

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. 30-015-55224
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: NWSE / 2275 FSL / 2384 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2894607 / LONG: -103.8506878 (TVD: 0 feet, MD: 0 feet)
PPP: SWNE / 2540 FNL / 1872 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2907511 / LONG: -103.8490341 (TVD: 11349 feet, MD: 11687 feet)
PPP: NWSE / 1322 FSL / 1872 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.315897 / LONG: -103.8490194 (TVD: 11350 feet, MD: 20927 feet)
PPP: SWSE / 1 FSL / 1872 FEL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977327 / LONG: -103.849053 (TVD: 11350 feet, MD: 14327 feet)
PPP: SWSE / 1 FSL / 1872 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3122642 / LONG: -103.8490238 (TVD: 11350 feet, MD: 19607 feet)
PPP: SWNE / 2643 FNL / 1872 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3195298 / LONG: -103.849015 (TVD: 11350 feet, MD: 22247 feet)
BHL: NWNE / 50 FNL / 1872 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3266587 / LONG: -103.8490063 (TVD: 11350 feet, MD: 24750 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- 55224	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 707H
⁷ OGRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 3,259.62'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	23	23-S	30-E		2,275'	SOUTH	2,384'	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	23-S	30-E		50'	NORTH	1,872'	EAST	EDDY

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

	SURFACE HOLE LOCATION / KICK OFF POINT 2,275' FSL & 2,384' FEL NEW MEXICO EAST-NAD 83 NORTH:469,374.08' EAST:690,480.66' LAT:32.28946072 LONG:-103.85068784 FIRST TAKE POINT / PENETRATION POINT 1 2,540' FNL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:469,845.83' EAST:690,989.55' LAT:32.29075116 LONG:-103.84903417 PENETRATION POINT 2 1' FSL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:472,385.63' EAST:690,972.24' LAT:32.29773271 LONG:-103.84905309 PENETRATION POINT 3 1' FSL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:477,672.10' EAST:690,957.39' LAT:32.31226422 LONG:-103.84902384 PENETRATION POINT 4 1,322' FSL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:478,993.71' EAST:690,952.78' LAT:32.31589705 LONG:-103.84901942 PENETRATION POINT 5 2,643' FNL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:480,315.31' EAST:690,948.18' LAT:32.31952988 LONG:-103.84901500 LAST TAKE POINT 100' FNL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:482,858.76' EAST:690,939.31' LAT:32.32652135 LONG:-103.84900649 BOTTOM HOLE LOCATION 50' FNL & 1,872' FEL NEW MEXICO EAST-NAD 83 NORTH:482,908.76' EAST:690,939.14' LAT:32.32665879 LONG:-103.84900632	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
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State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: ConocoPhillips Company

OGRID: 217817

Date: 10/10/2023

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Thunderdome Federal Com 706H	30-015-	J-23-23S-30E	2275 FSL & 2414 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 707H	30-015-	J-23-23S-30E	2275 FSL & 2384 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 708H	30-015-	J-23-23S-30E	2275 FSL & 2354 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 709H	30-015-	J-23-23S-30E	2275 FSL & 2324 FEL	± 1091	± 3230	± 4172
Thunderdome Federal Com 710H	30-015-	J-23-23S-30E	2275 FSL & 2294 FEL	± 908	± 2788	± 3471

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

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Thunderdome Federal Com	Pending	± 10/1/2024	± 25 days from spud	TBD	TBD	TBD
706H, 707H, 708H, 709H, 710H						

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

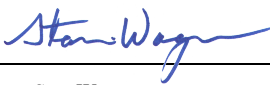
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

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

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

VIII. Best Management Practices

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

COG Operating, LLC - Thunderdome Fed Com #707H

1. Geologic Formations

TVD of target	11,350' EOL	Pilot hole depth	NA
MD at TD:	24,750'	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	489	Salt	
Base of Salt	3601	Salt	
Lamar	3825	Salt Water	
Bell Canyon	3840	Salt Water	
Brushy Canyon	5237	Oil/Gas	
Bone Spring Lime	7715	Oil/Gas	
1st Bone Spring Sand	8729	Oil/Gas	
2nd Bone Spring Sand	9389	Oil/Gas	
3rd Bone Spring Sand	10677	Oil/Gas	
Wolfcamp A	11232	Target	
Wolfcamp B	11551	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	400	13.375"	54.5	J55	BTC	6.17	19.09	39.13	41.70
12.25"	0	3795	10.75"	45.5	J55	BTC	1.25	1.84	6.35	6.02
9.875"	0	7400	7.625"	29.7	L80-ICY	BTC	1.74	1.17	3.30	3.34
8.750"	7400	10700	7.625"	29.7	P110 ICY	W513	1.29	1.52	2.96	1.76
6.75"	0	10200	5.5"	23	P110 CY	BTC	2.19	2.59	3.11	3.09
6.75"	10200	24,750	5.5"	23	P110 CY	W441	1.97	2.33	2.79	2.71
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

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

COG Operating, LLC - Thunderdome Fed Com #707H

	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 #707H

3. Cementing Program

Casing	# Sk	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						
	1369	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	9,700'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #707H

4. Pressure Control Equipment

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

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

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

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

COG Operating, LLC - Thunderdome Fed Com #707H

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 #707H**7. Drilling Conditions**

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

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

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

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

N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

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

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

707H

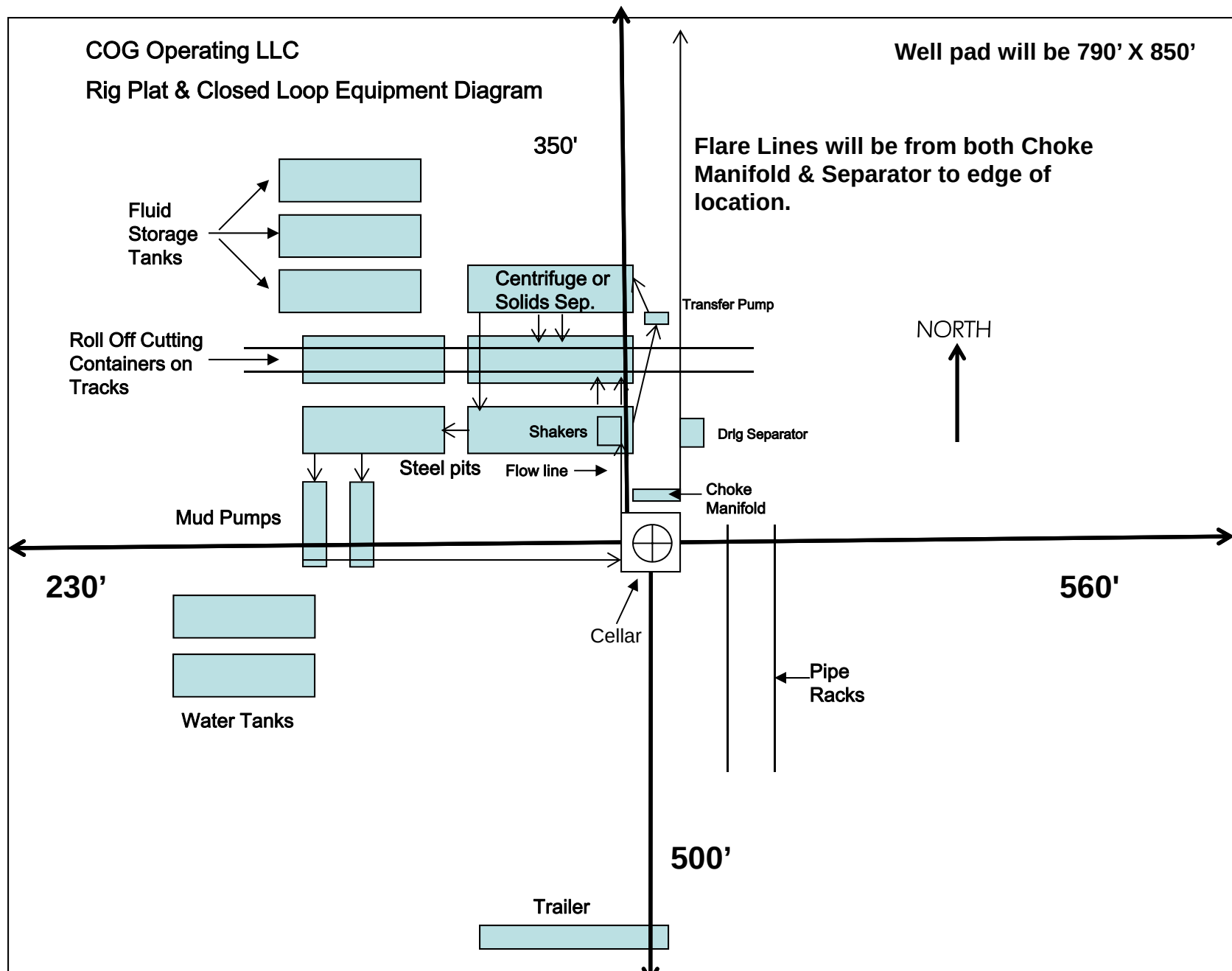


Exhibit 1

"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 #707H**

OWB

PWP0

Anticollision Report

10 July, 2023

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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	24,749.8	PWP0 (OWB)	r.5 MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction rev.5	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #521H - OWB - PWP0	1,800.0	1,800.0	1,482.1	1,469.5	117.857	CC, ES
*THUNDERDOME FED COM #521H - OWB - PWP0	3,800.0	3,402.0	1,977.3	1,956.2	93.843	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	2,139.3	2,143.1	149.8	136.4	11.168	CC, ES
*THUNDERDOME FED COM #522H - OWB - PWP0	24,750.1	23,462.7	1,468.3	1,257.5	6.967	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	1,800.0	1,800.0	174.9	162.3	13.908	CC
*THUNDERDOME FED COM #523H - OWB - PWP0	1,900.0	1,899.1	175.2	162.3	13.647	ES
*THUNDERDOME FED COM #523H - OWB - PWP0	24,750.1	23,558.2	1,953.9	1,712.3	8.088	SF
*THUNDERDOME FED COM #701H - OWB - PWP0	1,500.0	1,500.0	1,481.8	1,470.1	126.277	CC, ES
*THUNDERDOME FED COM #701H - OWB - PWP0	4,000.0	3,624.3	1,992.0	1,969.6	88.939	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	2,000.0	2,000.0	1,451.7	1,438.6	110.688	CC, ES
*THUNDERDOME FED COM #702H - OWB - PWP0	4,700.0	4,326.0	1,989.3	1,964.2	79.457	SF
*THUNDERDOME FED COM #703H - OWB - PWP0	2,000.0	2,000.0	1,421.8	1,408.7	108.408	CC, ES
*THUNDERDOME FED COM #703H - OWB - PWP0	5,100.0	5,001.2	1,989.0	1,961.1	71.431	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	2,000.0	2,000.0	1,391.9	1,378.8	106.127	CC, ES
*THUNDERDOME FED COM #704H - OWB - PWP0	24,750.1	24,566.5	1,626.0	1,420.5	7.912	SF
*THUNDERDOME FED COM #705H - OWB - PWP0	11,687.2	11,731.8	1,103.9	1,054.6	22.371	CC
*THUNDERDOME FED COM #705H - OWB - PWP0	24,750.1	24,794.6	1,104.1	893.7	5.246	ES, SF
*THUNDERDOME FED COM #706H - OWB - PWP0	2,000.0	2,000.0	30.0	16.9	2.287	CC, ES, SF
*THUNDERDOME FED COM #708H - OWB - PWP0	2,464.4	2,463.2	10.3	-4.0	0.722	Stop Drilling Now, CC, ES, S
*THUNDERDOME FED COM #709H - OWB - PWP0	2,622.4	2,616.7	40.1	25.3	2.709	CC, ES, SF
*THUNDERDOME FED COM #710H - OWB - PWP0	1,800.0	1,800.0	90.0	77.4	7.157	CC, ES
*THUNDERDOME FED COM #710H - OWB - PWP0	24,750.1	24,734.5	1,551.4	1,331.1	7.043	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	1,800.0	1,800.0	1,452.2	1,439.6	115.474	CC, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	3,900.0	3,471.3	1,970.3	1,949.2	93.416	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	2,000.0	2,000.0	1,422.2	1,409.1	108.437	CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	9,300.0	9,273.9	1,999.9	1,964.3	56.173	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	2,306.7	2,314.5	139.2	125.3	10.077	CC, ES
*THUNDERDOME FED COM 503H - OWB - PWP0	24,750.1	23,136.7	1,832.1	1,611.4	8.301	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,800.0	1,800.0	153.0	140.4	12.164	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	24,750.1	22,854.8	1,670.4	1,444.3	7.386	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,800.0	1,800.0	161.6	149.0	12.847	CC, ES
*THUNDERDOME FED COM 505H - OWB - PWP0	2,100.0	2,094.5	166.4	153.1	12.476	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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

TD Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #521H - OWB - PWP0	24,750.1	23,531.2				Out of Range @TD
*THUNDERDOME FED COM #522H - OWB - PWP0	24,750.1	23,462.7	1,468.3	1,257.5	6.967	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	24,750.1	23,558.2	1,953.9	1,712.3	8.088	SF
*THUNDERDOME FED COM #701H - OWB - PWP0	24,750.1	24,833.6				Out of Range @TD
*THUNDERDOME FED COM #702H - OWB - PWP0	24,750.1	24,618.5				Out of Range @TD
*THUNDERDOME FED COM #703H - OWB - PWP0	24,750.1	24,715.2				Out of Range @TD
*THUNDERDOME FED COM #704H - OWB - PWP0	24,750.1	24,566.5	1,626.0	1,420.5	7.912	SF
*THUNDERDOME FED COM #705H - OWB - PWP0	24,750.1	24,794.6	1,104.1	893.7	5.246	ES, SF
*THUNDERDOME FED COM #706H - OWB - PWP0	24,750.1	24,466.9	540.4	337.7	2.665	
*THUNDERDOME FED COM #708H - OWB - PWP0	24,750.1	24,486.5	540.4	317.4	2.424	
*THUNDERDOME FED COM #709H - OWB - PWP0	24,750.1	24,802.4	1,026.0	813.6	4.830	
*THUNDERDOME FED COM #710H - OWB - PWP0	24,750.1	24,734.5	1,551.4	1,331.1	7.043	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	24,750.1	23,185.5				Out of Range @TD
*THUNDERDOME FED COM 502H - OWB - PWP0	24,750.1	23,101.1				Out of Range @TD
*THUNDERDOME FED COM 503H - OWB - PWP0	24,750.1	23,136.7	1,832.1	1,611.4	8.301	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	24,750.1	22,854.8	1,670.4	1,444.3	7.386	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	24,750.1	23,061.6				Out of Range @TD

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-86.97	78.4	-1,480.0	1,482.1	1,475.7	6.43	230.539	
100.0	100.0	100.0	100.0	3.2	3.2	-86.97	78.4	-1,480.0	1,482.1	1,475.2	6.89	215.037	
200.0	200.0	200.0	200.0	3.5	3.5	-86.97	78.4	-1,480.0	1,482.1	1,474.8	7.33	202.249	
300.0	300.0	300.0	300.0	3.7	3.7	-86.97	78.4	-1,480.0	1,482.1	1,474.4	7.74	191.455	
400.0	400.0	400.0	400.0	3.9	3.9	-86.97	78.4	-1,480.0	1,482.1	1,474.0	8.14	182.178	
500.0	500.0	500.0	500.0	4.1	4.1	-86.97	78.4	-1,480.0	1,482.1	1,473.6	8.51	174.089	
600.0	600.0	600.0	600.0	4.2	4.2	-86.97	78.4	-1,480.0	1,482.1	1,473.2	8.88	166.950	
700.0	700.0	700.0	700.0	4.4	4.4	-86.97	78.4	-1,480.0	1,482.1	1,472.9	9.23	160.585	
800.0	800.0	800.0	800.0	4.6	4.6	-86.97	78.4	-1,480.0	1,482.1	1,472.5	9.57	154.863	
900.0	900.0	900.0	900.0	4.8	4.8	-86.97	78.4	-1,480.0	1,482.1	1,472.2	9.90	149.680	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.97	78.4	-1,480.0	1,482.1	1,471.9	10.22	144.954	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.97	78.4	-1,480.0	1,482.1	1,471.6	10.54	140.622	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.97	78.4	-1,480.0	1,482.1	1,471.3	10.85	136.631	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.97	78.4	-1,480.0	1,482.1	1,471.0	11.15	132.937	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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)			
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.97	78.4	-1,480.0	1,482.1	1,470.7	11.44	129.505	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.97	78.4	-1,480.0	1,482.1	1,470.4	11.73	126.304	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.97	78.4	-1,480.0	1,482.1	1,470.1	12.02	123.310	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.97	78.4	-1,480.0	1,482.1	1,469.8	12.30	120.500	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.97	78.4	-1,480.0	1,482.1	1,469.5	12.58	117.857 CC, ES	
1,900.0	1,900.0	1,872.2	1,872.2	6.3	6.2	-86.97	78.3	-1,480.7	1,483.1	1,470.2	12.82	115.646	
2,000.0	2,000.0	1,944.3	1,944.3	6.4	6.3	-86.98	78.2	-1,482.8	1,485.9	1,472.8	13.07	113.712	
2,100.0	2,100.0	2,016.3	2,016.2	6.5	6.5	162.99	78.0	-1,486.1	1,491.8	1,478.5	13.32	111.977	
2,200.0	2,199.9	2,100.0	2,099.7	6.7	6.6	162.95	77.6	-1,491.8	1,502.2	1,488.5	13.60	110.414	
2,300.0	2,299.7	2,159.0	2,158.4	6.9	6.7	162.91	77.2	-1,496.9	1,516.7	1,502.8	13.86	109.462	
2,400.0	2,399.3	2,229.3	2,228.4	7.0	6.9	162.86	76.7	-1,504.1	1,535.6	1,521.4	14.15	108.495	
2,500.0	2,498.6	2,300.0	2,298.6	7.2	7.0	162.81	76.1	-1,512.6	1,558.7	1,544.2	14.48	107.665	
2,600.0	2,597.6	2,367.1	2,365.0	7.4	7.2	162.83	75.5	-1,522.0	1,585.4	1,570.7	14.75	107.501	
2,700.0	2,696.6	2,434.8	2,431.8	7.6	7.4	162.89	74.7	-1,532.5	1,614.0	1,598.9	15.09	106.971	
2,800.0	2,795.7	2,500.0	2,496.1	7.9	7.5	162.93	73.9	-1,543.8	1,644.2	1,628.8	15.44	106.500	
2,900.0	2,894.7	2,568.0	2,562.8	8.1	7.7	162.97	73.0	-1,556.8	1,676.1	1,660.3	15.83	105.915	
3,000.0	2,993.7	2,648.2	2,641.4	8.4	7.9	163.01	71.9	-1,573.3	1,709.4	1,693.1	16.27	105.050	
3,100.0	3,092.8	2,742.5	2,733.5	8.7	8.2	163.06	70.5	-1,592.9	1,742.9	1,726.1	16.80	103.768	
3,200.0	3,191.8	2,836.7	2,825.7	8.9	8.5	163.10	69.1	-1,612.4	1,776.4	1,759.0	17.35	102.409	
3,300.0	3,290.8	2,930.9	2,917.8	9.3	8.8	163.14	67.8	-1,631.9	1,809.8	1,791.9	17.92	101.001	
3,400.0	3,389.8	3,025.1	3,010.0	9.6	9.1	163.19	66.4	-1,651.5	1,843.3	1,824.8	18.51	99.564	
3,500.0	3,488.9	3,119.3	3,102.2	9.9	9.4	163.22	65.0	-1,671.0	1,876.8	1,857.7	19.13	98.117	
3,600.0	3,587.9	3,213.6	3,194.3	10.2	9.8	163.26	63.7	-1,690.6	1,910.3	1,890.5	19.76	96.674	
3,700.0	3,686.9	3,307.8	3,286.5	10.6	10.1	163.30	62.3	-1,710.1	1,943.8	1,923.4	20.41	95.247	
3,800.0	3,785.9	3,402.0	3,378.6	10.9	10.4	163.33	60.9	-1,729.6	1,977.3	1,956.2	21.07	93.843 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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:		THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0												Offset Site Error:		0.0 usft
Survey Program:		0-r.5 MWD+IFR1+MS								Rule Assigned:				Offset Well Error:		3.0 usft
Measured Depth	Reference	Measured Depth	Offset	Semi Major Axis	Offset	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning			
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor				
0.0	0.0	0.0	0.0	3.0	3.0	-11.31	150.0	-30.0	152.9	146.5	6.43	23.790				
100.0	100.0	100.0	100.0	3.2	3.2	-11.31	150.0	-30.0	152.9	146.0	6.89	22.190				
200.0	200.0	200.0	200.0	3.5	3.5	-11.31	150.0	-30.0	152.9	145.6	7.33	20.870				
300.0	300.0	300.0	300.0	3.7	3.7	-11.31	150.0	-30.0	152.9	145.2	7.74	19.756				
400.0	400.0	400.0	400.0	3.9	3.9	-11.31	150.0	-30.0	152.9	144.8	8.14	18.799				
500.0	500.0	500.0	500.0	4.1	4.1	-11.31	150.0	-30.0	152.9	144.4	8.51	17.964				
600.0	600.0	600.0	600.0	4.2	4.2	-11.31	150.0	-30.0	152.9	144.1	8.88	17.228				
700.0	700.0	700.0	700.0	4.4	4.4	-11.31	150.0	-30.0	152.9	143.7	9.23	16.571				
800.0	800.0	800.0	800.0	4.6	4.6	-11.31	150.0	-30.0	152.9	143.4	9.57	15.980				
900.0	900.0	900.0	900.0	4.8	4.8	-11.31	150.0	-30.0	152.9	143.0	9.90	15.446				
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-11.31	150.0	-30.0	152.9	142.7	10.22	14.958				
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-11.31	150.0	-30.0	152.9	142.4	10.54	14.511				
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-11.31	150.0	-30.0	152.9	142.1	10.85	14.099				
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-11.31	150.0	-30.0	152.9	141.8	11.15	13.718				
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-11.31	150.0	-30.0	152.9	141.5	11.44	13.364				
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-11.31	150.0	-30.0	152.9	141.2	11.73	13.034				
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-11.31	150.0	-30.0	152.9	140.9	12.02	12.725				
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-11.31	150.0	-30.0	152.9	140.6	12.30	12.435				
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-11.31	150.0	-30.0	152.9	140.4	12.58	12.162				
1,900.0	1,900.0	1,901.4	1,901.4	6.3	6.3	-11.79	149.3	-31.1	152.5	139.6	12.84	11.877				
2,000.0	2,000.0	2,002.7	2,002.6	6.4	6.4	-13.22	147.1	-34.6	151.1	138.1	13.08	11.553				
2,100.0	2,100.0	2,103.6	2,103.3	6.5	6.6	-126.07	143.6	-40.2	149.9	136.6	13.32	11.254				
2,139.3	2,139.3	2,143.1	2,142.6	6.6	6.7	-127.68	141.8	-43.1	149.8	136.4	13.41	11.168	CC, ES			
2,200.0	2,199.9	2,203.8	2,203.0	6.7	6.8	-130.68	138.7	-48.1	150.2	136.6	13.55	11.081				
2,300.0	2,299.7	2,303.0	2,301.5	6.9	7.0	-136.80	132.4	-58.0	153.0	139.2	13.79	11.090				
2,400.0	2,399.3	2,400.9	2,398.5	7.0	7.1	-143.78	125.3	-69.5	159.7	145.6	14.02	11.389				
2,500.0	2,498.6	2,498.2	2,494.9	7.2	7.4	-150.53	118.1	-81.0	170.9	156.6	14.34	11.917				
2,600.0	2,597.6	2,595.1	2,590.8	7.4	7.6	-156.69	111.0	-92.4	186.2	171.5	14.64	12.719				
2,700.0	2,696.6	2,692.0	2,686.8	7.6	7.9	-161.94	103.8	-103.9	203.4	188.4	15.02	13.541				
2,800.0	2,795.7	2,788.9	2,782.7	7.9	8.1	-166.35	96.7	-115.3	222.1	206.7	15.44	14.381				
2,900.0	2,894.7	2,885.7	2,878.6	8.1	8.4	-170.08	89.5	-126.7	241.9	226.0	15.90	15.214				
3,000.0	2,993.7	2,982.6	2,974.6	8.4	8.7	-173.25	82.4	-138.2	262.6	246.2	16.39	16.025				
3,100.0	3,092.8	3,079.5	3,070.5	8.7	9.0	-175.96	75.2	-149.6	283.9	267.0	16.89	16.803				
3,200.0	3,191.8	3,176.4	3,166.4	8.9	9.3	-178.29	68.1	-161.0	305.7	288.3	17.43	17.544				
3,300.0	3,290.8	3,273.2	3,262.3	9.3	9.6	-179.69	61.0	-172.5	328.0	310.0	17.98	18.245				
3,400.0	3,389.8	3,370.1	3,358.3	9.6	9.9	-177.93	53.8	-183.9	350.6	332.1	18.55	18.905				
3,500.0	3,488.9	3,468.2	3,455.4	9.9	10.3	-176.38	46.6	-195.4	373.4	354.3	19.14	19.511				
3,600.0	3,587.9	3,567.5	3,553.9	10.2	10.6	-175.07	39.8	-206.3	396.0	376.2	19.75	20.046				
3,700.0	3,686.9	3,667.2	3,652.9	10.6	11.0	-173.99	33.4	-216.6	418.1	397.7	20.37	20.527				
3,800.0	3,785.9	3,767.3	3,752.3	10.9	11.3	-173.10	27.4	-226.1	439.7	418.7	20.99	20.950				
3,900.0	3,885.0	3,867.6	3,852.1	11.3	11.6	-175.13	21.9	-235.0	460.7	439.1	21.62	21.312				
4,000.0	3,984.0	3,968.1	3,952.1	11.6	12.0	-168.52	16.8	-243.1	481.2	458.9	22.23	21.644				
4,100.0	4,083.0	4,068.9	4,052.5	11.9	12.3	-169.54	12.2	-250.5	501.1	478.2	22.89	21.895				
4,200.0	4,182.1	4,170.0	4,153.4	12.3	12.7	-170.43	8.0	-257.2	520.5	497.0	23.54	22.109				
4,300.0	4,281.1	4,271.6	4,254.7	12.6	13.0	-171.18	4.3	-263.1	539.4	515.2	24.20	22.287				
4,400.0	4,380.1	4,373.4	4,356.3	13.0	13.3	-171.82	1.0	-268.3	557.7	532.9	24.86	22.434				
4,500.0	4,479.2	4,475.6	4,458.4	13.4	13.6	-172.37	-1.7	-272.8	575.4	549.9	25.52	22.552				
4,600.0	4,578.2	4,578.1	4,560.8	13.7	14.0	-172.83	-4.0	-276.5	592.5	566.3	26.16	22.643				
4,700.0	4,677.2	4,680.8	4,663.5	14.1	14.3	-173.20	-5.9	-279.4	608.8	582.0	26.81	22.712				
4,800.0	4,776.2	4,783.9	4,766.5	14.5	14.5	-173.51	-7.2	-281.5	624.6	597.1	27.44	22.762				
4,900.0	4,875.3	4,887.2	4,869.8	14.9	14.8	-173.74	-8.0	-282.9	639.6	611.5	28.05	22.798				
5,000.0	4,974.3	4,990.7	4,973.3	15.3	15.0	-173.92	-8.4	-283.4	653.9	625.3	28.64	22.834				

