41	29.556	
5,000.0	4,982.2	5,052.3	5,027.3	13.6	16.0	-3.20	-12.2	1,079.8	799.3	771.3	27.94	28.603	
5,100.0	5,082.1	5,146.7	5,121.4	13.9	16.4	-2.93	-15.9	1,074.8	790.9	762.5	28.45	27.798	

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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,200.0	5,182.1	5,241.2	5,215.9	14.1	16.7	-2.69	-19.2	1,070.5	785.0	756.1	28.91	27.153		
5,300.0	5,282.1	5,336.0	5,310.5	14.2	17.0	90.52	-22.1	1,066.7	781.0	751.8	29.20	26.747		
5,400.0	5,382.1	5,430.8	5,405.2	14.3	17.3	90.70	-24.5	1,063.5	777.7	748.2	29.49	26.375		
5,500.0	5,482.1	5,525.6	5,500.0	14.3	17.6	90.84	-26.4	1,061.0	775.0	745.3	29.76	26.039		
5,600.0	5,582.1	5,620.6	5,594.9	14.4	17.8	90.95	-27.8	1,059.1	773.1	743.0	30.03	25.741		
5,700.0	5,682.1	5,715.5	5,689.8	14.5	18.1	91.02	-28.8	1,057.8	771.7	741.4	30.29	25.481		
5,800.0	5,782.1	5,810.5	5,784.8	14.5	18.3	91.06	-29.2	1,057.2	771.1	740.5	30.51	25.270		
5,870.4	5,852.6	5,878.2	5,852.6	14.6	18.3	91.06	-29.3	1,057.1	771.0	740.4	30.60	25.197		
5,900.0	5,882.1	5,907.8	5,882.1	14.6	18.3	91.06	-29.3	1,057.1	771.0	740.3	30.62	25.177		
6,000.0	5,982.1	6,007.8	5,982.1	14.6	18.4	91.06	-29.3	1,057.1	771.0	740.2	30.73	25.091		
6,100.0	6,082.1	6,107.8	6,082.1	14.7	18.4	91.06	-29.3	1,057.1	771.0	740.1	30.83	25.006		
6,200.0	6,182.1	6,207.8	6,182.1	14.8	18.4	91.06	-29.3	1,057.1	771.0	740.0	30.94	24.921		
6,300.0	6,282.1	6,307.8	6,282.1	14.8	18.5	91.06	-29.3	1,057.1	771.0	739.9	31.04	24.835		
6,400.0	6,382.1	6,407.8	6,382.1	14.9	18.5	91.06	-29.3	1,057.1	771.0	739.8	31.15	24.750		
6,500.0	6,482.1	6,507.8	6,482.1	15.0	18.6	91.06	-29.3	1,057.1	771.0	739.7	31.26	24.666		
6,600.0	6,582.1	6,607.8	6,582.1	15.0	18.6	91.06	-29.3	1,057.1	771.0	739.6	31.36	24.581		
6,700.0	6,682.1	6,707.8	6,682.1	15.1	18.6	91.06	-29.3	1,057.1	771.0	739.5	31.47	24.497		
6,800.0	6,782.1	6,807.8	6,782.1	15.2	18.7	91.06	-29.3	1,057.1	771.0	739.4	31.58	24.413		
6,900.0	6,882.1	6,907.8	6,882.1	15.2	18.7	91.06	-29.3	1,057.1	771.0	739.3	31.69	24.329		
7,000.0	6,982.1	7,007.8	6,982.1	15.3	18.8	91.06	-29.3	1,057.1	771.0	739.2	31.80	24.245		
7,100.0	7,082.1	7,107.8	7,082.1	15.4	18.8	91.06	-29.3	1,057.1	771.0	739.1	31.91	24.162		
7,200.0	7,182.1	7,207.8	7,182.1	15.4	18.9	91.06	-29.3	1,057.1	771.0	739.0	32.02	24.079		
7,300.0	7,282.1	7,307.8	7,282.1	15.5	18.9	91.06	-29.3	1,057.1	771.0	738.8	32.13	23.996		
7,400.0	7,382.1	7,407.8	7,382.1	15.6	18.9	91.06	-29.3	1,057.1	771.0	738.7	32.24	23.913		
7,500.0	7,482.1	7,507.8	7,482.1	15.6	19.0	91.06	-29.3	1,057.1	771.0	738.6	32.35	23.831		
7,600.0	7,582.1	7,607.8	7,582.1	15.7	19.0	91.06	-29.3	1,057.1	771.0	738.5	32.46	23.749		
7,700.0	7,682.1	7,707.8	7,682.1	15.8	19.1	91.06	-29.3	1,057.1	771.0	738.4	32.58	23.667		
7,800.0	7,782.1	7,807.8	7,782.1	15.8	19.1	91.06	-29.3	1,057.1	771.0	738.3	32.69	23.585		
7,900.0	7,882.1	7,907.8	7,882.1	15.9	19.1	91.06	-29.3	1,057.1	771.0	738.2	32.80	23.504		
8,000.0	7,982.1	8,007.8	7,982.1	16.0	19.2	91.06	-29.3	1,057.1	771.0	738.1	32.92	23.423		
8,100.0	8,082.1	8,107.8	8,082.1	16.0	19.2	91.06	-29.3	1,057.1	771.0	737.9	33.03	23.342		
8,200.0	8,182.1	8,207.8	8,182.1	16.1	19.3	91.06	-29.3	1,057.1	771.0	737.8	33.14	23.262		
8,300.0	8,282.1	8,307.8	8,282.1	16.2	19.3	91.06	-29.3	1,057.1	771.0	737.7	33.26	23.181		
8,400.0	8,382.1	8,407.8	8,382.1	16.2	19.4	91.06	-29.3	1,057.1	771.0	737.6	33.37	23.101		
8,500.0	8,482.1	8,507.8	8,482.1	16.3	19.4	91.06	-29.3	1,057.1	771.0	737.5	33.49	23.022		
8,600.0	8,582.1	8,607.8	8,582.1	16.4	19.5	91.06	-29.3	1,057.1	771.0	737.4	33.60	22.942		
8,700.0	8,682.1	8,707.8	8,682.1	16.4	19.5	91.06	-29.3	1,057.1	771.0	737.2	33.72	22.863		
8,800.0	8,782.1	8,807.8	8,782.1	16.5	19.6	91.06	-29.3	1,057.1	771.0	737.1	33.84	22.785		
8,900.0	8,882.1	8,907.8	8,882.1	16.6	19.6	91.06	-29.3	1,057.1	771.0	737.0	33.95	22.706		
9,000.0	8,982.1	9,007.8	8,982.1	16.6	19.6	91.06	-29.3	1,057.1	771.0	736.9	34.07	22.628		
9,100.0	9,082.1	9,107.8	9,082.1	16.7	19.7	91.06	-29.3	1,057.1	771.0	736.8	34.19	22.551		
9,200.0	9,182.1	9,208.7	9,183.0	16.8	19.7	91.00	-28.5	1,057.1	771.0	736.7	34.30	22.479		
9,300.0	9,282.1	9,309.5	9,282.7	16.9	19.6	89.94	-14.2	1,057.0	770.8	736.3	34.49	22.347		
9,309.9	9,292.0	9,319.1	9,292.0	16.9	19.5	89.77	-11.9	1,057.0	770.8	736.3	34.52	22.331 CC, ES		
9,400.0	9,382.1	9,402.7	9,371.3	16.9	19.4	87.82	14.3	1,056.9	771.3	736.6	34.74	22.200		
9,500.0	9,482.1	9,484.9	9,444.7	17.0	19.3	85.10	51.1	1,056.8	774.3	739.3	34.97	22.139		
9,600.0	9,582.1	9,555.1	9,502.7	17.1	19.1	82.19	90.6	1,056.6	781.6	746.5	35.13	22.246		
9,700.0	9,682.1	9,614.2	9,547.5	17.1	19.1	79.40	129.1	1,056.5	795.1	759.8	35.22	22.574		
9,800.0	9,782.1	9,663.6	9,581.8	17.2	19.0	76.86	164.7	1,056.3	815.8	780.5	35.25	23.141		
9,900.0	9,882.1	9,700.0	9,604.9	17.3	19.0	74.90	192.7	1,056.2	844.3	809.0	35.27	23.937		
10,000.0	9,982.1	9,750.0	9,633.8	17.3	18.9	72.11	233.5	1,056.1	880.7	845.4	35.30	24.948		
10,100.0	10,082.1	9,769.2	9,643.9	17.4	18.9	71.01	249.8	1,056.0	924.5	889.1	35.41	26.107		