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,073.3	5,090.7	5,073.3	15.7	15.1	-174.05	-8.4	-283.4	667.8	638.7	29.13	22.924	
5,200.0	5,172.3	5,189.8	5,172.3	16.1	15.1	-174.17	-8.4	-283.4	681.6	652.0	29.61	23.021	
5,300.0	5,271.4	5,288.8	5,271.4	16.4	15.2	-174.29	-8.4	-283.4	695.5	665.4	30.09	23.112	
5,400.0	5,370.4	5,387.8	5,370.4	16.8	15.2	-174.40	-8.4	-283.4	709.3	678.7	30.58	23.197	
5,500.0	5,469.4	5,486.8	5,469.4	17.2	15.3	-174.50	-8.4	-283.4	723.2	692.1	31.07	23.276	
5,600.0	5,568.5	5,585.9	5,568.5	17.6	15.3	-174.61	-8.4	-283.4	737.0	705.5	31.56	23.350	
5,700.0	5,667.5	5,684.9	5,667.5	18.0	15.4	-174.71	-8.4	-283.4	750.7	718.7	32.04	23.432	
5,800.0	5,766.8	5,784.2	5,766.8	18.4	15.4	-174.81	-8.4	-283.4	762.9	730.3	32.53	23.453	
5,900.0	5,866.2	5,883.6	5,866.2	18.8	15.5	-174.89	-8.4	-283.4	773.3	740.3	33.01	23.430	
6,000.0	5,965.8	5,983.2	5,965.8	19.1	15.5	-174.95	-8.4	-283.4	782.0	748.6	33.47	23.365	
6,100.0	6,065.6	6,083.0	6,065.6	19.5	15.6	-175.00	-8.4	-283.4	789.0	755.1	33.92	23.262	
6,200.0	6,165.4	6,182.9	6,165.4	19.8	15.6	-175.04	-8.4	-283.4	794.3	759.9	34.34	23.127	
6,300.0	6,265.4	6,282.8	6,265.4	20.1	15.7	-175.07	-8.4	-283.4	797.8	763.0	34.74	22.966	
6,400.0	6,365.3	6,382.8	6,365.3	20.4	15.7	-175.08	-8.4	-283.4	799.6	764.5	35.08	22.791	
6,500.0	6,465.3	6,482.8	6,465.3	20.5	15.8	-85.08	-8.4	-283.4	799.8	764.6	35.21	22.717	
6,600.0	6,565.3	6,582.8	6,565.3	20.5	15.8	-85.08	-8.4	-283.4	799.8	764.5	35.30	22.657	
6,700.0	6,665.3	6,682.8	6,665.3	20.5	15.9	-85.08	-8.4	-283.4	799.8	764.4	35.39	22.597	
6,800.0	6,765.3	6,782.8	6,765.3	20.6	15.9	-85.08	-8.4	-283.4	799.8	764.3	35.49	22.537	
6,900.0	6,865.3	6,882.8	6,865.3	20.6	16.0	-85.08	-8.4	-283.4	799.8	764.2	35.58	22.477	
7,000.0	6,965.3	6,982.8	6,965.3	20.7	16.1	-85.08	-8.4	-283.4	799.8	764.1	35.68	22.417	
7,100.0	7,065.3	7,082.8	7,065.3	20.7	16.1	-85.08	-8.4	-283.4	799.8	764.0	35.77	22.357	
7,200.0	7,165.3	7,182.8	7,165.3	20.7	16.2	-85.08	-8.4	-283.4	799.8	763.9	35.87	22.297	
7,300.0	7,265.3	7,282.8	7,265.3	20.8	16.2	-85.08	-8.4	-283.4	799.8	763.8	35.97	22.238	
7,400.0	7,365.3	7,382.8	7,365.3	20.8	16.3	-85.08	-8.4	-283.4	799.8	763.7	36.06	22.178	
7,500.0	7,465.3	7,482.8	7,465.3	20.9	16.3	-85.08	-8.4	-283.4	799.8	763.6	36.16	22.118	
7,600.0	7,565.3	7,582.8	7,565.3	20.9	16.4	-85.08	-8.4	-283.4	799.8	763.5	36.26	22.058	
7,700.0	7,665.3	7,682.8	7,665.3	21.0	16.4	-85.08	-8.4	-283.4	799.8	763.4	36.36	21.999	
7,800.0	7,765.3	7,782.8	7,765.3	21.0	16.5	-85.08	-8.4	-283.4	799.8	763.3	36.45	21.939	
7,900.0	7,865.3	7,882.8	7,865.3	21.0	16.6	-85.08	-8.4	-283.4	799.8	763.2	36.55	21.880	
8,000.0	7,965.3	7,982.8	7,965.3	21.1	16.6	-85.08	-8.4	-283.4	799.8	763.1	36.65	21.820	
8,100.0	8,065.3	8,082.8	8,065.3	21.1	16.7	-85.08	-8.4	-283.4	799.8	763.0	36.75	21.761	
8,200.0	8,165.3	8,182.8	8,165.3	21.2	16.7	-85.08	-8.4	-283.4	799.8	762.9	36.85	21.701	
8,300.0	8,265.3	8,282.8	8,265.3	21.2	16.8	-85.08	-8.4	-283.4	799.8	762.8	36.96	21.642	
8,400.0	8,365.3	8,382.8	8,365.3	21.3	16.8	-85.08	-8.4	-283.4	799.8	762.7	37.06	21.583	
8,500.0	8,465.3	8,482.8	8,465.3	21.3	16.9	-85.08	-8.4	-283.4	799.8	762.6	37.16	21.524	
8,600.0	8,565.3	8,582.8	8,565.3	21.4	17.0	-85.08	-8.4	-283.4	799.8	762.5	37.26	21.465	
8,700.0	8,665.3	8,682.8	8,665.3	21.4	17.0	-85.08	-8.4	-283.4	799.8	762.4	37.36	21.406	
8,800.0	8,765.3	8,782.8	8,765.3	21.4	17.1	-85.08	-8.4	-283.4	799.8	762.3	37.47	21.347	
8,900.0	8,865.3	8,882.8	8,865.3	21.5	17.1	-85.08	-8.4	-283.4	799.8	762.2	37.57	21.288	
9,000.0	8,965.3	8,982.8	8,965.3	21.5	17.2	-85.08	-8.4	-283.4	799.8	762.1	37.67	21.229	
9,100.0	9,065.3	9,082.8	9,065.3	21.6	17.2	-85.08	-8.4	-283.4	799.8	762.0	37.78	21.171	
9,200.0	9,165.3	9,182.8	9,165.3	21.6	17.3	-85.08	-8.4	-283.4	799.8	761.9	37.88	21.112	
9,300.0	9,265.3	9,282.8	9,265.3	21.7	17.4	-85.08	-8.4	-283.4	799.8	761.8	37.99	21.054	
9,400.0	9,365.3	9,382.8	9,365.3	21.7	17.4	-85.08	-8.4	-283.4	799.8	761.7	38.09	20.996	
9,500.0	9,465.3	9,482.8	9,465.3	21.8	17.5	-85.08	-8.4	-283.4	799.8	761.6	38.20	20.937	
9,600.0	9,565.3	9,582.8	9,565.3	21.8	17.5	-85.08	-8.4	-283.4	799.8	761.5	38.30	20.881	
9,700.0	9,665.3	9,682.8	9,665.3	21.9	17.5	-84.76	-3.9	-283.8	800.7	762.3	38.38	20.865	
9,800.0	9,765.3	9,784.5	9,765.3	21.9	17.5	-83.70	11.1	-284.9	804.2	765.8	38.40	20.944	
9,900.0	9,865.3	9,884.6	9,865.3	22.0	17.4	-82.08	34.4	-286.7	810.9	772.6	38.38	21.129	
10,000.0	9,965.3	9,984.8	9,965.3	22.0	17.3	-80.11	62.9	-288.9	822.0	783.6	38.33	21.443	
10,100.0	10,065.3	10,084.8	10,065.3	22.1	17.3	-77.73	98.1	-291.6	838.3	800.1	38.27	21.905	
10,200.0	10,165.3	10,184.8	10,165.3	22.1	17.2	-75.70	128.9	-294.0	860.7	822.5	38.22	22.519	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
10,300.0	10,265.3	10,038.6	9,978.0	22.2	17.2	-74.02	154.8	-296.0	889.6	851.4	38.22	23.275		
10,400.0	10,365.3	10,077.4	10,004.8	22.2	17.2	-72.25	182.8	-298.1	925.3	887.0	38.27	24.176		
10,500.0	10,465.3	10,100.0	10,019.5	22.3	17.1	-71.19	199.9	-299.5	967.6	929.2	38.42	25.187		
10,600.0	10,565.3	10,150.0	10,049.5	22.3	17.1	-68.78	239.8	-302.5	1,016.0	977.4	38.56	26.348		
10,700.0	10,665.3	10,166.0	10,058.4	22.4	17.1	-68.00	253.1	-303.6	1,069.9	1,031.1	38.84	27.548		
10,800.0	10,765.3	10,200.0	10,076.0	22.4	17.1	-66.33	282.1	-305.8	1,129.3	1,090.1	39.12	28.864		
10,900.0	10,865.0	10,200.0	10,076.0	22.4	17.1	-59.98	282.1	-305.8	1,190.7	1,151.2	39.49	30.151		
11,000.0	10,962.0	10,250.0	10,098.6	22.4	17.1	-52.29	326.5	-309.2	1,249.3	1,209.6	39.78	31.409		
11,100.0	11,053.3	10,250.0	10,098.6	22.4	17.1	-47.41	326.5	-309.2	1,303.2	1,263.0	40.21	32.409		
11,200.0	11,136.3	10,300.0	10,117.3	22.4	17.1	-42.70	372.7	-312.8	1,350.7	1,310.2	40.56	33.298		
11,300.0	11,208.3	10,321.7	10,124.1	22.4	17.1	-39.58	393.3	-314.3	1,390.9	1,350.0	40.97	33.951		
11,400.0	11,267.3	10,350.0	10,131.9	22.4	17.1	-37.28	420.4	-316.4	1,422.9	1,381.6	41.34	34.418		
11,500.0	11,311.3	10,400.0	10,142.2	22.4	17.2	-35.71	469.2	-320.2	1,446.3	1,404.6	41.68	34.696		
11,600.0	11,339.1	10,400.0	10,142.2	22.5	17.2	-34.91	469.2	-320.2	1,460.0	1,418.0	41.97	34.785		
11,700.0	11,349.8	10,450.0	10,148.2	22.6	17.2	-34.78	518.6	-324.0	1,463.7	1,421.5	42.23	34.657		
11,717.5	11,350.2	10,450.0	10,148.2	22.6	17.2	-34.78	518.6	-324.0	1,463.7	1,421.4	42.26	34.637		
11,800.0	11,350.0	10,494.4	10,150.0	22.7	17.3	-34.94	562.9	-327.4	1,463.9	1,421.5	42.41	34.520		
11,900.0	11,350.0	10,575.0	10,150.0	22.9	17.4	-35.09	643.3	-332.4	1,467.0	1,424.3	42.66	34.384		
12,000.0	11,350.0	10,716.8	10,150.0	23.0	17.7	-35.18	785.0	-335.8	1,468.1	1,425.0	43.10	34.065		
12,005.2	11,350.0	10,724.2	10,150.0	23.0	17.8	-35.18	792.5	-335.8	1,468.1	1,425.0	43.12	34.045		
12,100.0	11,350.0	10,812.7	10,150.0	23.2	17.9	-35.18	880.9	-336.3	1,468.1	1,424.6	43.50	33.748		
12,200.0	11,350.0	10,912.7	10,150.0	23.5	18.2	-35.18	980.9	-336.7	1,468.1	1,424.2	43.97	33.393		
12,300.0	11,350.0	11,012.7	10,150.0	23.7	18.5	-35.18	1,080.9	-337.1	1,468.1	1,423.7	44.48	33.010		
12,400.0	11,350.0	11,112.7	10,150.0	24.0	18.8	-35.18	1,180.9	-337.5	1,468.1	1,423.1	45.03	32.601		
12,500.0	11,350.0	11,212.7	10,150.0	24.2	19.1	-35.18	1,280.9	-337.9	1,468.1	1,422.5	45.64	32.170		
12,600.0	11,350.0	11,312.7	10,150.0	24.6	19.4	-35.18	1,380.9	-338.3	1,468.1	1,421.9	46.28	31.721		
12,700.0	11,350.0	11,412.7	10,150.0	24.9	19.8	-35.18	1,480.9	-338.7	1,468.1	1,421.2	46.97	31.256		
12,800.0	11,350.0	11,512.7	10,150.0	25.2	20.2	-35.18	1,580.9	-339.1	1,468.1	1,420.4	47.70	30.779		
12,900.0	11,350.0	11,612.7	10,150.0	25.6	20.6	-35.18	1,680.9	-339.5	1,468.1	1,419.7	48.47	30.292		
13,000.0	11,350.0	11,712.7	10,150.0	26.0	21.1	-35.18	1,780.9	-339.9	1,468.1	1,418.9	49.27	29.799		
13,100.0	11,350.0	11,812.7	10,150.0	26.4	21.5	-35.18	1,880.9	-340.3	1,468.1	1,418.0	50.11	29.301		
13,200.0	11,350.0	11,912.7	10,150.0	26.8	22.0	-35.18	1,980.9	-340.7	1,468.1	1,417.2	50.98	28.801		
13,300.0	11,350.0	12,012.7	10,150.0	27.2	22.5	-35.18	2,080.9	-341.1	1,468.1	1,416.3	51.88	28.301		
13,400.0	11,350.0	12,112.7	10,150.0	27.7	23.0	-35.18	2,180.9	-341.5	1,468.2	1,415.3	52.81	27.802		
13,500.0	11,350.0	12,212.7	10,150.0	28.1	23.5	-35.18	2,280.9	-341.9	1,468.2	1,414.4	53.77	27.307		
13,600.0	11,350.0	12,312.7	10,150.0	28.6	24.0	-35.18	2,380.9	-342.3	1,468.2	1,413.4	54.75	26.815		
13,700.0	11,350.0	12,412.7	10,150.0	29.1	24.6	-35.18	2,480.9	-342.7	1,468.2	1,412.4	55.76	26.330		
13,800.0	11,350.0	12,512.7	10,150.0	29.6	25.1	-35.18	2,580.9	-343.1	1,468.2	1,411.4	56.79	25.851		
13,900.0	11,350.0	12,612.7	10,150.0	30.1	25.7	-35.18	2,680.9	-343.5	1,468.2	1,410.3	57.85	25.379		
14,000.0	11,350.0	12,712.7	10,150.0	30.6	26.3	-35.18	2,780.9	-343.9	1,468.2	1,409.2	58.93	24.915		
14,100.0	11,350.0	12,812.7	10,150.0	31.1	26.9	-35.18	2,880.9	-344.3	1,468.2	1,408.1	60.03	24.459		
14,200.0	11,350.0	12,912.7	10,150.0	31.7	27.5	-35.18	2,980.9	-344.7	1,468.2	1,407.0	61.14	24.012		
14,300.0	11,350.0	13,012.7	10,150.0	32.2	28.1	-35.18	3,080.9	-345.1	1,468.2	1,405.9	62.28	23.575		
14,400.0	11,350.0	13,112.7	10,150.0	32.8	28.7	-35.18	3,180.9	-345.5	1,468.2	1,404.7	63.43	23.147		
14,500.0	11,350.0	13,212.7	10,150.0	33.3	29.3	-35.18	3,280.9	-345.9	1,468.2	1,403.6	64.59	22.729		
14,600.0	11,350.0	13,312.7	10,150.0	33.9	29.9	-35.18	3,380.9	-346.3	1,468.2	1,402.4	65.78	22.320		
14,700.0	11,350.0	13,412.7	10,150.0	34.5	30.6	-35.18	3,480.9	-346.7	1,468.2	1,401.2	66.97	21.921		
14,800.0	11,350.0	13,512.7	10,150.0	35.1	31.2	-35.18	3,580.9	-347.1	1,468.2	1,400.0	68.19	21.532		
14,900.0	11,350.0	13,612.7	10,150.0	35.7	31.9	-35.18	3,680.9	-347.5	1,468.2	1,398.8	69.41	21.153		
15,000.0	11,350.0	13,712.7	10,150.0	36.3	32.5	-35.18	3,780.9	-347.9	1,468.2	1,397.5	70.64	20.783		
15,100.0	11,350.0	13,812.7	10,150.0	36.9	33.2	-35.18	3,880.9	-348.3	1,468.2	1,396.3	71.89	20.422		
15,200.0	11,350.0	13,912.7	10,150.0	37.5	33.8	-35.18	3,980.9	-348.7	1,468.2	1,395.0	73.15	20.071		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0													Offset Site Error:
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:
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)			
15,300.0	11,350.0	14,012.7	10,150.0	38.1	34.5	-35.18	4,080.9	-349.1	1,468.2	1,393.8	74.42	19.728	
15,400.0	11,350.0	14,112.7	10,150.0	38.7	35.2	-35.18	4,180.9	-349.5	1,468.2	1,392.5	75.70	19.395	
15,500.0	11,350.0	14,212.7	10,150.0	39.4	35.8	-35.18	4,280.9	-349.9	1,468.2	1,391.2	76.99	19.071	
15,600.0	11,350.0	14,312.7	10,150.0	40.0	36.5	-35.18	4,380.9	-350.3	1,468.2	1,389.9	78.28	18.755	
15,700.0	11,350.0	14,412.7	10,150.0	40.6	37.2	-35.18	4,480.9	-350.7	1,468.2	1,388.6	79.59	18.447	
15,800.0	11,350.0	14,512.7	10,150.0	41.3	37.9	-35.18	4,580.9	-351.1	1,468.2	1,387.3	80.90	18.148	
15,900.0	11,350.0	14,612.7	10,150.0	41.9	38.6	-35.18	4,680.9	-351.5	1,468.2	1,386.0	82.22	17.856	
16,000.0	11,350.0	14,712.7	10,150.0	42.6	39.3	-35.18	4,780.9	-351.9	1,468.2	1,384.6	83.55	17.572	
16,100.0	11,350.0	14,812.7	10,150.0	43.2	40.0	-35.18	4,880.9	-352.3	1,468.2	1,383.3	84.89	17.295	
16,200.0	11,350.0	14,912.7	10,150.0	43.9	40.7	-35.18	4,980.9	-352.7	1,468.2	1,382.0	86.23	17.026	
16,300.0	11,350.0	15,012.7	10,150.0	44.6	41.4	-35.18	5,080.9	-353.1	1,468.2	1,380.6	87.58	16.764	
16,400.0	11,350.0	15,112.7	10,150.0	45.2	42.1	-35.18	5,180.9	-353.5	1,468.2	1,379.3	88.93	16.509	
16,500.0	11,350.0	15,212.7	10,150.0	45.9	42.8	-35.18	5,280.9	-353.9	1,468.2	1,377.9	90.29	16.260	
16,600.0	11,350.0	15,312.7	10,150.0	46.6	43.5	-35.18	5,380.9	-354.3	1,468.2	1,376.5	91.66	16.018	
16,700.0	11,350.0	15,412.7	10,150.0	47.2	44.2	-35.18	5,480.9	-354.7	1,468.2	1,375.2	93.03	15.782	
16,800.0	11,350.0	15,512.7	10,150.0	47.9	44.9	-35.18	5,580.9	-355.1	1,468.2	1,373.8	94.41	15.551	
16,900.0	11,350.0	15,612.7	10,150.0	48.6	45.6	-35.18	5,680.9	-355.5	1,468.2	1,372.4	95.79	15.327	
17,000.0	11,350.0	15,712.7	10,150.0	49.3	46.3	-35.18	5,780.9	-355.9	1,468.2	1,371.0	97.18	15.109	
17,100.0	11,350.0	15,812.7	10,150.0	49.9	47.0	-35.18	5,880.9	-356.3	1,468.2	1,369.6	98.57	14.896	
17,200.0	11,350.0	15,912.7	10,150.0	50.6	47.7	-35.18	5,980.9	-356.8	1,468.2	1,368.2	99.96	14.688	
17,300.0	11,350.0	16,012.7	10,150.0	51.3	48.4	-35.18	6,080.9	-357.2	1,468.2	1,366.8	101.36	14.485	
17,400.0	11,350.0	16,112.7	10,150.0	52.0	49.2	-35.18	6,180.9	-357.6	1,468.2	1,365.4	102.76	14.287	
17,500.0	11,350.0	16,212.7	10,150.0	52.7	49.9	-35.18	6,280.9	-358.0	1,468.2	1,364.0	104.17	14.095	
17,600.0	11,350.0	16,312.7	10,150.0	53.4	50.6	-35.18	6,380.9	-358.4	1,468.2	1,362.6	105.58	13.906	
17,700.0	11,350.0	16,412.7	10,150.0	54.1	51.3	-35.18	6,480.9	-358.8	1,468.2	1,361.2	106.99	13.723	
17,800.0	11,350.0	16,512.7	10,150.0	54.8	52.1	-35.18	6,580.9	-359.2	1,468.2	1,359.8	108.41	13.543	
17,900.0	11,350.0	16,612.7	10,150.0	55.5	52.8	-35.18	6,680.9	-359.6	1,468.2	1,358.4	109.83	13.368	
18,000.0	11,350.0	16,712.7	10,150.0	56.2	53.5	-35.18	6,780.9	-360.0	1,468.2	1,357.0	111.25	13.197	
18,100.0	11,350.0	16,812.7	10,150.0	56.9	54.2	-35.18	6,880.9	-360.4	1,468.2	1,355.5	112.68	13.030	
18,200.0	11,350.0	16,912.7	10,150.0	57.6	55.0	-35.18	6,980.9	-360.8	1,468.2	1,354.1	114.11	12.867	
18,300.0	11,350.0	17,012.7	10,150.0	58.3	55.7	-35.18	7,080.9	-361.2	1,468.2	1,352.7	115.54	12.708	
18,400.0	11,350.0	17,112.7	10,150.0	59.0	56.4	-35.18	7,180.9	-361.6	1,468.2	1,351.2	116.97	12.552	
18,500.0	11,350.0	17,212.7	10,150.0	59.7	57.2	-35.18	7,280.9	-362.0	1,468.2	1,349.8	118.41	12.400	
18,600.0	11,350.0	17,312.7	10,150.0	60.4	57.9	-35.18	7,380.9	-362.4	1,468.2	1,348.4	119.85	12.251	
18,700.0	11,350.0	17,412.7	10,150.0	61.2	58.6	-35.18	7,480.9	-362.8	1,468.2	1,346.9	121.29	12.105	
18,800.0	11,350.0	17,512.7	10,150.0	61.9	59.4	-35.18	7,580.9	-363.2	1,468.2	1,345.5	122.73	11.963	
18,900.0	11,350.0	17,612.7	10,150.0	62.6	60.1	-35.18	7,680.9	-363.6	1,468.2	1,344.0	124.18	11.824	
19,000.0	11,350.0	17,712.7	10,150.0	63.3	60.8	-35.18	7,780.9	-364.0	1,468.2	1,342.6	125.63	11.687	
19,100.0	11,350.0	17,812.7	10,150.0	64.0	61.6	-35.18	7,880.9	-364.4	1,468.2	1,341.1	127.08	11.554	
19,200.0	11,350.0	17,912.7	10,150.0	64.7	62.3	-35.18	7,980.9	-364.8	1,468.2	1,339.7	128.53	11.423	
19,300.0	11,350.0	18,012.7	10,150.0	65.5	63.0	-35.18	8,080.9	-365.2	1,468.2	1,338.2	129.98	11.296	
19,400.0	11,350.0	18,112.7	10,150.0	66.2	63.8	-35.18	8,180.9	-365.6	1,468.2	1,336.8	131.44	11.171	
19,500.0	11,350.0	18,212.7	10,150.0	66.9	64.5	-35.18	8,280.9	-366.0	1,468.2	1,335.3	132.89	11.048	
19,600.0	11,350.0	18,312.7	10,150.0	67.6	65.3	-35.18	8,380.9	-366.4	1,468.2	1,333.9	134.35	10.928	
19,700.0	11,350.0	18,412.7	10,150.0	68.3	66.0	-35.18	8,480.9	-366.8	1,468.2	1,332.4	135.81	10.811	
19,800.0	11,350.0	18,512.7	10,150.0	69.1	66.7	-35.18	8,580.9	-367.2	1,468.2	1,331.0	137.28	10.695	
19,900.0	11,350.0	18,612.7	10,150.0	69.8	67.5	-35.18	8,680.9	-367.6	1,468.2	1,329.5	138.74	10.583	
20,000.0	11,350.0	18,712.7	10,150.0	70.5	68.2	-35.18	8,780.9	-368.0	1,468.2	1,328.0	140.21	10.472	
20,100.0	11,350.0	18,812.7	10,150.0	71.2	69.0	-35.18	8,880.9	-368.4	1,468.2	1,326.6	141.67	10.364	
20,200.0	11,350.0	18,912.7	10,150.0	72.0	69.7	-35.18	8,980.9	-368.8	1,468.2	1,325.1	143.14	10.257	
20,300.0	11,350.0	19,012.7	10,150.0	72.7	70.5	-35.18	9,080.9	-369.2	1,468.2	1,323.6	144.61	10.153	
20,400.0	11,350.0	19,112.7	10,150.0	73.4	71.2	-35.18	9,180.9	-369.6	1,468.2	1,322.2	146.08	10.051	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,500.0	11,350.0	19,212.7	10,150.0	74.2	71.9	-35.18	9,280.9	-370.0	1,468.2	1,320.7	147.55	9.950	
20,600.0	11,350.0	19,312.7	10,150.0	74.9	72.7	-35.18	9,380.9	-370.4	1,468.2	1,319.2	149.03	9.852	
20,700.0	11,350.0	19,412.7	10,150.0	75.6	73.4	-35.18	9,480.9	-370.8	1,468.2	1,317.7	150.50	9.756	
20,800.0	11,350.0	19,512.7	10,150.0	76.4	74.2	-35.18	9,580.9	-371.2	1,468.2	1,316.3	151.98	9.661	
20,900.0	11,350.0	19,612.7	10,150.0	77.1	74.9	-35.18	9,680.9	-371.6	1,468.2	1,314.8	153.46	9.568	
21,000.0	11,350.0	19,712.7	10,150.0	77.8	75.7	-35.18	9,780.9	-372.0	1,468.2	1,313.3	154.94	9.477	
21,100.0	11,350.0	19,812.7	10,150.0	78.6	76.4	-35.18	9,880.8	-372.4	1,468.2	1,311.8	156.41	9.387	
21,200.0	11,350.0	19,912.7	10,150.0	79.3	77.2	-35.18	9,980.8	-372.8	1,468.2	1,310.4	157.90	9.299	
21,300.0	11,350.0	20,012.7	10,150.0	80.0	77.9	-35.18	10,080.8	-373.2	1,468.3	1,308.9	159.38	9.212	
21,400.0	11,350.0	20,112.7	10,150.0	80.8	78.7	-35.18	10,180.8	-373.6	1,468.3	1,307.4	160.86	9.128	
21,500.0	11,350.0	20,212.7	10,150.0	81.5	79.4	-35.18	10,280.8	-374.0	1,468.3	1,305.9	162.34	9.044	
21,600.0	11,350.0	20,312.7	10,150.0	82.2	80.2	-35.18	10,380.8	-374.4	1,468.3	1,304.4	163.83	8.962	
21,700.0	11,350.0	20,412.7	10,150.0	83.0	80.9	-35.18	10,480.8	-374.8	1,468.3	1,302.9	165.31	8.882	
21,800.0	11,350.0	20,512.7	10,150.0	83.7	81.7	-35.18	10,580.8	-375.2	1,468.3	1,301.5	166.80	8.803	
21,900.0	11,350.0	20,612.7	10,150.0	84.5	82.4	-35.19	10,680.8	-375.6	1,468.3	1,300.0	168.29	8.725	
22,000.0	11,350.0	20,712.7	10,150.0	85.2	83.2	-35.19	10,780.8	-376.0	1,468.3	1,298.5	169.77	8.648	
22,100.0	11,350.0	20,812.7	10,150.0	85.9	83.9	-35.19	10,880.8	-376.4	1,468.3	1,297.0	171.26	8.573	
22,200.0	11,350.0	20,912.7	10,150.0	86.7	84.7	-35.19	10,980.8	-376.8	1,468.3	1,295.5	172.75	8.499	
22,300.0	11,350.0	21,012.7	10,150.0	87.4	85.4	-35.19	11,080.8	-377.2	1,468.3	1,294.0	174.24	8.427	
22,400.0	11,350.0	21,112.7	10,150.0	88.1	86.2	-35.19	11,180.8	-377.6	1,468.3	1,292.5	175.73	8.355	
22,500.0	11,350.0	21,212.7	10,150.0	88.9	86.9	-35.19	11,280.8	-378.1	1,468.3	1,291.0	177.23	8.285	
22,600.0	11,350.0	21,312.7	10,150.0	89.6	87.7	-35.19	11,380.8	-378.5	1,468.3	1,289.5	178.72	8.216	
22,700.0	11,350.0	21,412.7	10,150.0	90.4	88.4	-35.19	11,480.8	-378.9	1,468.3	1,288.1	180.21	8.147	
22,800.0	11,350.0	21,512.7	10,150.0	91.1	89.2	-35.19	11,580.8	-379.3	1,468.3	1,286.6	181.71	8.080	
22,900.0	11,350.0	21,612.7	10,150.0	91.9	89.9	-35.19	11,680.8	-379.7	1,468.3	1,285.1	183.20	8.015	
23,000.0	11,350.0	21,712.7	10,150.0	92.6	90.7	-35.19	11,780.8	-380.1	1,468.3	1,283.6	184.70	7.950	
23,100.0	11,350.0	21,812.7	10,150.0	93.3	91.4	-35.19	11,880.8	-380.5	1,468.3	1,282.1	186.19	7.886	
23,200.0	11,350.0	21,912.7	10,150.0	94.1	92.2	-35.19	11,980.8	-380.9	1,468.3	1,280.6	187.69	7.823	
23,300.0	11,350.0	22,012.7	10,150.0	94.8	92.9	-35.19	12,080.8	-381.3	1,468.3	1,279.1	189.19	7.761	
23,400.0	11,350.0	22,112.7	10,150.0	95.6	93.7	-35.19	12,180.8	-381.7	1,468.3	1,277.6	190.68	7.700	
23,500.0	11,350.0	22,212.7	10,150.0	96.3	94.4	-35.19	12,280.8	-382.1	1,468.3	1,276.1	192.18	7.640	
23,600.0	11,350.0	22,312.7	10,150.0	97.1	95.2	-35.19	12,380.8	-382.5	1,468.3	1,274.6	193.68	7.581	
23,700.0	11,350.0	22,412.7	10,150.0	97.8	96.0	-35.19	12,480.8	-382.9	1,468.3	1,273.1	195.18	7.523	
23,800.0	11,350.0	22,512.7	10,150.0	98.6	96.7	-35.19	12,580.8	-383.3	1,468.3	1,271.6	196.68	7.465	
23,900.0	11,350.0	22,612.7	10,150.0	99.3	97.5	-35.19	12,680.8	-383.7	1,468.3	1,270.1	198.18	7.409	
24,000.0	11,350.0	22,712.7	10,150.0	100.1	98.2	-35.19	12,780.8	-384.1	1,468.3	1,268.6	199.68	7.353	
24,100.0	11,350.0	22,812.7	10,150.0	100.8	99.0	-35.19	12,880.8	-384.5	1,468.3	1,267.1	201.18	7.298	
24,200.0	11,350.0	22,912.7	10,150.0	101.5	99.7	-35.19	12,980.8	-384.9	1,468.3	1,265.6	202.69	7.244	
24,300.0	11,350.0	23,012.7	10,150.0	102.3	100.5	-35.19	13,080.8	-385.3	1,468.3	1,264.1	204.19	7.191	
24,400.0	11,350.0	23,112.7	10,150.0	103.0	101.2	-35.19	13,180.8	-385.7	1,468.3	1,262.6	205.69	7.138	
24,500.0	11,350.0	23,212.7	10,150.0	103.8	102.0	-35.19	13,280.8	-386.1	1,468.3	1,261.1	207.20	7.086	
24,600.0	11,350.0	23,312.7	10,150.0	104.5	102.8	-35.19	13,380.8	-386.5	1,468.3	1,259.6	208.70	7.035	
24,700.0	11,350.0	23,412.7	10,150.0	105.3	103.5	-35.19	13,480.8	-386.9	1,468.3	1,258.1	210.16	6.986	
24,750.1	11,350.0	23,462.7	10,150.0	105.7	103.8	-35.19	13,530.9	-387.1	1,468.3	1,257.5	210.75	6.967 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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
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)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	30.97	150.0	90.0	174.9	168.5	6.43	27.206		
100.0	100.0	100.0	100.0	3.2	3.2	30.97	150.0	90.0	174.9	168.0	6.89	25.376		
200.0	200.0	200.0	200.0	3.5	3.5	30.97	150.0	90.0	174.9	167.6	7.33	23.867		
300.0	300.0	300.0	300.0	3.7	3.7	30.97	150.0	90.0	174.9	167.2	7.74	22.593		
400.0	400.0	400.0	400.0	3.9	3.9	30.97	150.0	90.0	174.9	166.8	8.14	21.499		
500.0	500.0	500.0	500.0	4.1	4.1	30.97	150.0	90.0	174.9	166.4	8.51	20.544		
600.0	600.0	600.0	600.0	4.2	4.2	30.97	150.0	90.0	174.9	166.0	8.88	19.702		
700.0	700.0	700.0	700.0	4.4	4.4	30.97	150.0	90.0	174.9	165.7	9.23	18.951		
800.0	800.0	800.0	800.0	4.6	4.6	30.97	150.0	90.0	174.9	165.3	9.57	18.275		
900.0	900.0	900.0	900.0	4.8	4.8	30.97	150.0	90.0	174.9	165.0	9.90	17.664		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	30.97	150.0	90.0	174.9	164.7	10.22	17.106		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	30.97	150.0	90.0	174.9	164.4	10.54	16.595		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	30.97	150.0	90.0	174.9	164.1	10.85	16.124		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	30.97	150.0	90.0	174.9	163.8	11.15	15.688		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	30.97	150.0	90.0	174.9	163.5	11.44	15.283		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	30.97	150.0	90.0	174.9	163.2	11.73	14.905		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	30.97	150.0	90.0	174.9	162.9	12.02	14.552		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	30.97	150.0	90.0	174.9	162.6	12.30	14.220		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	30.97	150.0	90.0	174.9	162.3	12.58	13.908 CC		
1,900.0	1,900.0	1,899.1	1,899.1	6.3	6.3	31.38	149.5	91.2	175.2	162.3	12.83	13.647 ES		
2,000.0	2,000.0	1,998.1	1,998.0	6.4	6.4	32.61	148.2	94.8	176.0	162.9	13.08	13.454		
2,100.0	2,100.0	2,096.9	2,096.6	6.5	6.6	-75.76	146.0	100.8	177.2	163.9	13.31	13.309		
2,200.0	2,199.9	2,195.6	2,194.9	6.7	6.8	-74.16	143.0	109.2	178.5	165.0	13.53	13.189		
2,300.0	2,299.7	2,294.1	2,292.7	6.9	7.0	-72.60	139.1	120.0	180.0	166.2	13.76	13.075		
2,400.0	2,399.3	2,391.1	2,388.8	7.0	7.2	-71.16	134.7	132.9	181.8	167.8	13.94	13.036		
2,500.0	2,498.6	2,487.0	2,483.4	7.2	7.4	-70.07	131.0	147.9	184.9	170.7	14.18	13.036		
2,600.0	2,597.6	2,582.8	2,577.6	7.4	7.6	-69.24	128.2	165.1	189.5	175.1	14.38	13.174		
2,700.0	2,696.6	2,678.3	2,671.1	7.6	7.9	-68.17	126.2	184.5	196.3	181.6	14.66	13.387		
2,800.0	2,795.7	2,773.4	2,763.7	7.9	8.2	-66.87	125.0	206.0	205.4	190.4	14.97	13.718		
2,900.0	2,894.7	2,868.1	2,855.4	8.1	8.5	-65.41	124.6	229.5	216.8	201.5	15.28	14.190		
3,000.0	2,993.7	2,967.1	2,951.1	8.4	8.8	-63.91	124.6	255.2	229.4	213.7	15.68	14.632		
3,100.0	3,092.8	3,066.1	3,046.7	8.7	9.1	-62.58	124.6	280.8	242.1	226.0	16.13	15.012		
3,200.0	3,191.8	3,165.2	3,142.4	8.9	9.5	-61.37	124.6	306.4	254.9	238.3	16.61	15.352		
3,300.0	3,290.8	3,264.2	3,238.1	9.3	9.8	-60.28	124.6	332.1	267.9	250.8	17.11	15.654		
3,400.0	3,389.8	3,363.3	3,333.7	9.6	10.2	-59.29	124.6	357.7	280.9	263.2	17.64	15.921		
3,500.0	3,488.9	3,462.3	3,429.4	9.9	10.6	-58.39	124.6	383.3	294.0	275.8	18.20	16.156		
3,600.0	3,587.9	3,561.3	3,525.0	10.2	11.0	-57.57	124.6	409.0	307.1	288.4	18.77	16.363		
3,700.0	3,686.9	3,660.4	3,620.7	10.6	11.4	-56.81	124.6	434.6	320.4	301.0	19.37	16.543		
3,800.0	3,785.9	3,759.4	3,716.4	10.9	11.8	-56.11	124.6	460.2	333.6	313.7	19.98	16.701		
3,900.0	3,885.0	3,858.5	3,812.1	11.3	12.2	-43.17	124.6	485.9	346.0	325.4	20.64	16.763		
4,000.0	3,984.0	3,957.8	3,908.0	11.6	12.6	-34.65	124.6	511.6	356.4	335.0	21.34	16.697		
4,100.0	4,083.0	4,057.0	4,003.8	11.9	13.1	-33.57	124.6	537.3	366.5	344.4	22.11	16.572		
4,200.0	4,182.1	4,156.3	4,099.7	12.3	13.5	-32.55	124.6	562.9	376.7	353.8	22.91	16.446		
4,300.0	4,281.1	4,255.5	4,195.6	12.6	13.9	-31.58	124.6	588.6	387.1	363.3	23.71	16.321		
4,400.0	4,380.1	4,354.8	4,291.5	13.0	14.4	-30.66	124.6	614.3	397.5	373.0	24.54	16.199		
4,500.0	4,479.2	4,454.0	4,387.3	13.4	14.8	-29.79	124.6	640.0	408.1	382.7	25.38	16.081		
4,600.0	4,578.2	4,553.3	4,483.2	13.7	15.3	-28.96	124.6	665.7	418.7	392.5	26.23	15.966		
4,700.0	4,677.2	4,652.5	4,579.1	14.1	15.7	-28.18	124.6	691.4	429.4	402.3	27.09	15.855		
4,800.0	4,776.2	4,751.8	4,674.9	14.5	16.2	-27.43	124.6	717.1	440.2	412.3	27.95	15.748		
4,900.0	4,875.3	4,851.0	4,770.8	14.9	16.6	-26.72	124.6	742.8	451.1	422.3	28.83	15.646		
5,000.0	4,974.3	4,950.3	4,866.7	15.3	17.1	-26.04	124.6	768.5	462.0	432.3	29.72	15.549		
5,100.0	5,073.3	5,049.6	4,962.6	15.7	17.5	-25.39	124.6	794.2	473.0	442.4	30.61	15.456		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,200.0	5,172.3	5,148.8	5,058.4	16.1	18.0	-24.77	124.6	819.8	484.1	452.6	31.50	15.367		
5,300.0	5,271.4	5,248.1	5,154.3	16.4	18.4	-24.18	124.6	845.5	495.2	462.8	32.40	15.282		
5,400.0	5,370.4	5,347.3	5,250.2	16.8	18.9	-23.62	124.6	871.2	506.3	473.0	33.31	15.202		
5,500.0	5,469.4	5,446.6	5,346.1	17.2	19.4	-23.08	124.6	896.9	517.5	483.3	34.22	15.125		
5,600.0	5,568.5	5,545.8	5,441.9	17.6	19.8	-22.56	124.6	922.6	528.8	493.7	35.13	15.053		
5,700.0	5,667.5	5,645.1	5,537.8	18.0	20.3	-22.08	124.6	948.3	540.3	504.2	36.02	14.998		
5,800.0	5,766.8	5,744.1	5,633.4	18.4	20.8	-21.59	124.6	973.9	553.2	516.2	36.94	14.974		
5,900.0	5,866.2	5,842.9	5,728.8	18.8	21.2	-21.06	124.6	999.5	567.7	529.9	37.86	14.994		
6,000.0	5,965.8	5,941.3	5,824.0	19.1	21.7	-20.51	124.6	1,025.0	584.0	545.2	38.78	15.058		
6,100.0	6,065.6	6,039.5	5,918.8	19.5	22.2	-19.94	124.6	1,050.4	601.9	562.2	39.69	15.164		
6,200.0	6,165.4	6,137.3	6,013.3	19.8	22.6	-19.35	124.6	1,075.7	621.5	580.9	40.59	15.312		
6,300.0	6,265.4	6,234.8	6,107.4	20.1	23.1	-18.76	124.6	1,100.9	642.7	601.3	41.46	15.502		
6,400.0	6,365.3	6,331.8	6,201.1	20.4	23.6	-18.17	124.6	1,126.0	665.7	623.4	42.30	15.737		
6,500.0	6,465.3	6,428.5	6,294.5	20.5	24.0	72.46	124.6	1,151.0	690.2	647.2	42.99	16.056		
6,600.0	6,565.3	6,525.1	6,387.8	20.5	24.5	73.08	124.6	1,176.0	715.0	671.4	43.65	16.381		
6,700.0	6,665.3	6,621.7	6,481.1	20.5	25.0	73.66	124.6	1,201.0	739.9	695.6	44.30	16.700		
6,800.0	6,765.3	6,718.2	6,574.4	20.6	25.4	74.20	124.6	1,226.0	764.8	719.9	44.95	17.013		
6,900.0	6,865.3	6,814.8	6,667.7	20.6	25.9	74.71	124.6	1,251.0	789.8	744.2	45.60	17.319		
7,000.0	6,965.3	6,911.4	6,761.0	20.7	26.4	75.19	124.6	1,276.0	814.9	768.6	46.25	17.619		
7,100.0	7,065.3	7,008.0	6,854.3	20.7	26.8	75.64	124.6	1,301.0	840.0	793.1	46.89	17.913		
7,200.0	7,165.3	7,104.6	6,947.6	20.7	27.3	76.07	124.6	1,326.0	865.1	817.6	47.54	18.200		
7,300.0	7,265.3	7,201.2	7,040.9	20.8	27.8	76.47	124.6	1,351.0	890.3	842.1	48.18	18.480		
7,400.0	7,365.3	7,297.8	7,134.2	20.8	28.2	76.85	124.6	1,376.0	915.5	866.7	48.82	18.754		
7,500.0	7,465.3	7,394.4	7,227.5	20.9	28.7	77.20	124.6	1,401.0	940.8	891.3	49.46	19.022		
7,600.0	7,565.3	7,491.0	7,320.8	20.9	29.2	77.54	124.6	1,426.0	966.1	916.0	50.10	19.284		
7,700.0	7,665.3	7,587.6	7,414.1	21.0	29.7	77.87	124.6	1,451.0	991.4	940.7	50.74	19.540		
7,800.0	7,765.3	7,684.2	7,507.4	21.0	30.1	78.17	124.6	1,476.0	1,016.8	965.4	51.38	19.790		
7,900.0	7,865.3	7,780.8	7,600.7	21.0	30.6	78.46	124.6	1,501.0	1,042.2	990.1	52.02	20.034		
8,000.0	7,965.3	7,877.4	7,694.0	21.1	31.1	78.74	124.6	1,526.0	1,067.6	1,014.9	52.66	20.273		
8,100.0	8,065.3	7,974.0	7,787.3	21.1	31.5	79.01	124.6	1,551.0	1,093.0	1,039.7	53.30	20.506		
8,200.0	8,165.3	8,070.5	7,880.6	21.2	32.0	79.26	124.6	1,576.0	1,118.4	1,064.5	53.94	20.734		
8,300.0	8,265.3	8,167.1	7,973.9	21.2	32.5	79.50	124.6	1,601.0	1,143.9	1,089.3	54.58	20.957		
8,400.0	8,365.3	8,263.7	8,067.2	21.3	33.0	79.73	124.6	1,626.0	1,169.4	1,114.2	55.23	21.174		
8,500.0	8,465.3	8,360.3	8,160.5	21.3	33.4	79.95	124.6	1,651.0	1,194.9	1,139.0	55.87	21.387		
8,600.0	8,565.3	8,456.9	8,253.8	21.4	33.9	80.16	124.6	1,676.0	1,220.4	1,163.9	56.52	21.594		
8,700.0	8,665.3	8,553.5	8,347.1	21.4	34.4	80.37	124.6	1,701.0	1,245.9	1,188.8	57.16	21.797		
8,800.0	8,765.3	8,650.1	8,440.4	21.4	34.9	80.56	124.6	1,726.0	1,271.5	1,213.7	57.81	21.995		
8,900.0	8,865.3	8,764.3	8,550.8	21.5	35.4	80.78	124.6	1,755.3	1,296.8	1,238.2	58.57	22.140		
9,000.0	8,965.3	8,911.5	8,694.2	21.5	36.1	81.02	124.6	1,788.6	1,319.2	1,259.7	59.50	22.172		
9,100.0	9,065.3	9,061.2	8,841.2	21.6	36.8	81.21	124.6	1,816.9	1,337.9	1,277.6	60.32	22.178		
9,200.0	9,165.3	9,212.9	8,991.1	21.6	37.5	81.36	124.6	1,839.6	1,352.7	1,291.7	61.04	22.160		
9,300.0	9,265.3	9,366.2	9,143.5	21.7	38.1	81.46	124.6	1,856.5	1,363.6	1,302.0	61.63	22.125		
9,400.0	9,365.3	9,520.6	9,297.5	21.7	38.7	81.53	124.6	1,867.4	1,370.6	1,308.5	62.08	22.077		
9,500.0	9,465.3	9,675.7	9,452.5	21.8	39.2	81.56	124.6	1,872.0	1,373.5	1,311.2	62.29	22.051		
9,600.0	9,565.3	9,788.5	9,565.3	21.8	39.2	81.56	124.6	1,872.2	1,373.6	1,311.3	62.34	22.035		
9,700.0	9,665.3	9,850.0	9,626.8	21.9	39.3	81.48	126.7	1,873.1	1,375.4	1,312.7	62.71	21.933		
9,800.0	9,765.3	9,878.5	9,655.1	21.9	39.4	81.37	129.7	1,874.5	1,381.1	1,317.9	63.23	21.844		
9,900.0	9,865.3	9,919.0	9,694.9	22.0	39.4	81.11	136.3	1,877.6	1,391.3	1,327.6	63.61	21.872		
10,000.0	9,965.3	9,950.0	9,725.0	22.0	39.5	80.86	143.1	1,880.8	1,405.7	1,341.8	63.92	21.991		
10,100.0	10,065.3	10,000.0	9,772.4	22.1	39.6	80.32	157.4	1,887.4	1,424.3	1,360.2	64.16	22.198		
10,200.0	10,165.3	10,031.7	9,801.6	22.1	39.7	79.91	168.5	1,892.6	1,447.3	1,383.0	64.32	22.502		
10,300.0	10,265.3	10,050.0	9,818.2	22.2	39.7	79.65	175.5	1,895.9	1,474.8	1,410.4	64.35	22.918		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	10,365.3	10,100.0	9,862.0	22.2	39.9	78.85	197.4	1,906.1	1,506.1	1,441.7	64.43	23.375	
10,500.0	10,465.3	10,126.8	9,884.4	22.3	39.9	78.38	210.6	1,912.2	1,541.7	1,477.3	64.37	23.952	
10,600.0	10,565.3	10,150.0	9,903.4	22.3	40.0	77.95	222.8	1,917.9	1,581.4	1,517.2	64.23	24.621	
10,700.0	10,665.3	10,180.0	9,926.9	22.4	40.0	77.36	239.6	1,925.8	1,624.9	1,560.9	64.09	25.353	
10,800.0	10,765.3	10,200.0	9,942.0	22.4	40.1	76.96	251.5	1,931.3	1,672.2	1,608.4	63.86	26.186	
10,900.0	10,865.0	10,228.7	9,962.8	22.4	40.2	71.83	269.5	1,939.7	1,721.5	1,657.8	63.72	27.019	
11,000.0	10,962.0	10,266.5	9,988.8	22.4	40.2	66.31	294.6	1,950.8	1,769.1	1,705.3	63.75	27.748	
11,100.0	11,053.3	10,300.0	10,010.5	22.4	40.3	61.64	318.2	1,960.3	1,813.0	1,749.1	63.87	28.385	
11,200.0	11,136.3	10,350.0	10,040.4	22.4	40.4	57.79	355.9	1,973.8	1,851.7	1,787.5	64.21	28.840	
11,300.0	11,208.3	10,400.0	10,067.2	22.4	40.5	54.87	396.2	1,986.3	1,884.4	1,819.8	64.63	29.157	
11,400.0	11,267.3	10,450.0	10,090.7	22.4	40.5	52.82	438.8	1,998.0	1,910.1	1,845.0	65.12	29.331	
11,500.0	11,311.3	10,482.9	10,104.3	22.4	40.6	51.51	467.9	2,005.0	1,928.2	1,862.7	65.55	29.415	
11,600.0	11,339.1	10,527.7	10,120.3	22.5	40.6	50.96	508.8	2,013.9	1,938.5	1,872.3	66.12	29.317	
11,700.0	11,349.8	10,572.7	10,133.4	22.6	40.7	51.14	551.1	2,021.8	1,940.6	1,873.9	66.73	29.082	
11,800.0	11,350.0	10,618.5	10,143.6	22.7	40.7	51.53	595.1	2,028.8	1,939.0	1,871.7	67.33	28.800	
11,808.7	11,350.0	10,622.5	10,144.4	22.7	40.7	51.56	599.1	2,029.4	1,939.0	1,871.7	67.38	28.778	
11,900.0	11,350.0	10,665.9	10,150.8	22.9	40.7	51.81	641.6	2,035.0	1,940.2	1,872.3	67.90	28.574	
12,000.0	11,350.0	10,714.5	10,154.6	23.0	40.8	52.00	689.7	2,040.1	1,944.0	1,875.6	68.45	28.401	
12,100.0	11,350.0	10,844.8	10,155.0	23.2	40.9	52.17	819.8	2,048.6	1,949.5	1,879.9	69.61	28.007	
12,200.0	11,350.0	11,015.1	10,155.0	23.5	41.1	52.22	990.0	2,050.9	1,950.6	1,879.6	71.01	27.471	
12,300.0	11,350.0	11,115.1	10,155.0	23.7	41.2	52.22	1,090.0	2,050.5	1,950.7	1,878.7	71.95	27.111	
12,400.0	11,350.0	11,215.1	10,154.9	24.0	41.3	52.22	1,190.0	2,050.1	1,950.7	1,877.8	72.91	26.754	
12,500.0	11,350.0	11,315.1	10,154.9	24.2	41.5	52.22	1,290.0	2,049.7	1,950.7	1,876.8	73.89	26.399	
12,600.0	11,350.0	11,415.1	10,154.8	24.6	41.6	52.22	1,390.0	2,049.3	1,950.7	1,875.8	74.89	26.047	
12,700.0	11,350.0	11,515.1	10,154.8	24.9	41.8	52.22	1,490.0	2,048.9	1,950.8	1,874.9	75.91	25.698	
12,800.0	11,350.0	11,615.1	10,154.8	25.2	42.0	52.22	1,590.0	2,048.5	1,950.8	1,873.8	76.94	25.353	
12,900.0	11,350.0	11,715.1	10,154.7	25.6	42.2	52.22	1,690.0	2,048.1	1,950.8	1,872.8	77.99	25.012	
13,000.0	11,350.0	11,815.1	10,154.7	26.0	42.4	52.21	1,790.0	2,047.7	1,950.8	1,871.8	79.06	24.675	
13,100.0	11,350.0	11,915.1	10,154.6	26.4	42.6	52.21	1,890.0	2,047.3	1,950.9	1,870.7	80.14	24.343	
13,200.0	11,350.0	12,015.1	10,154.6	26.8	42.9	52.21	1,990.0	2,046.9	1,950.9	1,869.7	81.24	24.015	
13,300.0	11,350.0	12,115.1	10,154.6	27.2	43.2	52.21	2,090.0	2,046.5	1,950.9	1,868.6	82.35	23.691	
13,400.0	11,350.0	12,215.1	10,154.5	27.7	43.4	52.21	2,190.0	2,046.1	1,950.9	1,867.5	83.47	23.373	
13,500.0	11,350.0	12,315.1	10,154.5	28.1	43.7	52.21	2,290.0	2,045.7	1,951.0	1,866.4	84.61	23.059	
13,600.0	11,350.0	12,415.1	10,154.4	28.6	44.0	52.21	2,390.0	2,045.3	1,951.0	1,865.2	85.75	22.751	
13,700.0	11,350.0	12,515.1	10,154.4	29.1	44.3	52.21	2,490.0	2,044.9	1,951.0	1,864.1	86.91	22.448	
13,800.0	11,350.0	12,615.1	10,154.4	29.6	44.6	52.21	2,590.0	2,044.5	1,951.0	1,863.0	88.08	22.150	
13,900.0	11,350.0	12,715.1	10,154.3	30.1	45.0	52.21	2,690.0	2,044.1	1,951.1	1,861.8	89.27	21.857	
14,000.0	11,350.0	12,815.1	10,154.3	30.6	45.3	52.21	2,790.0	2,043.8	1,951.1	1,860.6	90.46	21.569	
14,100.0	11,350.0	12,915.1	10,154.2	31.1	45.7	52.20	2,890.0	2,043.4	1,951.1	1,859.5	91.66	21.286	
14,200.0	11,350.0	13,015.1	10,154.2	31.7	46.0	52.20	2,990.0	2,043.0	1,951.2	1,858.3	92.87	21.009	
14,300.0	11,350.0	13,115.1	10,154.2	32.2	46.4	52.20	3,090.0	2,042.6	1,951.2	1,857.1	94.09	20.737	
14,400.0	11,350.0	13,215.1	10,154.1	32.8	46.8	52.20	3,190.0	2,042.2	1,951.2	1,855.9	95.32	20.469	
14,500.0	11,350.0	13,315.1	10,154.1	33.3	47.2	52.20	3,290.0	2,041.8	1,951.2	1,854.7	96.56	20.207	
14,600.0	11,350.0	13,415.1	10,154.0	33.9	47.6	52.20	3,390.0	2,041.4	1,951.3	1,853.4	97.81	19.950	
14,700.0	11,350.0	13,515.1	10,154.0	34.5	48.0	52.20	3,490.0	2,041.0	1,951.3	1,852.2	99.06	19.697	
14,800.0	11,350.0	13,615.1	10,154.0	35.1	48.4	52.20	3,590.0	2,040.6	1,951.3	1,851.0	100.32	19.450	
14,900.0	11,350.0	13,715.1	10,153.9	35.7	48.8	52.20	3,690.0	2,040.2	1,951.3	1,849.7	101.59	19.207	
15,000.0	11,350.0	13,815.1	10,153.9	36.3	49.3	52.20	3,790.0	2,039.8	1,951.4	1,848.5	102.87	18.969	
15,100.0	11,350.0	13,915.1	10,153.8	36.9	49.7	52.20	3,890.0	2,039.4	1,951.4	1,847.2	104.15	18.736	
15,200.0	11,350.0	14,015.1	10,153.8	37.5	50.2	52.20	3,990.0	2,039.0	1,951.4	1,846.0	105.44	18.507	
15,300.0	11,350.0	14,115.1	10,153.8	38.1	50.6	52.19	4,090.0	2,038.6	1,951.4	1,844.7	106.74	18.282	
15,400.0	11,350.0	14,215.1	10,153.7	38.7	51.1	52.19	4,189.9	2,038.2	1,951.5	1,843.4	108.04	18.062	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	11,350.0	14,315.1	10,153.7	39.4	51.6	52.19	4,289.9	2,037.8	1,951.5	1,842.1	109.35	17.846	
15,600.0	11,350.0	14,415.1	10,153.6	40.0	52.1	52.19	4,389.9	2,037.4	1,951.5	1,840.9	110.66	17.635	
15,700.0	11,350.0	14,515.1	10,153.6	40.6	52.5	52.19	4,489.9	2,037.0	1,951.5	1,839.6	111.98	17.427	
15,800.0	11,350.0	14,615.1	10,153.6	41.3	53.0	52.19	4,589.9	2,036.6	1,951.6	1,838.3	113.31	17.224	
15,900.0	11,350.0	14,715.1	10,153.5	41.9	53.5	52.19	4,689.9	2,036.2	1,951.6	1,837.0	114.64	17.024	
16,000.0	11,350.0	14,815.1	10,153.5	42.6	54.1	52.19	4,789.9	2,035.8	1,951.6	1,835.6	115.97	16.828	
16,100.0	11,350.0	14,915.1	10,153.4	43.2	54.6	52.19	4,889.9	2,035.4	1,951.6	1,834.3	117.31	16.636	
16,200.0	11,350.0	15,015.1	10,153.4	43.9	55.1	52.19	4,989.9	2,035.0	1,951.7	1,833.0	118.66	16.448	
16,300.0	11,350.0	15,115.1	10,153.4	44.6	55.6	52.19	5,089.9	2,034.6	1,951.7	1,831.7	120.00	16.264	
16,400.0	11,350.0	15,215.1	10,153.3	45.2	56.1	52.18	5,189.9	2,034.2	1,951.7	1,830.4	121.36	16.083	
16,500.0	11,350.0	15,315.1	10,153.3	45.9	56.7	52.18	5,289.9	2,033.8	1,951.8	1,829.0	122.71	15.905	
16,600.0	11,350.0	15,415.1	10,153.2	46.6	57.2	52.18	5,389.9	2,033.4	1,951.8	1,827.7	124.07	15.731	
16,700.0	11,350.0	15,515.1	10,153.2	47.2	57.8	52.18	5,489.9	2,033.0	1,951.8	1,826.4	125.44	15.560	
16,800.0	11,350.0	15,615.1	10,153.2	47.9	58.3	52.18	5,589.9	2,032.6	1,951.8	1,825.0	126.81	15.392	
16,900.0	11,350.0	15,715.1	10,153.1	48.6	58.9	52.18	5,689.9	2,032.2	1,951.9	1,823.7	128.18	15.228	
17,000.0	11,350.0	15,815.1	10,153.1	49.3	59.4	52.18	5,789.9	2,031.8	1,951.9	1,822.3	129.55	15.066	
17,100.0	11,350.0	15,915.1	10,153.0	49.9	60.0	52.18	5,889.9	2,031.4	1,951.9	1,821.0	130.93	14.908	
17,200.0	11,350.0	16,015.1	10,153.0	50.6	60.6	52.18	5,989.9	2,031.0	1,951.9	1,819.6	132.31	14.752	
17,300.0	11,350.0	16,115.1	10,153.0	51.3	61.1	52.18	6,089.9	2,030.6	1,952.0	1,818.3	133.70	14.600	
17,400.0	11,350.0	16,215.1	10,152.9	52.0	61.7	52.18	6,189.9	2,030.2	1,952.0	1,816.9	135.09	14.450	
17,500.0	11,350.0	16,315.1	10,152.9	52.7	62.3	52.17	6,289.9	2,029.8	1,952.0	1,815.5	136.48	14.303	
17,600.0	11,350.0	16,415.1	10,152.8	53.4	62.9	52.17	6,389.9	2,029.4	1,952.0	1,814.2	137.87	14.158	
17,700.0	11,350.0	16,515.1	10,152.8	54.1	63.5	52.17	6,489.9	2,029.0	1,952.1	1,812.8	139.27	14.016	
17,800.0	11,350.0	16,615.1	10,152.8	54.8	64.1	52.17	6,589.9	2,028.6	1,952.1	1,811.4	140.67	13.877	
17,900.0	11,350.0	16,715.1	10,152.7	55.5	64.7	52.17	6,689.9	2,028.2	1,952.1	1,810.0	142.07	13.740	
18,000.0	11,350.0	16,815.1	10,152.7	56.2	65.3	52.17	6,789.9	2,027.8	1,952.1	1,808.7	143.48	13.606	
18,100.0	11,350.0	16,915.1	10,152.6	56.9	65.9	52.17	6,889.9	2,027.4	1,952.2	1,807.3	144.88	13.474	
18,200.0	11,350.0	17,015.1	10,152.6	57.6	66.5	52.17	6,989.9	2,027.0	1,952.2	1,805.9	146.29	13.344	
18,300.0	11,350.0	17,115.1	10,152.6	58.3	67.1	52.17	7,089.9	2,026.6	1,952.2	1,804.5	147.71	13.217	
18,400.0	11,350.0	17,215.1	10,152.5	59.0	67.7	52.17	7,189.9	2,026.2	1,952.2	1,803.1	149.12	13.092	
18,500.0	11,350.0	17,315.1	10,152.5	59.7	68.3	52.17	7,289.9	2,025.8	1,952.3	1,801.7	150.54	12.969	
18,600.0	11,350.0	17,415.1	10,152.4	60.4	68.9	52.16	7,389.9	2,025.5	1,952.3	1,800.3	151.96	12.848	
18,700.0	11,350.0	17,515.1	10,152.4	61.2	69.5	52.16	7,489.9	2,025.1	1,952.3	1,799.0	153.38	12.729	
18,800.0	11,350.0	17,615.1	10,152.4	61.9	70.2	52.16	7,589.9	2,024.7	1,952.4	1,797.6	154.80	12.612	
18,900.0	11,350.0	17,715.1	10,152.3	62.6	70.8	52.16	7,689.9	2,024.3	1,952.4	1,796.2	156.22	12.497	
19,000.0	11,350.0	17,815.1	10,152.3	63.3	71.4	52.16	7,789.9	2,023.9	1,952.4	1,794.8	157.65	12.384	
19,100.0	11,350.0	17,915.1	10,152.2	64.0	72.0	52.16	7,889.9	2,023.5	1,952.4	1,793.4	159.08	12.273	
19,200.0	11,350.0	18,015.1	10,152.2	64.7	72.7	52.16	7,989.9	2,023.1	1,952.5	1,791.9	160.51	12.164	
19,300.0	11,350.0	18,115.1	10,152.2	65.5	73.3	52.16	8,089.9	2,022.7	1,952.5	1,790.5	161.94	12.057	
19,400.0	11,350.0	18,215.1	10,152.1	66.2	74.0	52.16	8,189.9	2,022.3	1,952.5	1,789.1	163.38	11.951	
19,500.0	11,350.0	18,315.1	10,152.1	66.9	74.6	52.16	8,289.9	2,021.9	1,952.5	1,787.7	164.81	11.847	
19,600.0	11,350.0	18,415.1	10,152.0	67.6	75.2	52.16	8,389.9	2,021.5	1,952.6	1,786.3	166.25	11.745	
19,700.0	11,350.0	18,515.1	10,152.0	68.3	75.9	52.15	8,489.9	2,021.1	1,952.6	1,784.9	167.69	11.644	
19,800.0	11,350.0	18,615.1	10,152.0	69.1	76.5	52.15	8,589.9	2,020.7	1,952.6	1,783.5	169.13	11.545	
19,900.0	11,350.0	18,715.1	10,151.9	69.8	77.2	52.15	8,689.9	2,020.3	1,952.6	1,782.1	170.57	11.448	
20,000.0	11,350.0	18,815.1	10,151.9	70.5	77.8	52.15	8,789.9	2,019.9	1,952.7	1,780.7	172.02	11.352	
20,100.0	11,350.0	18,915.1	10,151.8	71.2	78.5	52.15	8,889.9	2,019.5	1,952.7	1,779.2	173.46	11.257	
20,200.0	11,350.0	19,015.1	10,151.8	72.0	79.2	52.15	8,989.9	2,019.1	1,952.7	1,777.8	174.91	11.164	
20,300.0	11,350.0	19,115.1	10,151.8	72.7	79.8	52.15	9,089.9	2,018.7	1,952.7	1,776.4	176.35	11.073	
20,400.0	11,350.0	19,215.1	10,151.7	73.4	80.5	52.15	9,189.9	2,018.3	1,952.8	1,775.0	177.80	10.983	
20,500.0	11,350.0	19,315.1	10,151.7	74.2	81.1	52.15	9,289.9	2,017.9	1,952.8	1,773.5	179.25	10.894	
20,600.0	11,350.0	19,415.1	10,151.7	74.9	81.8	52.15	9,389.9	2,017.5	1,952.8	1,772.1	180.71	10.807	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,350.0	19,515.1	10,151.6	75.6	82.5	52.15	9,489.9	2,017.1	1,952.8	1,770.7	182.16	10.721	
20,800.0	11,350.0	19,615.1	10,151.6	76.4	83.1	52.14	9,589.9	2,016.7	1,952.9	1,769.3	183.61	10.636	
20,900.0	11,350.0	19,715.1	10,151.5	77.1	83.8	52.14	9,689.9	2,016.3	1,952.9	1,767.8	185.07	10.552	
21,000.0	11,350.0	19,815.1	10,151.5	77.8	84.5	52.14	9,789.9	2,015.9	1,952.9	1,766.4	186.52	10.470	
21,100.0	11,350.0	19,915.1	10,151.5	78.6	85.1	52.14	9,889.9	2,015.5	1,953.0	1,765.0	187.98	10.389	
21,200.0	11,350.0	20,015.1	10,151.4	79.3	85.8	52.14	9,989.9	2,015.1	1,953.0	1,763.5	189.44	10.309	
21,300.0	11,350.0	20,115.1	10,151.4	80.0	86.5	52.14	10,089.9	2,014.7	1,953.0	1,762.1	190.90	10.230	
21,400.0	11,350.0	20,215.1	10,151.3	80.8	87.2	52.14	10,189.9	2,014.3	1,953.0	1,760.7	192.36	10.153	
21,500.0	11,350.0	20,315.1	10,151.3	81.5	87.8	52.14	10,289.9	2,013.9	1,953.1	1,759.2	193.82	10.076	
21,600.0	11,350.0	20,415.1	10,151.3	82.2	88.5	52.14	10,389.9	2,013.5	1,953.1	1,757.8	195.29	10.001	
21,700.0	11,350.0	20,515.1	10,151.2	83.0	89.2	52.14	10,489.9	2,013.1	1,953.1	1,756.4	196.75	9.927	
21,800.0	11,350.0	20,615.1	10,151.2	83.7	89.9	52.14	10,589.9	2,012.7	1,953.1	1,754.9	198.22	9.854	
21,900.0	11,350.0	20,715.1	10,151.1	84.5	90.6	52.13	10,689.9	2,012.3	1,953.2	1,753.5	199.68	9.781	
22,000.0	11,350.0	20,815.1	10,151.1	85.2	91.3	52.13	10,789.9	2,011.9	1,953.2	1,752.0	201.15	9.710	
22,100.0	11,350.0	20,915.1	10,151.1	85.9	91.9	52.13	10,889.9	2,011.5	1,953.2	1,750.6	202.62	9.640	
22,200.0	11,350.0	21,015.1	10,151.0	86.7	92.6	52.13	10,989.9	2,011.1	1,953.2	1,749.2	204.08	9.571	
22,300.0	11,350.0	21,115.1	10,151.0	87.4	93.3	52.13	11,089.9	2,010.7	1,953.3	1,747.7	205.55	9.502	
22,400.0	11,350.0	21,215.1	10,150.9	88.1	94.0	52.13	11,189.9	2,010.3	1,953.3	1,746.3	207.02	9.435	
22,500.0	11,350.0	21,315.1	10,150.9	88.9	94.7	52.13	11,289.9	2,009.9	1,953.3	1,744.8	208.50	9.369	
22,600.0	11,350.0	21,415.1	10,150.9	89.6	95.4	52.13	11,389.9	2,009.5	1,953.3	1,743.4	209.97	9.303	
22,700.0	11,350.0	21,515.1	10,150.8	90.4	96.1	52.13	11,489.9	2,009.1	1,953.4	1,741.9	211.44	9.238	
22,800.0	11,350.0	21,615.1	10,150.8	91.1	96.8	52.13	11,589.9	2,008.7	1,953.4	1,740.5	212.91	9.175	
22,900.0	11,350.0	21,715.1	10,150.7	91.9	97.5	52.13	11,689.9	2,008.3	1,953.4	1,739.0	214.39	9.112	
23,000.0	11,350.0	21,815.1	10,150.7	92.6	98.2	52.13	11,789.9	2,007.9	1,953.4	1,737.6	215.86	9.050	
23,100.0	11,350.0	21,915.1	10,150.7	93.3	98.9	52.12	11,889.9	2,007.5	1,953.5	1,736.1	217.34	8.988	
23,200.0	11,350.0	22,015.1	10,150.6	94.1	99.6	52.12	11,989.9	2,007.1	1,953.5	1,734.7	218.81	8.928	
23,300.0	11,350.0	22,115.1	10,150.6	94.8	100.3	52.12	12,089.9	2,006.8	1,953.5	1,733.2	220.29	8.868	
23,400.0	11,350.0	22,215.1	10,150.5	95.6	101.0	52.12	12,189.9	2,006.4	1,953.6	1,731.8	221.77	8.809	
23,500.0	11,350.0	22,315.1	10,150.5	96.3	101.7	52.12	12,289.9	2,006.0	1,953.6	1,730.3	223.25	8.751	
23,600.0	11,350.0	22,415.1	10,150.5	97.1	102.4	52.12	12,389.9	2,005.6	1,953.6	1,728.9	224.73	8.693	
23,700.0	11,350.0	22,515.1	10,150.4	97.8	103.1	52.12	12,489.9	2,005.2	1,953.6	1,727.4	226.21	8.636	
23,800.0	11,350.0	22,615.1	10,150.4	98.6	103.8	52.12	12,589.9	2,004.8	1,953.7	1,726.0	227.69	8.580	
23,900.0	11,350.0	22,715.1	10,150.3	99.3	104.5	52.12	12,689.9	2,004.4	1,953.7	1,724.5	229.17	8.525	
24,000.0	11,350.0	22,815.1	10,150.3	100.1	105.2	52.12	12,789.9	2,004.0	1,953.7	1,723.1	230.65	8.470	
24,100.0	11,350.0	22,915.1	10,150.3	100.8	105.9	52.12	12,889.9	2,003.6	1,953.7	1,721.6	232.13	8.416	
24,200.0	11,350.0	23,015.1	10,150.2	101.5	106.6	52.11	12,989.9	2,003.2	1,953.8	1,720.1	233.62	8.363	
24,300.0	11,350.0	23,115.1	10,150.2	102.3	107.3	52.11	13,089.9	2,002.8	1,953.8	1,718.7	235.10	8.311	
24,400.0	11,350.0	23,215.1	10,150.1	103.0	108.0	52.11	13,189.9	2,002.4	1,953.8	1,717.2	236.58	8.258	
24,500.0	11,350.0	23,315.1	10,150.1	103.8	108.7	52.11	13,289.9	2,002.0	1,953.8	1,715.8	238.07	8.207	
24,600.0	11,350.0	23,415.1	10,150.1	104.5	109.4	52.11	13,389.9	2,001.6	1,953.9	1,714.3	239.55	8.156	
24,700.0	11,350.0	23,515.1	10,150.0	105.3	110.1	52.11	13,489.9	2,001.2	1,953.9	1,712.9	241.00	8.108	
24,700.4	11,350.0	23,515.4	10,150.0	105.3	110.1	52.11	13,490.2	2,001.2	1,953.9	1,712.9	241.00	8.107	
24,750.1	11,350.0	23,558.2	10,150.0	105.7	110.4	52.11	13,533.0	2,001.0	1,953.9	1,712.3	241.60	8.088 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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	-92.78	-71.7	-1,480.0	1,481.8	1,475.4	6.43	230.489	
100.0	100.0	100.0	100.0	3.2	3.2	-92.78	-71.7	-1,480.0	1,481.8	1,474.9	6.89	214.990	
200.0	200.0	200.0	200.0	3.5	3.5	-92.78	-71.7	-1,480.0	1,481.8	1,474.5	7.33	202.204	
300.0	300.0	300.0	300.0	3.7	3.7	-92.78	-71.7	-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	-92.78	-71.7	-1,480.0	1,481.8	1,473.7	8.14	182.138	
500.0	500.0	500.0	500.0	4.1	4.1	-92.78	-71.7	-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	-92.78	-71.7	-1,480.0	1,481.8	1,472.9	8.88	166.913	
700.0	700.0	700.0	700.0	4.4	4.4	-92.78	-71.7	-1,480.0	1,481.8	1,472.6	9.23	160.550	
800.0	800.0	800.0	800.0	4.6	4.6	-92.78	-71.7	-1,480.0	1,481.8	1,472.2	9.57	154.829	
900.0	900.0	900.0	900.0	4.8	4.8	-92.78	-71.7	-1,480.0	1,481.8	1,471.9	9.90	149.647	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.78	-71.7	-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	-92.78	-71.7	-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	-92.78	-71.7	-1,480.0	1,481.8	1,470.9	10.85	136.601	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.78	-71.7	-1,480.0	1,481.8	1,470.6	11.15	132.908	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.78	-71.7	-1,480.0	1,481.8	1,470.3	11.44	129.477	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.78	-71.7	-1,480.0	1,481.8	1,470.1	11.73	126.277	CC, ES
1,600.0	1,600.0	1,575.3	1,575.3	5.8	5.8	-92.79	-72.2	-1,480.7	1,482.6	1,470.6	11.99	123.641	
1,700.0	1,700.0	1,650.5	1,650.5	6.0	5.9	-92.84	-73.4	-1,482.5	1,485.1	1,472.9	12.24	121.328	
1,800.0	1,800.0	1,725.6	1,725.5	6.1	6.1	-92.91	-75.6	-1,485.5	1,489.3	1,476.8	12.49	119.277	
1,900.0	1,900.0	1,800.0	1,799.7	6.3	6.2	-93.02	-78.5	-1,489.7	1,495.1	1,482.4	12.73	117.433	
2,000.0	2,000.0	1,875.2	1,874.6	6.4	6.4	-93.15	-82.3	-1,495.1	1,502.6	1,489.7	12.99	115.712	
2,100.0	2,100.0	1,966.3	1,965.2	6.5	6.5	156.62	-87.7	-1,502.9	1,512.6	1,499.4	13.28	113.886	
2,200.0	2,199.9	2,065.5	2,063.8	6.7	6.7	156.40	-93.7	-1,511.4	1,525.1	1,511.5	13.60	112.148	
2,300.0	2,299.7	2,164.3	2,162.1	6.9	6.9	156.20	-99.6	-1,519.8	1,540.0	1,526.1	13.94	110.457	
2,400.0	2,399.3	2,262.8	2,260.1	7.0	7.2	156.03	-105.5	-1,528.3	1,557.3	1,543.0	14.31	108.809	
2,500.0	2,498.6	2,360.8	2,357.6	7.2	7.4	155.88	-111.4	-1,536.7	1,576.9	1,562.2	14.71	107.208	
2,600.0	2,597.6	2,458.5	2,454.7	7.4	7.7	155.85	-117.2	-1,545.0	1,598.3	1,583.2	15.06	106.119	
2,700.0	2,696.6	2,556.2	2,551.8	7.6	8.0	155.86	-123.1	-1,553.4	1,619.8	1,604.4	15.49	104.574	
2,800.0	2,795.7	2,641.1	2,636.3	7.9	8.2	155.87	-128.1	-1,560.8	1,641.6	1,625.7	15.90	103.217	
2,900.0	2,894.7	2,700.0	2,694.8	8.1	8.4	155.90	-131.1	-1,566.7	1,664.7	1,648.5	16.25	102.450	
3,000.0	2,993.7	2,784.5	2,778.7	8.4	8.6	155.97	-134.5	-1,576.5	1,689.2	1,672.5	16.71	101.059	
3,100.0	3,092.8	2,855.3	2,848.8	8.7	8.8	156.05	-136.6	-1,585.9	1,715.2	1,698.0	17.15	99.996	
3,200.0	3,191.8	2,925.5	2,918.2	8.9	9.1	156.16	-138.1	-1,596.4	1,742.6	1,725.0	17.60	98.988	
3,300.0	3,290.8	3,000.0	2,991.7	9.3	9.3	156.30	-138.8	-1,608.6	1,771.6	1,753.5	18.09	97.911	
3,400.0	3,389.8	3,063.7	3,054.4	9.6	9.5	156.44	-138.8	-1,620.1	1,801.9	1,783.4	18.53	97.218	
3,500.0	3,488.9	3,151.0	3,140.1	9.9	9.8	156.65	-138.3	-1,636.7	1,833.3	1,814.2	19.11	95.941	
3,600.0	3,587.9	3,245.7	3,233.1	10.2	10.1	156.87	-137.7	-1,654.8	1,864.8	1,845.0	19.75	94.427	
3,700.0	3,686.9	3,340.4	3,326.0	10.6	10.4	157.08	-137.0	-1,672.8	1,896.3	1,875.9	20.39	92.985	
3,800.0	3,785.9	3,435.1	3,418.9	10.9	10.8	157.28	-136.4	-1,690.9	1,927.8	1,906.7	21.05	91.572	
3,900.0	3,885.0	3,529.7	3,511.9	11.3	11.1	170.30	-135.8	-1,708.9	1,959.6	1,937.8	21.73	90.178	
4,000.0	3,984.0	3,624.3	3,604.7	11.6	11.5	178.23	-135.1	-1,726.9	1,992.0	1,969.6	22.40	88.939	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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	-92.83	-71.7	-1,449.9	1,451.7	1,445.3	6.43	225.812	
100.0	100.0	100.0	100.0	3.2	3.2	-92.83	-71.7	-1,449.9	1,451.7	1,444.8	6.89	210.627	
200.0	200.0	200.0	200.0	3.5	3.5	-92.83	-71.7	-1,449.9	1,451.7	1,444.4	7.33	198.101	
300.0	300.0	300.0	300.0	3.7	3.7	-92.83	-71.7	-1,449.9	1,451.7	1,444.0	7.74	187.528	
400.0	400.0	400.0	400.0	3.9	3.9	-92.83	-71.7	-1,449.9	1,451.7	1,443.6	8.14	178.442	
500.0	500.0	500.0	500.0	4.1	4.1	-92.83	-71.7	-1,449.9	1,451.7	1,443.2	8.51	170.519	
600.0	600.0	600.0	600.0	4.2	4.2	-92.83	-71.7	-1,449.9	1,451.7	1,442.8	8.88	163.526	
700.0	700.0	700.0	700.0	4.4	4.4	-92.83	-71.7	-1,449.9	1,451.7	1,442.5	9.23	157.292	
800.0	800.0	800.0	800.0	4.6	4.6	-92.83	-71.7	-1,449.9	1,451.7	1,442.1	9.57	151.687	
900.0	900.0	900.0	900.0	4.8	4.8	-92.83	-71.7	-1,449.9	1,451.7	1,441.8	9.90	146.610	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.83	-71.7	-1,449.9	1,451.7	1,441.5	10.22	141.982	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.83	-71.7	-1,449.9	1,451.7	1,441.2	10.54	137.739	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.83	-71.7	-1,449.9	1,451.7	1,440.9	10.85	133.829	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.83	-71.7	-1,449.9	1,451.7	1,440.6	11.15	130.211	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.83	-71.7	-1,449.9	1,451.7	1,440.3	11.44	126.849	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.83	-71.7	-1,449.9	1,451.7	1,440.0	11.73	123.714	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.83	-71.7	-1,449.9	1,451.7	1,439.7	12.02	120.781	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.83	-71.7	-1,449.9	1,451.7	1,439.4	12.30	118.029	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.83	-71.7	-1,449.9	1,451.7	1,439.1	12.58	115.440	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-92.83	-71.7	-1,449.9	1,451.7	1,438.9	12.85	112.997	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-92.83	-71.7	-1,449.9	1,451.7	1,438.6	13.12	110.688 CC, ES	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	157.18	-71.7	-1,449.9	1,452.9	1,439.5	13.39	108.483	
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	157.22	-71.7	-1,449.9	1,456.5	1,442.9	13.66	106.598	
2,300.0	2,299.7	2,299.7	2,299.7	6.9	6.8	157.29	-71.7	-1,449.9	1,462.6	1,448.6	13.95	104.868	
2,400.0	2,399.3	2,399.3	2,399.3	7.0	6.9	157.38	-71.7	-1,449.9	1,471.0	1,456.8	14.25	103.266	
2,500.0	2,498.6	2,498.6	2,498.6	7.2	7.0	157.49	-71.7	-1,449.9	1,481.9	1,467.3	14.56	101.774	
2,600.0	2,597.6	2,570.2	2,570.2	7.4	7.1	157.61	-71.7	-1,450.6	1,495.5	1,480.7	14.80	101.080	
2,700.0	2,696.6	2,640.9	2,640.9	7.6	7.2	157.75	-71.8	-1,452.5	1,511.2	1,496.1	15.09	100.133	
2,800.0	2,795.7	2,700.0	2,699.9	7.9	7.3	157.87	-71.9	-1,455.2	1,528.7	1,513.3	15.38	99.415	
2,900.0	2,894.7	2,781.2	2,780.9	8.1	7.5	158.03	-72.2	-1,460.3	1,547.9	1,532.2	15.73	98.434	
3,000.0	2,993.7	2,857.6	2,857.0	8.4	7.5	158.17	-72.5	-1,466.6	1,569.0	1,552.9	16.04	97.825	
3,100.0	3,092.8	2,955.1	2,954.2	8.7	7.7	158.35	-73.0	-1,475.1	1,590.5	1,574.1	16.44	96.774	
3,200.0	3,191.8	3,052.6	3,051.4	8.9	7.8	158.52	-73.4	-1,483.6	1,612.1	1,595.2	16.87	95.543	
3,300.0	3,290.8	3,150.2	3,148.5	9.3	8.0	158.69	-73.9	-1,492.0	1,633.6	1,616.3	17.34	94.233	
3,400.0	3,389.8	3,247.7	3,245.7	9.6	8.2	158.85	-74.3	-1,500.5	1,655.2	1,637.4	17.82	92.875	
3,500.0	3,488.9	3,345.2	3,342.8	9.9	8.4	159.01	-74.8	-1,509.0	1,676.8	1,658.5	18.33	91.485	
3,600.0	3,587.9	3,442.8	3,440.0	10.2	8.6	159.17	-75.2	-1,517.5	1,698.4	1,679.6	18.86	90.078	
3,700.0	3,686.9	3,540.3	3,537.2	10.6	8.9	159.32	-75.6	-1,526.0	1,720.1	1,700.7	19.40	88.667	
3,800.0	3,785.9	3,637.8	3,634.3	10.9	9.1	159.47	-76.1	-1,534.5	1,741.7	1,721.7	19.96	87.261	
3,900.0	3,885.0	3,735.3	3,731.5	11.3	9.4	172.25	-76.5	-1,543.0	1,763.6	1,743.0	20.54	85.854	
4,000.0	3,984.0	3,804.1	3,800.0	11.6	9.6	-180.00	-76.8	-1,549.0	1,786.2	1,765.2	21.01	85.034	
4,100.0	4,083.0	3,900.0	3,895.4	11.9	9.9	179.99	-77.4	-1,558.9	1,810.3	1,788.6	21.66	83.595	
4,200.0	4,182.1	3,940.5	3,935.5	12.3	10.0	179.98	-77.6	-1,564.1	1,836.2	1,814.2	22.08	83.149	
4,300.0	4,281.1	4,000.0	3,994.4	12.6	10.2	179.96	-78.1	-1,572.7	1,864.3	1,841.7	22.59	82.515	
4,400.0	4,380.1	4,056.5	4,050.1	13.0	10.4	179.95	-78.6	-1,581.9	1,894.3	1,871.2	23.07	82.107	
4,500.0	4,479.2	4,136.3	4,128.6	13.4	10.6	179.93	-79.3	-1,596.4	1,925.9	1,902.2	23.66	81.400	
4,600.0	4,578.2	4,231.2	4,221.9	13.7	11.0	179.90	-80.2	-1,613.6	1,957.6	1,933.2	24.35	80.409	
4,700.0	4,677.2	4,326.0	4,315.1	14.1	11.3	179.87	-81.1	-1,630.9	1,989.3	1,964.2	25.04	79.457 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 #707H
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 #707H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.89	-71.7	-1,420.0	1,421.8	1,415.4	6.43	221.160	
100.0	100.0	100.0	100.0	3.2	3.2	-92.89	-71.7	-1,420.0	1,421.8	1,414.9	6.89	206.289	
200.0	200.0	200.0	200.0	3.5	3.5	-92.89	-71.7	-1,420.0	1,421.8	1,414.5	7.33	194.021	
300.0	300.0	300.0	300.0	3.7	3.7	-92.89	-71.7	-1,420.0	1,421.8	1,414.1	7.74	183.666	
400.0	400.0	400.0	400.0	3.9	3.9	-92.89	-71.7	-1,420.0	1,421.8	1,413.7	8.14	174.766	
500.0	500.0	500.0	500.0	4.1	4.1	-92.89	-71.7	-1,420.0	1,421.8	1,413.3	8.51	167.006	
600.0	600.0	600.0	600.0	4.2	4.2	-92.89	-71.7	-1,420.0	1,421.8	1,412.9	8.88	160.158	
700.0	700.0	700.0	700.0	4.4	4.4	-92.89	-71.7	-1,420.0	1,421.8	1,412.6	9.23	154.052	
800.0	800.0	800.0	800.0	4.6	4.6	-92.89	-71.7	-1,420.0	1,421.8	1,412.2	9.57	148.563	
900.0	900.0	900.0	900.0	4.8	4.8	-92.89	-71.7	-1,420.0	1,421.8	1,411.9	9.90	143.590	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.89	-71.7	-1,420.0	1,421.8	1,411.6	10.22	139.057	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.89	-71.7	-1,420.0	1,421.8	1,411.3	10.54	134.901	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.89	-71.7	-1,420.0	1,421.8	1,411.0	10.85	131.073	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.89	-71.7	-1,420.0	1,421.8	1,410.7	11.15	127.529	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.89	-71.7	-1,420.0	1,421.8	1,410.4	11.44	124.236	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.89	-71.7	-1,420.0	1,421.8	1,410.1	11.73	121.166	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.89	-71.7	-1,420.0	1,421.8	1,409.8	12.02	118.293	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.89	-71.7	-1,420.0	1,421.8	1,409.5	12.30	115.598	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.89	-71.7	-1,420.0	1,421.8	1,409.2	12.58	113.062	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-92.89	-71.7	-1,420.0	1,421.8	1,409.0	12.85	110.670	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-92.89	-71.7	-1,420.0	1,421.8	1,408.7	13.12	108.408 CC, ES	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	157.12	-71.7	-1,420.0	1,423.0	1,409.6	13.39	106.250	
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	157.16	-71.7	-1,420.0	1,426.6	1,413.0	13.66	104.410	
2,300.0	2,299.7	2,299.7	2,299.7	6.9	6.8	157.23	-71.7	-1,420.0	1,432.7	1,418.7	13.95	102.724	
2,400.0	2,399.3	2,399.3	2,399.3	7.0	6.9	157.32	-71.7	-1,420.0	1,441.1	1,426.9	14.24	101.167	
2,500.0	2,498.6	2,498.6	2,498.6	7.2	7.0	157.44	-71.7	-1,420.0	1,452.0	1,437.4	14.56	99.721	
2,600.0	2,597.6	2,597.6	2,597.6	7.4	7.2	157.62	-71.7	-1,420.0	1,464.7	1,449.9	14.82	98.834	
2,700.0	2,696.6	2,696.6	2,696.6	7.6	7.3	157.83	-71.7	-1,420.0	1,477.6	1,462.5	15.15	97.555	
2,800.0	2,795.7	2,795.7	2,795.7	7.9	7.4	158.03	-71.7	-1,420.0	1,490.5	1,475.0	15.49	96.233	
2,900.0	2,894.7	2,894.7	2,894.7	8.1	7.5	158.23	-71.7	-1,420.0	1,503.5	1,487.6	15.85	94.881	
3,000.0	2,993.7	2,993.7	2,993.7	8.4	7.7	158.42	-71.7	-1,420.0	1,516.4	1,500.2	16.22	93.508	
3,100.0	3,092.8	3,066.2	3,066.2	8.7	7.8	158.56	-71.7	-1,420.6	1,530.2	1,513.6	16.57	92.330	
3,200.0	3,191.8	3,136.6	3,136.5	8.9	7.8	158.70	-71.7	-1,422.5	1,545.8	1,528.9	16.93	91.290	
3,300.0	3,290.8	3,200.0	3,199.9	9.3	7.9	158.82	-71.8	-1,425.2	1,563.2	1,546.0	17.28	90.440	
3,400.0	3,389.8	3,275.9	3,275.6	9.6	8.0	158.96	-71.8	-1,430.0	1,582.5	1,564.8	17.68	89.524	
3,500.0	3,488.9	3,344.8	3,344.3	9.9	8.1	159.08	-71.9	-1,435.6	1,603.5	1,585.4	18.07	88.760	
3,600.0	3,587.9	3,400.0	3,399.3	10.2	8.2	159.18	-72.0	-1,440.9	1,626.4	1,607.9	18.43	88.267	
3,700.0	3,686.9	3,480.9	3,479.6	10.6	8.4	159.32	-72.2	-1,450.2	1,650.8	1,631.9	18.87	87.474	
3,800.0	3,785.9	3,554.5	3,552.6	10.9	8.5	159.44	-72.4	-1,460.1	1,677.0	1,657.8	19.27	87.011	
3,900.0	3,885.0	3,650.8	3,647.9	11.3	8.7	172.33	-72.6	-1,473.5	1,704.0	1,684.2	19.78	86.154	
4,000.0	3,984.0	3,746.9	3,743.1	11.6	8.8	-179.86	-72.8	-1,486.9	1,731.5	1,711.2	20.29	85.347	
4,100.0	4,083.0	3,843.0	3,838.3	11.9	9.0	-179.87	-73.1	-1,500.3	1,759.0	1,738.2	20.84	84.388	
4,200.0	4,182.1	3,951.0	3,945.2	12.3	9.3	-179.88	-73.3	-1,515.0	1,786.4	1,764.9	21.46	83.258	
4,300.0	4,281.1	4,065.4	4,058.7	12.6	9.6	-179.89	-73.6	-1,529.6	1,812.8	1,790.7	22.13	81.924	
4,400.0	4,380.1	4,180.4	4,172.9	13.0	9.9	-179.90	-73.8	-1,543.2	1,838.3	1,815.5	22.81	80.578	
4,500.0	4,479.2	4,296.0	4,287.9	13.4	10.2	-179.91	-74.0	-1,555.6	1,862.8	1,839.3	23.51	79.224	
4,600.0	4,578.2	4,412.2	4,403.5	13.7	10.5	-179.91	-74.2	-1,567.0	1,886.3	1,862.1	24.22	77.872	
4,700.0	4,677.2	4,529.0	4,519.8	14.1	10.8	-179.92	-74.4	-1,577.2	1,908.9	1,883.9	24.94	76.532	
4,800.0	4,776.2	4,646.3	4,636.8	14.5	11.1	-179.93	-74.6	-1,586.3	1,930.4	1,904.7	25.67	75.213	
4,900.0	4,875.3	4,764.1	4,754.3	14.9	11.5	-179.93	-74.7	-1,594.2	1,950.9	1,924.5	26.39	73.919	
5,000.0	4,974.3	4,882.4	4,872.4	15.3	11.8	-179.94	-74.8	-1,600.9	1,970.4	1,943.3	27.12	72.657	
5,100.0	5,073.3	5,001.2	4,991.1	15.7	12.1	-179.94	-74.9	-1,606.4	1,989.0	1,961.1	27.84	71.431 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 #707H
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 #707H	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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-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	-92.95	-71.6	-1,390.0	1,391.9	1,378.8	13.12	106.127 CC, ES	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	157.06	-71.6	-1,390.0	1,393.1	1,379.7	13.39	104.016	
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	157.11	-71.6	-1,390.0	1,396.7	1,383.1	13.66	102.221	
2,300.0	2,299.7	2,299.7	2,299.7	6.9	6.8	157.17	-71.6	-1,390.0	1,402.7	1,388.8	13.95	100.579	
2,400.0	2,399.3	2,399.3	2,399.3	7.0	6.9	157.27	-71.6	-1,390.0	1,411.2	1,396.9	14.24	99.067	
2,500.0	2,498.6	2,498.6	2,498.6	7.2	7.0	157.39	-71.6	-1,390.0	1,422.0	1,407.5	14.56	97.666	
2,600.0	2,597.6	2,655.9	2,655.8	7.4	7.3	157.69	-71.8	-1,386.9	1,432.8	1,417.9	14.91	96.110	
2,700.0	2,696.6	2,815.2	2,814.8	7.6	7.5	157.99	-72.3	-1,377.1	1,439.6	1,424.3	15.33	93.934	
2,800.0	2,795.7	2,975.2	2,974.0	7.9	7.8	158.26	-73.2	-1,360.6	1,442.2	1,426.4	15.80	91.290	
2,900.0	2,894.7	3,097.0	3,094.6	8.1	8.0	158.46	-74.0	-1,344.1	1,441.6	1,425.4	16.20	88.971	
3,000.0	2,993.7	3,196.9	3,193.6	8.4	8.2	158.62	-74.8	-1,330.2	1,440.6	1,424.0	16.66	86.460	
3,100.0	3,092.8	3,296.8	3,292.5	8.7	8.4	158.78	-75.5	-1,316.3	1,439.7	1,422.6	17.15	83.931	
3,200.0	3,191.8	3,396.7	3,391.5	8.9	8.7	158.94	-76.2	-1,302.4	1,438.8	1,421.1	17.67	81.417	
3,300.0	3,290.8	3,496.7	3,490.4	9.3	8.9	159.10	-76.9	-1,288.5	1,437.9	1,419.7	18.22	78.938	
3,400.0	3,389.8	3,596.6	3,589.4	9.6	9.2	159.26	-77.7	-1,274.6	1,437.0	1,418.3	18.78	76.508	
3,500.0	3,488.9	3,696.5	3,688.3	9.9	9.5	159.42	-78.4	-1,260.8	1,436.2	1,416.8	19.37	74.141	
3,600.0	3,587.9	3,796.4	3,787.3	10.2	9.8	159.58	-79.1	-1,246.9	1,435.3	1,415.3	19.98	71.844	
3,700.0	3,686.9	3,896.3	3,886.2	10.6	10.1	159.74	-79.9	-1,233.0	1,434.5	1,413.8	20.60	69.624	
3,800.0	3,785.9	3,996.2	3,985.1	10.9	10.4	159.90	-80.6	-1,219.1	1,433.6	1,412.4	21.24	67.483	
3,900.0	3,885.0	4,096.2	4,084.1	11.3	10.7	172.30	-81.3	-1,205.2	1,433.0	1,411.1	21.90	65.422	
3,993.1	3,977.1	4,189.2	4,176.3	11.5	11.0	179.30	-82.0	-1,192.3	1,432.9	1,410.4	22.50	63.674	
4,000.0	3,984.0	4,196.2	4,183.1	11.6	11.0	179.80	-82.0	-1,191.3	1,432.9	1,410.4	22.55	63.553	
4,100.0	4,083.0	4,296.2	4,282.2	11.9	11.4	179.77	-82.8	-1,177.4	1,433.0	1,409.7	23.24	61.654	
4,200.0	4,182.1	4,396.2	4,381.2	12.3	11.7	179.74	-83.5	-1,163.5	1,433.0	1,409.0	23.95	59.839	
4,300.0	4,281.1	4,482.0	4,466.2	12.6	12.0	179.72	-84.1	-1,151.9	1,433.4	1,408.8	24.60	58.269	
4,400.0	4,380.1	4,562.0	4,545.6	13.0	12.2	179.70	-84.6	-1,142.1	1,435.1	1,409.8	25.25	56.833	
4,500.0	4,479.2	4,641.9	4,625.1	13.4	12.5	179.68	-85.1	-1,133.4	1,438.2	1,412.3	25.90	55.526	
4,600.0	4,578.2	4,721.8	4,704.6	13.7	12.8	179.66	-85.5	-1,125.9	1,442.7	1,416.1	26.55	54.347	
4,700.0	4,677.2	4,800.0	4,782.5	14.1	13.0	179.65	-85.8	-1,119.5	1,448.5	1,421.4	27.18	53.300	
4,800.0	4,776.2	4,881.1	4,863.5	14.5	13.3	179.64	-86.1	-1,114.1	1,455.8	1,428.0	27.81	52.351	
4,900.0	4,875.3	4,960.6	4,942.8	14.9	13.5	179.63	-86.3	-1,109.9	1,464.5	1,436.0	28.42	51.526	
5,000.0	4,974.3	5,039.8	5,021.9	15.3	13.8	179.63	-86.5	-1,106.8	1,474.5	1,445.5	29.02	50.809	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,073.3	5,118.8	5,100.9	15.7	14.0	179.63	-86.6	-1,104.8	1,485.9	1,456.3	29.60	50.202	
5,200.0	5,172.3	5,200.0	5,182.1	16.1	14.1	179.63	-86.6	-1,103.8	1,498.6	1,468.5	30.16	49.697	
5,300.0	5,271.4	5,289.2	5,271.4	16.4	14.2	179.63	-86.6	-1,103.8	1,512.5	1,481.9	30.61	49.418	
5,400.0	5,370.4	5,388.3	5,370.4	16.8	14.3	179.63	-86.6	-1,103.8	1,526.4	1,495.3	31.08	49.107	
5,500.0	5,469.4	5,487.3	5,469.4	17.2	14.3	179.64	-86.6	-1,103.8	1,540.3	1,508.7	31.57	48.795	
5,600.0	5,568.5	5,586.3	5,568.5	17.6	14.4	179.64	-86.6	-1,103.8	1,554.2	1,522.2	32.06	48.485	
5,700.0	5,667.5	5,685.4	5,667.5	18.0	14.4	179.64	-86.6	-1,103.8	1,567.9	1,535.4	32.52	48.212	
5,800.0	5,766.8	5,784.6	5,766.8	18.4	14.5	179.65	-86.6	-1,103.8	1,580.2	1,547.2	33.01	47.874	
5,900.0	5,866.2	5,884.1	5,866.2	18.8	14.6	179.65	-86.6	-1,103.8	1,590.6	1,557.2	33.48	47.508	
6,000.0	5,965.8	5,983.7	5,965.8	19.1	14.6	179.65	-86.6	-1,103.8	1,599.4	1,565.5	33.94	47.119	
6,100.0	6,065.6	6,083.4	6,065.6	19.5	14.7	179.66	-86.6	-1,103.8	1,606.4	1,572.0	34.39	46.712	
6,200.0	6,165.4	6,183.3	6,165.4	19.8	14.8	179.66	-86.6	-1,103.8	1,611.7	1,576.9	34.81	46.294	
6,300.0	6,265.4	6,283.2	6,265.4	20.1	14.8	179.66	-86.6	-1,103.8	1,615.2	1,580.0	35.21	45.876	
6,400.0	6,365.3	6,383.2	6,365.3	20.4	14.9	179.66	-86.6	-1,103.8	1,617.0	1,581.4	35.55	45.479	
6,500.0	6,465.3	6,483.2	6,465.3	20.5	15.0	-90.34	-86.6	-1,103.8	1,617.2	1,581.5	35.69	45.318	
6,600.0	6,565.3	6,583.2	6,565.3	20.5	15.0	-90.34	-86.6	-1,103.8	1,617.2	1,581.4	35.79	45.192	
6,700.0	6,665.3	6,683.2	6,665.3	20.5	15.1	-90.34	-86.6	-1,103.8	1,617.2	1,581.3	35.89	45.065	
6,800.0	6,765.3	6,783.2	6,765.3	20.6	15.2	-90.34	-86.6	-1,103.8	1,617.2	1,581.2	35.99	44.939	
6,900.0	6,865.3	6,883.2	6,865.3	20.6	15.2	-90.34	-86.6	-1,103.8	1,617.2	1,581.1	36.09	44.813	
7,000.0	6,965.3	6,983.2	6,965.3	20.7	15.3	-90.34	-86.6	-1,103.8	1,617.2	1,581.0	36.19	44.687	
7,100.0	7,065.3	7,083.2	7,065.3	20.7	15.4	-90.34	-86.6	-1,103.8	1,617.2	1,580.9	36.29	44.562	
7,200.0	7,165.3	7,183.2	7,165.3	20.7	15.4	-90.34	-86.6	-1,103.8	1,617.2	1,580.8	36.39	44.436	
7,300.0	7,265.3	7,283.2	7,265.3	20.8	15.5	-90.34	-86.6	-1,103.8	1,617.2	1,580.7	36.50	44.311	
7,400.0	7,365.3	7,383.2	7,365.3	20.8	15.6	-90.34	-86.6	-1,103.8	1,617.2	1,580.6	36.60	44.186	
7,500.0	7,465.3	7,483.2	7,465.3	20.9	15.6	-90.34	-86.6	-1,103.8	1,617.2	1,580.5	36.70	44.061	
7,600.0	7,565.3	7,583.2	7,565.3	20.9	15.7	-90.34	-86.6	-1,103.8	1,617.2	1,580.4	36.81	43.936	
7,700.0	7,665.3	7,683.2	7,665.3	21.0	15.8	-90.34	-86.6	-1,103.8	1,617.2	1,580.3	36.91	43.811	
7,800.0	7,765.3	7,783.2	7,765.3	21.0	15.8	-90.34	-86.6	-1,103.8	1,617.2	1,580.2	37.02	43.687	
7,900.0	7,865.3	7,883.2	7,865.3	21.0	15.9	-90.34	-86.6	-1,103.8	1,617.2	1,580.1	37.12	43.563	
8,000.0	7,965.3	7,983.2	7,965.3	21.1	16.0	-90.34	-86.6	-1,103.8	1,617.2	1,580.0	37.23	43.439	
8,100.0	8,065.3	8,083.2	8,065.3	21.1	16.0	-90.34	-86.6	-1,103.8	1,617.2	1,579.9	37.34	43.316	
8,200.0	8,165.3	8,183.2	8,165.3	21.2	16.1	-90.34	-86.6	-1,103.8	1,617.2	1,579.8	37.44	43.192	
8,300.0	8,265.3	8,283.2	8,265.3	21.2	16.2	-90.34	-86.6	-1,103.8	1,617.2	1,579.7	37.55	43.069	
8,400.0	8,365.3	8,383.2	8,365.3	21.3	16.2	-90.34	-86.6	-1,103.8	1,617.2	1,579.6	37.66	42.946	
8,500.0	8,465.3	8,483.2	8,465.3	21.3	16.3	-90.34	-86.6	-1,103.8	1,617.2	1,579.5	37.76	42.824	
8,600.0	8,565.3	8,583.2	8,565.3	21.4	16.4	-90.34	-86.6	-1,103.8	1,617.2	1,579.3	37.87	42.701	
8,700.0	8,665.3	8,683.2	8,665.3	21.4	16.4	-90.34	-86.6	-1,103.8	1,617.2	1,579.2	37.98	42.579	
8,800.0	8,765.3	8,783.2	8,765.3	21.4	16.5	-90.34	-86.6	-1,103.8	1,617.2	1,579.1	38.09	42.457	
8,900.0	8,865.3	8,883.2	8,865.3	21.5	16.6	-90.34	-86.6	-1,103.8	1,617.2	1,579.0	38.20	42.336	
9,000.0	8,965.3	8,983.2	8,965.3	21.5	16.6	-90.34	-86.6	-1,103.8	1,617.2	1,578.9	38.31	42.215	
9,100.0	9,065.3	9,083.2	9,065.3	21.6	16.7	-90.34	-86.6	-1,103.8	1,617.2	1,578.8	38.42	42.094	
9,200.0	9,165.3	9,183.2	9,165.3	21.6	16.8	-90.34	-86.6	-1,103.8	1,617.2	1,578.7	38.53	41.973	
9,300.0	9,265.3	9,283.2	9,265.3	21.7	16.8	-90.34	-86.6	-1,103.8	1,617.2	1,578.6	38.64	41.853	
9,400.0	9,365.3	9,383.2	9,365.3	21.7	16.9	-90.34	-86.6	-1,103.8	1,617.2	1,578.5	38.75	41.733	
9,500.0	9,465.3	9,483.2	9,465.3	21.8	17.0	-90.34	-86.6	-1,103.8	1,617.2	1,578.4	38.86	41.613	
9,600.0	9,565.3	9,583.2	9,565.3	21.8	17.0	-90.34	-86.6	-1,103.8	1,617.2	1,578.2	38.98	41.494	
9,700.0	9,665.3	9,683.2	9,665.3	21.9	17.1	-90.34	-86.6	-1,103.8	1,617.2	1,578.1	39.09	41.375	
9,800.0	9,765.3	9,783.2	9,765.3	21.9	17.2	-90.34	-86.6	-1,103.8	1,617.2	1,578.0	39.20	41.256	
9,900.0	9,865.3	9,883.2	9,865.3	22.0	17.3	-90.34	-86.6	-1,103.8	1,617.2	1,577.9	39.31	41.138	
10,000.0	9,965.3	9,983.2	9,965.3	22.0	17.3	-90.34	-86.6	-1,103.8	1,617.2	1,577.8	39.43	41.019	
10,100.0	10,065.3	10,083.2	10,065.3	22.1	17.4	-90.34	-86.6	-1,103.8	1,617.2	1,577.7	39.54	40.902	
10,200.0	10,165.3	10,183.2	10,165.3	22.1	17.5	-90.34	-86.6	-1,103.8	1,617.2	1,577.6	39.65	40.784	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	10,265.3	10,283.2	10,265.3	22.2	17.5	-90.34	-86.6	-1,103.8	1,617.2	1,577.5	39.77	40.667	
10,400.0	10,365.3	10,383.2	10,365.3	22.2	17.6	-90.34	-86.6	-1,103.8	1,617.2	1,577.3	39.88	40.550	
10,500.0	10,465.3	10,483.2	10,465.3	22.3	17.7	-90.34	-86.6	-1,103.8	1,617.2	1,577.2	40.00	40.434	
10,600.0	10,565.3	10,583.2	10,565.3	22.3	17.7	-90.34	-86.6	-1,103.8	1,617.2	1,577.1	40.11	40.318	
10,700.0	10,665.3	10,683.3	10,665.4	22.4	17.8	-90.24	-83.6	-1,103.8	1,617.2	1,577.0	40.21	40.220	
10,704.4	10,669.8	10,687.8	10,669.8	22.4	17.8	-90.22	-83.2	-1,103.8	1,617.2	1,577.0	40.21	40.215	
10,800.0	10,765.3	10,780.2	10,760.4	22.4	17.8	-89.60	-65.7	-1,103.9	1,617.3	1,577.0	40.31	40.123	
10,900.0	10,865.0	10,871.1	10,845.7	22.4	17.9	-88.42	-34.5	-1,104.0	1,617.9	1,577.5	40.36	40.088	
11,000.0	10,962.0	10,958.5	10,922.1	22.4	17.9	-87.51	7.8	-1,104.2	1,618.8	1,578.5	40.36	40.109	
11,100.0	11,053.3	11,043.1	10,989.1	22.4	18.0	-86.68	59.4	-1,104.4	1,620.1	1,579.8	40.33	40.169	
11,200.0	11,136.3	11,125.5	11,046.3	22.4	18.0	-85.93	118.5	-1,104.6	1,621.5	1,581.2	40.29	40.248	
11,300.0	11,208.3	11,206.1	11,093.6	22.4	18.1	-85.28	183.8	-1,104.9	1,622.9	1,582.6	40.24	40.326	
11,400.0	11,267.3	11,285.3	11,130.6	22.4	18.2	-84.76	253.7	-1,105.1	1,624.1	1,583.9	40.22	40.382	
11,500.0	11,311.3	11,363.6	11,157.4	22.4	18.3	-84.36	327.2	-1,105.4	1,625.1	1,584.9	40.23	40.400	
11,600.0	11,339.1	11,441.1	11,173.9	22.5	18.3	-84.11	402.9	-1,105.7	1,625.8	1,585.5	40.28	40.367	
11,700.0	11,349.8	11,518.3	11,179.9	22.6	18.4	-84.00	479.8	-1,106.0	1,626.1	1,585.7	40.38	40.274	
11,800.0	11,350.0	11,616.4	11,180.0	22.7	18.5	-84.00	577.9	-1,106.4	1,626.1	1,585.6	40.54	40.111	
11,900.0	11,350.0	11,716.4	11,180.0	22.9	18.7	-84.00	677.9	-1,106.8	1,626.1	1,585.4	40.77	39.885	
12,000.0	11,350.0	11,816.4	11,180.0	23.0	18.9	-84.00	777.9	-1,107.2	1,626.1	1,585.1	41.06	39.608	
12,100.0	11,350.0	11,916.4	11,180.0	23.2	19.1	-84.00	877.9	-1,107.6	1,626.1	1,584.7	41.39	39.284	
12,200.0	11,350.0	12,016.4	11,180.0	23.5	19.4	-84.00	977.9	-1,108.0	1,626.1	1,584.3	41.79	38.916	
12,300.0	11,350.0	12,116.4	11,180.0	23.7	19.6	-84.00	1,077.9	-1,108.4	1,626.1	1,583.9	42.23	38.508	
12,400.0	11,350.0	12,216.4	11,180.0	24.0	20.0	-84.00	1,177.9	-1,108.8	1,626.1	1,583.4	42.72	38.064	
12,500.0	11,350.0	12,316.4	11,180.0	24.2	20.3	-84.00	1,277.9	-1,109.2	1,626.1	1,582.9	43.26	37.589	
12,600.0	11,350.0	12,416.4	11,180.0	24.6	20.6	-84.00	1,377.9	-1,109.6	1,626.1	1,582.3	43.85	37.087	
12,700.0	11,350.0	12,516.4	11,180.0	24.9	21.0	-84.00	1,477.9	-1,110.0	1,626.1	1,581.6	44.48	36.561	
12,800.0	11,350.0	12,616.4	11,180.0	25.2	21.4	-84.00	1,577.9	-1,110.4	1,626.1	1,581.0	45.15	36.017	
12,900.0	11,350.0	12,716.4	11,180.0	25.6	21.9	-84.00	1,677.9	-1,110.8	1,626.1	1,580.3	45.86	35.457	
13,000.0	11,350.0	12,816.4	11,180.0	26.0	22.3	-84.00	1,777.9	-1,111.2	1,626.1	1,579.5	46.61	34.885	
13,100.0	11,350.0	12,916.4	11,180.0	26.4	22.8	-84.00	1,877.9	-1,111.6	1,626.1	1,578.7	47.40	34.305	
13,200.0	11,350.0	13,016.4	11,180.0	26.8	23.2	-84.00	1,977.9	-1,112.0	1,626.1	1,577.9	48.22	33.720	
13,300.0	11,350.0	13,116.4	11,180.0	27.2	23.7	-84.00	2,077.9	-1,112.4	1,626.1	1,577.0	49.08	33.131	
13,400.0	11,350.0	13,216.4	11,180.0	27.7	24.2	-84.00	2,177.9	-1,112.8	1,626.1	1,576.1	49.97	32.543	
13,500.0	11,350.0	13,316.4	11,180.0	28.1	24.8	-84.00	2,277.9	-1,113.2	1,626.1	1,575.2	50.89	31.956	
13,600.0	11,350.0	13,416.4	11,180.0	28.6	25.3	-84.00	2,377.9	-1,113.6	1,626.1	1,574.3	51.83	31.373	
13,700.0	11,350.0	13,516.4	11,180.0	29.1	25.8	-84.00	2,477.9	-1,114.0	1,626.1	1,573.3	52.80	30.796	
13,800.0	11,350.0	13,616.4	11,180.0	29.6	26.4	-84.00	2,577.9	-1,114.4	1,626.1	1,572.3	53.80	30.225	
13,900.0	11,350.0	13,716.4	11,180.0	30.1	27.0	-84.00	2,677.9	-1,114.8	1,626.1	1,571.3	54.82	29.662	
14,000.0	11,350.0	13,816.4	11,180.0	30.6	27.5	-84.00	2,777.9	-1,115.2	1,626.1	1,570.2	55.87	29.108	
14,100.0	11,350.0	13,916.4	11,180.0	31.1	28.1	-84.00	2,877.9	-1,115.6	1,626.1	1,569.2	56.93	28.563	
14,200.0	11,350.0	14,016.4	11,180.0	31.7	28.7	-84.00	2,977.9	-1,116.0	1,626.1	1,568.1	58.01	28.029	
14,300.0	11,350.0	14,116.4	11,180.0	32.2	29.3	-84.00	3,077.9	-1,116.4	1,626.1	1,567.0	59.12	27.506	
14,400.0	11,350.0	14,216.4	11,180.0	32.8	29.9	-84.00	3,177.9	-1,116.8	1,626.1	1,565.9	60.24	26.994	
14,500.0	11,350.0	14,316.4	11,180.0	33.3	30.6	-84.00	3,277.8	-1,117.2	1,626.1	1,564.7	61.38	26.493	
14,600.0	11,350.0	14,416.4	11,180.0	33.9	31.2	-84.00	3,377.8	-1,117.6	1,626.1	1,563.6	62.53	26.004	
14,700.0	11,350.0	14,516.4	11,180.0	34.5	31.8	-84.00	3,477.8	-1,118.0	1,626.1	1,562.4	63.70	25.527	
14,800.0	11,350.0	14,616.4	11,180.0	35.1	32.4	-84.00	3,577.8	-1,118.4	1,626.1	1,561.2	64.89	25.061	
14,900.0	11,350.0	14,716.4	11,180.0	35.7	33.1	-84.00	3,677.8	-1,118.8	1,626.1	1,560.0	66.08	24.607	
15,000.0	11,350.0	14,816.4	11,180.0	36.3	33.7	-84.00	3,777.8	-1,119.2	1,626.1	1,558.8	67.29	24.165	
15,100.0	11,350.0	14,916.4	11,180.0	36.9	34.4	-84.00	3,877.8	-1,119.6	1,626.1	1,557.6	68.51	23.733	
15,200.0	11,350.0	15,016.4	11,180.0	37.5	35.0	-84.00	3,977.8	-1,120.0	1,626.1	1,556.3	69.75	23.314	
15,300.0	11,350.0	15,116.4	11,180.0	38.1	35.7	-84.00	4,077.8	-1,120.4	1,626.1	1,555.1	70.99	22.905	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	11,350.0	15,216.4	11,180.0	38.7	36.4	-84.00	4,177.8	-1,120.8	1,626.1	1,553.8	72.25	22.507	
15,500.0	11,350.0	15,316.4	11,180.0	39.4	37.0	-84.00	4,277.8	-1,121.2	1,626.1	1,552.6	73.51	22.120	
15,600.0	11,350.0	15,416.4	11,180.0	40.0	37.7	-84.00	4,377.8	-1,121.6	1,626.1	1,551.3	74.79	21.744	
15,700.0	11,350.0	15,516.4	11,180.0	40.6	38.4	-84.00	4,477.8	-1,122.0	1,626.1	1,550.0	76.07	21.377	
15,800.0	11,350.0	15,616.4	11,180.0	41.3	39.1	-84.00	4,577.8	-1,122.4	1,626.1	1,548.7	77.36	21.020	
15,900.0	11,350.0	15,716.4	11,180.0	41.9	39.8	-84.00	4,677.8	-1,122.8	1,626.1	1,547.4	78.66	20.673	
16,000.0	11,350.0	15,816.4	11,180.0	42.6	40.4	-84.00	4,777.8	-1,123.2	1,626.1	1,546.1	79.96	20.336	
16,100.0	11,350.0	15,916.4	11,180.0	43.2	41.1	-84.00	4,877.8	-1,123.6	1,626.1	1,544.8	81.28	20.007	
16,200.0	11,350.0	16,016.4	11,180.0	43.9	41.8	-84.00	4,977.8	-1,124.0	1,626.1	1,543.5	82.60	19.687	
16,300.0	11,350.0	16,116.4	11,180.0	44.6	42.5	-84.00	5,077.8	-1,124.4	1,626.1	1,542.2	83.92	19.376	
16,400.0	11,350.0	16,216.4	11,180.0	45.2	43.2	-84.00	5,177.8	-1,124.8	1,626.1	1,540.8	85.26	19.073	
16,500.0	11,350.0	16,316.4	11,180.0	45.9	43.9	-84.00	5,277.8	-1,125.2	1,626.1	1,539.5	86.59	18.778	
16,600.0	11,350.0	16,416.4	11,180.0	46.6	44.6	-84.00	5,377.8	-1,125.6	1,626.1	1,538.1	87.94	18.491	
16,700.0	11,350.0	16,516.4	11,180.0	47.2	45.3	-84.00	5,477.8	-1,126.0	1,626.1	1,536.8	89.29	18.211	
16,800.0	11,350.0	16,616.4	11,180.0	47.9	46.0	-84.00	5,577.8	-1,126.4	1,626.1	1,535.4	90.64	17.939	
16,900.0	11,350.0	16,716.4	11,180.0	48.6	46.7	-84.00	5,677.8	-1,126.8	1,626.1	1,534.1	92.00	17.674	
17,000.0	11,350.0	16,816.4	11,180.0	49.3	47.4	-84.00	5,777.8	-1,127.2	1,626.1	1,532.7	93.37	17.416	
17,100.0	11,350.0	16,916.4	11,180.0	49.9	48.1	-84.00	5,877.8	-1,127.6	1,626.1	1,531.3	94.74	17.164	
17,200.0	11,350.0	17,016.4	11,180.0	50.6	48.9	-84.00	5,977.8	-1,128.0	1,626.1	1,530.0	96.11	16.919	
17,300.0	11,350.0	17,116.4	11,180.0	51.3	49.6	-84.00	6,077.8	-1,128.4	1,626.1	1,528.6	97.49	16.680	
17,400.0	11,350.0	17,216.4	11,180.0	52.0	50.3	-84.00	6,177.8	-1,128.8	1,626.1	1,527.2	98.87	16.447	
17,500.0	11,350.0	17,316.4	11,180.0	52.7	51.0	-84.00	6,277.8	-1,129.2	1,626.1	1,525.8	100.25	16.219	
17,600.0	11,350.0	17,416.4	11,180.0	53.4	51.7	-84.00	6,377.8	-1,129.6	1,626.1	1,524.4	101.64	15.998	
17,700.0	11,350.0	17,516.4	11,180.0	54.1	52.4	-84.00	6,477.8	-1,130.0	1,626.1	1,523.0	103.04	15.782	
17,800.0	11,350.0	17,616.4	11,180.0	54.8	53.2	-84.00	6,577.8	-1,130.4	1,626.1	1,521.6	104.43	15.571	
17,900.0	11,350.0	17,716.4	11,180.0	55.5	53.9	-84.00	6,677.8	-1,130.8	1,626.1	1,520.2	105.83	15.365	
18,000.0	11,350.0	17,816.4	11,180.0	56.2	54.6	-84.00	6,777.8	-1,131.2	1,626.1	1,518.8	107.23	15.164	
18,100.0	11,350.0	17,916.4	11,180.0	56.9	55.3	-84.00	6,877.8	-1,131.6	1,626.1	1,517.4	108.64	14.968	
18,200.0	11,350.0	18,016.4	11,180.0	57.6	56.1	-84.00	6,977.8	-1,132.0	1,626.1	1,516.0	110.04	14.776	
18,300.0	11,350.0	18,116.4	11,180.0	58.3	56.8	-84.00	7,077.8	-1,132.4	1,626.1	1,514.6	111.45	14.589	
18,400.0	11,350.0	18,216.4	11,180.0	59.0	57.5	-84.00	7,177.8	-1,132.8	1,626.1	1,513.2	112.87	14.407	
18,500.0	11,350.0	18,316.4	11,180.0	59.7	58.2	-84.00	7,277.8	-1,133.2	1,626.1	1,511.8	114.28	14.228	
18,600.0	11,350.0	18,416.4	11,180.0	60.4	59.0	-84.00	7,377.8	-1,133.6	1,626.1	1,510.4	115.70	14.054	
18,700.0	11,350.0	18,516.4	11,180.0	61.2	59.7	-84.00	7,477.8	-1,134.0	1,626.1	1,508.9	117.12	13.884	
18,800.0	11,350.0	18,616.4	11,180.0	61.9	60.4	-84.00	7,577.8	-1,134.4	1,626.1	1,507.5	118.54	13.717	
18,900.0	11,350.0	18,716.4	11,180.0	62.6	61.2	-84.00	7,677.8	-1,134.8	1,626.1	1,506.1	119.97	13.554	
19,000.0	11,350.0	18,816.4	11,180.0	63.3	61.9	-84.00	7,777.8	-1,135.2	1,626.1	1,504.7	121.40	13.395	
19,100.0	11,350.0	18,916.4	11,180.0	64.0	62.6	-84.00	7,877.8	-1,135.6	1,626.1	1,503.2	122.83	13.239	
19,200.0	11,350.0	19,016.4	11,180.0	64.7	63.4	-84.00	7,977.8	-1,136.0	1,626.1	1,501.8	124.26	13.086	
19,300.0	11,350.0	19,116.4	11,180.0	65.5	64.1	-84.00	8,077.8	-1,136.4	1,626.1	1,500.4	125.69	12.937	
19,400.0	11,350.0	19,216.4	11,180.0	66.2	64.8	-84.00	8,177.8	-1,136.8	1,626.1	1,498.9	127.12	12.791	
19,500.0	11,350.0	19,316.4	11,180.0	66.9	65.6	-84.00	8,277.8	-1,137.1	1,626.1	1,497.5	128.56	12.648	
19,600.0	11,350.0	19,416.4	11,180.0	67.6	66.3	-84.00	8,377.8	-1,137.5	1,626.1	1,496.1	130.00	12.508	
19,700.0	11,350.0	19,516.4	11,180.0	68.3	67.0	-84.00	8,477.8	-1,137.9	1,626.1	1,494.6	131.44	12.371	
19,800.0	11,350.0	19,616.4	11,180.0	69.1	67.8	-84.00	8,577.8	-1,138.3	1,626.1	1,493.2	132.88	12.237	
19,900.0	11,350.0	19,716.4	11,180.0	69.8	68.5	-84.00	8,677.8	-1,138.7	1,626.1	1,491.7	134.32	12.106	
20,000.0	11,350.0	19,816.4	11,180.0	70.5	69.3	-84.00	8,777.8	-1,139.1	1,626.1	1,490.3	135.77	11.977	
20,100.0	11,350.0	19,916.4	11,180.0	71.2	70.0	-84.00	8,877.8	-1,139.5	1,626.1	1,488.8	137.21	11.851	
20,200.0	11,350.0	20,016.4	11,180.0	72.0	70.7	-84.00	8,977.8	-1,139.9	1,626.1	1,487.4	138.66	11.727	
20,300.0	11,350.0	20,116.4	11,180.0	72.7	71.5	-84.00	9,077.8	-1,140.3	1,626.1	1,485.9	140.11	11.606	
20,400.0	11,350.0	20,216.4	11,180.0	73.4	72.2	-84.00	9,177.8	-1,140.7	1,626.1	1,484.5	141.56	11.487	
20,500.0	11,350.0	20,316.4	11,180.0	74.2	73.0	-84.00	9,277.8	-1,141.1	1,626.0	1,483.0	143.01	11.370	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,350.0	20,416.4	11,180.0	74.9	73.7	-84.00	9,377.8	-1,141.5	1,626.0	1,481.6	144.46	11.256	
20,700.0	11,350.0	20,516.4	11,180.0	75.6	74.5	-84.00	9,477.8	-1,141.9	1,626.0	1,480.1	145.92	11.144	
20,800.0	11,350.0	20,616.4	11,180.0	76.4	75.2	-84.00	9,577.8	-1,142.3	1,626.0	1,478.7	147.37	11.034	
20,900.0	11,350.0	20,716.4	11,180.0	77.1	75.9	-84.00	9,677.8	-1,142.7	1,626.0	1,477.2	148.83	10.926	
21,000.0	11,350.0	20,816.4	11,180.0	77.8	76.7	-84.00	9,777.8	-1,143.1	1,626.0	1,475.8	150.29	10.820	
21,100.0	11,350.0	20,916.4	11,180.0	78.6	77.4	-84.00	9,877.8	-1,143.5	1,626.0	1,474.3	151.74	10.716	
21,200.0	11,350.0	21,016.4	11,180.0	79.3	78.2	-84.00	9,977.8	-1,143.9	1,626.0	1,472.8	153.20	10.614	
21,300.0	11,350.0	21,116.4	11,180.0	80.0	78.9	-84.00	10,077.8	-1,144.3	1,626.0	1,471.4	154.66	10.513	
21,400.0	11,350.0	21,216.4	11,180.0	80.8	79.7	-84.00	10,177.8	-1,144.7	1,626.0	1,469.9	156.12	10.415	
21,500.0	11,350.0	21,316.4	11,180.0	81.5	80.4	-84.00	10,277.8	-1,145.1	1,626.0	1,468.5	157.59	10.318	
21,600.0	11,350.0	21,416.4	11,180.0	82.2	81.2	-84.00	10,377.8	-1,145.5	1,626.0	1,467.0	159.05	10.223	
21,700.0	11,350.0	21,516.4	11,180.0	83.0	81.9	-84.00	10,477.8	-1,145.9	1,626.0	1,465.5	160.51	10.130	
21,800.0	11,350.0	21,616.4	11,180.0	83.7	82.7	-84.00	10,577.8	-1,146.3	1,626.0	1,464.1	161.98	10.039	
21,900.0	11,350.0	21,716.4	11,180.0	84.5	83.4	-84.00	10,677.8	-1,146.7	1,626.0	1,462.6	163.45	9.949	
22,000.0	11,350.0	21,816.4	11,180.0	85.2	84.2	-84.00	10,777.8	-1,147.1	1,626.0	1,461.1	164.91	9.860	
22,100.0	11,350.0	21,916.4	11,180.0	85.9	84.9	-84.00	10,877.8	-1,147.5	1,626.0	1,459.7	166.38	9.773	
22,200.0	11,350.0	22,016.4	11,180.0	86.7	85.7	-84.00	10,977.8	-1,147.9	1,626.0	1,458.2	167.85	9.688	
22,300.0	11,350.0	22,116.4	11,180.0	87.4	86.4	-84.00	11,077.8	-1,148.3	1,626.0	1,456.7	169.32	9.604	
22,400.0	11,350.0	22,216.4	11,180.0	88.1	87.2	-84.00	11,177.8	-1,148.7	1,626.0	1,455.2	170.79	9.521	
22,500.0	11,350.0	22,316.4	11,180.0	88.9	87.9	-84.00	11,277.8	-1,149.1	1,626.0	1,453.8	172.26	9.440	
22,600.0	11,350.0	22,416.4	11,180.0	89.6	88.7	-84.00	11,377.8	-1,149.5	1,626.0	1,452.3	173.73	9.360	
22,700.0	11,350.0	22,516.4	11,180.0	90.4	89.4	-84.00	11,477.8	-1,149.9	1,626.0	1,450.8	175.20	9.281	
22,800.0	11,350.0	22,616.4	11,180.0	91.1	90.2	-84.00	11,577.8	-1,150.3	1,626.0	1,449.4	176.67	9.204	
22,900.0	11,350.0	22,716.4	11,180.0	91.9	90.9	-84.00	11,677.8	-1,150.7	1,626.0	1,447.9	178.15	9.128	
23,000.0	11,350.0	22,816.4	11,180.0	92.6	91.7	-84.00	11,777.8	-1,151.1	1,626.0	1,446.4	179.62	9.053	
23,100.0	11,350.0	22,916.4	11,180.0	93.3	92.4	-84.00	11,877.8	-1,151.5	1,626.0	1,444.9	181.09	8.979	
23,200.0	11,350.0	23,016.4	11,180.0	94.1	93.2	-84.00	11,977.8	-1,151.9	1,626.0	1,443.5	182.57	8.906	
23,300.0	11,350.0	23,116.4	11,180.0	94.8	93.9	-84.00	12,077.8	-1,152.3	1,626.0	1,442.0	184.04	8.835	
23,400.0	11,350.0	23,216.4	11,180.0	95.6	94.7	-84.00	12,177.8	-1,152.7	1,626.0	1,440.5	185.52	8.765	
23,500.0	11,350.0	23,316.4	11,180.0	96.3	95.4	-84.00	12,277.8	-1,153.1	1,626.0	1,439.0	187.00	8.695	
23,600.0	11,350.0	23,416.4	11,180.0	97.1	96.2	-84.00	12,377.8	-1,153.5	1,626.0	1,437.5	188.48	8.627	
23,700.0	11,350.0	23,516.4	11,180.0	97.8	96.9	-84.00	12,477.8	-1,153.9	1,626.0	1,436.1	189.95	8.560	
23,800.0	11,350.0	23,616.4	11,180.0	98.6	97.7	-84.00	12,577.8	-1,154.3	1,626.0	1,434.6	191.43	8.494	
23,900.0	11,350.0	23,716.4	11,180.0	99.3	98.4	-84.00	12,677.8	-1,154.7	1,626.0	1,433.1	192.91	8.429	
24,000.0	11,350.0	23,816.4	11,180.0	100.1	99.2	-84.00	12,777.8	-1,155.1	1,626.0	1,431.6	194.39	8.365	
24,100.0	11,350.0	23,916.4	11,180.0	100.8	99.9	-84.00	12,877.8	-1,155.5	1,626.0	1,430.1	195.87	8.302	
24,200.0	11,350.0	24,016.4	11,180.0	101.5	100.7	-84.00	12,977.8	-1,155.9	1,626.0	1,428.7	197.35	8.239	
24,300.0	11,350.0	24,116.4	11,180.0	102.3	101.5	-84.00	13,077.8	-1,156.3	1,626.0	1,427.2	198.83	8.178	
24,400.0	11,350.0	24,216.4	11,180.0	103.0	102.2	-84.00	13,177.8	-1,156.7	1,626.0	1,425.7	200.31	8.117	
24,500.0	11,350.0	24,316.4	11,180.0	103.8	103.0	-84.00	13,277.8	-1,157.1	1,626.0	1,424.2	201.79	8.058	
24,600.0	11,350.0	24,416.4	11,180.0	104.5	103.7	-84.00	13,377.8	-1,157.5	1,626.0	1,422.7	203.28	7.999	
24,700.0	11,350.0	24,516.4	11,180.0	105.3	104.5	-84.00	13,477.8	-1,157.9	1,626.0	1,421.3	204.76	7.941	
24,750.1	11,350.0	24,566.5	11,180.0	105.7	104.8	-84.00	13,527.8	-1,158.1	1,626.0	1,420.5	205.50	7.912 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 #707H
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 #707H	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	-93.01	-71.6	-1,360.0	1,361.9	1,355.5	6.43	211.844	
100.0	100.0	100.0	100.0	3.2	3.2	-93.01	-71.6	-1,360.0	1,361.9	1,355.0	6.89	197.599	
200.0	200.0	200.0	200.0	3.5	3.5	-93.01	-71.6	-1,360.0	1,361.9	1,354.6	7.33	185.848	
300.0	300.0	300.0	300.0	3.7	3.7	-93.01	-71.6	-1,360.0	1,361.9	1,354.2	7.74	175.929	
400.0	400.0	400.0	400.0	3.9	3.9	-93.01	-71.6	-1,360.0	1,361.9	1,353.8	8.14	167.405	
500.0	500.0	500.0	500.0	4.1	4.1	-93.01	-71.6	-1,360.0	1,361.9	1,353.4	8.51	159.971	
600.0	600.0	600.0	600.0	4.2	4.2	-93.01	-71.6	-1,360.0	1,361.9	1,353.0	8.88	153.411	
700.0	700.0	700.0	700.0	4.4	4.4	-93.01	-71.6	-1,360.0	1,361.9	1,352.7	9.23	147.563	
800.0	800.0	800.0	800.0	4.6	4.6	-93.01	-71.6	-1,360.0	1,361.9	1,352.4	9.57	142.304	
900.0	900.0	900.0	900.0	4.8	4.8	-93.01	-71.6	-1,360.0	1,361.9	1,352.0	9.90	137.542	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-93.01	-71.6	-1,360.0	1,361.9	1,351.7	10.22	133.199	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-93.01	-71.6	-1,360.0	1,361.9	1,351.4	10.54	129.219	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-93.01	-71.6	-1,360.0	1,361.9	1,351.1	10.85	125.551	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-93.01	-71.6	-1,360.0	1,361.9	1,350.8	11.15	122.157	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-93.01	-71.6	-1,360.0	1,361.9	1,350.5	11.44	119.003	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-93.01	-71.6	-1,360.0	1,361.9	1,350.2	11.73	116.062	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-93.01	-71.6	-1,360.0	1,361.9	1,349.9	12.02	113.310	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-93.01	-71.6	-1,360.0	1,361.9	1,349.6	12.30	110.728	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-93.01	-71.6	-1,360.0	1,361.9	1,349.3	12.58	108.299	
1,900.0	1,900.0	1,931.3	1,931.2	6.3	6.3	-93.08	-73.2	-1,358.4	1,360.8	1,347.9	12.88	105.642	
2,000.0	2,000.0	2,062.2	2,062.0	6.4	6.5	-93.30	-78.0	-1,353.7	1,357.3	1,344.2	13.17	103.058	
2,100.0	2,100.0	2,192.7	2,192.0	6.5	6.8	156.40	-85.9	-1,345.8	1,352.8	1,339.4	13.48	100.371	
2,200.0	2,199.9	2,294.2	2,292.9	6.7	6.9	156.15	-93.4	-1,338.3	1,349.5	1,335.8	13.75	98.136	
2,287.4	2,287.2	2,381.5	2,379.7	6.8	7.1	155.96	-99.8	-1,331.8	1,348.6	1,334.6	14.01	96.274	
2,300.0	2,299.7	2,394.0	2,392.2	6.9	7.1	155.94	-100.7	-1,330.9	1,348.6	1,334.6	14.05	96.021	
2,400.0	2,399.3	2,493.9	2,491.6	7.0	7.3	155.75	-108.1	-1,323.5	1,350.1	1,335.8	14.36	94.001	
2,500.0	2,498.6	2,593.8	2,590.9	7.2	7.6	155.60	-115.5	-1,316.1	1,354.0	1,339.3	14.71	92.069	
2,600.0	2,597.6	2,693.6	2,690.2	7.4	7.8	155.49	-122.9	-1,308.8	1,359.8	1,344.8	15.01	90.606	
2,700.0	2,696.6	2,850.6	2,846.2	7.6	8.2	155.44	-132.1	-1,294.3	1,363.8	1,348.3	15.50	88.003	
2,800.0	2,795.7	3,014.1	3,008.1	7.9	8.7	155.61	-135.8	-1,272.2	1,363.2	1,347.1	16.08	84.779	
2,900.0	2,894.7	3,138.4	3,130.6	8.1	9.0	155.87	-135.0	-1,251.2	1,358.8	1,342.2	16.63	81.727	
3,000.0	2,993.7	3,238.1	3,228.8	8.4	9.3	156.10	-134.0	-1,233.9	1,354.1	1,336.9	17.19	78.774	
3,100.0	3,092.8	3,337.8	3,327.1	8.7	9.5	156.33	-133.0	-1,216.6	1,349.4	1,331.6	17.77	75.922	
3,200.0	3,191.8	3,437.6	3,425.3	8.9	9.9	156.56	-132.1	-1,199.3	1,344.7	1,326.3	18.38	73.156	
3,300.0	3,290.8	3,537.3	3,523.5	9.3	10.2	156.80	-131.1	-1,182.0	1,340.1	1,321.1	19.01	70.487	
3,400.0	3,389.8	3,637.1	3,621.7	9.6	10.5	157.03	-130.1	-1,164.7	1,335.5	1,315.8	19.66	67.922	
3,500.0	3,488.9	3,736.8	3,720.0	9.9	10.8	157.27	-129.1	-1,147.4	1,330.9	1,310.5	20.33	65.464	
3,600.0	3,587.9	3,836.6	3,818.2	10.2	11.2	157.50	-128.1	-1,130.1	1,326.3	1,305.3	21.01	63.113	
3,700.0	3,686.9	3,936.3	3,916.4	10.6	11.5	157.74	-127.2	-1,112.8	1,321.7	1,300.0	21.71	60.871	
3,800.0	3,785.9	4,036.0	4,014.6	10.9	11.9	157.98	-126.2	-1,095.5	1,317.2	1,294.8	22.43	58.733	
3,900.0	3,885.0	4,135.8	4,112.9	11.3	12.3	170.40	-125.2	-1,078.2	1,313.0	1,289.8	23.16	56.702	
4,000.0	3,984.0	4,235.8	4,211.3	11.6	12.6	177.93	-124.2	-1,060.9	1,309.4	1,285.5	23.86	54.868	
4,100.0	4,083.0	4,335.7	4,309.8	11.9	13.0	177.97	-123.2	-1,043.6	1,305.9	1,281.3	24.62	53.043	
4,200.0	4,182.1	4,435.6	4,408.2	12.3	13.4	178.01	-122.2	-1,026.3	1,302.4	1,277.0	25.38	51.309	
4,300.0	4,281.1	4,535.6	4,506.6	12.6	13.8	178.05	-121.3	-1,008.9	1,298.9	1,272.7	26.16	49.660	
4,400.0	4,380.1	4,635.5	4,605.0	13.0	14.2	178.08	-120.3	-991.6	1,295.4	1,268.5	26.94	48.093	
4,500.0	4,479.2	4,735.5	4,703.4	13.4	14.6	178.12	-119.3	-974.3	1,291.9	1,264.2	27.72	46.603	
4,600.0	4,578.2	4,835.4	4,801.8	13.7	15.0	178.16	-118.3	-956.9	1,288.4	1,259.9	28.51	45.185	
4,700.0	4,677.2	4,935.3	4,900.3	14.1	15.4	178.20	-117.3	-939.6	1,284.9	1,255.6	29.31	43.835	
4,800.0	4,776.2	5,035.3	4,998.7	14.5	15.8	178.24	-116.3	-922.3	1,281.4	1,251.3	30.12	42.549	
4,900.0	4,875.3	5,135.2	5,097.1	14.9	16.2	178.28	-115.4	-905.0	1,277.9	1,247.0	30.92	41.324	
5,000.0	4,974.3	5,235.1	5,195.5	15.3	16.6	178.32	-114.4	-887.6	1,274.4	1,242.7	31.74	40.156	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,100.0	5,073.3	5,335.1	5,293.9	15.7	17.0	178.36	-113.4	-870.3	1,271.0	1,238.4	32.55	39.041	
5,200.0	5,172.3	5,435.0	5,392.4	16.1	17.4	178.40	-112.4	-853.0	1,267.5	1,234.1	33.38	37.976	
5,300.0	5,271.4	5,534.9	5,490.8	16.4	17.8	178.44	-111.4	-835.7	1,264.0	1,229.8	34.20	36.959	
5,400.0	5,370.4	5,634.9	5,589.2	16.8	18.3	178.48	-110.4	-818.3	1,260.5	1,225.5	35.03	35.986	
5,500.0	5,469.4	5,734.8	5,687.6	17.2	18.7	178.52	-109.4	-801.0	1,257.0	1,221.1	35.86	35.055	
5,600.0	5,568.5	5,834.7	5,786.0	17.6	19.1	178.56	-108.5	-783.7	1,253.5	1,216.8	36.69	34.164	
5,700.0	5,667.5	5,934.7	5,884.4	18.0	19.5	178.60	-107.5	-766.4	1,249.8	1,212.3	37.50	33.325	
5,800.0	5,766.8	6,034.5	5,982.8	18.4	19.9	178.64	-106.5	-749.1	1,244.6	1,206.3	38.33	32.471	
5,900.0	5,866.2	6,134.3	6,081.0	18.8	20.4	178.67	-105.5	-731.8	1,237.7	1,198.6	39.15	31.617	
6,000.0	5,965.8	6,233.9	6,179.1	19.1	20.8	178.71	-104.5	-714.5	1,229.0	1,189.1	39.95	30.765	
6,100.0	6,065.6	6,333.4	6,277.1	19.5	21.2	178.74	-103.6	-697.2	1,218.6	1,177.9	40.74	29.915	
6,200.0	6,165.4	6,432.6	6,374.8	19.8	21.6	178.77	-102.6	-680.0	1,206.5	1,165.0	41.49	29.075	
6,300.0	6,265.4	6,517.2	6,458.2	20.1	22.0	178.80	-101.8	-665.8	1,193.1	1,151.0	42.16	28.299	
6,400.0	6,365.3	6,600.0	6,540.0	20.4	22.3	178.82	-101.0	-653.0	1,179.4	1,136.6	42.78	27.568	
6,500.0	6,465.3	6,681.5	6,620.7	20.5	22.7	-91.16	-100.4	-641.6	1,165.6	1,122.4	43.20	26.980	
6,600.0	6,565.3	6,764.1	6,702.6	20.5	23.0	-91.14	-99.8	-631.2	1,153.0	1,109.4	43.59	26.452	
6,700.0	6,665.3	6,846.9	6,784.9	20.5	23.3	-91.13	-99.3	-621.9	1,141.8	1,097.9	43.96	25.974	
6,800.0	6,765.3	6,929.9	6,867.5	20.6	23.7	-91.11	-98.8	-613.8	1,132.1	1,087.8	44.32	25.546	
6,900.0	6,865.3	7,013.2	6,950.5	20.6	24.0	-91.10	-98.4	-606.9	1,123.8	1,079.1	44.66	25.165	
7,000.0	6,965.3	7,100.0	7,037.1	20.7	24.3	-91.09	-98.1	-601.0	1,116.9	1,071.9	45.00	24.822	
7,100.0	7,065.3	7,180.2	7,117.2	20.7	24.6	-91.08	-97.8	-596.7	1,111.5	1,066.2	45.27	24.552	
7,200.0	7,165.3	7,264.0	7,200.9	20.7	24.8	-91.07	-97.7	-593.4	1,107.6	1,062.0	45.54	24.321	
7,300.0	7,265.3	7,347.8	7,284.7	20.8	25.0	-91.07	-97.5	-591.3	1,105.1	1,059.3	45.77	24.144	
7,400.0	7,365.3	7,431.6	7,368.5	20.8	25.2	-91.06	-97.5	-590.5	1,104.1	1,058.2	45.93	24.039	
7,441.5	7,406.8	7,469.9	7,406.8	20.8	25.2	-91.06	-97.5	-590.5	1,104.1	1,058.1	45.95	24.025	
7,500.0	7,465.3	7,528.5	7,465.3	20.9	25.3	-91.06	-97.5	-590.5	1,104.1	1,058.1	45.99	24.006	
7,600.0	7,565.3	7,628.5	7,565.3	20.9	25.3	-91.06	-97.5	-590.5	1,104.1	1,058.0	46.07	23.967	
7,700.0	7,665.3	7,728.5	7,665.3	21.0	25.3	-91.06	-97.5	-590.5	1,104.1	1,057.9	46.14	23.929	
7,800.0	7,765.3	7,828.5	7,765.3	21.0	25.4	-91.06	-97.5	-590.5	1,104.1	1,057.8	46.21	23.890	
7,900.0	7,865.3	7,928.5	7,865.3	21.0	25.4	-91.06	-97.5	-590.5	1,104.1	1,057.8	46.29	23.851	
8,000.0	7,965.3	8,028.5	7,965.3	21.1	25.4	-91.06	-97.5	-590.5	1,104.1	1,057.7	46.36	23.812	
8,100.0	8,065.3	8,128.5	8,065.3	21.1	25.5	-91.06	-97.5	-590.5	1,104.1	1,057.6	46.44	23.774	
8,200.0	8,165.3	8,228.5	8,165.3	21.2	25.5	-91.06	-97.5	-590.5	1,104.1	1,057.5	46.52	23.735	
8,300.0	8,265.3	8,328.5	8,265.3	21.2	25.5	-91.06	-97.5	-590.5	1,104.1	1,057.5	46.59	23.695	
8,400.0	8,365.3	8,428.5	8,365.3	21.3	25.6	-91.06	-97.5	-590.5	1,104.1	1,057.4	46.67	23.656	
8,500.0	8,465.3	8,528.5	8,465.3	21.3	25.6	-91.06	-97.5	-590.5	1,104.1	1,057.3	46.75	23.617	
8,600.0	8,565.3	8,628.5	8,565.3	21.4	25.6	-91.06	-97.5	-590.5	1,104.1	1,057.2	46.83	23.578	
8,700.0	8,665.3	8,728.5	8,665.3	21.4	25.7	-91.06	-97.5	-590.5	1,104.1	1,057.2	46.91	23.538	
8,800.0	8,765.3	8,828.5	8,765.3	21.4	25.7	-91.06	-97.5	-590.5	1,104.1	1,057.1	46.98	23.499	
8,900.0	8,865.3	8,928.5	8,865.3	21.5	25.7	-91.06	-97.5	-590.5	1,104.1	1,057.0	47.06	23.459	
9,000.0	8,965.3	9,028.5	8,965.3	21.5	25.8	-91.06	-97.5	-590.5	1,104.1	1,056.9	47.14	23.419	
9,100.0	9,065.3	9,128.5	9,065.3	21.6	25.8	-91.06	-97.5	-590.5	1,104.1	1,056.8	47.22	23.379	
9,200.0	9,165.3	9,228.5	9,165.3	21.6	25.8	-91.06	-97.5	-590.5	1,104.1	1,056.8	47.30	23.340	
9,300.0	9,265.3	9,328.5	9,265.3	21.7	25.9	-91.06	-97.5	-590.5	1,104.1	1,056.7	47.38	23.300	
9,400.0	9,365.3	9,428.5	9,365.3	21.7	25.9	-91.06	-97.5	-590.5	1,104.1	1,056.6	47.47	23.260	
9,500.0	9,465.3	9,528.5	9,465.3	21.8	25.9	-91.06	-97.5	-590.5	1,104.1	1,056.5	47.55	23.220	
9,600.0	9,565.3	9,628.5	9,565.3	21.8	26.0	-91.06	-97.5	-590.5	1,104.1	1,056.4	47.63	23.180	
9,700.0	9,665.3	9,728.5	9,665.3	21.9	26.0	-91.06	-97.5	-590.5	1,104.1	1,056.3	47.71	23.139	
9,800.0	9,765.3	9,828.5	9,765.3	21.9	26.1	-91.06	-97.5	-590.5	1,104.1	1,056.3	47.80	23.099	
9,900.0	9,865.3	9,928.5	9,865.3	22.0	26.1	-91.06	-97.5	-590.5	1,104.1	1,056.2	47.88	23.059	
10,000.0	9,965.3	10,028.5	9,965.3	22.0	26.1	-91.06	-97.5	-590.5	1,104.1	1,056.1	47.96	23.019	
10,100.0	10,065.3	10,128.5	10,065.3	22.1	26.2	-91.06	-97.5	-590.5	1,104.1	1,056.0	48.05	22.978	

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 #707H
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 #707H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,200.0	10,165.3	10,228.5	10,165.3	22.1	26.2	-91.06	-97.5	-590.5	1,104.1	1,055.9	48.13	22.938		
10,300.0	10,265.3	10,328.5	10,265.3	22.2	26.3	-91.06	-97.5	-590.5	1,104.1	1,055.8	48.22	22.897		
10,400.0	10,365.3	10,428.5	10,365.3	22.2	26.3	-91.06	-97.5	-590.5	1,104.1	1,055.8	48.30	22.857		
10,500.0	10,465.3	10,528.5	10,465.3	22.3	26.3	-91.06	-97.5	-590.5	1,104.1	1,055.7	48.39	22.816		
10,600.0	10,565.3	10,628.5	10,565.3	22.3	26.4	-91.06	-97.5	-590.5	1,104.1	1,055.6	48.48	22.776		
10,700.0	10,665.3	10,728.5	10,665.3	22.4	26.4	-91.06	-97.5	-590.5	1,104.1	1,055.5	48.56	22.735		
10,800.0	10,765.3	10,828.5	10,765.3	22.4	26.4	-91.06	-97.5	-590.5	1,104.1	1,055.4	48.64	22.697		
10,900.0	10,865.0	10,931.0	10,867.5	22.4	26.5	-90.83	-90.3	-590.5	1,104.1	1,055.3	48.71	22.665		
11,000.0	10,962.0	11,033.8	10,967.0	22.4	26.5	-90.79	-65.1	-590.6	1,104.0	1,055.3	48.77	22.637		
11,100.0	11,053.3	11,136.4	11,060.3	22.4	26.5	-90.73	-22.6	-590.8	1,104.0	1,055.2	48.83	22.611		
11,200.0	11,136.3	11,238.8	11,144.3	22.4	26.5	-90.65	35.7	-591.0	1,104.0	1,055.1	48.88	22.587		
11,300.0	11,208.3	11,340.8	11,216.4	22.4	26.5	-90.54	107.7	-591.3	1,104.0	1,055.1	48.93	22.561		
11,400.0	11,267.3	11,442.4	11,274.3	22.4	26.6	-90.42	191.0	-591.6	1,104.0	1,055.0	49.00	22.530		
11,500.0	11,311.3	11,543.6	11,316.6	22.4	26.6	-90.29	282.8	-592.0	1,104.0	1,054.9	49.09	22.488		
11,600.0	11,339.1	11,644.3	11,342.0	22.5	26.7	-90.15	380.1	-592.4	1,103.9	1,054.7	49.21	22.432		
11,687.2	11,349.4	11,731.8	11,349.9	22.6	26.8	-90.02	467.1	-592.7	1,103.9	1,054.6	49.35	22.371 CC		
11,700.0	11,349.8	11,744.5	11,350.0	22.6	26.8	-90.01	479.9	-592.8	1,103.9	1,054.6	49.37	22.361		
11,800.0	11,350.0	11,844.5	11,350.0	22.7	26.9	-90.00	579.9	-593.2	1,103.9	1,054.3	49.60	22.256		
11,900.0	11,350.0	11,944.5	11,350.0	22.9	27.0	-90.00	679.9	-593.6	1,103.9	1,054.1	49.89	22.129		
12,000.0	11,350.0	12,044.5	11,350.0	23.0	27.2	-90.00	779.9	-594.0	1,103.9	1,053.7	50.22	21.984		
12,100.0	11,350.0	12,144.5	11,350.0	23.2	27.4	-90.00	879.9	-594.4	1,103.9	1,053.4	50.59	21.822		
12,200.0	11,350.0	12,244.5	11,350.0	23.5	27.6	-90.00	979.9	-594.8	1,104.0	1,052.9	51.00	21.644		
12,300.0	11,350.0	12,344.5	11,350.0	23.7	27.8	-90.00	1,079.9	-595.2	1,104.0	1,052.5	51.46	21.452		
12,400.0	11,350.0	12,444.5	11,350.0	24.0	28.0	-90.00	1,179.9	-595.6	1,104.0	1,052.0	51.96	21.247		
12,500.0	11,350.0	12,544.5	11,350.0	24.2	28.3	-90.00	1,279.9	-596.0	1,104.0	1,051.5	52.50	21.030		
12,600.0	11,350.0	12,644.5	11,350.0	24.6	28.6	-90.00	1,379.9	-596.4	1,104.0	1,050.9	53.07	20.802		
12,700.0	11,350.0	12,744.5	11,350.0	24.9	28.9	-90.00	1,479.9	-596.8	1,104.0	1,050.3	53.68	20.565		
12,800.0	11,350.0	12,844.5	11,350.0	25.2	29.2	-90.00	1,579.9	-597.2	1,104.0	1,049.6	54.33	20.320		
12,900.0	11,350.0	12,944.5	11,350.0	25.6	29.5	-90.00	1,679.9	-597.6	1,104.0	1,048.9	55.01	20.069		
13,000.0	11,350.0	13,044.5	11,350.0	26.0	29.9	-90.00	1,779.9	-598.0	1,104.0	1,048.2	55.72	19.812		
13,100.0	11,350.0	13,144.5	11,350.0	26.4	30.2	-90.00	1,879.9	-598.4	1,104.0	1,047.5	56.47	19.550		
13,200.0	11,350.0	13,244.5	11,350.0	26.8	30.6	-90.00	1,979.9	-598.8	1,104.0	1,046.7	57.25	19.285		
13,300.0	11,350.0	13,344.5	11,350.0	27.2	31.0	-90.00	2,079.9	-599.2	1,104.0	1,045.9	58.05	19.017		
13,400.0	11,350.0	13,444.5	11,350.0	27.7	31.4	-90.00	2,179.9	-599.6	1,104.0	1,045.1	58.88	18.748		
13,500.0	11,350.0	13,544.5	11,350.0	28.1	31.8	-90.00	2,279.9	-600.0	1,104.0	1,044.2	59.75	18.478		
13,600.0	11,350.0	13,644.5	11,350.0	28.6	32.3	-90.00	2,379.9	-600.4	1,104.0	1,043.3	60.63	18.208		
13,700.0	11,350.0	13,744.5	11,350.0	29.1	32.7	-90.00	2,479.9	-600.8	1,104.0	1,042.4	61.54	17.938		
13,800.0	11,350.0	13,844.5	11,350.0	29.6	33.2	-90.00	2,579.9	-601.2	1,104.0	1,041.5	62.48	17.670		
13,900.0	11,350.0	13,944.5	11,350.0	30.1	33.6	-90.00	2,679.9	-601.6	1,104.0	1,040.5	63.43	17.404		
14,000.0	11,350.0	14,044.5	11,350.0	30.6	34.1	-90.00	2,779.9	-602.0	1,104.0	1,039.6	64.41	17.139		
14,100.0	11,350.0	14,144.5	11,350.0	31.1	34.6	-90.00	2,879.9	-602.4	1,104.0	1,038.6	65.41	16.878		
14,200.0	11,350.0	14,244.5	11,350.0	31.7	35.1	-90.00	2,979.9	-602.8	1,104.0	1,037.5	66.43	16.619		
14,300.0	11,350.0	14,344.5	11,350.0	32.2	35.6	-90.00	3,079.9	-603.2	1,104.0	1,036.5	67.46	16.364		
14,400.0	11,350.0	14,444.5	11,350.0	32.8	36.1	-90.00	3,179.9	-603.6	1,104.0	1,035.5	68.52	16.112		
14,500.0	11,350.0	14,544.5	11,350.0	33.3	36.7	-90.00	3,279.9	-604.0	1,104.0	1,034.4	69.59	15.864		
14,600.0	11,350.0	14,644.5	11,350.0	33.9	37.2	-90.00	3,379.9	-604.4	1,104.0	1,033.3	70.68	15.620		
14,700.0	11,350.0	14,744.5	11,350.0	34.5	37.7	-90.00	3,479.9	-604.8	1,104.0	1,032.2	71.78	15.380		
14,800.0	11,350.0	14,844.5	11,350.0	35.1	38.3	-90.00	3,579.9	-605.2	1,104.0	1,031.1	72.90	15.144		
14,900.0	11,350.0	14,944.5	11,350.0	35.7	38.8	-90.00	3,679.9	-605.6	1,104.0	1,030.0	74.03	14.912		
15,000.0	11,350.0	15,044.5	11,350.0	36.3	39.4	-90.00	3,779.9	-606.0	1,104.0	1,028.8	75.18	14.685		
15,100.0	11,350.0	15,144.5	11,350.0	36.9	40.0	-90.00	3,879.9	-606.4	1,104.0	1,027.6	76.34	14.462		
15,200.0	11,350.0	15,244.5	11,350.0	37.5	40.6	-90.00	3,979.9	-606.8	1,104.0	1,026.5	77.51	14.244		