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 #704H
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 #704H	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 (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
10,200.0	10,182.1	9,800.0	9,659.0	17.5	18.9	69.24	276.7	1,055.9	975.2	939.7	35.56	27.427	
10,300.0	10,282.1	9,815.9	9,666.2	17.5	18.9	68.32	290.9	1,055.8	1,032.1	996.3	35.80	28.828	
10,400.0	10,382.1	9,834.6	9,674.2	17.6	18.9	67.24	307.8	1,055.8	1,094.3	1,058.2	36.09	30.324	
10,500.0	10,482.1	9,850.0	9,680.3	17.7	18.9	66.35	321.9	1,055.7	1,161.2	1,124.8	36.43	31.877	
10,600.0	10,582.1	9,850.0	9,680.3	17.8	18.9	66.35	321.9	1,055.7	1,232.4	1,195.6	36.85	33.443	
10,700.0	10,681.9	9,879.7	9,691.1	17.8	18.9	57.92	349.6	1,055.6	1,305.0	1,267.8	37.23	35.052	
10,800.0	10,779.4	9,900.0	9,697.6	17.8	18.9	49.29	368.8	1,055.5	1,374.7	1,337.0	37.72	36.447	
10,900.0	10,871.7	9,918.4	9,703.0	17.9	18.9	42.69	386.4	1,055.4	1,439.2	1,400.9	38.26	37.619	
11,000.0	10,955.9	9,950.0	9,710.8	17.9	18.9	37.50	417.0	1,055.3	1,496.9	1,458.1	38.79	38.589	
11,100.0	11,029.5	9,950.0	9,710.8	18.0	18.9	34.14	417.0	1,055.3	1,546.7	1,507.3	39.38	39.276	
11,200.0	11,090.3	10,000.0	9,719.7	18.1	19.0	31.24	466.2	1,055.1	1,586.8	1,546.9	39.90	39.769	
11,300.0	11,136.4	10,019.6	9,722.0	18.2	19.0	29.51	485.7	1,055.1	1,617.2	1,576.7	40.43	40.000	
11,400.0	11,166.4	10,050.0	9,724.3	18.3	19.1	28.41	516.0	1,054.9	1,637.1	1,596.2	40.92	40.005	
11,500.0	11,179.4	10,077.7	9,725.0	18.4	19.1	27.94	543.6	1,054.8	1,646.1	1,604.7	41.36	39.801	
11,600.0	11,180.0	10,170.2	9,725.0	18.5	19.3	27.91	636.1	1,054.5	1,646.6	1,604.8	41.75	39.440	
11,700.0	11,180.0	10,270.2	9,725.0	18.7	19.6	27.91	736.1	1,054.1	1,646.6	1,604.4	42.20	39.019	
11,800.0	11,180.0	10,370.2	9,725.0	18.9	19.9	27.91	836.1	1,053.7	1,646.6	1,603.8	42.71	38.556	
11,900.0	11,180.0	10,470.2	9,725.0	19.1	20.2	27.91	936.1	1,053.3	1,646.6	1,603.3	43.27	38.057	
12,000.0	11,180.0	10,570.2	9,725.0	19.3	20.6	27.91	1,036.1	1,052.9	1,646.6	1,602.7	43.88	37.527	
12,100.0	11,180.0	10,670.2	9,725.0	19.6	21.0	27.91	1,136.1	1,052.5	1,646.6	1,602.0	44.54	36.971	
12,200.0	11,180.0	10,770.2	9,725.0	19.9	21.4	27.91	1,236.1	1,052.1	1,646.6	1,601.3	45.24	36.394	
12,300.0	11,180.0	10,870.2	9,725.0	20.2	21.9	27.91	1,336.1	1,051.7	1,646.6	1,600.6	45.99	35.799	
12,400.0	11,180.0	10,970.2	9,725.0	20.6	22.5	27.91	1,436.1	1,051.3	1,646.6	1,599.8	46.79	35.192	
12,500.0	11,180.0	11,070.2	9,725.0	21.0	23.0	27.91	1,536.1	1,050.9	1,646.6	1,598.9	47.62	34.576	
12,600.0	11,180.0	11,170.2	9,725.0	21.4	23.6	27.91	1,636.1	1,050.5	1,646.6	1,598.1	48.49	33.954	
12,700.0	11,180.0	11,270.2	9,725.0	21.8	24.2	27.91	1,736.1	1,050.1	1,646.6	1,597.2	49.40	33.330	
12,800.0	11,180.0	11,370.2	9,725.0	22.2	24.9	27.91	1,836.1	1,049.7	1,646.6	1,596.2	50.34	32.706	
12,900.0	11,180.0	11,470.2	9,725.0	22.7	25.5	27.91	1,936.1	1,049.3	1,646.6	1,595.2	51.32	32.084	
13,000.0	11,180.0	11,570.2	9,725.0	23.2	26.2	27.91	2,036.1	1,048.9	1,646.6	1,594.2	52.32	31.468	
13,100.0	11,180.0	11,670.2	9,725.0	23.7	26.9	27.91	2,136.1	1,048.5	1,646.6	1,593.2	53.36	30.858	
13,200.0	11,180.0	11,770.2	9,725.0	24.2	27.6	27.91	2,236.1	1,048.1	1,646.6	1,592.1	54.42	30.257	
13,300.0	11,180.0	11,870.2	9,725.0	24.7	28.4	27.91	2,336.1	1,047.7	1,646.6	1,591.1	55.51	29.664	
13,400.0	11,180.0	11,970.2	9,725.0	25.2	29.1	27.91	2,436.1	1,047.3	1,646.6	1,589.9	56.62	29.082	
13,500.0	11,180.0	12,070.2	9,725.0	25.8	29.9	27.91	2,536.1	1,046.9	1,646.6	1,588.8	57.75	28.512	
13,600.0	11,180.0	12,170.2	9,725.0	26.3	30.6	27.91	2,636.1	1,046.5	1,646.6	1,587.7	58.91	27.953	
13,700.0	11,180.0	12,270.2	9,725.0	26.9	31.4	27.91	2,736.1	1,046.1	1,646.6	1,586.5	60.08	27.406	
13,800.0	11,180.0	12,370.2	9,725.0	27.4	32.2	27.91	2,836.1	1,045.7	1,646.6	1,585.3	61.27	26.872	
13,900.0	11,180.0	12,470.2	9,725.0	28.0	33.0	27.91	2,936.1	1,045.3	1,646.6	1,584.1	62.48	26.352	
14,000.0	11,180.0	12,570.2	9,725.0	28.6	33.9	27.91	3,036.1	1,044.9	1,646.6	1,582.9	63.71	25.844	
14,100.0	11,180.0	12,670.2	9,725.0	29.2	34.7	27.91	3,136.1	1,044.5	1,646.6	1,581.6	64.96	25.349	
14,200.0	11,180.0	12,770.2	9,725.0	29.8	35.5	27.91	3,236.1	1,044.1	1,646.6	1,580.4	66.22	24.867	
14,300.0	11,180.0	12,870.2	9,725.0	30.5	36.4	27.91	3,336.1	1,043.7	1,646.6	1,579.1	67.49	24.398	
14,400.0	11,180.0	12,970.2	9,725.0	31.1	37.2	27.91	3,436.1	1,043.3	1,646.6	1,577.8	68.78	23.941	
14,500.0	11,180.0	13,070.2	9,725.0	31.7	38.1	27.91	3,536.1	1,042.9	1,646.6	1,576.5	70.07	23.498	
14,600.0	11,180.0	13,170.2	9,725.0	32.3	38.9	27.91	3,636.1	1,042.5	1,646.6	1,575.2	71.38	23.066	
14,700.0	11,180.0	13,270.2	9,725.0	33.0	39.8	27.91	3,736.1	1,042.1	1,646.6	1,573.9	72.71	22.647	
14,800.0	11,180.0	13,370.2	9,725.0	33.6	40.6	27.91	3,836.1	1,041.7	1,646.6	1,572.5	74.04	22.239	
14,900.0	11,180.0	13,470.2	9,725.0	34.3	41.5	27.91	3,936.1	1,041.3	1,646.6	1,571.2	75.38	21.843	
15,000.0	11,180.0	13,570.2	9,725.0	34.9	42.4	27.91	4,036.1	1,041.0	1,646.6	1,569.8	76.73	21.458	
15,100.0	11,180.0	13,670.2	9,725.0	35.6	43.3	27.91	4,136.1	1,040.6	1,646.6	1,568.5	78.10	21.084	
15,200.0	11,180.0	13,770.2	9,725.0	36.3	44.2	27.91	4,236.1	1,040.2	1,646.6	1,567.1	79.46	20.721	
15,300.0	11,180.0	13,870.2	9,725.0	36.9	45.1	27.91	4,336.1	1,039.8	1,646.6	1,565.7	80.84	20.368	

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 #704H
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 #704H	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	13,970.2	9,725.0	37.6	45.9	27.91	4,436.1	1,039.4	1,646.6	1,564.4	82.23	20.025	
15,500.0	11,180.0	14,070.2	9,725.0	38.3	46.8	27.91	4,536.1	1,039.0	1,646.6	1,563.0	83.62	19.691	
15,600.0	11,180.0	14,170.2	9,725.0	39.0	47.7	27.91	4,636.1	1,038.6	1,646.6	1,561.6	85.02	19.367	
15,700.0	11,180.0	14,270.2	9,725.0	39.6	48.6	27.91	4,736.1	1,038.2	1,646.6	1,560.2	86.43	19.052	
15,800.0	11,180.0	14,370.2	9,725.0	40.3	49.5	27.91	4,836.1	1,037.8	1,646.6	1,558.7	87.84	18.745	
15,900.0	11,180.0	14,470.2	9,725.0	41.0	50.5	27.91	4,936.1	1,037.4	1,646.6	1,557.3	89.26	18.447	
16,000.0	11,180.0	14,570.2	9,725.0	41.7	51.4	27.91	5,036.1	1,037.0	1,646.6	1,555.9	90.68	18.158	
16,100.0	11,180.0	14,670.2	9,725.0	42.4	52.3	27.91	5,136.1	1,036.6	1,646.6	1,554.5	92.11	17.876	
16,200.0	11,180.0	14,770.2	9,725.0	43.1	53.2	27.91	5,236.1	1,036.2	1,646.6	1,553.0	93.55	17.602	
16,300.0	11,180.0	14,870.2	9,725.0	43.8	54.1	27.91	5,336.1	1,035.8	1,646.6	1,551.6	94.99	17.335	
16,400.0	11,180.0	14,970.2	9,725.0	44.5	55.0	27.91	5,436.1	1,035.4	1,646.6	1,550.2	96.43	17.075	
16,500.0	11,180.0	15,070.2	9,725.0	45.2	55.9	27.91	5,536.1	1,035.0	1,646.6	1,548.7	97.88	16.822	
16,600.0	11,180.0	15,170.2	9,725.0	45.9	56.9	27.91	5,636.1	1,034.6	1,646.6	1,547.3	99.34	16.576	
16,700.0	11,180.0	15,270.2	9,725.0	46.6	57.8	27.91	5,736.1	1,034.2	1,646.6	1,545.8	100.79	16.336	
16,800.0	11,180.0	15,370.2	9,725.0	47.3	58.7	27.92	5,836.1	1,033.8	1,646.6	1,544.3	102.26	16.103	
16,900.0	11,180.0	15,470.2	9,725.0	48.0	59.6	27.92	5,936.1	1,033.4	1,646.6	1,542.9	103.72	15.875	
17,000.0	11,180.0	15,570.2	9,725.0	48.7	60.6	27.92	6,036.1	1,033.0	1,646.6	1,541.4	105.19	15.654	
17,100.0	11,180.0	15,670.2	9,725.0	49.5	61.5	27.92	6,136.1	1,032.6	1,646.6	1,539.9	106.66	15.437	
17,200.0	11,180.0	15,770.2	9,725.0	50.2	62.4	27.92	6,236.1	1,032.2	1,646.6	1,538.5	108.14	15.227	
17,300.0	11,180.0	15,870.2	9,725.0	50.9	63.3	27.92	6,336.1	1,031.8	1,646.6	1,537.0	109.62	15.021	
17,400.0	11,180.0	15,970.2	9,725.0	51.6	64.3	27.92	6,436.1	1,031.4	1,646.6	1,535.5	111.10	14.821	
17,500.0	11,180.0	16,070.2	9,725.0	52.3	65.2	27.92	6,536.1	1,031.0	1,646.6	1,534.0	112.59	14.625	
17,600.0	11,180.0	16,170.2	9,725.0	53.0	66.1	27.92	6,636.1	1,030.6	1,646.6	1,532.5	114.07	14.435	
17,700.0	11,180.0	16,270.2	9,725.0	53.8	67.1	27.92	6,736.1	1,030.2	1,646.6	1,531.0	115.56	14.248	
17,800.0	11,180.0	16,370.2	9,725.0	54.5	68.0	27.92	6,836.1	1,029.8	1,646.6	1,529.5	117.06	14.067	
17,900.0	11,180.0	16,470.2	9,725.0	55.2	69.0	27.92	6,936.1	1,029.4	1,646.6	1,528.0	118.55	13.889	
18,000.0	11,180.0	16,570.2	9,725.0	55.9	69.9	27.92	7,036.1	1,029.0	1,646.6	1,526.6	120.05	13.716	
18,100.0	11,180.0	16,670.2	9,725.0	56.7	70.8	27.92	7,136.1	1,028.6	1,646.6	1,525.1	121.55	13.546	
18,200.0	11,180.0	16,770.2	9,725.0	57.4	71.8	27.92	7,236.1	1,028.2	1,646.6	1,523.5	123.06	13.381	
18,300.0	11,180.0	16,870.2	9,725.0	58.1	72.7	27.92	7,336.1	1,027.8	1,646.6	1,522.0	124.56	13.219	
18,400.0	11,180.0	16,970.2	9,725.0	58.8	73.7	27.92	7,436.1	1,027.4	1,646.6	1,520.5	126.07	13.061	
18,500.0	11,180.0	17,070.2	9,725.0	59.6	74.6	27.92	7,536.1	1,027.1	1,646.6	1,519.0	127.58	12.907	
18,600.0	11,180.0	17,170.2	9,725.0	60.3	75.5	27.92	7,636.1	1,026.7	1,646.6	1,517.5	129.09	12.756	
18,700.0	11,180.0	17,270.2	9,725.0	61.0	76.5	27.92	7,736.1	1,026.3	1,646.6	1,516.0	130.60	12.608	
18,800.0	11,180.0	17,370.2	9,725.0	61.8	77.4	27.92	7,836.1	1,025.9	1,646.6	1,514.5	132.12	12.463	
18,900.0	11,180.0	17,470.2	9,725.0	62.5	78.4	27.92	7,936.1	1,025.5	1,646.6	1,513.0	133.63	12.322	
19,000.0	11,180.0	17,570.2	9,725.0	63.2	79.3	27.92	8,036.1	1,025.1	1,646.6	1,511.5	135.15	12.183	
19,100.0	11,180.0	17,670.2	9,725.0	64.0	80.3	27.92	8,136.1	1,024.7	1,646.6	1,509.9	136.67	12.048	
19,200.0	11,180.0	17,770.2	9,725.0	64.7	81.2	27.92	8,236.1	1,024.3	1,646.6	1,508.4	138.19	11.915	
19,300.0	11,180.0	17,870.2	9,725.0	65.5	82.2	27.92	8,336.1	1,023.9	1,646.6	1,506.9	139.72	11.785	
19,400.0	11,180.0	17,970.2	9,725.0	66.2	83.1	27.92	8,436.1	1,023.5	1,646.6	1,505.4	141.24	11.658	
19,500.0	11,180.0	18,070.2	9,725.0	66.9	84.1	27.92	8,536.1	1,023.1	1,646.6	1,503.8	142.77	11.534	
19,600.0	11,180.0	18,170.2	9,725.0	67.7	85.0	27.92	8,636.1	1,022.7	1,646.6	1,502.3	144.29	11.412	
19,700.0	11,180.0	18,270.2	9,725.0	68.4	86.0	27.92	8,736.1	1,022.3	1,646.6	1,500.8	145.82	11.292	
19,800.0	11,180.0	18,370.2	9,725.0	69.1	86.9	27.92	8,836.1	1,021.9	1,646.6	1,499.3	147.35	11.175	
19,900.0	11,180.0	18,470.2	9,725.0	69.9	87.9	27.92	8,936.1	1,021.5	1,646.6	1,497.7	148.88	11.060	
20,000.0	11,180.0	18,570.2	9,725.0	70.6	88.8	27.92	9,036.1	1,021.1	1,646.6	1,496.2	150.42	10.947	
20,100.0	11,180.0	18,670.2	9,725.0	71.4	89.8	27.92	9,136.1	1,020.7	1,646.6	1,494.7	151.95	10.837	
20,200.0	11,180.0	18,770.2	9,725.0	72.1	90.7	27.92	9,236.1	1,020.3	1,646.6	1,493.1	153.48	10.728	
20,300.0	11,180.0	18,870.2	9,725.0	72.9	91.7	27.92	9,336.1	1,019.9	1,646.6	1,491.6	155.02	10.622	
20,400.0	11,180.0	18,970.2	9,725.0	73.6	92.6	27.92	9,436.1	1,019.5	1,646.6	1,490.1	156.56	10.518	
20,500.0	11,180.0	19,070.2	9,725.0	74.3	93.6	27.92	9,536.1	1,019.1	1,646.6	1,488.5	158.10	10.415	