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 #707H
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 #707H	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
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,300.0	11,350.0	15,344.5	11,350.0	38.1	41.1	-90.00	4,079.9	-607.2	1,104.0	1,025.3	78.69	14.030	
15,400.0	11,350.0	15,444.5	11,350.0	38.7	41.7	-90.00	4,179.9	-607.6	1,104.0	1,024.1	79.88	13.820	
15,500.0	11,350.0	15,544.5	11,350.0	39.4	42.3	-90.00	4,279.9	-608.0	1,104.0	1,022.9	81.09	13.615	
15,600.0	11,350.0	15,644.5	11,350.0	40.0	42.9	-90.00	4,379.9	-608.4	1,104.0	1,021.7	82.30	13.414	
15,700.0	11,350.0	15,744.5	11,350.0	40.6	43.5	-90.00	4,479.9	-608.8	1,104.0	1,020.5	83.53	13.217	
15,800.0	11,350.0	15,844.5	11,350.0	41.3	44.1	-90.00	4,579.9	-609.2	1,104.0	1,019.2	84.76	13.025	
15,900.0	11,350.0	15,944.5	11,350.0	41.9	44.8	-90.00	4,679.9	-609.6	1,104.0	1,018.0	86.00	12.837	
16,000.0	11,350.0	16,044.5	11,350.0	42.6	45.4	-90.00	4,779.9	-610.0	1,104.0	1,016.7	87.25	12.653	
16,100.0	11,350.0	16,144.5	11,350.0	43.2	46.0	-90.00	4,879.9	-610.4	1,104.0	1,015.5	88.51	12.473	
16,200.0	11,350.0	16,244.5	11,350.0	43.9	46.6	-90.00	4,979.9	-610.8	1,104.0	1,014.2	89.78	12.297	
16,300.0	11,350.0	16,344.5	11,350.0	44.6	47.3	-90.00	5,079.9	-611.2	1,104.0	1,012.9	91.05	12.125	
16,400.0	11,350.0	16,444.5	11,350.0	45.2	47.9	-90.00	5,179.9	-611.6	1,104.0	1,011.7	92.33	11.957	
16,500.0	11,350.0	16,544.5	11,350.0	45.9	48.5	-90.00	5,279.9	-612.0	1,104.0	1,010.4	93.62	11.792	
16,600.0	11,350.0	16,644.5	11,350.0	46.6	49.2	-90.00	5,379.9	-612.4	1,104.0	1,009.1	94.92	11.631	
16,700.0	11,350.0	16,744.5	11,350.0	47.2	49.8	-90.00	5,479.9	-612.8	1,104.0	1,007.8	96.22	11.474	
16,800.0	11,350.0	16,844.5	11,350.0	47.9	50.5	-90.00	5,579.9	-613.2	1,104.0	1,006.5	97.53	11.320	
16,900.0	11,350.0	16,944.5	11,350.0	48.6	51.1	-90.00	5,679.9	-613.6	1,104.0	1,005.2	98.84	11.170	
17,000.0	11,350.0	17,044.5	11,350.0	49.3	51.8	-90.00	5,779.9	-614.0	1,104.0	1,003.8	100.16	11.022	
17,100.0	11,350.0	17,144.5	11,350.0	49.9	52.5	-90.00	5,879.9	-614.4	1,104.0	1,002.5	101.48	10.879	
17,200.0	11,350.0	17,244.5	11,350.0	50.6	53.1	-90.00	5,979.9	-614.8	1,104.0	1,001.2	102.81	10.738	
17,300.0	11,350.0	17,344.5	11,350.0	51.3	53.8	-90.00	6,079.9	-615.2	1,104.0	999.9	104.15	10.600	
17,400.0	11,350.0	17,444.5	11,350.0	52.0	54.5	-90.00	6,179.8	-615.6	1,104.0	998.5	105.49	10.466	
17,500.0	11,350.0	17,544.5	11,350.0	52.7	55.1	-90.00	6,279.8	-616.0	1,104.0	997.2	106.83	10.334	
17,600.0	11,350.0	17,644.5	11,350.0	53.4	55.8	-90.00	6,379.8	-616.4	1,104.0	995.8	108.18	10.205	
17,700.0	11,350.0	17,744.5	11,350.0	54.1	56.5	-90.00	6,479.8	-616.8	1,104.0	994.5	109.53	10.079	
17,800.0	11,350.0	17,844.5	11,350.0	54.8	57.2	-90.00	6,579.8	-617.2	1,104.0	993.1	110.89	9.956	
17,900.0	11,350.0	17,944.5	11,350.0	55.5	57.8	-90.00	6,679.8	-617.6	1,104.0	991.8	112.25	9.835	
18,000.0	11,350.0	18,044.5	11,350.0	56.2	58.5	-90.00	6,779.8	-618.0	1,104.0	990.4	113.62	9.717	
18,100.0	11,350.0	18,144.5	11,350.0	56.9	59.2	-90.00	6,879.8	-618.4	1,104.0	989.0	114.99	9.601	
18,200.0	11,350.0	18,244.5	11,350.0	57.6	59.9	-90.00	6,979.8	-618.8	1,104.0	987.7	116.36	9.488	
18,300.0	11,350.0	18,344.5	11,350.0	58.3	60.6	-90.00	7,079.8	-619.2	1,104.0	986.3	117.73	9.377	
18,400.0	11,350.0	18,444.5	11,350.0	59.0	61.3	-90.00	7,179.8	-619.6	1,104.0	984.9	119.11	9.269	
18,500.0	11,350.0	18,544.5	11,350.0	59.7	62.0	-90.00	7,279.8	-620.0	1,104.0	983.5	120.49	9.163	
18,600.0	11,350.0	18,644.5	11,350.0	60.4	62.7	-90.00	7,379.8	-620.4	1,104.0	982.1	121.88	9.058	
18,700.0	11,350.0	18,744.5	11,350.0	61.2	63.3	-90.00	7,479.8	-620.8	1,104.0	980.8	123.27	8.956	
18,800.0	11,350.0	18,844.5	11,350.0	61.9	64.0	-90.00	7,579.8	-621.2	1,104.0	979.4	124.66	8.856	
18,900.0	11,350.0	18,944.5	11,350.0	62.6	64.7	-90.00	7,679.8	-621.6	1,104.0	978.0	126.05	8.759	
19,000.0	11,350.0	19,044.5	11,350.0	63.3	65.4	-90.00	7,779.8	-622.0	1,104.0	976.6	127.45	8.663	
19,100.0	11,350.0	19,144.5	11,350.0	64.0	66.1	-90.00	7,879.8	-622.4	1,104.0	975.2	128.85	8.569	
19,200.0	11,350.0	19,244.5	11,350.0	64.7	66.8	-90.00	7,979.8	-622.8	1,104.0	973.8	130.25	8.476	
19,300.0	11,350.0	19,344.5	11,350.0	65.5	67.6	-90.00	8,079.8	-623.2	1,104.0	972.4	131.65	8.386	
19,400.0	11,350.0	19,444.5	11,350.0	66.2	68.3	-90.00	8,179.8	-623.6	1,104.0	971.0	133.06	8.297	
19,500.0	11,350.0	19,544.5	11,350.0	66.9	69.0	-90.00	8,279.8	-624.0	1,104.0	969.6	134.47	8.210	
19,600.0	11,350.0	19,644.5	11,350.0	67.6	69.7	-90.00	8,379.8	-624.4	1,104.0	968.2	135.88	8.125	
19,700.0	11,350.0	19,744.5	11,350.0	68.3	70.4	-90.00	8,479.8	-624.8	1,104.0	966.7	137.29	8.042	
19,800.0	11,350.0	19,844.5	11,350.0	69.1	71.1	-90.00	8,579.8	-625.2	1,104.0	965.3	138.71	7.960	
19,900.0	11,350.0	19,944.5	11,350.0	69.8	71.8	-90.00	8,679.8	-625.6	1,104.0	963.9	140.12	7.879	
20,000.0	11,350.0	20,044.5	11,350.0	70.5	72.5	-90.00	8,779.8	-626.0	1,104.0	962.5	141.54	7.800	
20,100.0	11,350.0	20,144.5	11,350.0	71.2	73.2	-90.00	8,879.8	-626.4	1,104.0	961.1	142.96	7.723	
20,200.0	11,350.0	20,244.5	11,350.0	72.0	73.9	-90.00	8,979.8	-626.8	1,104.0	959.7	144.39	7.646	
20,300.0	11,350.0	20,344.5	11,350.0	72.7	74.7	-90.00	9,079.8	-627.2	1,104.0	958.2	145.81	7.572	
20,400.0	11,350.0	20,444.5	11,350.0	73.4	75.4	-90.00	9,179.8	-627.7	1,104.0	956.8	147.24	7.498	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,500.0	11,350.0	20,544.5	11,350.0	74.2	76.1	-90.00	9,279.8	-628.1	1,104.0	955.4	148.67	7.426	
20,600.0	11,350.0	20,644.5	11,350.0	74.9	76.8	-90.00	9,379.8	-628.5	1,104.0	954.0	150.10	7.356	
20,700.0	11,350.0	20,744.5	11,350.0	75.6	77.5	-90.00	9,479.8	-628.9	1,104.1	952.5	151.53	7.286	
20,800.0	11,350.0	20,844.5	11,350.0	76.4	78.3	-90.00	9,579.8	-629.3	1,104.1	951.1	152.96	7.218	
20,900.0	11,350.0	20,944.5	11,350.0	77.1	79.0	-90.00	9,679.8	-629.7	1,104.1	949.7	154.39	7.151	
21,000.0	11,350.0	21,044.5	11,350.0	77.8	79.7	-90.00	9,779.8	-630.1	1,104.1	948.2	155.83	7.085	
21,100.0	11,350.0	21,144.5	11,350.0	78.6	80.4	-90.00	9,879.8	-630.5	1,104.1	946.8	157.27	7.020	
21,200.0	11,350.0	21,244.5	11,350.0	79.3	81.1	-90.00	9,979.8	-630.9	1,104.1	945.3	158.71	6.957	
21,300.0	11,350.0	21,344.5	11,350.0	80.0	81.9	-90.00	10,079.8	-631.3	1,104.1	943.9	160.15	6.894	
21,400.0	11,350.0	21,444.5	11,350.0	80.8	82.6	-90.00	10,179.8	-631.7	1,104.1	942.5	161.59	6.833	
21,500.0	11,350.0	21,544.5	11,350.0	81.5	83.3	-90.00	10,279.8	-632.1	1,104.1	941.0	163.03	6.772	
21,600.0	11,350.0	21,644.5	11,350.0	82.2	84.0	-90.00	10,379.8	-632.5	1,104.1	939.6	164.47	6.713	
21,700.0	11,350.0	21,744.5	11,350.0	83.0	84.8	-90.00	10,479.8	-632.9	1,104.1	938.1	165.92	6.654	
21,800.0	11,350.0	21,844.5	11,350.0	83.7	85.5	-90.00	10,579.8	-633.3	1,104.1	936.7	167.37	6.597	
21,900.0	11,350.0	21,944.5	11,350.0	84.5	86.2	-90.00	10,679.8	-633.7	1,104.1	935.3	168.81	6.540	
22,000.0	11,350.0	22,044.5	11,350.0	85.2	87.0	-90.00	10,779.8	-634.1	1,104.1	933.8	170.26	6.485	
22,100.0	11,350.0	22,144.5	11,350.0	85.9	87.7	-90.00	10,879.8	-634.5	1,104.1	932.4	171.71	6.430	
22,200.0	11,350.0	22,244.5	11,350.0	86.7	88.4	-90.00	10,979.8	-634.9	1,104.1	930.9	173.16	6.376	
22,300.0	11,350.0	22,344.5	11,350.0	87.4	89.2	-90.00	11,079.8	-635.3	1,104.1	929.5	174.61	6.323	
22,400.0	11,350.0	22,444.5	11,350.0	88.1	89.9	-90.00	11,179.8	-635.7	1,104.1	928.0	176.07	6.271	
22,500.0	11,350.0	22,544.5	11,350.0	88.9	90.6	-90.00	11,279.8	-636.1	1,104.1	926.6	177.52	6.219	
22,600.0	11,350.0	22,644.5	11,350.0	89.6	91.3	-90.00	11,379.8	-636.5	1,104.1	925.1	178.97	6.169	
22,700.0	11,350.0	22,744.5	11,350.0	90.4	92.1	-90.00	11,479.8	-636.9	1,104.1	923.6	180.43	6.119	
22,800.0	11,350.0	22,844.5	11,350.0	91.1	92.8	-90.00	11,579.8	-637.3	1,104.1	922.2	181.89	6.070	
22,900.0	11,350.0	22,944.5	11,350.0	91.9	93.5	-90.00	11,679.8	-637.7	1,104.1	920.7	183.34	6.022	
23,000.0	11,350.0	23,044.5	11,350.0	92.6	94.3	-90.00	11,779.8	-638.1	1,104.1	919.3	184.80	5.974	
23,100.0	11,350.0	23,144.5	11,350.0	93.3	95.0	-90.00	11,879.8	-638.5	1,104.1	917.8	186.26	5.928	
23,200.0	11,350.0	23,244.5	11,350.0	94.1	95.8	-90.00	11,979.8	-638.9	1,104.1	916.4	187.72	5.881	
23,300.0	11,350.0	23,344.5	11,350.0	94.8	96.5	-90.00	12,079.8	-639.3	1,104.1	914.9	189.18	5.836	
23,400.0	11,350.0	23,444.5	11,350.0	95.6	97.2	-90.00	12,179.8	-639.7	1,104.1	913.4	190.64	5.791	
23,500.0	11,350.0	23,544.5	11,350.0	96.3	98.0	-90.00	12,279.8	-640.1	1,104.1	912.0	192.11	5.747	
23,600.0	11,350.0	23,644.5	11,350.0	97.1	98.7	-90.00	12,379.8	-640.5	1,104.1	910.5	193.57	5.704	
23,700.0	11,350.0	23,744.5	11,350.0	97.8	99.4	-90.00	12,479.8	-640.9	1,104.1	909.1	195.03	5.661	
23,800.0	11,350.0	23,844.5	11,350.0	98.6	100.2	-90.00	12,579.8	-641.3	1,104.1	907.6	196.50	5.619	
23,900.0	11,350.0	23,944.5	11,350.0	99.3	100.9	-90.00	12,679.8	-641.7	1,104.1	906.1	197.96	5.577	
24,000.0	11,350.0	24,044.5	11,350.0	100.1	101.7	-90.00	12,779.8	-642.1	1,104.1	904.7	199.43	5.536	
24,100.0	11,350.0	24,144.5	11,350.0	100.8	102.4	-90.00	12,879.8	-642.5	1,104.1	903.2	200.90	5.496	
24,200.0	11,350.0	24,244.5	11,350.0	101.5	103.1	-90.00	12,979.8	-642.9	1,104.1	901.7	202.36	5.456	
24,300.0	11,350.0	24,344.5	11,350.0	102.3	103.9	-90.00	13,079.8	-643.3	1,104.1	900.3	203.83	5.417	
24,400.0	11,350.0	24,444.5	11,350.0	103.0	104.6	-90.00	13,179.8	-643.7	1,104.1	898.8	205.30	5.378	
24,500.0	11,350.0	24,544.5	11,350.0	103.8	105.4	-90.00	13,279.8	-644.1	1,104.1	897.3	206.77	5.340	
24,600.0	11,350.0	24,644.5	11,350.0	104.5	106.1	-90.00	13,379.8	-644.5	1,104.1	895.9	208.24	5.302	
24,700.0	11,350.0	24,744.5	11,350.0	105.3	106.8	-90.00	13,479.8	-644.9	1,104.1	894.4	209.71	5.265	
24,750.1	11,350.0	24,794.6	11,350.0	105.7	107.2	-90.00	13,529.8	-645.1	1,104.1	893.7	210.44	5.246 ES, SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	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	-90.00	0.0	-30.0	30.0	23.6	6.43	4.666	
100.0	100.0	100.0	100.0	3.2	3.2	-90.00	0.0	-30.0	30.0	23.1	6.89	4.353	
200.0	200.0	200.0	200.0	3.5	3.5	-90.00	0.0	-30.0	30.0	22.7	7.33	4.094	
300.0	300.0	300.0	300.0	3.7	3.7	-90.00	0.0	-30.0	30.0	22.3	7.74	3.875	
400.0	400.0	400.0	400.0	3.9	3.9	-90.00	0.0	-30.0	30.0	21.9	8.14	3.688	
500.0	500.0	500.0	500.0	4.1	4.1	-90.00	0.0	-30.0	30.0	21.5	8.51	3.524	
600.0	600.0	600.0	600.0	4.2	4.2	-90.00	0.0	-30.0	30.0	21.1	8.88	3.379	
700.0	700.0	700.0	700.0	4.4	4.4	-90.00	0.0	-30.0	30.0	20.8	9.23	3.250	
800.0	800.0	800.0	800.0	4.6	4.6	-90.00	0.0	-30.0	30.0	20.4	9.57	3.135	
900.0	900.0	900.0	900.0	4.8	4.8	-90.00	0.0	-30.0	30.0	20.1	9.90	3.030	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.00	0.0	-30.0	30.0	19.8	10.22	2.934	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.00	0.0	-30.0	30.0	19.5	10.54	2.846	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.00	0.0	-30.0	30.0	19.2	10.85	2.766	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.00	0.0	-30.0	30.0	18.9	11.15	2.691	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.00	0.0	-30.0	30.0	18.6	11.44	2.621	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.00	0.0	-30.0	30.0	18.3	11.73	2.557	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-90.00	0.0	-30.0	30.0	18.0	12.02	2.496	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.00	0.0	-30.0	30.0	17.7	12.30	2.439	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-90.00	0.0	-30.0	30.0	17.4	12.58	2.386	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-90.00	0.0	-30.0	30.0	17.2	12.85	2.335	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-90.00	0.0	-30.0	30.0	16.9	13.12	2.287 CC, ES, SF	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	160.82	0.0	-30.0	31.2	17.8	13.39	2.332	
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	162.91	0.0	-30.0	35.0	21.3	13.67	2.558	
2,300.0	2,299.7	2,299.7	2,299.7	6.9	6.8	165.56	0.0	-30.0	41.3	27.3	13.96	2.956	
2,400.0	2,399.3	2,399.3	2,399.3	7.0	6.9	168.14	0.0	-30.0	50.2	35.9	14.27	3.517	
2,500.0	2,498.6	2,498.6	2,498.6	7.2	7.0	170.35	0.0	-30.0	61.7	47.1	14.60	4.229	
2,600.0	2,597.6	2,597.6	2,597.6	7.4	7.2	172.10	0.0	-30.0	75.3	60.5	14.87	5.067	
2,700.0	2,696.6	2,696.6	2,696.6	7.6	7.3	173.33	0.0	-30.0	89.2	73.9	15.21	5.861	
2,800.0	2,795.7	2,795.7	2,795.7	7.9	7.4	174.23	0.0	-30.0	103.0	87.4	15.57	6.615	
2,900.0	2,894.7	2,894.7	2,894.7	8.1	7.5	174.91	0.0	-30.0	116.8	100.9	15.94	7.329	
3,000.0	2,993.7	2,993.7	2,993.7	8.4	7.7	175.45	0.0	-30.0	130.7	114.4	16.33	8.003	
3,100.0	3,092.8	3,092.8	3,092.8	8.7	7.8	175.89	0.0	-30.0	144.6	127.9	16.74	8.639	
3,200.0	3,191.8	3,191.8	3,191.8	8.9	7.9	176.25	0.0	-30.0	158.5	141.3	17.15	9.239	
3,300.0	3,290.8	3,290.8	3,290.8	9.3	8.0	176.55	0.0	-30.0	172.4	154.8	17.58	9.804	
3,400.0	3,389.8	3,389.8	3,389.8	9.6	8.1	176.81	0.0	-30.0	186.3	168.2	18.02	10.336	
3,500.0	3,488.9	3,488.9	3,488.9	9.9	8.2	177.03	0.0	-30.0	200.2	181.7	18.47	10.837	
3,600.0	3,587.9	3,587.9	3,587.9	10.2	8.4	177.23	0.0	-30.0	214.1	195.1	18.93	11.308	
3,700.0	3,686.9	3,686.9	3,686.9	10.6	8.5	177.39	0.0	-30.0	228.0	208.6	19.40	11.752	
3,800.0	3,785.9	3,785.9	3,785.9	10.9	8.6	177.54	0.0	-30.0	241.9	222.0	19.87	12.170	
3,900.0	3,885.0	3,885.0	3,885.0	11.3	8.7	-170.08	0.0	-30.0	255.6	235.3	20.36	12.557	
4,000.0	3,984.0	3,984.0	3,984.0	11.6	8.8	-163.22	0.0	-30.0	269.0	248.2	20.79	12.935	
4,100.0	4,083.0	4,083.0	4,083.0	11.9	8.9	-164.03	0.0	-30.0	282.3	261.1	21.28	13.268	
4,200.0	4,182.1	4,182.1	4,182.1	12.3	9.0	-164.77	0.0	-30.0	295.8	274.0	21.77	13.585	
4,300.0	4,281.1	4,281.1	4,281.1	12.6	9.1	-165.45	0.0	-30.0	309.2	286.9	22.27	13.886	
4,400.0	4,380.1	4,380.1	4,380.1	13.0	9.3	-166.07	0.0	-30.0	322.7	299.9	22.77	14.172	
4,500.0	4,479.2	4,479.2	4,479.2	13.4	9.4	-166.64	0.0	-30.0	336.2	313.0	23.28	14.443	
4,600.0	4,578.2	4,578.2	4,578.2	13.7	9.5	-167.17	0.0	-30.0	349.8	326.0	23.79	14.701	
4,700.0	4,677.2	4,677.2	4,677.2	14.1	9.6	-167.65	0.0	-30.0	363.4	339.1	24.31	14.946	
4,800.0	4,776.2	4,776.2	4,776.2	14.5	9.7	-168.11	0.0	-30.0	377.0	352.2	24.84	15.179	
4,900.0	4,875.3	4,875.3	4,875.3	14.9	9.8	-168.53	0.0	-30.0	390.6	365.3	25.36	15.401	
5,000.0	4,974.3	4,974.3	4,974.3	15.3	9.9	-168.92	0.0	-30.0	404.3	378.4	25.90	15.612	
5,100.0	5,073.3	5,073.3	5,073.3	15.7	10.0	-169.28	0.0	-30.0	418.0	391.5	26.43	15.813	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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)			
5,200.0	5,172.3	5,172.3	5,172.3	16.1	10.1	-169.63	0.0	-30.0	431.7	404.7	26.97	16.004	
5,300.0	5,271.4	5,271.4	5,271.4	16.4	10.2	-169.95	0.0	-30.0	445.4	417.8	27.51	16.187	
5,400.0	5,370.4	5,370.4	5,370.4	16.8	10.3	-170.25	0.0	-30.0	459.1	431.0	28.06	16.361	
5,500.0	5,469.4	5,469.4	5,469.4	17.2	10.4	-170.54	0.0	-30.0	472.8	444.2	28.61	16.527	
5,600.0	5,568.5	5,568.5	5,568.5	17.6	10.5	-170.81	0.0	-30.0	486.5	457.4	29.16	16.686	
5,700.0	5,667.5	5,667.5	5,667.5	18.0	10.6	-171.07	0.0	-30.0	500.1	470.4	29.68	16.848	
5,800.0	5,766.8	5,766.8	5,766.8	18.4	10.7	-171.30	0.0	-30.0	512.2	481.9	30.22	16.945	
5,900.0	5,866.2	5,866.2	5,866.2	18.8	10.8	-171.49	0.0	-30.0	522.5	491.8	30.76	16.990	
6,000.0	5,965.8	5,965.8	5,965.8	19.1	10.9	-171.64	0.0	-30.0	531.2	499.9	31.27	16.987	
6,100.0	6,065.6	6,065.6	6,065.6	19.5	11.0	-171.76	0.0	-30.0	538.1	506.4	31.77	16.941	
6,200.0	6,165.4	6,165.4	6,165.4	19.8	11.1	-171.85	0.0	-30.0	543.3	511.1	32.24	16.855	
6,300.0	6,265.4	6,265.4	6,265.4	20.1	11.2	-171.90	0.0	-30.0	546.8	514.2	32.67	16.736	
6,400.0	6,365.3	6,365.3	6,365.3	20.4	11.3	-171.93	0.0	-30.0	548.6	515.5	33.06	16.595	
6,500.0	6,465.3	6,465.3	6,465.3	20.5	11.4	-81.94	0.0	-30.0	548.8	515.6	33.21	16.526	
6,600.0	6,565.3	6,565.3	6,565.3	20.5	11.6	-81.94	0.0	-30.0	548.8	515.5	33.33	16.467	
6,700.0	6,665.3	6,665.3	6,665.3	20.5	11.7	-81.94	0.0	-30.0	548.8	515.4	33.45	16.409	
6,800.0	6,765.3	6,765.3	6,765.3	20.6	11.8	-81.94	0.0	-30.0	548.8	515.3	33.57	16.351	
6,900.0	6,865.3	6,865.3	6,865.3	20.6	11.9	-81.94	0.0	-30.0	548.8	515.1	33.69	16.293	
7,000.0	6,965.3	6,965.3	6,965.3	20.7	12.0	-81.94	0.0	-30.0	548.8	515.0	33.81	16.235	
7,100.0	7,065.3	7,065.3	7,065.3	20.7	12.1	-81.94	0.0	-30.0	548.8	514.9	33.93	16.177	
7,200.0	7,165.3	7,165.3	7,165.3	20.7	12.2	-81.94	0.0	-30.0	548.8	514.8	34.05	16.120	
7,300.0	7,265.3	7,265.3	7,265.3	20.8	12.2	-81.94	0.0	-30.0	548.8	514.7	34.17	16.063	
7,400.0	7,365.3	7,365.3	7,365.3	20.8	12.3	-81.94	0.0	-30.0	548.8	514.5	34.29	16.006	
7,500.0	7,465.3	7,465.3	7,465.3	20.9	12.4	-81.94	0.0	-30.0	548.8	514.4	34.41	15.950	
7,600.0	7,565.3	7,565.3	7,565.3	20.9	12.5	-81.94	0.0	-30.0	548.8	514.3	34.53	15.893	
7,700.0	7,665.3	7,665.3	7,665.3	21.0	12.6	-81.94	0.0	-30.0	548.8	514.2	34.65	15.837	
7,800.0	7,765.3	7,765.3	7,765.3	21.0	12.7	-81.94	0.0	-30.0	548.8	514.1	34.78	15.782	
7,900.0	7,865.3	7,865.3	7,865.3	21.0	12.8	-81.94	0.0	-30.0	548.8	513.9	34.90	15.726	
8,000.0	7,965.3	7,965.3	7,965.3	21.1	12.9	-81.94	0.0	-30.0	548.8	513.8	35.02	15.671	
8,100.0	8,065.3	8,065.3	8,065.3	21.1	13.0	-81.94	0.0	-30.0	548.8	513.7	35.15	15.616	
8,200.0	8,165.3	8,165.3	8,165.3	21.2	13.1	-81.94	0.0	-30.0	548.8	513.6	35.27	15.561	
8,300.0	8,265.3	8,265.3	8,265.3	21.2	13.2	-81.94	0.0	-30.0	548.8	513.4	35.39	15.506	
8,400.0	8,365.3	8,365.3	8,365.3	21.3	13.3	-81.94	0.0	-30.0	548.8	513.3	35.52	15.452	
8,500.0	8,465.3	8,465.3	8,465.3	21.3	13.4	-81.94	0.0	-30.0	548.8	513.2	35.64	15.398	
8,600.0	8,565.3	8,565.3	8,565.3	21.4	13.5	-81.94	0.0	-30.0	548.8	513.1	35.77	15.344	
8,700.0	8,665.3	8,665.3	8,665.3	21.4	13.6	-81.94	0.0	-30.0	548.8	512.9	35.89	15.291	
8,800.0	8,765.3	8,765.3	8,765.3	21.4	13.7	-81.94	0.0	-30.0	548.8	512.8	36.02	15.238	
8,900.0	8,865.3	8,865.3	8,865.3	21.5	13.8	-81.94	0.0	-30.0	548.8	512.7	36.14	15.184	
9,000.0	8,965.3	8,965.3	8,965.3	21.5	13.9	-81.94	0.0	-30.0	548.8	512.6	36.27	15.132	
9,100.0	9,065.3	9,065.3	9,065.3	21.6	14.0	-81.94	0.0	-30.0	548.8	512.4	36.40	15.079	
9,200.0	9,165.3	9,165.3	9,165.3	21.6	14.1	-81.94	0.0	-30.0	548.8	512.3	36.52	15.027	
9,300.0	9,265.3	9,265.3	9,265.3	21.7	14.2	-81.94	0.0	-30.0	548.8	512.2	36.65	14.975	
9,400.0	9,365.3	9,365.3	9,365.3	21.7	14.3	-81.94	0.0	-30.0	548.8	512.1	36.78	14.923	
9,500.0	9,465.3	9,465.3	9,465.3	21.8	14.4	-81.94	0.0	-30.0	548.8	511.9	36.90	14.872	
9,600.0	9,565.3	9,565.3	9,565.3	21.8	14.5	-81.94	0.0	-30.0	548.8	511.8	37.03	14.820	
9,700.0	9,665.3	9,665.3	9,665.3	21.9	14.6	-81.94	0.0	-30.0	548.8	511.7	37.16	14.769	
9,800.0	9,765.3	9,765.3	9,765.3	21.9	14.7	-81.94	0.0	-30.0	548.8	511.5	37.29	14.718	
9,900.0	9,865.3	9,865.3	9,865.3	22.0	14.8	-81.94	0.0	-30.0	548.8	511.4	37.42	14.668	
10,000.0	9,965.3	9,965.3	9,965.3	22.0	14.8	-81.94	0.0	-30.0	548.8	511.3	37.55	14.618	
10,100.0	10,065.3	10,065.3	10,065.3	22.1	14.9	-81.94	0.0	-30.0	548.8	511.2	37.67	14.568	
10,200.0	10,165.3	10,165.3	10,165.3	22.1	15.0	-81.94	0.0	-30.0	548.8	511.0	37.80	14.518	
10,300.0	10,265.3	10,265.3	10,265.3	22.2	15.1	-81.94	0.0	-30.0	548.8	510.9	37.93	14.468	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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			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)			
10,400.0	10,365.3	10,365.3	10,365.3	22.2	15.2	-81.94	0.0	-30.0	548.8	510.8	38.06	14.419	
10,500.0	10,465.3	10,465.3	10,465.3	22.3	15.3	-81.94	0.0	-30.0	548.8	510.6	38.19	14.370	
10,600.0	10,565.3	10,565.3	10,565.3	22.3	15.4	-81.94	0.0	-30.0	548.8	510.5	38.33	14.320	
10,610.0	10,575.3	10,575.3	10,575.3	22.3	15.4	-81.94	0.0	-30.0	548.8	510.5	38.34	14.315	
10,700.0	10,665.3	10,660.2	10,660.1	22.4	15.5	-81.68	2.5	-29.9	549.1	510.7	38.43	14.290	
10,800.0	10,765.3	10,750.0	10,748.5	22.4	15.7	-80.10	17.7	-29.3	551.1	512.6	38.49	14.319	
10,900.0	10,865.0	10,832.8	10,827.0	22.4	15.9	-77.43	43.9	-28.2	554.7	516.3	38.45	14.428	
11,000.0	10,962.0	10,914.6	10,900.0	22.4	16.1	-75.24	80.5	-26.6	558.1	519.7	38.36	14.549	
11,100.0	11,053.3	10,994.5	10,965.6	22.4	16.2	-73.44	126.0	-24.7	560.7	522.4	38.27	14.649	
11,200.0	11,136.3	11,073.0	11,023.3	22.4	16.4	-72.04	179.1	-22.5	562.3	524.1	38.23	14.709	
11,300.0	11,208.3	11,150.0	11,072.3	22.4	16.5	-71.07	238.4	-20.0	562.6	524.4	38.23	14.716	
11,400.0	11,267.3	11,227.1	11,112.9	22.4	16.6	-70.52	303.8	-17.3	561.4	523.1	38.27	14.669	
11,500.0	11,311.3	11,300.0	11,143.0	22.4	16.7	-70.43	370.1	-14.5	558.6	520.2	38.36	14.564	
11,600.0	11,339.1	11,379.6	11,165.8	22.5	16.8	-70.78	446.2	-11.3	554.2	515.8	38.42	14.423	
11,700.0	11,349.8	11,455.9	11,177.7	22.6	16.8	-71.58	521.5	-8.1	548.4	509.8	38.51	14.240	
11,800.0	11,350.0	11,535.4	11,180.0	22.7	16.8	-71.75	600.8	-5.0	543.3	504.7	38.61	14.069	
11,900.0	11,350.0	11,620.1	11,180.0	22.9	16.9	-71.69	685.6	-3.5	541.3	502.5	38.76	13.963	
11,943.1	11,350.0	11,660.0	11,180.0	22.9	16.9	-71.69	725.4	-3.6	541.2	502.4	38.84	13.934	
12,000.0	11,350.0	11,716.9	11,180.0	23.0	16.9	-71.69	782.3	-3.8	541.2	502.2	38.95	13.896	
12,100.0	11,350.0	11,816.9	11,180.0	23.2	16.9	-71.69	882.3	-4.2	541.2	502.0	39.20	13.807	
12,200.0	11,350.0	11,916.9	11,180.0	23.5	16.9	-71.69	982.3	-4.6	541.2	501.7	39.50	13.700	
12,300.0	11,350.0	12,016.9	11,180.0	23.7	17.1	-71.69	1,082.3	-5.0	541.2	501.3	39.86	13.575	
12,400.0	11,350.0	12,116.9	11,180.0	24.0	17.5	-71.69	1,182.3	-5.4	541.2	500.9	40.28	13.435	
12,500.0	11,350.0	12,216.9	11,180.0	24.2	17.8	-71.69	1,282.3	-5.8	541.2	500.4	40.75	13.280	
12,600.0	11,350.0	12,316.9	11,180.0	24.6	18.2	-71.69	1,382.3	-6.2	541.2	499.9	41.27	13.112	
12,700.0	11,350.0	12,416.9	11,180.0	24.9	18.6	-71.69	1,482.3	-6.6	541.1	499.3	41.84	12.933	
12,800.0	11,350.0	12,516.9	11,180.0	25.2	19.0	-71.69	1,582.3	-7.0	541.1	498.7	42.46	12.746	
12,900.0	11,350.0	12,616.9	11,180.0	25.6	19.4	-71.69	1,682.3	-7.4	541.1	498.0	43.12	12.550	
13,000.0	11,350.0	12,716.9	11,180.0	26.0	19.9	-71.69	1,782.3	-7.8	541.1	497.3	43.82	12.348	
13,100.0	11,350.0	12,816.9	11,180.0	26.4	20.4	-71.69	1,882.3	-8.2	541.1	496.6	44.57	12.142	
13,200.0	11,350.0	12,916.9	11,180.0	26.8	20.9	-71.69	1,982.3	-8.5	541.1	495.8	45.35	11.932	
13,300.0	11,350.0	13,016.9	11,180.0	27.2	21.4	-71.69	2,082.3	-8.9	541.1	494.9	46.17	11.719	
13,400.0	11,350.0	13,116.9	11,180.0	27.7	21.9	-71.69	2,182.3	-9.3	541.1	494.1	47.03	11.506	
13,500.0	11,350.0	13,216.9	11,180.0	28.1	22.5	-71.69	2,282.3	-9.7	541.1	493.2	47.92	11.293	
13,600.0	11,350.0	13,316.9	11,180.0	28.6	23.0	-71.69	2,382.3	-10.1	541.1	492.3	48.83	11.080	
13,700.0	11,350.0	13,416.9	11,180.0	29.1	23.6	-71.69	2,482.3	-10.5	541.1	491.3	49.78	10.869	
13,800.0	11,350.0	13,516.9	11,180.0	29.6	24.2	-71.69	2,582.3	-10.9	541.1	490.3	50.76	10.660	
13,900.0	11,350.0	13,616.9	11,180.0	30.1	24.8	-71.69	2,682.3	-11.3	541.1	489.3	51.76	10.453	
14,000.0	11,350.0	13,716.9	11,180.0	30.6	25.4	-71.69	2,782.3	-11.7	541.1	488.3	52.79	10.249	
14,100.0	11,350.0	13,816.9	11,180.0	31.1	26.0	-71.69	2,882.3	-12.1	541.1	487.2	53.84	10.049	
14,200.0	11,350.0	13,916.9	11,180.0	31.7	26.6	-71.69	2,982.3	-12.5	541.1	486.1	54.91	9.853	
14,300.0	11,350.0	14,016.9	11,180.0	32.2	27.2	-71.69	3,082.3	-12.9	541.1	485.0	56.01	9.661	
14,400.0	11,350.0	14,116.9	11,180.0	32.8	27.8	-71.69	3,182.3	-13.3	541.0	483.9	57.12	9.472	
14,500.0	11,350.0	14,216.9	11,180.0	33.3	28.5	-71.69	3,282.3	-13.7	541.0	482.8	58.25	9.288	
14,600.0	11,350.0	14,316.9	11,180.0	33.9	29.1	-71.69	3,382.3	-14.1	541.0	481.6	59.40	9.109	
14,700.0	11,350.0	14,416.9	11,180.0	34.5	29.8	-71.69	3,482.3	-14.5	541.0	480.5	60.56	8.934	
14,800.0	11,350.0	14,516.9	11,180.0	35.1	30.4	-71.69	3,582.3	-14.8	541.0	479.3	61.74	8.763	
14,900.0	11,350.0	14,616.9	11,180.0	35.7	31.1	-71.69	3,682.3	-15.2	541.0	478.1	62.93	8.596	
15,000.0	11,350.0	14,716.9	11,180.0	36.3	31.7	-71.69	3,782.3	-15.6	541.0	476.9	64.14	8.435	
15,100.0	11,350.0	14,816.9	11,180.0	36.9	32.4	-71.69	3,882.3	-16.0	541.0	475.6	65.36	8.277	
15,200.0	11,350.0	14,916.9	11,180.0	37.5	33.1	-71.69	3,982.3	-16.4	541.0	474.4	66.60	8.124	
15,300.0	11,350.0	15,016.9	11,180.0	38.1	33.8	-71.69	4,082.3	-16.8	541.0	473.2	67.84	7.975	

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 #707H
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 #707H	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	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.0	11,350.0	15,116.9	11,180.0	38.7	34.4	-71.68	4,182.3	-17.2	541.0	471.9	69.09	7.830		
15,500.0	11,350.0	15,216.9	11,180.0	39.4	35.1	-71.68	4,282.3	-17.6	541.0	470.6	70.36	7.689		
15,600.0	11,350.0	15,316.9	11,180.0	40.0	35.8	-71.68	4,382.3	-18.0	541.0	469.3	71.63	7.552		
15,700.0	11,350.0	15,416.9	11,180.0	40.6	36.5	-71.68	4,482.3	-18.4	541.0	468.1	72.92	7.419		
15,800.0	11,350.0	15,516.9	11,180.0	41.3	37.2	-71.68	4,582.3	-18.8	541.0	466.8	74.21	7.289		
15,900.0	11,350.0	15,616.9	11,180.0	41.9	37.9	-71.68	4,682.3	-19.2	541.0	465.4	75.51	7.164		
16,000.0	11,350.0	15,716.9	11,180.0	42.6	38.6	-71.68	4,782.3	-19.6	541.0	464.1	76.82	7.042		
16,100.0	11,350.0	15,816.9	11,180.0	43.2	39.3	-71.68	4,882.3	-20.0	540.9	462.8	78.14	6.923		
16,200.0	11,350.0	15,916.9	11,180.0	43.9	40.0	-71.68	4,982.3	-20.4	540.9	461.5	79.46	6.808		
16,300.0	11,350.0	16,016.9	11,180.0	44.6	40.7	-71.68	5,082.3	-20.7	540.9	460.1	80.79	6.695		
16,400.0	11,350.0	16,116.9	11,180.0	45.2	41.4	-71.68	5,182.3	-21.1	540.9	458.8	82.13	6.586		
16,500.0	11,350.0	16,216.9	11,180.0	45.9	42.1	-71.68	5,282.3	-21.5	540.9	457.5	83.47	6.480		
16,600.0	11,350.0	16,316.9	11,180.0	46.6	42.8	-71.68	5,382.3	-21.9	540.9	456.1	84.82	6.377		
16,700.0	11,350.0	16,416.9	11,180.0	47.2	43.6	-71.68	5,482.3	-22.3	540.9	454.7	86.18	6.277		
16,800.0	11,350.0	16,516.9	11,180.0	47.9	44.3	-71.68	5,582.3	-22.7	540.9	453.4	87.53	6.179		
16,900.0	11,350.0	16,616.9	11,180.0	48.6	45.0	-71.68	5,682.3	-23.1	540.9	452.0	88.90	6.084		
17,000.0	11,350.0	16,716.9	11,180.0	49.3	45.7	-71.68	5,782.3	-23.5	540.9	450.6	90.27	5.992		
17,100.0	11,350.0	16,816.9	11,180.0	49.9	46.4	-71.68	5,882.3	-23.9	540.9	449.2	91.64	5.902		
17,200.0	11,350.0	16,916.9	11,180.0	50.6	47.1	-71.68	5,982.3	-24.3	540.9	447.9	93.02	5.815		
17,300.0	11,350.0	17,016.9	11,180.0	51.3	47.9	-71.68	6,082.3	-24.7	540.9	446.5	94.40	5.729		
17,400.0	11,350.0	17,116.9	11,180.0	52.0	48.6	-71.68	6,182.3	-25.1	540.9	445.1	95.79	5.646		
17,500.0	11,350.0	17,216.9	11,180.0	52.7	49.3	-71.68	6,282.3	-25.5	540.9	443.7	97.18	5.566		
17,600.0	11,350.0	17,316.9	11,180.0	53.4	50.0	-71.68	6,382.3	-25.9	540.9	442.3	98.57	5.487		
17,700.0	11,350.0	17,416.9	11,180.0	54.1	50.8	-71.68	6,482.3	-26.3	540.9	440.9	99.97	5.410		
17,800.0	11,350.0	17,516.9	11,180.0	54.8	51.5	-71.68	6,582.3	-26.7	540.8	439.5	101.37	5.335		
17,900.0	11,350.0	17,616.9	11,180.0	55.5	52.2	-71.68	6,682.3	-27.0	540.8	438.1	102.78	5.262		
18,000.0	11,350.0	17,716.9	11,180.0	56.2	53.0	-71.68	6,782.3	-27.4	540.8	436.7	104.18	5.191		
18,100.0	11,350.0	17,816.9	11,180.0	56.9	53.7	-71.68	6,882.3	-27.8	540.8	435.2	105.59	5.122		
18,200.0	11,350.0	17,916.9	11,180.0	57.6	54.4	-71.68	6,982.2	-28.2	540.8	433.8	107.01	5.054		
18,300.0	11,350.0	18,016.9	11,180.0	58.3	55.2	-71.68	7,082.2	-28.6	540.8	432.4	108.42	4.988		
18,400.0	11,350.0	18,116.9	11,180.0	59.0	55.9	-71.68	7,182.2	-29.0	540.8	431.0	109.84	4.924		
18,500.0	11,350.0	18,216.9	11,180.0	59.7	56.6	-71.68	7,282.2	-29.4	540.8	429.5	111.26	4.861		
18,600.0	11,350.0	18,316.9	11,180.0	60.4	57.4	-71.68	7,382.2	-29.8	540.8	428.1	112.69	4.799		
18,700.0	11,350.0	18,416.9	11,180.0	61.2	58.1	-71.68	7,482.2	-30.2	540.8	426.7	114.11	4.739		
18,800.0	11,350.0	18,516.9	11,180.0	61.9	58.9	-71.68	7,582.2	-30.6	540.8	425.2	115.54	4.681		
18,900.0	11,350.0	18,616.9	11,180.0	62.6	59.6	-71.68	7,682.2	-31.0	540.8	423.8	116.97	4.623		
19,000.0	11,350.0	18,716.9	11,180.0	63.3	60.3	-71.68	7,782.2	-31.4	540.8	422.4	118.40	4.567		
19,100.0	11,350.0	18,816.9	11,180.0	64.0	61.1	-71.68	7,882.2	-31.8	540.8	420.9	119.84	4.513		
19,200.0	11,350.0	18,916.9	11,180.0	64.7	61.8	-71.68	7,982.2	-32.2	540.8	419.5	121.27	4.459		
19,300.0	11,350.0	19,016.9	11,180.0	65.5	62.6	-71.68	8,082.2	-32.6	540.8	418.0	122.71	4.407		
19,400.0	11,350.0	19,116.9	11,180.0	66.2	63.3	-71.68	8,182.2	-32.9	540.8	416.6	124.15	4.356		
19,500.0	11,350.0	19,216.9	11,180.0	66.9	64.0	-71.68	8,282.2	-33.3	540.7	415.2	125.59	4.306		
19,600.0	11,350.0	19,316.9	11,180.0	67.6	64.8	-71.68	8,382.2	-33.7	540.7	413.7	127.04	4.257		
19,700.0	11,350.0	19,416.9	11,180.0	68.3	65.5	-71.68	8,482.2	-34.1	540.7	412.3	128.48	4.209		
19,800.0	11,350.0	19,516.9	11,180.0	69.1	66.3	-71.68	8,582.2	-34.5	540.7	410.8	129.93	4.162		
19,900.0	11,350.0	19,616.9	11,180.0	69.8	67.0	-71.68	8,682.2	-34.9	540.7	409.3	131.38	4.116		
20,000.0	11,350.0	19,716.9	11,180.0	70.5	67.8	-71.68	8,782.2	-35.3	540.7	407.9	132.83	4.071		
20,100.0	11,350.0	19,816.9	11,180.0	71.2	68.5	-71.68	8,882.2	-35.7	540.7	406.4	134.28	4.027		
20,200.0	11,350.0	19,916.9	11,180.0	72.0	69.2	-71.68	8,982.2	-36.1	540.7	405.0	135.73	3.984		
20,300.0	11,350.0	20,016.9	11,180.0	72.7	70.0	-71.67	9,082.2	-36.5	540.7	403.5	137.18	3.941		
20,400.0	11,350.0	20,116.9	11,180.0	73.4	70.7	-71.67	9,182.2	-36.9	540.7	402.1	138.64	3.900		
20,500.0	11,350.0	20,216.9	11,180.0	74.2	71.5	-71.67	9,282.2	-37.3	540.7	400.6	140.09	3.859		