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 #704H
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 #704H	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)			
20,600.0	11,180.0	19,170.2	9,725.0	75.1	94.5	27.92	9,636.1	1,018.7	1,646.6	1,487.0	159.64	10.315	
20,700.0	11,180.0	19,270.2	9,725.0	75.8	95.5	27.92	9,736.1	1,018.3	1,646.6	1,485.4	161.18	10.216	
20,800.0	11,180.0	19,370.2	9,725.0	76.6	96.4	27.92	9,836.1	1,017.9	1,646.6	1,483.9	162.72	10.120	
20,900.0	11,180.0	19,470.2	9,725.0	77.3	97.4	27.92	9,936.1	1,017.5	1,646.6	1,482.4	164.26	10.025	
21,000.0	11,180.0	19,570.2	9,725.0	78.1	98.3	27.92	10,036.1	1,017.1	1,646.6	1,480.8	165.80	9.931	
21,100.0	11,180.0	19,670.2	9,725.0	78.8	99.3	27.92	10,136.1	1,016.7	1,646.6	1,479.3	167.34	9.840	
21,200.0	11,180.0	19,770.2	9,725.0	79.6	100.2	27.92	10,236.1	1,016.3	1,646.6	1,477.7	168.89	9.750	
21,300.0	11,180.0	19,870.2	9,725.0	80.3	101.2	27.92	10,336.1	1,015.9	1,646.6	1,476.2	170.44	9.661	
21,400.0	11,180.0	19,970.2	9,725.0	81.0	102.2	27.92	10,436.1	1,015.5	1,646.6	1,474.6	171.98	9.574	
21,500.0	11,180.0	20,070.2	9,725.0	81.8	103.1	27.92	10,536.1	1,015.1	1,646.6	1,473.1	173.53	9.489	
21,600.0	11,180.0	20,170.2	9,725.0	82.5	104.1	27.92	10,636.1	1,014.7	1,646.6	1,471.6	175.08	9.405	
21,700.0	11,180.0	20,270.2	9,725.0	83.3	105.0	27.92	10,736.1	1,014.3	1,646.6	1,470.0	176.63	9.323	
21,800.0	11,180.0	20,370.2	9,725.0	84.0	106.0	27.92	10,836.1	1,013.9	1,646.6	1,468.5	178.17	9.242	
21,900.0	11,180.0	20,470.2	9,725.0	84.8	106.9	27.92	10,936.1	1,013.5	1,646.6	1,466.9	179.72	9.162	
22,000.0	11,180.0	20,570.2	9,725.0	85.5	107.9	27.92	11,036.1	1,013.1	1,646.6	1,465.4	181.28	9.084	
22,100.0	11,180.0	20,670.2	9,725.0	86.3	108.8	27.92	11,136.1	1,012.8	1,646.6	1,463.8	182.83	9.007	
22,200.0	11,180.0	20,770.2	9,725.0	87.0	109.8	27.92	11,236.1	1,012.4	1,646.6	1,462.3	184.38	8.931	
22,300.0	11,180.0	20,870.2	9,725.0	87.8	110.8	27.92	11,336.1	1,012.0	1,646.6	1,460.7	185.93	8.856	
22,400.0	11,180.0	20,970.2	9,725.0	88.5	111.7	27.92	11,436.1	1,011.6	1,646.6	1,459.2	187.48	8.783	
22,500.0	11,180.0	21,070.2	9,725.0	89.3	112.7	27.92	11,536.1	1,011.2	1,646.6	1,457.6	189.04	8.711	
22,600.0	11,180.0	21,170.2	9,725.0	90.0	113.6	27.92	11,636.1	1,010.8	1,646.6	1,456.0	190.59	8.640	
22,700.0	11,180.0	21,270.2	9,725.0	90.8	114.6	27.92	11,736.1	1,010.4	1,646.6	1,454.5	192.15	8.570	
22,800.0	11,180.0	21,370.2	9,725.0	91.5	115.6	27.92	11,836.1	1,010.0	1,646.6	1,452.9	193.70	8.501	
22,900.0	11,180.0	21,470.2	9,725.0	92.3	116.5	27.92	11,936.1	1,009.6	1,646.6	1,451.4	195.26	8.433	
23,000.0	11,180.0	21,570.2	9,725.0	93.0	117.5	27.92	12,036.1	1,009.2	1,646.6	1,449.8	196.82	8.366	
23,100.0	11,180.0	21,670.2	9,725.0	93.8	118.4	27.92	12,136.1	1,008.8	1,646.6	1,448.3	198.37	8.301	
23,200.0	11,180.0	21,770.2	9,725.0	94.6	119.4	27.92	12,236.1	1,008.4	1,646.6	1,446.7	199.93	8.236	
23,300.0	11,180.0	21,870.2	9,725.0	95.3	120.4	27.92	12,336.0	1,008.0	1,646.6	1,445.2	201.49	8.172	
23,400.0	11,180.0	21,970.2	9,725.0	96.1	121.3	27.92	12,436.0	1,007.6	1,646.6	1,443.6	203.05	8.110	
23,500.0	11,180.0	22,070.2	9,725.0	96.8	122.3	27.92	12,536.0	1,007.2	1,646.6	1,442.0	204.61	8.048	
23,600.0	11,180.0	22,170.2	9,725.0	97.6	123.2	27.92	12,636.0	1,006.8	1,646.6	1,440.5	206.17	7.987	
23,700.0	11,180.0	22,270.2	9,725.0	98.3	124.2	27.92	12,736.0	1,006.4	1,646.6	1,438.9	207.73	7.927	
23,800.0	11,180.0	22,370.2	9,725.0	99.1	125.2	27.92	12,836.0	1,006.0	1,646.6	1,437.4	209.29	7.868	
23,900.0	11,180.0	22,470.2	9,725.0	99.8	126.1	27.92	12,936.0	1,005.6	1,646.6	1,435.8	210.85	7.810	
24,000.0	11,180.0	22,570.2	9,725.0	100.6	127.1	27.92	13,036.0	1,005.2	1,646.6	1,434.2	212.41	7.752	
24,100.0	11,180.0	22,670.2	9,725.0	101.3	128.0	27.92	13,136.0	1,004.8	1,646.6	1,432.7	213.97	7.696	
24,200.0	11,180.0	22,770.2	9,725.0	102.1	129.0	27.92	13,236.0	1,004.4	1,646.7	1,431.1	215.54	7.640	
24,300.0	11,180.0	22,870.2	9,725.0	102.8	130.0	27.92	13,336.0	1,004.0	1,646.7	1,429.6	217.10	7.585	
24,400.0	11,180.0	22,970.2	9,725.0	103.6	130.9	27.92	13,436.0	1,003.6	1,646.7	1,428.0	218.66	7.531	
24,500.0	11,180.0	23,070.2	9,725.0	104.3	131.9	27.92	13,536.0	1,003.2	1,646.7	1,426.4	220.23	7.477	
24,506.9	11,180.0	23,077.0	9,725.0	104.4	132.0	27.92	13,542.9	1,003.2	1,646.7	1,426.3	220.33	7.473	
24,574.2	11,180.0	23,140.7	9,725.0	104.9	132.6	27.92	13,606.6	1,002.9	1,646.7	1,425.3	221.38	7.438 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 #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	81.13	221.6	1,420.0	1,437.2	1,430.8	6.43	223.559	
100.0	100.0	100.0	100.0	3.2	3.2	81.13	221.6	1,420.0	1,437.2	1,430.3	6.89	208.526	
200.0	200.0	200.0	200.0	3.5	3.5	81.13	221.6	1,420.0	1,437.2	1,429.9	7.33	196.125	
300.0	300.0	300.0	300.0	3.7	3.7	81.13	221.6	1,420.0	1,437.2	1,429.5	7.74	185.658	
400.0	400.0	400.0	400.0	3.9	3.9	81.13	221.6	1,420.0	1,437.2	1,429.1	8.14	176.662	
500.0	500.0	500.0	500.0	4.1	4.1	81.13	221.6	1,420.0	1,437.2	1,428.7	8.51	168.818	
600.0	600.0	600.0	600.0	4.2	4.2	81.13	221.6	1,420.0	1,437.2	1,428.4	8.88	161.895	
700.0	700.0	700.0	700.0	4.4	4.4	81.13	221.6	1,420.0	1,437.2	1,428.0	9.23	155.723	
800.0	800.0	800.0	800.0	4.6	4.6	81.13	221.6	1,420.0	1,437.2	1,427.7	9.57	150.174	
900.0	900.0	900.0	900.0	4.8	4.8	81.13	221.6	1,420.0	1,437.2	1,427.3	9.90	145.148	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.13	221.6	1,420.0	1,437.2	1,427.0	10.22	140.566	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.13	221.6	1,420.0	1,437.2	1,426.7	10.54	136.365	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.13	221.6	1,420.0	1,437.2	1,426.4	10.85	132.494	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.13	221.6	1,420.0	1,437.2	1,426.1	11.15	128.912	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.13	221.6	1,420.0	1,437.2	1,425.8	11.44	125.584	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.13	221.6	1,420.0	1,437.2	1,425.5	11.73	122.480	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	81.13	221.6	1,420.0	1,437.2	1,425.2	12.02	119.577	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	81.13	221.6	1,420.0	1,437.2	1,424.9	12.30	116.852	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	81.13	221.6	1,420.0	1,437.2	1,424.7	12.58	114.288	CC, ES
1,900.0	1,900.0	1,873.4	1,873.4	6.3	6.2	81.12	221.9	1,420.7	1,438.2	1,425.3	12.83	112.118	
2,000.0	2,000.0	1,946.8	1,946.8	6.4	6.4	81.10	222.8	1,422.6	1,440.9	1,427.9	13.08	110.195	
2,100.0	2,100.0	2,020.1	2,020.0	6.5	6.5	81.06	224.3	1,425.8	1,445.5	1,432.2	13.32	108.499	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	81.00	226.6	1,430.7	1,452.0	1,438.4	13.59	106.863	
2,300.0	2,300.0	2,166.1	2,165.6	6.8	6.8	80.94	229.0	1,435.9	1,460.3	1,446.5	13.83	105.608	
2,400.0	2,400.0	2,238.8	2,237.8	6.9	6.9	80.86	232.3	1,442.9	1,470.4	1,456.3	14.09	104.391	
2,500.0	2,500.0	2,311.1	2,309.6	7.0	7.1	80.76	236.0	1,451.0	1,482.4	1,468.0	14.34	103.393	
2,600.0	2,600.0	2,389.1	2,386.8	7.2	7.2	-12.31	240.3	1,461.1	1,494.7	1,480.1	14.58	102.501	
2,700.0	2,699.9	2,469.8	2,466.5	7.3	7.4	-12.35	243.6	1,472.7	1,505.8	1,490.9	14.88	101.185	
2,800.0	2,799.7	2,550.5	2,546.2	7.5	7.6	-12.36	245.8	1,485.5	1,515.6	1,500.3	15.20	99.685	
2,900.0	2,899.3	2,641.5	2,635.8	7.7	7.8	-12.36	247.0	1,501.1	1,523.8	1,508.2	15.61	97.647	
3,000.0	2,998.6	2,741.3	2,734.2	7.9	8.1	-12.37	248.2	1,518.4	1,529.7	1,513.6	16.10	95.001	
3,100.0	3,097.6	2,841.2	2,832.5	8.0	8.4	-12.41	249.4	1,535.7	1,533.6	1,517.0	16.54	92.718	
3,200.0	3,196.6	2,941.1	2,931.0	8.2	8.7	-12.46	250.6	1,553.1	1,537.3	1,520.3	17.06	90.119	
3,300.0	3,295.7	3,041.1	3,029.4	8.4	9.0	-12.51	251.8	1,570.4	1,541.1	1,523.5	17.61	87.527	
3,400.0	3,394.7	3,141.0	3,127.8	8.7	9.4	-12.56	253.1	1,587.7	1,544.8	1,526.6	18.18	84.967	
3,500.0	3,493.7	3,240.9	3,226.2	8.9	9.7	-12.61	254.3	1,605.0	1,548.5	1,529.8	18.78	82.459	
3,600.0	3,592.8	3,340.8	3,324.6	9.2	10.0	-12.66	255.5	1,622.3	1,552.3	1,532.9	19.40	80.016	
3,700.0	3,691.8	3,440.7	3,423.0	9.5	10.4	-12.71	256.7	1,639.6	1,556.0	1,536.0	20.04	77.649	
3,800.0	3,790.8	3,540.7	3,521.4	9.8	10.8	-12.76	257.9	1,656.9	1,559.8	1,539.1	20.70	75.363	
3,900.0	3,889.8	3,640.6	3,619.8	10.1	11.1	-12.81	259.1	1,674.2	1,563.5	1,542.2	21.37	73.164	
4,000.0	3,988.9	3,740.5	3,718.2	10.4	11.5	-12.86	260.3	1,691.5	1,567.3	1,545.2	22.06	71.052	
4,100.0	4,087.9	3,840.4	3,816.6	10.7	11.9	-12.90	261.5	1,708.8	1,571.0	1,548.3	22.76	69.028	
4,200.0	4,186.9	3,940.3	3,915.0	11.0	12.3	-12.95	262.7	1,726.1	1,574.8	1,551.3	23.47	67.092	
4,300.0	4,285.9	4,040.3	4,013.4	11.4	12.7	-13.00	263.9	1,743.5	1,578.5	1,554.3	24.20	65.240	
4,400.0	4,385.0	4,140.2	4,111.8	11.7	13.1	-13.05	265.2	1,760.8	1,582.3	1,557.4	24.93	63.471	
4,500.0	4,484.1	4,240.1	4,210.2	12.0	13.5	-13.10	266.4	1,778.1	1,586.5	1,560.9	25.65	61.861	
4,600.0	4,583.4	4,339.9	4,308.5	12.4	13.9	-13.14	267.6	1,795.4	1,592.4	1,566.0	26.39	60.349	
4,700.0	4,682.9	4,439.6	4,406.7	12.7	14.3	-13.17	268.8	1,812.6	1,599.9	1,572.8	27.12	58.989	
4,800.0	4,782.5	4,539.2	4,504.7	13.0	14.7	-13.19	270.0	1,829.9	1,609.2	1,581.4	27.85	57.775	
4,900.0	4,882.3	4,638.6	4,602.6	13.3	15.1	-13.20	271.2	1,847.1	1,620.2	1,591.6	28.57	56.701	
5,000.0	4,982.2	4,737.8	4,700.3	13.6	15.5	-13.21	272.4	1,864.3	1,632.8	1,603.5	29.28	55.764	
5,100.0	5,082.1	4,836.7	4,797.8	13.9	15.9	-13.20	273.6	1,881.4	1,647.1	1,617.2	29.97	54.964	