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 #707H
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 #707H	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)			
20,600.0	11,350.0	20,316.9	11,180.0	74.9	72.2	-71.67	9,382.2	-37.7	540.7	399.1	141.55	3.820	
20,700.0	11,350.0	20,416.9	11,180.0	75.6	73.0	-71.67	9,482.2	-38.1	540.7	397.7	143.01	3.781	
20,800.0	11,350.0	20,516.9	11,180.0	76.4	73.7	-71.67	9,582.2	-38.5	540.7	396.2	144.47	3.742	
20,900.0	11,350.0	20,616.9	11,180.0	77.1	74.5	-71.67	9,682.2	-38.8	540.7	394.7	145.93	3.705	
21,000.0	11,350.0	20,716.9	11,180.0	77.8	75.2	-71.67	9,782.2	-39.2	540.7	393.3	147.39	3.668	
21,100.0	11,350.0	20,816.9	11,180.0	78.6	76.0	-71.67	9,882.2	-39.6	540.7	391.8	148.86	3.632	
21,200.0	11,350.0	20,916.9	11,180.0	79.3	76.7	-71.67	9,982.2	-40.0	540.6	390.3	150.32	3.597	
21,300.0	11,350.0	21,016.9	11,180.0	80.0	77.5	-71.67	10,082.2	-40.4	540.6	388.9	151.79	3.562	
21,400.0	11,350.0	21,116.9	11,180.0	80.8	78.2	-71.67	10,182.2	-40.8	540.6	387.4	153.25	3.528	
21,500.0	11,350.0	21,216.9	11,180.0	81.5	79.0	-71.67	10,282.2	-41.2	540.6	385.9	154.72	3.494	
21,600.0	11,350.0	21,316.9	11,180.0	82.2	79.7	-71.67	10,382.2	-41.6	540.6	384.4	156.19	3.461	
21,700.0	11,350.0	21,416.9	11,180.0	83.0	80.5	-71.67	10,482.2	-42.0	540.6	383.0	157.66	3.429	
21,800.0	11,350.0	21,516.9	11,180.0	83.7	81.2	-71.67	10,582.2	-42.4	540.6	381.5	159.13	3.397	
21,900.0	11,350.0	21,616.9	11,180.0	84.5	82.0	-71.67	10,682.2	-42.8	540.6	380.0	160.60	3.366	
22,000.0	11,350.0	21,716.9	11,180.0	85.2	82.7	-71.67	10,782.2	-43.2	540.6	378.5	162.07	3.336	
22,100.0	11,350.0	21,816.9	11,180.0	85.9	83.5	-71.67	10,882.2	-43.6	540.6	377.1	163.54	3.306	
22,200.0	11,350.0	21,916.9	11,180.0	86.7	84.2	-71.67	10,982.2	-44.0	540.6	375.6	165.01	3.276	
22,300.0	11,350.0	22,016.9	11,180.0	87.4	85.0	-71.67	11,082.2	-44.4	540.6	374.1	166.49	3.247	
22,400.0	11,350.0	22,116.9	11,180.0	88.1	85.8	-71.67	11,182.2	-44.8	540.6	372.6	167.96	3.218	
22,500.0	11,350.0	22,216.9	11,180.0	88.9	86.5	-71.67	11,282.2	-45.1	540.6	371.1	169.44	3.190	
22,600.0	11,350.0	22,316.9	11,180.0	89.6	87.3	-71.67	11,382.2	-45.5	540.6	369.7	170.91	3.163	
22,700.0	11,350.0	22,416.9	11,180.0	90.4	88.0	-71.67	11,482.2	-45.9	540.6	368.2	172.39	3.136	
22,800.0	11,350.0	22,516.9	11,180.0	91.1	88.8	-71.67	11,582.2	-46.3	540.6	366.7	173.86	3.109	
22,900.0	11,350.0	22,616.9	11,180.0	91.9	89.5	-71.67	11,682.2	-46.7	540.5	365.2	175.34	3.083	
23,000.0	11,350.0	22,716.9	11,180.0	92.6	90.3	-71.67	11,782.2	-47.1	540.5	363.7	176.82	3.057	
23,100.0	11,350.0	22,816.9	11,180.0	93.3	91.0	-71.67	11,882.2	-47.5	540.5	362.2	178.30	3.032	
23,200.0	11,350.0	22,916.9	11,180.0	94.1	91.8	-71.67	11,982.2	-47.9	540.5	360.8	179.78	3.007	
23,300.0	11,350.0	23,016.9	11,180.0	94.8	92.5	-71.67	12,082.2	-48.3	540.5	359.3	181.26	2.982	
23,400.0	11,350.0	23,116.9	11,180.0	95.6	93.3	-71.67	12,182.2	-48.7	540.5	357.8	182.74	2.958	
23,500.0	11,350.0	23,216.9	11,180.0	96.3	94.1	-71.67	12,282.2	-49.1	540.5	356.3	184.22	2.934	
23,600.0	11,350.0	23,316.9	11,180.0	97.1	94.8	-71.67	12,382.2	-49.5	540.5	354.8	185.70	2.911	
23,700.0	11,350.0	23,416.9	11,180.0	97.8	95.6	-71.67	12,482.2	-49.9	540.5	353.3	187.18	2.888	
23,800.0	11,350.0	23,516.9	11,180.0	98.6	96.3	-71.67	12,582.2	-50.3	540.5	351.8	188.67	2.865	
23,900.0	11,350.0	23,616.9	11,180.0	99.3	97.1	-71.67	12,682.2	-50.7	540.5	350.3	190.15	2.842	
24,000.0	11,350.0	23,716.9	11,180.0	100.1	97.8	-71.67	12,782.2	-51.0	540.5	348.8	191.63	2.820	
24,100.0	11,350.0	23,816.9	11,180.0	100.8	98.6	-71.67	12,882.2	-51.4	540.5	347.4	193.12	2.799	
24,200.0	11,350.0	23,916.9	11,180.0	101.5	99.3	-71.67	12,982.2	-51.8	540.5	345.9	194.60	2.777	
24,300.0	11,350.0	24,016.9	11,180.0	102.3	100.1	-71.67	13,082.2	-52.2	540.5	344.4	196.09	2.756	
24,400.0	11,350.0	24,116.9	11,180.0	103.0	100.9	-71.67	13,182.2	-52.6	540.5	342.9	197.57	2.735	
24,500.0	11,350.0	24,216.9	11,180.0	103.8	101.6	-71.67	13,282.2	-53.0	540.5	341.4	199.06	2.715	
24,600.0	11,350.0	24,316.9	11,180.0	104.5	102.4	-71.67	13,382.2	-53.4	540.4	339.9	200.55	2.695	
24,700.0	11,350.0	24,416.9	11,180.0	105.3	103.1	-71.67	13,482.2	-53.8	540.4	338.4	202.03	2.675	
24,750.1	11,350.0	24,466.9	11,180.0	105.7	103.5	-71.67	13,532.3	-54.0	540.4	337.7	202.78	2.665	