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 #704H
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 #704H	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		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)			
5,200.0	5,182.1	4,935.4	4,895.0	14.1	16.3	-13.18	274.8	1,898.5	1,663.1	1,632.5	30.61	54.325	
5,300.0	5,282.1	5,033.9	4,992.0	14.2	16.7	79.87	276.0	1,915.6	1,680.3	1,649.2	31.12	53.997	
5,400.0	5,382.1	5,132.4	5,088.9	14.3	17.1	79.94	277.2	1,932.6	1,697.6	1,666.0	31.63	53.667	
5,500.0	5,482.1	5,230.9	5,185.9	14.3	17.6	80.00	278.4	1,949.7	1,714.9	1,682.7	32.15	53.339	
5,600.0	5,582.1	5,329.4	5,282.9	14.4	18.0	80.06	279.6	1,966.8	1,732.2	1,699.5	32.67	53.014	
5,700.0	5,682.1	5,427.8	5,379.9	14.5	18.4	80.12	280.8	1,983.8	1,749.4	1,716.2	33.20	52.692	
5,800.0	5,782.1	5,526.3	5,476.9	14.5	18.8	80.17	281.9	2,000.9	1,766.7	1,733.0	33.73	52.374	
5,900.0	5,882.1	5,624.8	5,573.9	14.6	19.2	80.23	283.1	2,017.9	1,784.0	1,749.7	34.27	52.060	
6,000.0	5,982.1	5,723.3	5,670.8	14.6	19.7	80.29	284.3	2,035.0	1,801.3	1,766.5	34.81	51.750	
6,100.0	6,082.1	5,821.8	5,767.8	14.7	20.1	80.34	285.5	2,052.1	1,818.5	1,783.2	35.35	51.443	
6,200.0	6,182.1	5,920.3	5,864.8	14.8	20.5	80.39	286.7	2,069.1	1,835.8	1,799.9	35.90	51.142	
6,300.0	6,282.1	6,018.7	5,961.8	14.8	21.0	80.45	287.9	2,086.2	1,853.1	1,816.7	36.45	50.844	
6,400.0	6,382.1	6,117.2	6,058.8	14.9	21.4	80.50	289.1	2,103.2	1,870.4	1,833.4	37.00	50.552	
6,500.0	6,482.1	6,215.7	6,155.8	15.0	21.8	80.55	290.3	2,120.3	1,887.7	1,850.1	37.56	50.263	
6,600.0	6,582.1	6,314.2	6,252.8	15.0	22.2	80.60	291.5	2,137.4	1,905.0	1,866.9	38.12	49.980	
6,700.0	6,682.1	6,412.7	6,349.7	15.1	22.7	80.65	292.7	2,154.4	1,922.3	1,883.6	38.68	49.701	
6,800.0	6,782.1	6,511.1	6,446.7	15.2	23.1	80.70	293.9	2,171.5	1,939.6	1,900.3	39.24	49.426	
6,900.0	6,882.1	6,609.6	6,543.7	15.2	23.5	80.74	295.1	2,188.5	1,956.9	1,917.0	39.81	49.157	
7,000.0	6,982.1	6,713.8	6,646.3	15.3	24.0	80.79	296.3	2,206.5	1,974.1	1,933.7	40.42	48.841	
7,100.0	7,082.1	6,864.4	6,795.0	15.4	24.7	80.85	298.0	2,230.3	1,989.9	1,948.5	41.33	48.141 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 #704H
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 #704H	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	Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	81.31	221.6	1,450.0	1,466.9	1,460.5	6.43	228.171	
100.0	100.0	100.0	100.0	3.2	3.2	81.31	221.6	1,450.0	1,466.9	1,460.0	6.89	212.828	
200.0	200.0	200.0	200.0	3.5	3.5	81.31	221.6	1,450.0	1,466.9	1,459.6	7.33	200.171	
300.0	300.0	300.0	300.0	3.7	3.7	81.31	221.6	1,450.0	1,466.9	1,459.1	7.74	189.488	
400.0	400.0	400.0	400.0	3.9	3.9	81.31	221.6	1,450.0	1,466.9	1,458.8	8.14	180.306	
500.0	500.0	500.0	500.0	4.1	4.1	81.31	221.6	1,450.0	1,466.9	1,458.4	8.51	172.300	
600.0	600.0	600.0	600.0	4.2	4.2	81.31	221.6	1,450.0	1,466.9	1,458.0	8.88	165.234	
700.0	700.0	700.0	700.0	4.4	4.4	81.31	221.6	1,450.0	1,466.9	1,457.7	9.23	158.935	
800.0	800.0	800.0	800.0	4.6	4.6	81.31	221.6	1,450.0	1,466.9	1,457.3	9.57	153.272	
900.0	900.0	900.0	900.0	4.8	4.8	81.31	221.6	1,450.0	1,466.9	1,457.0	9.90	148.142	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.31	221.6	1,450.0	1,466.9	1,456.7	10.22	143.465	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.31	221.6	1,450.0	1,466.9	1,456.3	10.54	139.178	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.31	221.6	1,450.0	1,466.9	1,456.0	10.85	135.227	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.31	221.6	1,450.0	1,466.9	1,455.7	11.15	131.572	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.31	221.6	1,450.0	1,466.9	1,455.4	11.44	128.175	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.31	221.6	1,450.0	1,466.9	1,455.2	11.73	125.007	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	81.31	221.6	1,450.0	1,466.9	1,454.9	12.02	122.043	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	81.31	221.6	1,450.0	1,466.9	1,454.6	12.30	119.262	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	81.31	221.6	1,450.0	1,466.9	1,454.3	12.58	116.646	CC, ES
1,900.0	1,900.0	1,872.4	1,872.4	6.3	6.2	81.31	221.6	1,450.7	1,467.8	1,455.0	12.83	114.450	
2,000.0	2,000.0	1,944.7	1,944.7	6.4	6.4	81.32	221.7	1,452.8	1,470.7	1,457.6	13.07	112.526	
2,100.0	2,100.0	2,016.9	2,016.8	6.5	6.5	81.34	221.8	1,456.2	1,475.4	1,462.0	13.31	110.837	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	81.36	222.0	1,461.8	1,482.0	1,468.4	13.58	109.125	
2,300.0	2,300.0	2,160.9	2,160.3	6.8	6.7	81.39	222.2	1,467.1	1,490.4	1,476.6	13.81	107.940	
2,400.0	2,400.0	2,232.5	2,231.6	6.9	6.9	81.42	222.5	1,474.5	1,500.7	1,486.6	14.06	106.719	
2,500.0	2,500.0	2,300.0	2,298.6	7.0	7.0	81.46	222.8	1,482.7	1,512.8	1,498.5	14.31	105.727	
2,600.0	2,600.0	2,374.9	2,372.7	7.2	7.2	-11.47	223.1	1,493.2	1,525.5	1,510.9	14.60	104.456	
2,700.0	2,699.9	2,445.9	2,442.8	7.3	7.4	-11.40	223.5	1,504.5	1,537.5	1,522.6	14.89	103.250	
2,800.0	2,799.7	2,516.8	2,512.6	7.5	7.6	-11.35	224.0	1,517.1	1,548.8	1,533.6	15.20	101.895	
2,900.0	2,899.3	2,600.0	2,594.2	7.7	7.8	-11.31	224.5	1,533.5	1,559.4	1,543.9	15.59	100.035	
3,000.0	2,998.6	2,658.3	2,651.1	7.9	8.0	-11.28	225.0	1,546.0	1,569.2	1,553.3	15.90	98.679	
3,100.0	3,097.6	2,728.9	2,719.8	8.0	8.2	-11.27	225.5	1,562.4	1,578.9	1,562.7	16.23	97.312	
3,200.0	3,196.6	2,800.0	2,788.6	8.2	8.5	-11.27	226.2	1,580.1	1,590.3	1,573.7	16.63	95.653	
3,300.0	3,295.7	2,898.2	2,883.4	8.4	8.8	-11.27	227.0	1,605.5	1,602.6	1,585.4	17.17	93.309	
3,400.0	3,394.7	2,997.4	2,979.3	8.7	9.1	-11.26	227.9	1,631.2	1,614.9	1,597.1	17.76	90.921	
3,500.0	3,493.7	3,096.7	3,075.2	8.9	9.4	-11.26	228.8	1,656.9	1,627.2	1,608.8	18.38	88.546	
3,600.0	3,592.8	3,195.9	3,171.0	9.2	9.8	-11.25	229.7	1,682.5	1,639.5	1,620.4	19.02	86.207	
3,700.0	3,691.8	3,295.1	3,266.9	9.5	10.2	-11.25	230.6	1,708.2	1,651.8	1,632.1	19.68	83.921	
3,800.0	3,790.8	3,394.4	3,362.7	9.8	10.6	-11.24	231.5	1,733.9	1,664.1	1,643.7	20.37	81.700	
3,900.0	3,889.8	3,493.6	3,458.6	10.1	10.9	-11.24	232.4	1,759.5	1,676.4	1,655.3	21.07	79.553	
4,000.0	3,988.9	3,592.9	3,554.5	10.4	11.3	-11.23	233.3	1,785.2	1,688.7	1,666.9	21.79	77.483	
4,100.0	4,087.9	3,692.1	3,650.3	10.7	11.7	-11.23	234.2	1,810.9	1,701.0	1,678.4	22.53	75.495	
4,200.0	4,186.9	3,791.3	3,746.2	11.0	12.2	-11.22	235.1	1,836.5	1,713.3	1,690.0	23.28	73.589	
4,300.0	4,285.9	3,890.6	3,842.0	11.4	12.6	-11.22	236.0	1,862.2	1,725.5	1,701.5	24.04	71.764	
4,400.0	4,385.0	3,989.8	3,937.9	11.7	13.0	-11.21	236.9	1,887.9	1,737.8	1,713.0	24.82	70.020	
4,500.0	4,484.1	4,089.0	4,033.7	12.0	13.4	-11.22	237.8	1,913.5	1,750.6	1,725.0	25.58	68.439	
4,600.0	4,583.4	4,188.0	4,129.3	12.4	13.9	-11.23	238.7	1,939.1	1,765.0	1,738.7	26.36	66.953	
4,700.0	4,682.9	4,286.6	4,224.6	12.7	14.3	-11.24	239.6	1,964.7	1,781.1	1,754.0	27.14	65.624	
4,800.0	4,782.5	4,385.0	4,319.6	13.0	14.7	-11.23	240.5	1,990.1	1,798.9	1,771.0	27.91	64.445	
4,900.0	4,882.3	4,483.1	4,414.4	13.3	15.2	-11.22	241.4	2,015.5	1,818.4	1,789.7	28.68	63.409	
5,000.0	4,982.2	4,580.8	4,508.8	13.6	15.6	-11.21	242.2	2,040.8	1,839.6	1,810.1	29.43	62.513	
5,100.0	5,082.1	4,678.2	4,602.8	13.9	16.0	-11.18	243.1	2,065.9	1,862.4	1,832.2	30.16	61.760	