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 #707H
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 #707H	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						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	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	90.00	0.0	30.0	30.0	23.6	6.43	4.666		
100.0	100.0	100.0	100.0	3.2	3.2	90.00	0.0	30.0	30.0	23.1	6.89	4.353		
200.0	200.0	200.0	200.0	3.5	3.5	90.00	0.0	30.0	30.0	22.7	7.33	4.094		
300.0	300.0	300.0	300.0	3.7	3.7	90.00	0.0	30.0	30.0	22.3	7.74	3.875		
400.0	400.0	400.0	400.0	3.9	3.9	90.00	0.0	30.0	30.0	21.9	8.14	3.688		
500.0	500.0	500.0	500.0	4.1	4.1	90.00	0.0	30.0	30.0	21.5	8.51	3.524		
600.0	600.0	600.0	600.0	4.2	4.2	90.00	0.0	30.0	30.0	21.1	8.88	3.379		
700.0	700.0	700.0	700.0	4.4	4.4	90.00	0.0	30.0	30.0	20.8	9.23	3.250		
800.0	800.0	800.0	800.0	4.6	4.6	90.00	0.0	30.0	30.0	20.4	9.57	3.135		
900.0	900.0	900.0	900.0	4.8	4.8	90.00	0.0	30.0	30.0	20.1	9.90	3.030		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.00	0.0	30.0	30.0	19.8	10.22	2.934		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.00	0.0	30.0	30.0	19.5	10.54	2.846		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.00	0.0	30.0	30.0	19.2	10.85	2.766		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.00	0.0	30.0	30.0	18.9	11.15	2.691		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.00	0.0	30.0	30.0	18.6	11.44	2.621		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.00	0.0	30.0	30.0	18.3	11.73	2.557		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.00	0.0	30.0	30.0	18.0	12.02	2.496		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.00	0.0	30.0	30.0	17.7	12.30	2.439		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.00	0.0	30.0	30.0	17.4	12.58	2.386		
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	90.00	0.0	30.0	30.0	17.2	12.85	2.335		
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	90.00	0.0	30.0	30.0	16.9	13.12	2.287		
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-20.90	0.0	30.0	28.8	15.4	13.39	2.148		
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	-24.11	0.0	30.0	25.1	11.5	13.66	1.840 Advise and Monitor		
2,300.0	2,299.7	2,299.7	2,299.7	6.9	6.8	-32.09	0.0	30.0	19.4	5.4	13.93	1.390 Shut in Produces		
2,400.0	2,399.3	2,399.3	2,399.3	7.0	6.9	-54.84	0.0	30.0	12.6	-1.6	14.14	0.889 Stop Drilling Now		
2,464.4	2,463.2	2,463.2	2,463.2	7.2	7.0	-90.00	0.0	30.0	10.3	-4.0	14.22	0.722 Stop Drilling Now, CC, ES, SF		
2,500.0	2,498.6	2,498.6	2,498.6	7.2	7.0	-113.44	0.0	30.0	11.2	-3.2	14.35	0.780 Stop Drilling Now		
2,600.0	2,597.6	2,597.7	2,597.7	7.4	7.2	-147.04	0.6	31.1	20.8	6.0	14.76	1.406 Shut in Produces		
2,700.0	2,696.6	2,697.1	2,697.0	7.6	7.3	-153.73	2.5	34.4	32.2	17.1	15.11	2.130		
2,800.0	2,795.7	2,796.8	2,796.5	7.9	7.5	-153.58	5.8	40.0	43.1	27.7	15.44	2.795		
2,900.0	2,894.7	2,896.5	2,895.8	8.1	7.7	-150.78	10.3	47.8	53.6	37.8	15.75	3.401		
3,000.0	2,993.7	2,996.1	2,994.7	8.4	7.9	-146.57	16.1	57.9	63.7	47.6	16.03	3.972		
3,100.0	3,092.8	3,095.5	3,093.1	8.7	8.1	-141.91	22.9	69.7	73.9	57.7	16.25	4.551		
3,200.0	3,191.8	3,194.8	3,191.5	8.9	8.3	-138.29	29.8	81.7	84.6	68.1	16.51	5.122		
3,300.0	3,290.8	3,294.4	3,290.1	9.3	8.5	-135.46	36.7	93.7	95.5	78.7	16.76	5.695		
3,400.0	3,389.8	3,397.0	3,391.5	9.6	8.8	-132.53	42.6	107.9	104.7	87.6	17.09	6.127		
3,500.0	3,488.9	3,499.7	3,492.8	9.9	9.0	-129.01	46.3	125.1	111.2	93.9	17.34	6.413		
3,600.0	3,587.9	3,602.2	3,593.3	10.2	9.3	-124.77	47.9	145.1	115.3	97.8	17.53	6.580		
3,700.0	3,686.9	3,701.8	3,690.7	10.6	9.7	-120.48	48.7	165.8	119.0	101.2	17.78	6.690		
3,800.0	3,785.9	3,801.3	3,788.0	10.9	10.0	-116.46	49.4	186.5	123.2	105.3	17.97	6.858		
3,900.0	3,885.0	3,901.0	3,885.5	11.3	10.3	-100.54	50.1	207.2	126.8	108.6	18.18	6.975		
4,000.0	3,984.0	4,000.7	3,983.0	11.6	10.6	-89.84	50.8	227.9	127.8	109.5	18.32	6.977		
4,100.0	4,083.0	4,100.5	4,080.6	11.9	10.9	-86.75	51.6	248.7	128.8	110.2	18.53	6.949		
4,200.0	4,182.1	4,200.2	4,178.2	12.3	11.2	-83.71	52.3	269.4	130.1	111.3	18.78	6.927		
4,300.0	4,281.1	4,300.0	4,275.8	12.6	11.6	-80.74	53.0	290.1	131.7	112.7	19.07	6.909		
4,400.0	4,380.1	4,399.7	4,373.3	13.0	12.0	-77.85	53.7	310.8	133.7	114.3	19.41	6.891		
4,500.0	4,479.2	4,499.5	4,470.9	13.4	12.3	-75.06	54.5	331.6	136.1	116.3	19.81	6.870		
4,600.0	4,578.2	4,599.2	4,568.5	13.7	12.7	-72.36	55.2	352.3	138.7	118.5	20.26	6.846		
4,700.0	4,677.2	4,699.0	4,666.1	14.1	13.1	-69.77	55.9	373.0	141.7	120.9	20.78	6.818		
4,800.0	4,776.2	4,798.7	4,763.6	14.5	13.5	-67.29	56.6	393.8	144.9	123.6	21.35	6.787		
4,900.0	4,875.3	4,898.5	4,861.2	14.9	13.9	-64.92	57.4	414.5	148.4	126.4	21.98	6.752		
5,000.0	4,974.3	4,998.2	4,958.8	15.3	14.2	-62.67	58.1	435.2	152.1	129.5	22.66	6.715		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #708H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,073.3	5,098.0	5,056.4	15.7	14.7	-60.52	58.8	455.9	156.1	132.7	23.38	6.677	
5,200.0	5,172.3	5,197.8	5,153.9	16.1	15.1	-58.48	59.5	476.7	160.3	136.1	24.14	6.640	
5,300.0	5,271.4	5,297.5	5,251.5	16.4	15.5	-56.55	60.2	497.4	164.6	139.7	24.93	6.603	
5,400.0	5,370.4	5,397.3	5,349.1	16.8	15.9	-54.72	61.0	518.1	169.2	143.4	25.76	6.567	
5,500.0	5,469.4	5,497.0	5,446.6	17.2	16.3	-52.99	61.7	538.9	173.9	147.3	26.61	6.534	
5,600.0	5,568.5	5,596.8	5,544.2	17.6	16.7	-51.35	62.4	559.6	178.7	151.2	27.48	6.504	
5,700.0	5,667.5	5,696.5	5,641.8	18.0	17.1	-49.77	63.1	580.3	183.8	155.5	28.35	6.485	
5,800.0	5,766.8	5,796.1	5,739.2	18.4	17.6	-47.96	63.9	601.0	190.1	160.8	29.33	6.481	
5,900.0	5,866.2	5,895.6	5,836.5	18.8	18.0	-45.93	64.6	621.7	197.7	167.3	30.40	6.505	
6,000.0	5,965.8	5,994.8	5,933.6	19.1	18.4	-43.72	65.3	642.3	206.9	175.4	31.53	6.562	
6,100.0	6,065.6	6,093.9	6,030.5	19.5	18.8	-41.41	66.0	662.9	217.7	184.9	32.71	6.655	
6,200.0	6,165.4	6,192.6	6,127.1	19.8	19.3	-39.07	66.7	683.4	230.1	196.2	33.90	6.787	
6,300.0	6,265.4	6,291.1	6,223.4	20.1	19.7	-36.74	67.5	703.9	244.3	209.2	35.09	6.962	
6,400.0	6,365.3	6,389.3	6,319.4	20.4	20.1	-34.46	68.2	724.3	260.3	224.0	36.24	7.182	
6,500.0	6,465.3	6,487.2	6,415.2	20.5	20.6	-32.75	68.9	744.6	277.9	240.7	37.22	7.467	
6,600.0	6,565.3	6,585.0	6,510.8	20.5	21.0	-29.77	69.6	764.9	296.2	258.0	38.12	7.769	
6,700.0	6,665.3	6,682.8	6,606.5	20.5	21.4	-26.55	70.3	785.2	314.7	275.7	38.97	8.076	
6,800.0	6,765.3	6,780.6	6,702.2	20.6	21.9	-23.14	71.0	805.6	333.5	293.8	39.77	8.387	
6,900.0	6,865.3	6,878.4	6,797.9	20.6	22.3	-19.55	71.7	825.9	352.6	312.0	40.53	8.699	
7,000.0	6,965.3	6,976.2	6,893.5	20.7	22.7	-15.82	72.4	846.2	371.8	330.5	41.26	9.011	
7,100.0	7,065.3	7,074.0	6,989.2	20.7	23.2	-12.67	73.1	866.5	391.2	349.2	41.97	9.321	
7,200.0	7,165.3	7,171.9	7,084.9	20.7	23.6	-9.01	73.8	886.9	410.7	368.1	42.65	9.629	
7,300.0	7,265.3	7,272.1	7,182.9	20.8	24.1	-6.97	74.6	907.6	430.3	386.9	43.33	9.931	
7,400.0	7,365.3	7,377.9	7,286.8	20.8	24.5	-4.83	75.3	928.0	448.6	404.6	44.01	10.193	
7,500.0	7,465.3	7,484.5	7,391.7	20.9	25.0	-2.56	75.9	946.6	465.3	420.6	44.66	10.417	
7,600.0	7,565.3	7,591.7	7,497.6	20.9	25.5	-0.16	76.5	963.4	480.3	435.0	45.28	10.606	
7,700.0	7,665.3	7,699.5	7,604.4	21.0	25.9	21.67	77.0	978.3	493.5	447.6	45.86	10.761	
7,800.0	7,765.3	7,807.9	7,712.0	21.0	26.3	72.08	77.5	991.2	505.0	458.6	46.40	10.883	
7,900.0	7,865.3	7,916.7	7,820.3	21.0	26.8	72.42	77.9	1,002.1	514.6	467.7	46.90	10.972	
8,000.0	7,965.3	8,025.9	7,929.1	21.1	27.2	72.68	78.2	1,011.0	522.5	475.1	47.36	11.031	
8,100.0	8,065.3	8,135.4	8,038.4	21.1	27.5	72.88	78.4	1,017.8	528.5	480.7	47.78	11.061	
8,200.0	8,165.3	8,245.1	8,148.0	21.2	27.9	73.01	78.6	1,022.6	532.7	484.5	48.14	11.064	
8,300.0	8,265.3	8,355.0	8,257.8	21.2	28.2	73.08	78.7	1,025.2	535.0	486.6	48.43	11.046	
8,400.0	8,365.3	8,462.5	8,365.3	21.3	28.4	73.10	78.7	1,025.8	535.5	487.0	48.57	11.025	
8,500.0	8,465.3	8,562.5	8,465.3	21.3	28.4	73.10	78.7	1,025.8	535.5	486.9	48.65	11.009	
8,600.0	8,565.3	8,662.5	8,565.3	21.4	28.4	73.10	78.7	1,025.8	535.5	486.8	48.72	10.991	
8,700.0	8,665.3	8,762.5	8,665.3	21.4	28.5	73.10	78.7	1,025.8	535.5	486.7	48.80	10.974	
8,800.0	8,765.3	8,862.5	8,765.3	21.4	28.5	73.10	78.7	1,025.8	535.5	486.7	48.88	10.956	
8,900.0	8,865.3	8,962.5	8,865.3	21.5	28.5	73.10	78.7	1,025.8	535.5	486.6	48.96	10.938	
9,000.0	8,965.3	9,062.5	8,965.3	21.5	28.6	73.10	78.7	1,025.8	535.5	486.5	49.04	10.921	
9,100.0	9,065.3	9,162.5	9,065.3	21.6	28.6	73.10	78.7	1,025.8	535.5	486.4	49.12	10.903	
9,200.0	9,165.3	9,262.5	9,165.3	21.6	28.6	73.10	78.7	1,025.8	535.5	486.3	49.20	10.885	
9,300.0	9,265.3	9,362.5	9,265.3	21.7	28.7	73.10	78.7	1,025.8	535.5	486.3	49.28	10.867	
9,400.0	9,365.3	9,462.5	9,365.3	21.7	28.7	73.10	78.7	1,025.8	535.5	486.2	49.36	10.849	
9,500.0	9,465.3	9,562.5	9,465.3	21.8	28.7	73.10	78.7	1,025.8	535.5	486.1	49.44	10.831	
9,600.0	9,565.3	9,662.5	9,565.3	21.8	28.8	73.10	78.7	1,025.8	535.5	486.0	49.53	10.813	
9,700.0	9,665.3	9,762.5	9,665.3	21.9	28.8	73.10	78.7	1,025.8	535.5	485.9	49.61	10.795	
9,800.0	9,765.3	9,862.5	9,765.3	21.9	28.8	73.10	78.7	1,025.8	535.5	485.8	49.69	10.777	
9,900.0	9,865.3	9,962.5	9,865.3	22.0	28.9	73.10	78.7	1,025.8	535.5	485.8	49.77	10.759	
10,000.0	9,965.3	10,062.5	9,965.3	22.0	28.9	73.10	78.7	1,025.8	535.5	485.7	49.86	10.741	
10,100.0	10,065.3	10,162.5	10,065.3	22.1	28.9	73.10	78.7	1,025.8	535.5	485.6	49.94	10.723	
10,200.0	10,165.3	10,262.5	10,165.3	22.1	29.0	73.10	78.7	1,025.8	535.5	485.5	50.03	10.705	