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 #704H
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 #704H	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

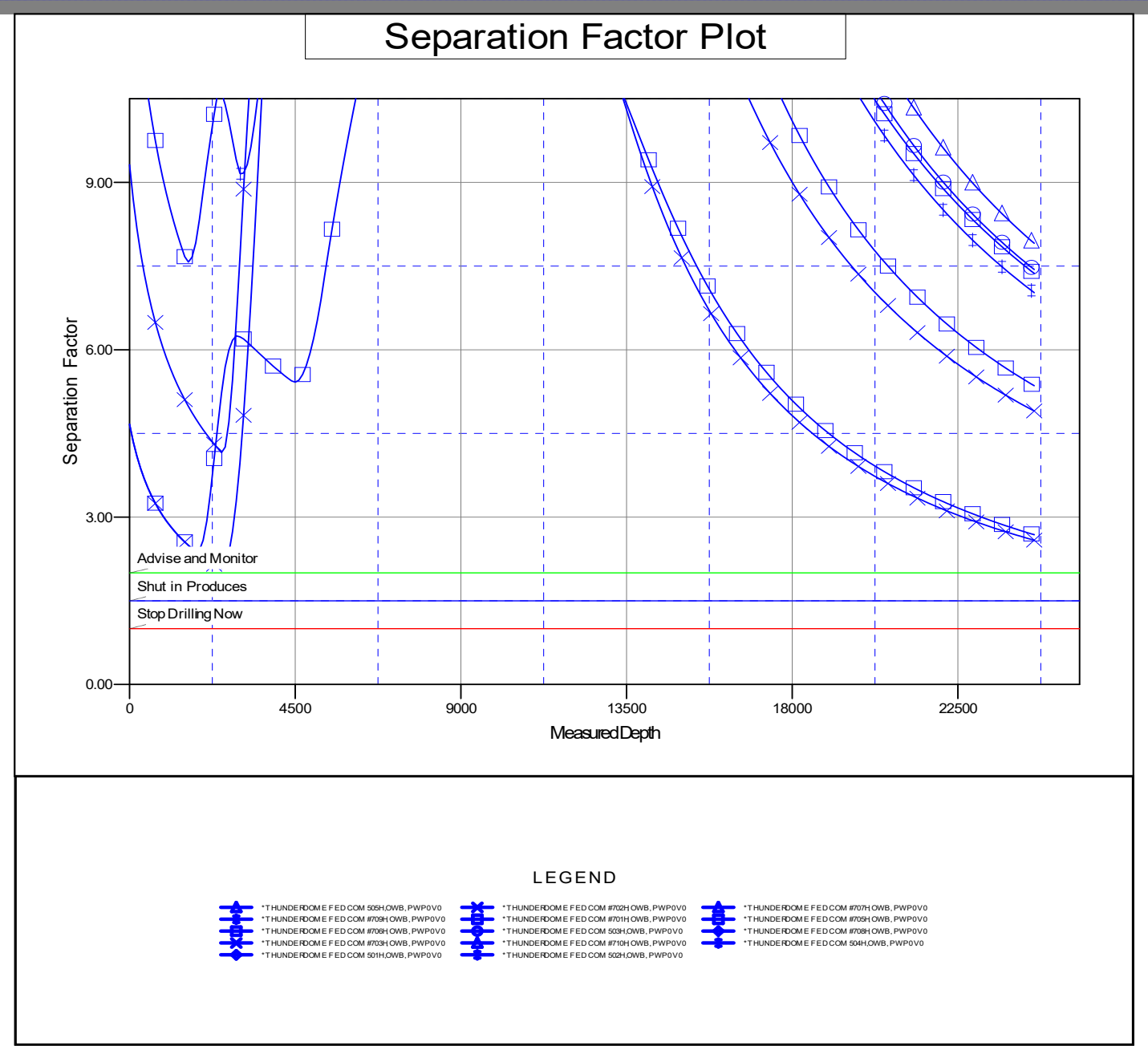
Offset Design:		THUNDERDOME PROJECT - *THUNDERDOME FED COM 505H - OWB - PWP0											Offset Site Error:		0.0 usft		
Survey Program:		0-r.5 MWD+IFR1+MS						Rule Assigned:						Offset Well Error:		3.0 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance						Warning			
Measured 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					
5,200.0	5,182.1	4,775.1	4,696.4	14.1	16.5	-11.15	244.0	2,091.0	1,886.9	1,856.0	30.84	61.173					
5,300.0	5,282.1	4,871.7	4,789.7	14.2	16.9	81.92	244.9	2,116.0	1,912.6	1,881.2	31.40	60.919					
5,400.0	5,382.1	4,968.3	4,883.0	14.3	17.4	82.00	245.7	2,141.0	1,938.3	1,906.4	31.95	60.659					
5,500.0	5,482.1	5,064.9	4,976.3	14.3	17.8	82.08	246.6	2,166.0	1,964.1	1,931.5	32.52	60.397					
5,600.0	5,582.1	5,161.5	5,069.6	14.4	18.3	82.15	247.5	2,190.9	1,989.8	1,956.7	33.09	60.135 SF					

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #704H
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 #704H	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 #704H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°



DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)

THUNDERDOME PROJECT

THUNDERDOME FED COM #704H

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 #704H
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 #704H	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 #704H					
Well Position	+N/-S	0.0 usft	Northing:	469,243.05 usft	Latitude:	32° 17' 20.971 N
	+E/-W	0.0 usft	Easting:	647,907.37 usft	Longitude:	103° 51' 16.916 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	47,539.13445335

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	0.98	

Plan Survey Tool Program	Date	10/5/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	24,574.0 PWP0 (OWB)	r.5 MWD+IFR1+MS		
			OWSG MWD + IFR1 + Multi-Sl		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,033.3	8.00	93.00	3,031.6	-1.9	37.1	1.50	1.50	0.00	93.00	
4,425.3	8.00	93.00	4,410.0	-12.1	230.6	0.00	0.00	0.00	0.00	
5,225.3	0.00	0.00	5,207.4	-15.0	286.3	1.00	-1.00	0.00	180.00	
10,624.9	0.00	0.00	10,607.0	-15.0	286.3	0.00	0.00	0.00	0.00	
11,524.9	90.00	359.78	11,180.0	557.9	284.0	10.00	10.00	-0.02	359.78	
24,574.3	90.00	359.78	11,180.0	13,607.3	232.9	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 #704H
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 #704H	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	1.50	93.00	2,600.0	-0.1	1.3	0.0	1.50	1.50	0.00
2,700.0	3.00	93.00	2,699.9	-0.3	5.2	-0.2	1.50	1.50	0.00
2,800.0	4.50	93.00	2,799.7	-0.6	11.8	-0.4	1.50	1.50	0.00
2,900.0	6.00	93.00	2,899.3	-1.1	20.9	-0.7	1.50	1.50	0.00
3,000.0	7.50	93.00	2,998.6	-1.7	32.6	-1.2	1.50	1.50	0.00
3,033.3	8.00	93.00	3,031.6	-1.9	37.1	-1.3	1.50	1.50	0.00
3,100.0	8.00	93.00	3,097.6	-2.4	46.4	-1.6	0.00	0.00	0.00
3,200.0	8.00	93.00	3,196.6	-3.2	60.3	-2.1	0.00	0.00	0.00
3,300.0	8.00	93.00	3,295.7	-3.9	74.2	-2.6	0.00	0.00	0.00
3,400.0	8.00	93.00	3,394.7	-4.6	88.1	-3.1	0.00	0.00	0.00
3,500.0	8.00	93.00	3,493.7	-5.3	102.0	-3.6	0.00	0.00	0.00
3,600.0	8.00	93.00	3,592.8	-6.1	115.9	-4.1	0.00	0.00	0.00
3,700.0	8.00	93.00	3,691.8	-6.8	129.8	-4.6	0.00	0.00	0.00
3,800.0	8.00	93.00	3,790.8	-7.5	143.7	-5.1	0.00	0.00	0.00
3,900.0	8.00	93.00	3,889.8	-8.3	157.6	-5.6	0.00	0.00	0.00
4,000.0	8.00	93.00	3,988.9	-9.0	171.5	-6.1	0.00	0.00	0.00
4,100.0	8.00	93.00	4,087.9	-9.7	185.4	-6.5	0.00	0.00	0.00
4,200.0	8.00	93.00	4,186.9	-10.4	199.3	-7.0	0.00	0.00	0.00
4,300.0	8.00	93.00	4,285.9	-11.2	213.2	-7.5	0.00	0.00	0.00
4,400.0	8.00	93.00	4,385.0	-11.9	227.1	-8.0	0.00	0.00	0.00
4,425.3	8.00	93.00	4,410.0	-12.1	230.6	-8.1	0.00	0.00	0.00
4,500.0	7.25	93.00	4,484.1	-12.6	240.5	-8.5	1.00	-1.00	0.00
4,600.0	6.25	93.00	4,583.4	-13.2	252.2	-8.9	1.00	-1.00	0.00
4,700.0	5.25	93.00	4,682.9	-13.7	262.2	-9.3	1.00	-1.00	0.00
4,800.0	4.25	93.00	4,782.5	-14.2	270.5	-9.5	1.00	-1.00	0.00
4,900.0	3.25	93.00	4,882.3	-14.5	277.0	-9.8	1.00	-1.00	0.00
5,000.0	2.25	93.00	4,982.2	-14.8	281.8	-9.9	1.00	-1.00	0.00
5,100.0	1.25	93.00	5,082.1	-14.9	284.9	-10.1	1.00	-1.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.0	0.25	93.00	5,182.1	-15.0	286.2	-10.1	1.00	-1.00	0.00
5,225.3	0.00	0.00	5,207.4	-15.0	286.3	-10.1	1.00	-1.00	0.00
5,300.0	0.00	0.00	5,282.1	-15.0	286.3	-10.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,382.1	-15.0	286.3	-10.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,482.1	-15.0	286.3	-10.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,582.1	-15.0	286.3	-10.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,682.1	-15.0	286.3	-10.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,782.1	-15.0	286.3	-10.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,882.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,982.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,100.0	0.00	0.00	6,082.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,182.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,282.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,382.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,500.0	0.00	0.00	6,482.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,582.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,700.0	0.00	0.00	6,682.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,782.1	-15.0	286.3	-10.1	0.00	0.00	0.00
6,900.0	0.00	0.00	6,882.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,982.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,100.0	0.00	0.00	7,082.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,182.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,300.0	0.00	0.00	7,282.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,382.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,500.0	0.00	0.00	7,482.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,582.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,700.0	0.00	0.00	7,682.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,800.0	0.00	0.00	7,782.1	-15.0	286.3	-10.1	0.00	0.00	0.00
7,900.0	0.00	0.00	7,882.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,000.0	0.00	0.00	7,982.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,100.0	0.00	0.00	8,082.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,200.0	0.00	0.00	8,182.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,300.0	0.00	0.00	8,282.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,400.0	0.00	0.00	8,382.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,500.0	0.00	0.00	8,482.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,600.0	0.00	0.00	8,582.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,700.0	0.00	0.00	8,682.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,800.0	0.00	0.00	8,782.1	-15.0	286.3	-10.1	0.00	0.00	0.00
8,900.0	0.00	0.00	8,882.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,000.0	0.00	0.00	8,982.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,100.0	0.00	0.00	9,082.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,200.0	0.00	0.00	9,182.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,300.0	0.00	0.00	9,282.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,400.0	0.00	0.00	9,382.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,500.0	0.00	0.00	9,482.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,600.0	0.00	0.00	9,582.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,700.0	0.00	0.00	9,682.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,800.0	0.00	0.00	9,782.1	-15.0	286.3	-10.1	0.00	0.00	0.00
9,900.0	0.00	0.00	9,882.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,000.0	0.00	0.00	9,982.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,100.0	0.00	0.00	10,082.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,200.0	0.00	0.00	10,182.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,300.0	0.00	0.00	10,282.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,400.0	0.00	0.00	10,382.1	-15.0	286.3	-10.1	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,500.0	0.00	0.00	10,482.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,600.0	0.00	0.00	10,582.1	-15.0	286.3	-10.1	0.00	0.00	0.00
10,624.9	0.00	0.00	10,607.0	-15.0	286.3	-10.1	0.00	0.00	0.00
10,700.0	7.51	359.78	10,681.9	-10.1	286.2	-5.2	10.00	10.00	0.00
10,800.0	17.51	359.78	10,779.4	11.6	286.2	16.4	10.00	10.00	0.00
10,900.0	27.51	359.78	10,871.7	49.8	286.0	54.7	10.00	10.00	0.00
11,000.0	37.51	359.78	10,955.9	103.5	285.8	108.3	10.00	10.00	0.00
11,100.0	47.51	359.78	11,029.5	171.0	285.5	175.8	10.00	10.00	0.00
11,200.0	57.51	359.78	11,090.3	250.2	285.2	255.1	10.00	10.00	0.00
11,300.0	67.51	359.78	11,136.4	338.8	284.9	343.6	10.00	10.00	0.00
11,400.0	77.51	359.78	11,166.4	434.1	284.5	438.9	10.00	10.00	0.00
11,500.0	87.51	359.78	11,179.4	533.1	284.1	537.9	10.00	10.00	0.00
11,506.0	88.11	359.78	11,179.6	539.0	284.1	543.8	10.00	10.00	0.00
FTP (THUNDERDOME FED COM #704H)									
11,524.9	90.00	359.78	11,180.0	557.9	284.0	562.7	10.00	10.00	0.00
11,600.0	90.00	359.78	11,180.0	633.1	283.7	637.8	0.00	0.00	0.00
11,700.0	90.00	359.78	11,180.0	733.1	283.3	737.8	0.00	0.00	0.00
11,800.0	90.00	359.78	11,180.0	833.1	282.9	837.8	0.00	0.00	0.00
11,900.0	90.00	359.78	11,180.0	933.1	282.5	937.8	0.00	0.00	0.00
12,000.0	90.00	359.78	11,180.0	1,033.1	282.2	1,037.7	0.00	0.00	0.00
12,100.0	90.00	359.78	11,180.0	1,133.1	281.8	1,137.7	0.00	0.00	0.00
12,200.0	90.00	359.78	11,180.0	1,233.1	281.4	1,237.7	0.00	0.00	0.00
12,300.0	90.00	359.78	11,180.0	1,333.1	281.0	1,337.7	0.00	0.00	0.00
12,400.0	90.00	359.78	11,180.0	1,433.1	280.6	1,437.7	0.00	0.00	0.00
12,500.0	90.00	359.78	11,180.0	1,533.1	280.2	1,537.6	0.00	0.00	0.00
12,600.0	90.00	359.78	11,180.0	1,633.1	279.8	1,637.6	0.00	0.00	0.00
12,700.0	90.00	359.78	11,180.0	1,733.1	279.4	1,737.6	0.00	0.00	0.00
12,800.0	90.00	359.78	11,180.0	1,833.1	279.0	1,837.6	0.00	0.00	0.00
12,900.0	90.00	359.78	11,180.0	1,933.1	278.6	1,937.6	0.00	0.00	0.00
13,000.0	90.00	359.78	11,180.0	2,033.1	278.2	2,037.5	0.00	0.00	0.00
13,100.0	90.00	359.78	11,180.0	2,133.1	277.8	2,137.5	0.00	0.00	0.00
13,200.0	90.00	359.78	11,180.0	2,233.1	277.5	2,237.5	0.00	0.00	0.00
13,300.0	90.00	359.78	11,180.0	2,333.1	277.1	2,337.5	0.00	0.00	0.00
13,400.0	90.00	359.78	11,180.0	2,433.1	276.7	2,437.4	0.00	0.00	0.00
13,500.0	90.00	359.78	11,180.0	2,533.1	276.3	2,537.4	0.00	0.00	0.00
13,600.0	90.00	359.78	11,180.0	2,633.1	275.9	2,637.4	0.00	0.00	0.00
13,700.0	90.00	359.78	11,180.0	2,733.1	275.5	2,737.4	0.00	0.00	0.00
13,800.0	90.00	359.78	11,180.0	2,833.1	275.1	2,837.4	0.00	0.00	0.00
13,900.0	90.00	359.78	11,180.0	2,933.1	274.7	2,937.3	0.00	0.00	0.00
14,000.0	90.00	359.78	11,180.0	3,033.1	274.3	3,037.3	0.00	0.00	0.00
14,100.0	90.00	359.78	11,180.0	3,133.1	273.9	3,137.3	0.00	0.00	0.00
14,200.0	90.00	359.78	11,180.0	3,233.1	273.5	3,237.3	0.00	0.00	0.00
14,300.0	90.00	359.78	11,180.0	3,333.1	273.1	3,337.2	0.00	0.00	0.00
14,400.0	90.00	359.78	11,180.0	3,433.1	272.7	3,437.2	0.00	0.00	0.00
14,500.0	90.00	359.78	11,180.0	3,533.1	272.4	3,537.2	0.00	0.00	0.00
14,600.0	90.00	359.78	11,180.0	3,633.1	272.0	3,637.2	0.00	0.00	0.00
14,700.0	90.00	359.78	11,180.0	3,733.1	271.6	3,737.2	0.00	0.00	0.00
14,800.0	90.00	359.78	11,180.0	3,833.1	271.2	3,837.1	0.00	0.00	0.00
14,900.0	90.00	359.78	11,180.0	3,933.1	270.8	3,937.1	0.00	0.00	0.00
15,000.0	90.00	359.78	11,180.0	4,033.0	270.4	4,037.1	0.00	0.00	0.00
15,100.0	90.00	359.78	11,180.0	4,133.0	270.0	4,137.1	0.00	0.00	0.00
15,200.0	90.00	359.78	11,180.0	4,233.0	269.6	4,237.0	0.00	0.00	0.00
15,300.0	90.00	359.78	11,180.0	4,333.0	269.2	4,337.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,400.0	90.00	359.78	11,180.0	4,433.0	268.8	4,437.0	0.00	0.00	0.00
15,500.0	90.00	359.78	11,180.0	4,533.0	268.4	4,537.0	0.00	0.00	0.00
15,600.0	90.00	359.78	11,180.0	4,633.0	268.0	4,637.0	0.00	0.00	0.00
15,700.0	90.00	359.78	11,180.0	4,733.0	267.7	4,736.9	0.00	0.00	0.00
15,800.0	90.00	359.78	11,180.0	4,833.0	267.3	4,836.9	0.00	0.00	0.00
15,900.0	90.00	359.78	11,180.0	4,933.0	266.9	4,936.9	0.00	0.00	0.00
16,000.0	90.00	359.78	11,180.0	5,033.0	266.5	5,036.9	0.00	0.00	0.00
16,100.0	90.00	359.78	11,180.0	5,133.0	266.1	5,136.8	0.00	0.00	0.00
16,200.0	90.00	359.78	11,180.0	5,233.0	265.7	5,236.8	0.00	0.00	0.00
16,300.0	90.00	359.78	11,180.0	5,333.0	265.3	5,336.8	0.00	0.00	0.00
16,400.0	90.00	359.78	11,180.0	5,433.0	264.9	5,436.8	0.00	0.00	0.00
16,500.0	90.00	359.78	11,180.0	5,533.0	264.5	5,536.8	0.00	0.00	0.00
16,600.0	90.00	359.78	11,180.0	5,633.0	264.1	5,636.7	0.00	0.00	0.00
16,700.0	90.00	359.78	11,180.0	5,733.0	263.7	5,736.7	0.00	0.00	0.00
16,800.0	90.00	359.78	11,180.0	5,833.0	263.3	5,836.7	0.00	0.00	0.00
16,900.0	90.00	359.78	11,180.0	5,933.0	263.0	5,936.7	0.00	0.00	0.00
17,000.0	90.00	359.78	11,180.0	6,033.0	262.6	6,036.6	0.00	0.00	0.00
17,100.0	90.00	359.78	11,180.0	6,133.0	262.2	6,136.6	0.00	0.00	0.00
17,200.0	90.00	359.78	11,180.0	6,233.0	261.8	6,236.6	0.00	0.00	0.00
17,300.0	90.00	359.78	11,180.0	6,333.0	261.4	6,336.6	0.00	0.00	0.00
17,400.0	90.00	359.78	11,180.0	6,433.0	261.0	6,436.6	0.00	0.00	0.00
17,500.0	90.00	359.78	11,180.0	6,533.0	260.6	6,536.5	0.00	0.00	0.00
17,600.0	90.00	359.78	11,180.0	6,633.0	260.2	6,636.5	0.00	0.00	0.00
17,700.0	90.00	359.78	11,180.0	6,733.0	259.8	6,736.5	0.00	0.00	0.00
17,800.0	90.00	359.78	11,180.0	6,833.0	259.4	6,836.5	0.00	0.00	0.00
17,900.0	90.00	359.78	11,180.0	6,933.0	259.0	6,936.4	0.00	0.00	0.00
18,000.0	90.00	359.78	11,180.0	7,033.0	258.6	7,036.4	0.00	0.00	0.00
18,100.0	90.00	359.78	11,180.0	7,133.0	258.3	7,136.4	0.00	0.00	0.00
18,200.0	90.00	359.78	11,180.0	7,233.0	257.9	7,236.4	0.00	0.00	0.00
18,300.0	90.00	359.78	11,180.0	7,333.0	257.5	7,336.4	0.00	0.00	0.00
18,400.0	90.00	359.78	11,180.0	7,433.0	257.1	7,436.3	0.00	0.00	0.00
18,500.0	90.00	359.78	11,180.0	7,533.0	256.7	7,536.3	0.00	0.00	0.00
18,600.0	90.00	359.78	11,180.0	7,633.0	256.3	7,636.3	0.00	0.00	0.00
18,700.0	90.00	359.78	11,180.0	7,733.0	255.9	7,736.3	0.00	0.00	0.00
18,800.0	90.00	359.78	11,180.0	7,833.0	255.5	7,836.2	0.00	0.00	0.00
18,900.0	90.00	359.78	11,180.0	7,933.0	255.1	7,936.2	0.00	0.00	0.00
19,000.0	90.00	359.78	11,180.0	8,033.0	254.7	8,036.2	0.00	0.00	0.00
19,100.0	90.00	359.78	11,180.0	8,133.0	254.3	8,136.2	0.00	0.00	0.00
19,200.0	90.00	359.78	11,180.0	8,233.0	253.9	8,236.2	0.00	0.00	0.00
19,300.0	90.00	359.78	11,180.0	8,333.0	253.5	8,336.1	0.00	0.00	0.00
19,400.0	90.00	359.78	11,180.0	8,433.0	253.2	8,436.1	0.00	0.00	0.00
19,500.0	90.00	359.78	11,180.0	8,533.0	252.8	8,536.1	0.00	0.00	0.00
19,600.0	90.00	359.78	11,180.0	8,633.0	252.4	8,636.1	0.00	0.00	0.00
19,700.0	90.00	359.78	11,180.0	8,733.0	252.0	8,736.0	0.00	0.00	0.00
19,800.0	90.00	359.78	11,180.0	8,833.0	251.6	8,836.0	0.00	0.00	0.00
19,900.0	90.00	359.78	11,180.0	8,933.0	251.2	8,936.0	0.00	0.00	0.00
20,000.0	90.00	359.78	11,180.0	9,033.0	250.8	9,036.0	0.00	0.00	0.00
20,100.0	90.00	359.78	11,180.0	9,133.0	250.4	9,136.0	0.00	0.00	0.00
20,200.0	90.00	359.78	11,180.0	9,233.0	250.0	9,235.9	0.00	0.00	0.00
20,300.0	90.00	359.78	11,180.0	9,333.0	249.6	9,335.9	0.00	0.00	0.00
20,400.0	90.00	359.78	11,180.0	9,433.0	249.2	9,435.9	0.00	0.00	0.00
20,500.0	90.00	359.78	11,180.0	9,533.0	248.8	9,535.9	0.00	0.00	0.00
20,600.0	90.00	359.78	11,180.0	9,633.0	248.5	9,635.8	0.00	0.00	0.00
20,700.0	90.00	359.78	11,180.0	9,733.0	248.1	9,735.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #704H
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 #704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
20,800.0	90.00	359.78	11,180.0	9,833.0	247.7	9,835.8	0.00	0.00	0.00	
20,900.0	90.00	359.78	11,180.0	9,933.0	247.3	9,935.8	0.00	0.00	0.00	
21,000.0	90.00	359.78	11,180.0	10,033.0	246.9	10,035.8	0.00	0.00	0.00	
21,100.0	90.00	359.78	11,180.0	10,133.0	246.5	10,135.7	0.00	0.00	0.00	
21,200.0	90.00	359.78	11,180.0	10,233.0	246.1	10,235.7	0.00	0.00	0.00	
21,300.0	90.00	359.78	11,180.0	10,333.0	245.7	10,335.7	0.00	0.00	0.00	
21,400.0	90.00	359.78	11,180.0	10,433.0	245.3	10,435.7	0.00	0.00	0.00	
21,500.0	90.00	359.78	11,180.0	10,533.0	244.9	10,535.6	0.00	0.00	0.00	
21,600.0	90.00	359.78	11,180.0	10,633.0	244.5	10,635.6	0.00	0.00	0.00	
21,700.0	90.00	359.78	11,180.0	10,733.0	244.1	10,735.6	0.00	0.00	0.00	
21,800.0	90.00	359.78	11,180.0	10,833.0	243.8	10,835.6	0.00	0.00	0.00	
21,900.0	90.00	359.78	11,180.0	10,933.0	243.4	10,935.6	0.00	0.00	0.00	
22,000.0	90.00	359.78	11,180.0	11,033.0	243.0	11,035.5	0.00	0.00	0.00	
22,100.0	90.00	359.78	11,180.0	11,133.0	242.6	11,135.5	0.00	0.00	0.00	
22,200.0	90.00	359.78	11,180.0	11,233.0	242.2	11,235.5	0.00	0.00	0.00	
22,300.0	90.00	359.78	11,180.0	11,333.0	241.8	11,335.5	0.00	0.00	0.00	
22,400.0	90.00	359.78	11,180.0	11,433.0	241.4	11,435.4	0.00	0.00	0.00	
22,500.0	90.00	359.78	11,180.0	11,533.0	241.0	11,535.4	0.00	0.00	0.00	
22,600.0	90.00	359.78	11,180.0	11,633.0	240.6	11,635.4	0.00	0.00	0.00	
22,700.0	90.00	359.78	11,180.0	11,733.0	240.2	11,735.4	0.00	0.00	0.00	
22,800.0	90.00	359.78	11,180.0	11,833.0	239.8	11,835.4	0.00	0.00	0.00	
22,900.0	90.00	359.78	11,180.0	11,933.0	239.4	11,935.3	0.00	0.00	0.00	
23,000.0	90.00	359.78	11,180.0	12,033.0	239.0	12,035.3	0.00	0.00	0.00	
23,100.0	90.00	359.78	11,180.0	12,133.0	238.7	12,135.3	0.00	0.00	0.00	
23,200.0	90.00	359.78	11,180.0	12,233.0	238.3	12,235.3	0.00	0.00	0.00	
23,300.0	90.00	359.78	11,180.0	12,333.0	237.9	12,335.3	0.00	0.00	0.00	
23,400.0	90.00	359.78	11,180.0	12,433.0	237.5	12,435.2	0.00	0.00	0.00	
23,500.0	90.00	359.78	11,180.0	12,533.0	237.1	12,535.2	0.00	0.00	0.00	
23,600.0	90.00	359.78	11,180.0	12,633.0	236.7	12,635.2	0.00	0.00	0.00	
23,700.0	90.00	359.78	11,180.0	12,733.0	236.3	12,735.2	0.00	0.00	0.00	
23,800.0	90.00	359.78	11,180.0	12,833.0	235.9	12,835.1	0.00	0.00	0.00	
23,900.0	90.00	359.78	11,180.0	12,933.0	235.5	12,935.1	0.00	0.00	0.00	
24,000.0	90.00	359.78	11,180.0	13,033.0	235.1	13,035.1	0.00	0.00	0.00	
24,100.0	90.00	359.78	11,180.0	13,133.0	234.7	13,135.1	0.00	0.00	0.00	
24,200.0	90.00	359.78	11,180.0	13,233.0	234.3	13,235.1	0.00	0.00	0.00	
24,300.0	90.00	359.78	11,180.0	13,333.0	234.0	13,335.0	0.00	0.00	0.00	
24,400.0	90.00	359.78	11,180.0	13,433.0	233.6	13,435.0	0.00	0.00	0.00	
24,500.0	90.00	359.78	11,180.0	13,533.0	233.2	13,535.0	0.00	0.00	0.00	
LTP (THUNDERDOME FED COM #704H)										
24,574.3	90.00	359.78	11,180.0	13,607.3	232.9	13,609.3	0.00	0.00	0.00	
PBHL (THUNDERDOME FED COM #704H)										

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well THUNDERDOME FED COM #704H
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 #704H	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	179.77	11,180.0	13,607.3	232.9	482,850.31	648,140.25	32° 19' 35.617 N	103° 51' 13.494 W
FTP (THUNDERDOME I - plan misses target center by 2.4usft at 11506.0usft MD (11179.6 TVD, 539.0 N, 284.1 E) - Circle (radius 50.0)	0.00	0.00	11,180.0	539.0	281.7	469,782.08	648,189.06	32° 17' 26.293 N	103° 51' 13.606 W
LTP (THUNDERDOME I - plan misses target center by 24.3usft at 24500.0usft MD (11180.0 TVD, 13533.0 N, 233.2 E) - Circle (radius 50.0)	90.00	359.77	11,180.0	13,557.3	233.5	482,800.31	648,140.86	32° 19' 35.122 N	103° 51' 13.489 W

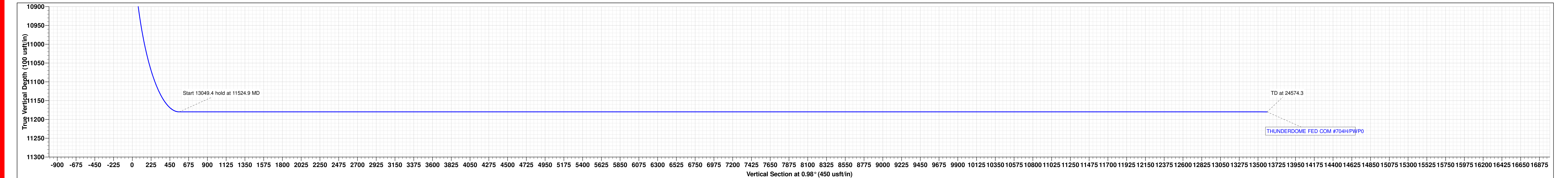
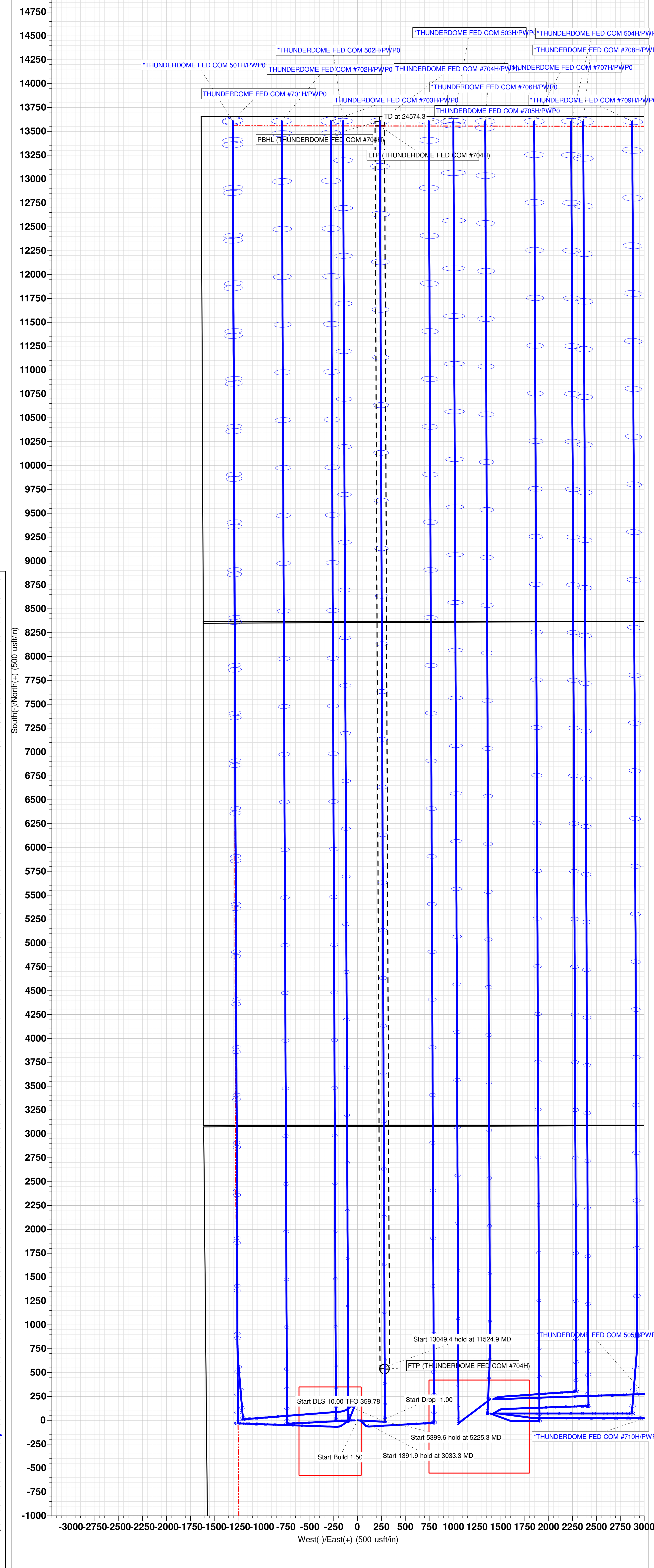
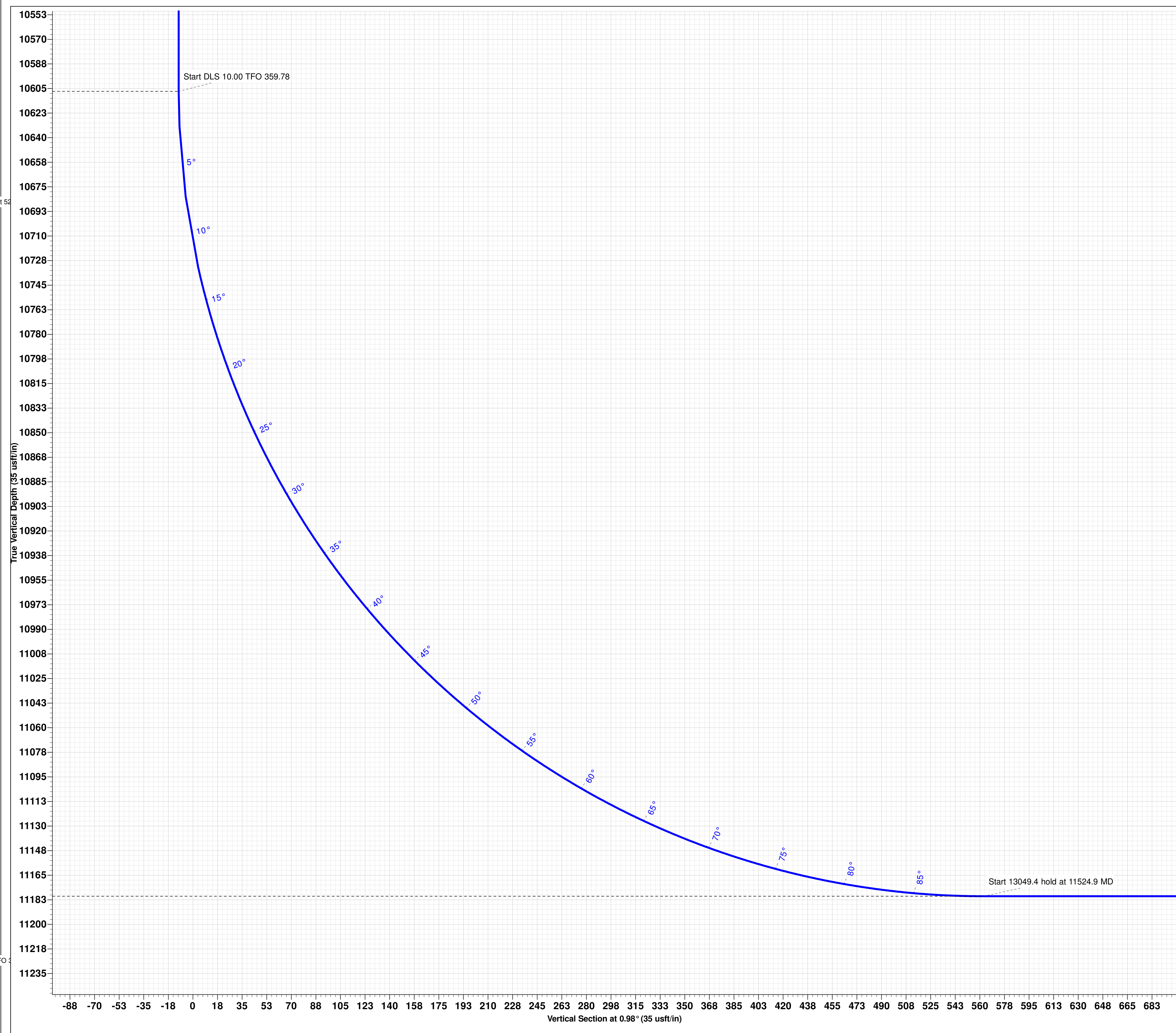
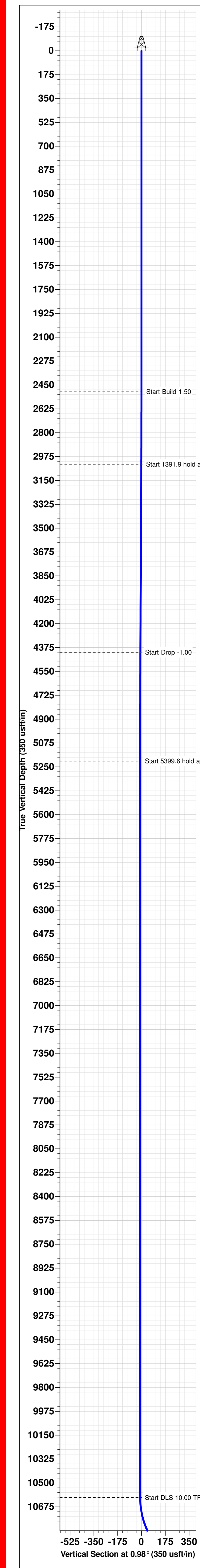
Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	24,574.3	11,180.0	5-1/2" Production Casing	5-1/2	6-3/4



Site: THUNDERDOME PROJECT
Well: THUNDERDOME FED COM #704H
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
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0
3033.3	8.00	93.00	3031.6	-1.9	37.1	1.50	93.00	-1.3
4425.3	8.00	93.00	4410.0	-12.1	230.6	0.00	0.00	-8.1
5225.3	0.00	0.00	5207.4	-15.0	286.3	1.00	180.00	-10.1
10624.9	0.00	0.00	10607.0	-15.0	286.3	0.00	0.00	-10.1
11524.9	90.00	359.78	11180.0	557.9	284.0	10.00	359.78	562.7
24574.3	90.00	359.78	11180.0	13607.3	232.9	0.00	0.00	13609.3



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 704H
SURFACE HOLE FOOTAGE:	2210'/S & 1582'/W
BOTTOM HOLE FOOTAGE:	50'/N & 1869'/W
LOCATION:	Section 30, T.24 S., R.28 E.
COUNTY:	Eddy County, New Mexico

COA

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

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

A. HYDROGEN SULFIDE

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

B. CASING

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

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

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

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

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.**

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

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

R-111-Q Figure D:

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

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

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

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

R-111-Q Figure D:

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

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

C. PRESSURE CONTROL

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

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. Annular which shall be tested to 3500 (70% Working Pressure) psi.**
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **10-3/4** intermediate casing shoe shall be **5000 (5M) psi. Annular which shall be tested to 3500 (70% Working Pressure) psi.**
- c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate 2 casing shoe shall be **10,000 (10M) psi. Variance is approved to use a Choose an item. Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - Manufacturer representative shall install the test plug for the initial BOP test.
 - If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

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

Casing Clearance

Tie back for 500 feet OK.

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

BLM_NM_CFO_DrillingNotifications@BLM.GOV

(575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on

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

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

The top of the Rustler, top and bottom of the salt, and the top of the Capitan Reef (if present) are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - e. The results of the test shall be reported to the appropriate BLM office.

- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

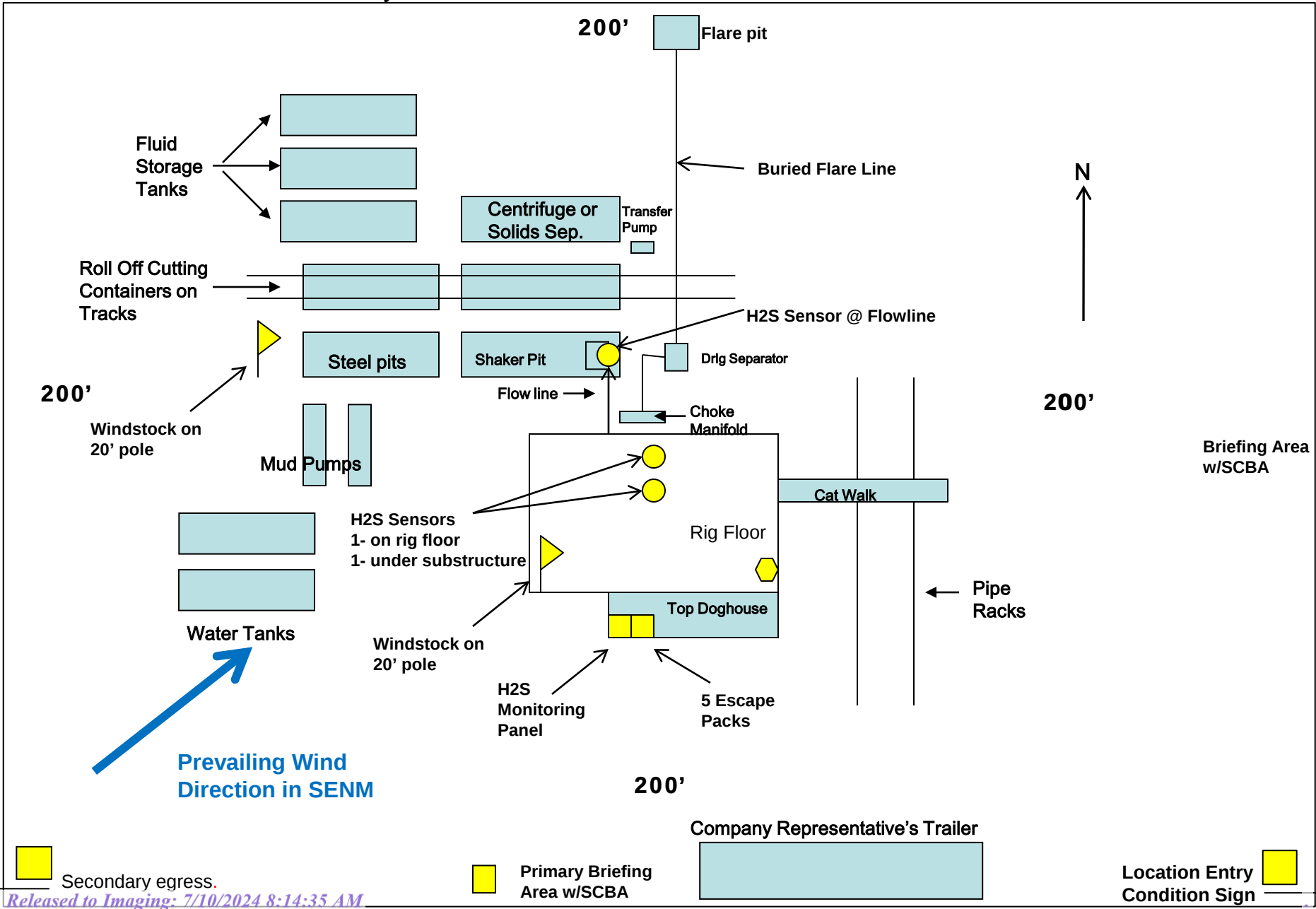
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location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

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

Keith Immatty 6/4/2024

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

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



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

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

EMERGENCY RESPONSE NUMBERS

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

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

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

CONDITIONS

Action 352707

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID:
	217817
	Action Number: 352707
	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 the R-111-Q requirements.	7/10/2024