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 #707H
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 #707H	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		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 3.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,300.0	10,265.3	10,362.5	10,265.3	22.2	29.0	73.10	78.7	1,025.8	535.5	485.4	50.11	10.687		
10,400.0	10,365.3	10,462.5	10,365.3	22.2	29.1	73.10	78.7	1,025.8	535.5	485.3	50.19	10.669		
10,500.0	10,465.3	10,562.5	10,465.3	22.3	29.1	73.10	78.7	1,025.8	535.5	485.3	50.28	10.651		
10,600.0	10,565.3	10,662.5	10,565.3	22.3	29.1	73.10	78.7	1,025.8	535.5	485.2	50.37	10.633		
10,610.0	10,575.3	10,672.5	10,575.3	22.3	29.1	73.10	78.7	1,025.8	535.5	485.2	50.38	10.631		
10,700.0	10,665.3	10,750.0	10,652.8	22.4	29.2	72.91	80.5	1,025.8	536.2	485.7	50.55	10.608		
10,800.0	10,765.3	10,827.1	10,729.0	22.4	29.2	71.76	91.8	1,025.8	540.7	490.0	50.72	10.660		
10,900.0	10,865.0	10,900.0	10,799.0	22.4	29.3	69.88	111.8	1,025.7	547.7	496.7	50.94	10.752		
11,000.0	10,962.0	10,974.4	10,867.3	22.4	29.3	68.11	141.3	1,025.6	553.7	502.4	51.31	10.792		
11,100.0	11,053.3	11,050.0	10,932.2	22.4	29.4	66.84	179.9	1,025.4	558.3	506.5	51.79	10.779		
11,200.0	11,136.3	11,118.4	10,986.1	22.4	29.5	66.15	222.0	1,025.2	561.0	508.6	52.43	10.702		
11,300.0	11,208.3	11,189.8	11,036.6	22.4	29.5	65.94	272.5	1,025.0	561.9	508.8	53.07	10.587		
11,400.0	11,267.3	11,261.3	11,080.4	22.4	29.6	66.24	328.9	1,024.8	560.7	507.0	53.71	10.438		
11,500.0	11,311.3	11,333.1	11,117.0	22.4	29.7	67.07	390.6	1,024.6	557.5	503.2	54.29	10.270		
11,600.0	11,339.1	11,400.0	11,144.0	22.5	29.7	68.32	451.8	1,024.3	552.7	497.9	54.74	10.096		
11,700.0	11,349.8	11,478.7	11,166.3	22.6	29.8	70.23	527.2	1,024.0	546.4	491.3	55.07	9.922		
11,800.0	11,350.0	11,550.0	11,177.4	22.7	29.9	71.41	597.6	1,023.7	541.4	486.1	55.26	9.797		
11,900.0	11,350.0	11,638.9	11,180.0	22.9	29.9	71.67	686.4	1,023.4	540.5	484.8	55.69	9.704		
12,000.0	11,350.0	11,738.9	11,180.0	23.0	30.0	71.67	786.4	1,023.0	540.5	484.1	56.31	9.597		
12,100.0	11,350.0	11,838.9	11,180.0	23.2	30.2	71.67	886.4	1,022.6	540.5	483.5	56.97	9.487		
12,200.0	11,350.0	11,938.9	11,180.0	23.5	30.3	71.67	986.4	1,022.2	540.5	482.8	57.66	9.374		
12,300.0	11,350.0	12,038.9	11,180.0	23.7	30.5	71.67	1,086.4	1,021.8	540.5	482.1	58.38	9.258		
12,400.0	11,350.0	12,138.9	11,180.0	24.0	30.6	71.67	1,186.4	1,021.4	540.5	481.3	59.13	9.141		
12,500.0	11,350.0	12,238.9	11,180.0	24.2	30.8	71.67	1,286.4	1,021.0	540.5	480.6	59.91	9.022		
12,600.0	11,350.0	12,338.9	11,180.0	24.6	31.0	71.67	1,386.4	1,020.6	540.5	479.7	60.71	8.902		
12,700.0	11,350.0	12,438.9	11,180.0	24.9	31.3	71.67	1,486.4	1,020.2	540.5	478.9	61.55	8.781		
12,800.0	11,350.0	12,538.9	11,180.0	25.2	31.5	71.67	1,586.4	1,019.8	540.5	478.1	62.41	8.660		
12,900.0	11,350.0	12,638.9	11,180.0	25.6	31.8	71.67	1,686.4	1,019.4	540.5	477.2	63.29	8.539		
13,000.0	11,350.0	12,738.9	11,180.0	26.0	32.1	71.67	1,786.4	1,019.0	540.5	476.3	64.20	8.418		
13,100.0	11,350.0	12,838.9	11,180.0	26.4	32.4	71.67	1,886.4	1,018.6	540.5	475.3	65.13	8.298		
13,200.0	11,350.0	12,938.9	11,180.0	26.8	32.7	71.67	1,986.4	1,018.2	540.5	474.4	66.09	8.178		
13,300.0	11,350.0	13,038.9	11,180.0	27.2	33.0	71.67	2,086.4	1,017.8	540.5	473.4	67.06	8.059		
13,400.0	11,350.0	13,138.9	11,180.0	27.7	33.4	71.67	2,186.4	1,017.4	540.5	472.4	68.05	7.942		
13,500.0	11,350.0	13,238.9	11,180.0	28.1	33.7	71.67	2,286.4	1,017.0	540.5	471.4	69.07	7.825		
13,600.0	11,350.0	13,338.9	11,180.0	28.6	34.1	71.67	2,386.4	1,016.6	540.5	470.4	70.10	7.710		
13,700.0	11,350.0	13,438.9	11,180.0	29.1	34.5	71.67	2,486.4	1,016.2	540.5	469.3	71.15	7.596		
13,800.0	11,350.0	13,538.9	11,180.0	29.6	34.9	71.67	2,586.4	1,015.8	540.5	468.2	72.21	7.484		
13,900.0	11,350.0	13,638.9	11,180.0	30.1	35.3	71.67	2,686.4	1,015.4	540.5	467.2	73.30	7.374		
14,000.0	11,350.0	13,738.9	11,180.0	30.6	35.7	71.67	2,786.4	1,015.0	540.5	466.1	74.39	7.265		
14,100.0	11,350.0	13,838.9	11,180.0	31.1	36.2	71.67	2,886.4	1,014.6	540.5	464.9	75.51	7.158		
14,200.0	11,350.0	13,938.9	11,180.0	31.7	36.6	71.67	2,986.4	1,014.2	540.5	463.8	76.63	7.053		
14,300.0	11,350.0	14,038.9	11,180.0	32.2	37.1	71.67	3,086.4	1,013.8	540.5	462.7	77.77	6.949		
14,400.0	11,350.0	14,138.9	11,180.0	32.8	37.6	71.67	3,186.4	1,013.4	540.5	461.5	78.92	6.848		
14,500.0	11,350.0	14,238.9	11,180.0	33.3	38.1	71.67	3,286.4	1,013.0	540.5	460.4	80.09	6.748		
14,600.0	11,350.0	14,338.9	11,180.0	33.9	38.6	71.67	3,386.4	1,012.6	540.5	459.2	81.26	6.651		
14,700.0	11,350.0	14,438.9	11,180.0	34.5	39.1	71.67	3,486.3	1,012.2	540.5	458.0	82.45	6.555		
14,800.0	11,350.0	14,538.9	11,180.0	35.1	39.6	71.67	3,586.3	1,011.8	540.5	456.8	83.65	6.461		
14,900.0	11,350.0	14,638.9	11,180.0	35.7	40.1	71.67	3,686.3	1,011.4	540.5	455.6	84.85	6.369		
15,000.0	11,350.0	14,738.9	11,180.0	36.3	40.6	71.67	3,786.3	1,011.0	540.5	454.4	86.07	6.279		
15,100.0	11,350.0	14,838.9	11,180.0	36.9	41.2	71.67	3,886.3	1,010.6	540.5	453.2	87.30	6.191		
15,200.0	11,350.0	14,938.9	11,180.0	37.5	41.7	71.67	3,986.3	1,010.2	540.5	451.9	88.54	6.104		
15,300.0	11,350.0	15,038.9	11,180.0	38.1	42.2	71.67	4,086.3	1,009.8	540.5	450.7	89.78	6.020		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #708H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	11,350.0	15,138.9	11,180.0	38.7	42.8	71.67	4,186.3	1,009.4	540.5	449.4	91.03	5.937	
15,500.0	11,350.0	15,238.9	11,180.0	39.4	43.4	71.67	4,286.3	1,009.0	540.5	448.2	92.29	5.856	
15,600.0	11,350.0	15,338.9	11,180.0	40.0	43.9	71.67	4,386.3	1,008.6	540.5	446.9	93.56	5.776	
15,700.0	11,350.0	15,438.9	11,180.0	40.6	44.5	71.67	4,486.3	1,008.2	540.5	445.6	94.84	5.699	
15,800.0	11,350.0	15,538.9	11,180.0	41.3	45.1	71.67	4,586.3	1,007.8	540.5	444.3	96.12	5.623	
15,900.0	11,350.0	15,638.9	11,180.0	41.9	45.7	71.67	4,686.3	1,007.4	540.5	443.0	97.41	5.548	
16,000.0	11,350.0	15,738.9	11,180.0	42.6	46.3	71.67	4,786.3	1,007.0	540.5	441.7	98.71	5.475	
16,100.0	11,350.0	15,838.9	11,180.0	43.2	46.9	71.67	4,886.3	1,006.6	540.4	440.4	100.01	5.404	
16,200.0	11,350.0	15,938.9	11,180.0	43.9	47.5	71.67	4,986.3	1,006.2	540.4	439.1	101.32	5.334	
16,300.0	11,350.0	16,038.9	11,180.0	44.6	48.1	71.67	5,086.3	1,005.8	540.4	437.8	102.63	5.266	
16,400.0	11,350.0	16,138.9	11,180.0	45.2	48.7	71.67	5,186.3	1,005.4	540.4	436.5	103.95	5.199	
16,500.0	11,350.0	16,238.9	11,180.0	45.9	49.3	71.67	5,286.3	1,005.0	540.4	435.2	105.28	5.134	
16,600.0	11,350.0	16,338.9	11,180.0	46.6	49.9	71.67	5,386.3	1,004.6	540.4	433.8	106.61	5.069	
16,700.0	11,350.0	16,438.9	11,180.0	47.2	50.6	71.67	5,486.3	1,004.2	540.4	432.5	107.94	5.007	
16,800.0	11,350.0	16,538.9	11,180.0	47.9	51.2	71.67	5,586.3	1,003.8	540.4	431.2	109.28	4.945	
16,900.0	11,350.0	16,638.9	11,180.0	48.6	51.8	71.67	5,686.3	1,003.4	540.4	429.8	110.63	4.885	
17,000.0	11,350.0	16,738.9	11,180.0	49.3	52.5	71.67	5,786.3	1,003.0	540.4	428.5	111.98	4.826	
17,100.0	11,350.0	16,838.9	11,180.0	49.9	53.1	71.67	5,886.3	1,002.6	540.4	427.1	113.33	4.769	
17,200.0	11,350.0	16,938.9	11,180.0	50.6	53.8	71.67	5,986.3	1,002.2	540.4	425.8	114.69	4.712	
17,300.0	11,350.0	17,038.9	11,180.0	51.3	54.4	71.67	6,086.3	1,001.8	540.4	424.4	116.05	4.657	
17,400.0	11,350.0	17,138.9	11,180.0	52.0	55.1	71.67	6,186.3	1,001.4	540.4	423.0	117.41	4.603	
17,500.0	11,350.0	17,238.9	11,180.0	52.7	55.7	71.67	6,286.3	1,001.0	540.4	421.7	118.78	4.550	
17,600.0	11,350.0	17,338.9	11,180.0	53.4	56.4	71.67	6,386.3	1,000.6	540.4	420.3	120.15	4.498	
17,700.0	11,350.0	17,438.9	11,180.0	54.1	57.0	71.67	6,486.3	1,000.2	540.4	418.9	121.53	4.447	
17,800.0	11,350.0	17,538.9	11,180.0	54.8	57.7	71.67	6,586.3	999.8	540.4	417.5	122.91	4.397	
17,900.0	11,350.0	17,638.9	11,180.0	55.5	58.3	71.67	6,686.3	999.4	540.4	416.2	124.29	4.348	
18,000.0	11,350.0	17,738.9	11,180.0	56.2	59.0	71.67	6,786.3	999.0	540.4	414.8	125.68	4.300	
18,100.0	11,350.0	17,838.9	11,180.0	56.9	59.7	71.67	6,886.3	998.6	540.4	413.4	127.06	4.253	
18,200.0	11,350.0	17,938.9	11,180.0	57.6	60.4	71.67	6,986.3	998.2	540.4	412.0	128.45	4.207	
18,300.0	11,350.0	18,038.9	11,180.0	58.3	61.0	71.67	7,086.3	997.8	540.4	410.6	129.85	4.162	
18,400.0	11,350.0	18,138.9	11,180.0	59.0	61.7	71.67	7,186.3	997.4	540.4	409.2	131.25	4.118	
18,500.0	11,350.0	18,238.9	11,180.0	59.7	62.4	71.67	7,286.3	997.0	540.4	407.8	132.65	4.074	
18,600.0	11,350.0	18,338.9	11,180.0	60.4	63.1	71.67	7,386.3	996.6	540.4	406.4	134.05	4.032	
18,700.0	11,350.0	18,438.9	11,180.0	61.2	63.7	71.67	7,486.3	996.2	540.4	405.0	135.45	3.990	
18,800.0	11,350.0	18,538.9	11,180.0	61.9	64.4	71.67	7,586.3	995.8	540.4	403.6	136.86	3.949	
18,900.0	11,350.0	18,638.9	11,180.0	62.6	65.1	71.67	7,686.3	995.4	540.4	402.2	138.27	3.909	
19,000.0	11,350.0	18,738.9	11,180.0	63.3	65.8	71.67	7,786.3	995.0	540.4	400.8	139.68	3.869	
19,100.0	11,350.0	18,838.9	11,180.0	64.0	66.5	71.67	7,886.3	994.6	540.4	399.4	141.09	3.830	
19,200.0	11,350.0	18,938.9	11,180.0	64.7	67.2	71.67	7,986.3	994.2	540.4	397.9	142.51	3.792	
19,300.0	11,350.0	19,038.9	11,180.0	65.5	67.9	71.67	8,086.3	993.8	540.4	396.5	143.93	3.755	
19,400.0	11,350.0	19,138.9	11,180.0	66.2	68.6	71.67	8,186.3	993.4	540.4	395.1	145.35	3.718	
19,500.0	11,350.0	19,238.9	11,180.0	66.9	69.3	71.67	8,286.3	993.0	540.4	393.7	146.77	3.682	
19,600.0	11,350.0	19,338.9	11,180.0	67.6	69.9	71.67	8,386.3	992.6	540.4	392.3	148.19	3.647	
19,700.0	11,350.0	19,438.9	11,180.0	68.3	70.6	71.67	8,486.3	992.2	540.4	390.8	149.62	3.612	
19,800.0	11,350.0	19,538.9	11,180.0	69.1	71.3	71.67	8,586.3	991.8	540.4	389.4	151.04	3.578	
19,900.0	11,350.0	19,638.9	11,180.0	69.8	72.0	71.67	8,686.3	991.4	540.4	388.0	152.47	3.545	
20,000.0	11,350.0	19,738.9	11,180.0	70.5	72.7	71.67	8,786.3	991.0	540.4	386.5	153.90	3.512	
20,100.0	11,350.0	19,838.9	11,180.0	71.2	73.5	71.67	8,886.3	990.6	540.4	385.1	155.34	3.479	
20,200.0	11,350.0	19,938.9	11,180.0	72.0	74.2	71.67	8,986.3	990.2	540.4	383.7	156.77	3.447	
20,300.0	11,350.0	20,038.9	11,180.0	72.7	74.9	71.67	9,086.3	989.8	540.4	382.2	158.20	3.416	
20,400.0	11,350.0	20,138.9	11,180.0	73.4	75.6	71.67	9,186.3	989.4	540.4	380.8	159.64	3.385	
20,500.0	11,350.0	20,238.9	11,180.0	74.2	76.3	71.67	9,286.3	989.0	540.4	379.4	161.08	3.355	

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 #707H
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 #707H	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)			
20,600.0	11,350.0	20,338.9	11,180.0	74.9	77.0	71.67	9,386.3	988.6	540.4	377.9	162.52	3.325	
20,700.0	11,350.0	20,438.9	11,180.0	75.6	77.7	71.67	9,486.3	988.2	540.4	376.5	163.96	3.296	
20,800.0	11,350.0	20,538.9	11,180.0	76.4	78.4	71.67	9,586.3	987.8	540.4	375.0	165.40	3.267	
20,900.0	11,350.0	20,638.9	11,180.0	77.1	79.1	71.67	9,686.3	987.4	540.4	373.6	166.85	3.239	
21,000.0	11,350.0	20,738.9	11,180.0	77.8	79.8	71.67	9,786.3	987.0	540.4	372.1	168.29	3.211	
21,100.0	11,350.0	20,838.9	11,180.0	78.6	80.5	71.67	9,886.3	986.6	540.4	370.7	169.74	3.184	
21,200.0	11,350.0	20,938.9	11,180.0	79.3	81.3	71.67	9,986.3	986.2	540.4	369.3	171.19	3.157	
21,300.0	11,350.0	21,038.9	11,180.0	80.0	82.0	71.67	10,086.3	985.8	540.4	367.8	172.63	3.131	
21,400.0	11,350.0	21,138.9	11,180.0	80.8	82.7	71.67	10,186.3	985.4	540.4	366.4	174.08	3.104	
21,500.0	11,350.0	21,238.9	11,180.0	81.5	83.4	71.67	10,286.3	985.0	540.4	364.9	175.54	3.079	
21,600.0	11,350.0	21,338.9	11,180.0	82.2	84.1	71.67	10,386.3	984.6	540.4	363.4	176.99	3.054	
21,700.0	11,350.0	21,438.9	11,180.0	83.0	84.9	71.67	10,486.3	984.2	540.4	362.0	178.44	3.029	
21,800.0	11,350.0	21,538.9	11,180.0	83.7	85.6	71.67	10,586.3	983.8	540.4	360.5	179.89	3.004	
21,900.0	11,350.0	21,638.9	11,180.0	84.5	86.3	71.67	10,686.3	983.4	540.4	359.1	181.35	2.980	
22,000.0	11,350.0	21,738.9	11,180.0	85.2	87.0	71.67	10,786.3	983.0	540.4	357.6	182.81	2.956	
22,100.0	11,350.0	21,838.9	11,180.0	85.9	87.7	71.67	10,886.3	982.6	540.4	356.2	184.26	2.933	
22,200.0	11,350.0	21,938.9	11,180.0	86.7	88.5	71.67	10,986.3	982.2	540.4	354.7	185.72	2.910	
22,300.0	11,350.0	22,038.9	11,180.0	87.4	89.2	71.67	11,086.3	981.8	540.4	353.3	187.18	2.887	
22,400.0	11,350.0	22,138.9	11,180.0	88.1	89.9	71.67	11,186.3	981.4	540.4	351.8	188.64	2.865	
22,500.0	11,350.0	22,238.9	11,180.0	88.9	90.6	71.67	11,286.3	981.0	540.4	350.3	190.10	2.843	
22,600.0	11,350.0	22,338.9	11,180.0	89.6	91.4	71.67	11,386.3	980.6	540.4	348.9	191.56	2.821	
22,700.0	11,350.0	22,438.9	11,180.0	90.4	92.1	71.67	11,486.3	980.2	540.4	347.4	193.03	2.800	
22,800.0	11,350.0	22,538.9	11,180.0	91.1	92.8	71.67	11,586.3	979.8	540.4	345.9	194.49	2.779	
22,900.0	11,350.0	22,638.9	11,180.0	91.9	93.5	71.67	11,686.3	979.4	540.4	344.5	195.95	2.758	
23,000.0	11,350.0	22,738.9	11,180.0	92.6	94.3	71.67	11,786.3	979.0	540.4	343.0	197.42	2.738	
23,100.0	11,350.0	22,838.9	11,180.0	93.3	95.0	71.67	11,886.3	978.6	540.4	341.5	198.88	2.717	
23,200.0	11,350.0	22,938.9	11,180.0	94.1	95.7	71.67	11,986.3	978.2	540.4	340.1	200.35	2.697	
23,300.0	11,350.0	23,038.9	11,180.0	94.8	96.5	71.67	12,086.3	977.8	540.4	338.6	201.82	2.678	
23,400.0	11,350.0	23,138.9	11,180.0	95.6	97.2	71.67	12,186.3	977.4	540.4	337.1	203.29	2.658	
23,500.0	11,350.0	23,238.9	11,180.0	96.3	97.9	71.67	12,286.3	977.0	540.4	335.7	204.75	2.639	
23,600.0	11,350.0	23,338.9	11,180.0	97.1	98.7	71.67	12,386.3	976.6	540.4	334.2	206.22	2.621	
23,700.0	11,350.0	23,438.9	11,180.0	97.8	99.4	71.67	12,486.3	976.2	540.4	332.7	207.69	2.602	
23,800.0	11,350.0	23,538.9	11,180.0	98.6	100.1	71.67	12,586.3	975.8	540.4	331.3	209.16	2.584	
23,900.0	11,350.0	23,638.9	11,180.0	99.3	100.9	71.67	12,686.3	975.4	540.4	329.8	210.64	2.566	
24,000.0	11,350.0	23,738.9	11,180.0	100.1	101.6	71.67	12,786.3	975.0	540.4	328.3	212.11	2.548	
24,100.0	11,350.0	23,838.9	11,180.0	100.8	102.3	71.67	12,886.3	974.6	540.4	326.8	213.58	2.530	
24,200.0	11,350.0	23,938.9	11,180.0	101.5	103.1	71.67	12,986.3	974.2	540.4	325.4	215.05	2.513	
24,300.0	11,350.0	24,038.9	11,180.0	102.3	103.8	71.67	13,086.3	973.8	540.4	323.9	216.53	2.496	
24,400.0	11,350.0	24,138.9	11,180.0	103.0	104.5	71.67	13,186.3	973.4	540.4	322.4	218.00	2.479	
24,500.0	11,350.0	24,238.9	11,180.0	103.8	105.3	71.67	13,286.3	973.0	540.4	321.0	219.48	2.462	
24,600.0	11,350.0	24,338.9	11,180.0	104.5	106.0	71.67	13,386.3	972.6	540.4	319.5	220.95	2.446	
24,700.0	11,350.0	24,438.9	11,180.0	105.3	106.7	71.67	13,486.3	972.2	540.4	318.1	222.35	2.431	
24,747.6	11,350.0	24,486.5	11,180.0	105.6	107.0	71.67	13,533.8	972.0	540.4	317.5	222.96	2.424	
24,750.1	11,350.0	24,486.5	11,180.0	105.7	107.0	71.67	13,533.8	972.0	540.4	317.4	223.00	2.424	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	90.00	0.0	60.0	60.0	53.6	6.43	9.333	
100.0	100.0	100.0	100.0	3.2	3.2	90.00	0.0	60.0	60.0	53.1	6.89	8.705	
200.0	200.0	200.0	200.0	3.5	3.5	90.00	0.0	60.0	60.0	52.7	7.33	8.188	
300.0	300.0	300.0	300.0	3.7	3.7	90.00	0.0	60.0	60.0	52.3	7.74	7.751	
400.0	400.0	400.0	400.0	3.9	3.9	90.00	0.0	60.0	60.0	51.9	8.14	7.375	
500.0	500.0	500.0	500.0	4.1	4.1	90.00	0.0	60.0	60.0	51.5	8.51	7.048	
600.0	600.0	600.0	600.0	4.2	4.2	90.00	0.0	60.0	60.0	51.1	8.88	6.759	
700.0	700.0	700.0	700.0	4.4	4.4	90.00	0.0	60.0	60.0	50.8	9.23	6.501	
800.0	800.0	800.0	800.0	4.6	4.6	90.00	0.0	60.0	60.0	50.4	9.57	6.269	
900.0	900.0	900.0	900.0	4.8	4.8	90.00	0.0	60.0	60.0	50.1	9.90	6.059	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.00	0.0	60.0	60.0	49.8	10.22	5.868	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.00	0.0	60.0	60.0	49.5	10.54	5.693	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.00	0.0	60.0	60.0	49.2	10.85	5.531	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.00	0.0	60.0	60.0	48.9	11.15	5.382	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.00	0.0	60.0	60.0	48.6	11.44	5.243	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.00	0.0	60.0	60.0	48.3	11.73	5.113	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.00	0.0	60.0	60.0	48.0	12.02	4.992	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.00	0.0	60.0	60.0	47.7	12.30	4.878	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.00	0.0	60.0	60.0	47.4	12.58	4.771	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	90.00	0.0	60.0	60.0	47.2	12.85	4.670	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	90.00	0.0	60.0	60.0	46.9	13.12	4.575	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-20.44	0.0	60.0	58.8	45.4	13.39	4.388	
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	-21.89	0.0	60.0	55.1	41.4	13.66	4.033	
2,300.0	2,299.7	2,298.4	2,298.4	6.9	6.8	-24.61	0.0	61.3	50.4	36.4	13.96	3.610	
2,400.0	2,399.3	2,397.0	2,396.9	7.0	7.0	-28.94	0.0	65.1	46.0	31.8	14.25	3.231	
2,500.0	2,498.6	2,495.7	2,495.4	7.2	7.1	-35.25	0.0	71.4	42.4	27.8	14.54	2.914	
2,600.0	2,597.6	2,594.5	2,593.8	7.4	7.3	-43.16	0.0	80.4	40.2	25.4	14.74	2.725	
2,622.4	2,619.8	2,616.7	2,615.8	7.4	7.3	-44.86	0.0	82.7	40.1	25.3	14.80	2.709 CC, ES, SF	
2,700.0	2,696.6	2,693.5	2,692.1	7.6	7.5	-50.05	0.0	91.8	41.0	26.0	14.99	2.733	
2,800.0	2,795.7	2,792.4	2,790.0	7.9	7.7	-54.61	0.0	105.8	44.5	29.2	15.26	2.913	
2,900.0	2,894.7	2,891.2	2,887.5	8.1	8.0	-56.66	0.0	122.4	50.2	34.7	15.56	3.228	
3,000.0	2,993.7	2,989.8	2,984.2	8.4	8.2	-56.71	0.0	141.4	58.1	42.2	15.91	3.651	
3,100.0	3,092.8	3,088.0	3,080.0	8.7	8.5	-55.46	0.0	162.8	68.0	51.7	16.31	4.169	
3,200.0	3,191.8	3,186.6	3,175.8	8.9	8.8	-53.63	0.0	186.4	79.7	63.0	16.73	4.766	
3,300.0	3,290.8	3,285.9	3,272.1	9.3	9.1	-52.16	0.0	210.4	91.8	74.5	17.23	5.325	
3,400.0	3,389.8	3,385.1	3,368.4	9.6	9.4	-51.04	0.0	234.4	103.9	86.1	17.76	5.846	
3,500.0	3,488.9	3,484.4	3,464.7	9.9	9.7	-50.15	0.0	258.4	116.0	97.7	18.32	6.332	
3,600.0	3,587.9	3,583.6	3,561.0	10.2	10.0	-49.43	0.0	282.4	128.1	109.2	18.88	6.784	
3,700.0	3,686.9	3,682.9	3,657.3	10.6	10.4	-48.83	0.0	306.4	140.3	120.8	19.47	7.204	
3,800.0	3,785.9	3,782.1	3,753.6	10.9	10.8	-48.33	0.0	330.4	152.4	132.4	20.07	7.594	
3,900.0	3,885.0	3,881.4	3,849.9	11.3	11.1	-35.40	0.0	354.4	163.8	143.1	20.73	7.901	
4,000.0	3,984.0	3,980.9	3,946.4	11.6	11.5	-26.48	0.0	378.5	173.4	152.0	21.46	8.082	
4,100.0	4,083.0	4,080.3	4,042.9	11.9	11.9	-25.02	0.0	402.6	182.8	160.6	22.25	8.216	
4,200.0	4,182.1	4,179.8	4,139.4	12.3	12.3	-23.70	0.0	426.6	192.4	169.3	23.06	8.341	
4,300.0	4,281.1	4,279.2	4,235.9	12.6	12.7	-22.51	0.0	450.7	202.0	178.1	23.89	8.456	
4,400.0	4,380.1	4,378.7	4,332.4	13.0	13.1	-21.43	0.0	474.7	211.7	187.0	24.72	8.564	
4,500.0	4,479.2	4,478.1	4,428.9	13.4	13.5	-20.44	0.0	498.8	221.5	195.9	25.56	8.665	
4,600.0	4,578.2	4,577.6	4,525.4	13.7	13.9	-19.54	0.0	522.9	231.3	204.9	26.41	8.758	
4,700.0	4,677.2	4,677.0	4,621.9	14.1	14.4	-18.71	0.0	546.9	241.2	213.9	27.26	8.846	
4,800.0	4,776.2	4,776.5	4,718.4	14.5	14.8	-17.94	0.0	571.0	251.1	223.0	28.12	8.929	
4,900.0	4,875.3	4,875.9	4,814.9	14.9	15.2	-17.24	0.0	595.0	261.1	232.1	28.99	9.006	
5,000.0	4,974.3	4,975.4	4,911.4	15.3	15.7	-16.58	0.0	619.1	271.1	241.2	29.86	9.079	

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 #707H
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 #707H	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			Offset Wellbore Centre		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.0	5,073.3	5,074.8	5,007.9	15.7	16.1	-15.98	0.0	643.2	281.1	250.4	30.73	9.147		
5,200.0	5,172.3	5,174.3	5,104.4	16.1	16.5	-15.41	0.0	667.2	291.2	259.6	31.61	9.212		
5,300.0	5,271.4	5,273.7	5,200.9	16.4	17.0	-14.88	0.0	691.3	301.3	268.8	32.49	9.273		
5,400.0	5,370.4	5,373.2	5,297.4	16.8	17.4	-14.39	0.0	715.3	311.4	278.0	33.37	9.331		
5,500.0	5,469.4	5,472.6	5,393.9	17.2	17.9	-13.93	0.0	739.4	321.5	287.3	34.26	9.386		
5,600.0	5,568.5	5,572.1	5,490.4	17.6	18.3	-13.49	0.0	763.5	331.7	296.5	35.15	9.438		
5,700.0	5,667.5	5,671.5	5,586.9	18.0	18.8	-13.09	0.0	787.5	342.1	306.1	36.01	9.499		
5,800.0	5,766.8	5,770.8	5,683.2	18.4	19.2	-12.67	0.0	811.5	353.9	317.0	36.90	9.591		
5,900.0	5,866.2	5,869.8	5,779.3	18.8	19.7	-12.22	0.0	835.5	367.5	329.7	37.78	9.726		
6,000.0	5,965.8	5,968.6	5,875.1	19.1	20.1	-11.76	0.0	859.4	382.7	344.1	38.65	9.902		
6,100.0	6,065.6	6,067.1	5,970.7	19.5	20.6	-11.29	0.0	883.2	399.7	360.2	39.51	10.118		
6,200.0	6,165.4	6,165.2	6,065.9	19.8	21.1	-10.81	0.0	906.9	418.4	378.1	40.35	10.371		
6,300.0	6,265.4	6,263.1	6,160.8	20.1	21.5	-10.34	0.0	930.6	438.9	397.7	41.16	10.663		
6,400.0	6,365.3	6,360.5	6,255.4	20.4	22.0	-9.88	0.0	954.2	461.0	419.1	41.93	10.994		
6,500.0	6,465.3	6,457.6	6,349.6	20.5	22.4	80.59	0.0	977.7	484.6	442.1	42.53	11.395		
6,600.0	6,565.3	6,554.6	6,443.7	20.5	22.9	81.03	0.0	1,001.1	508.5	465.4	43.10	11.798		
6,700.0	6,665.3	6,651.7	6,537.9	20.5	23.3	81.44	0.0	1,024.6	532.5	488.8	43.68	12.191		
6,800.0	6,765.3	6,748.7	6,632.0	20.6	23.8	81.81	0.0	1,048.1	556.4	512.2	44.25	12.574		
6,900.0	6,865.3	6,845.7	6,726.2	20.6	24.2	82.15	0.0	1,071.6	580.4	535.6	44.82	12.948		
7,000.0	6,965.3	6,942.7	6,820.3	20.7	24.7	82.46	0.0	1,095.0	604.4	559.0	45.40	13.313		
7,100.0	7,065.3	7,039.8	6,914.5	20.7	25.2	82.75	0.0	1,118.5	628.4	582.4	45.97	13.668		
7,200.0	7,165.3	7,136.8	7,008.6	20.7	25.6	83.02	0.0	1,142.0	652.4	605.8	46.55	14.014		
7,300.0	7,265.3	7,233.8	7,102.8	20.8	26.1	83.27	0.0	1,165.5	676.4	629.3	47.13	14.352		
7,400.0	7,365.3	7,330.9	7,196.9	20.8	26.5	83.50	0.0	1,188.9	700.5	652.7	47.71	14.681		
7,500.0	7,465.3	7,427.9	7,291.1	20.9	27.0	83.72	0.0	1,212.4	724.5	676.2	48.30	15.001		
7,600.0	7,565.3	7,524.9	7,385.2	20.9	27.5	83.92	0.0	1,235.9	748.6	699.7	48.88	15.314		
7,700.0	7,665.3	7,622.0	7,479.4	21.0	27.9	84.11	0.0	1,259.4	772.6	723.2	49.47	15.619		
7,800.0	7,765.3	7,719.0	7,573.5	21.0	28.4	84.29	0.0	1,282.8	796.7	746.6	50.06	15.916		
7,900.0	7,865.3	7,816.0	7,667.7	21.0	28.8	84.45	0.0	1,306.3	820.8	770.1	50.65	16.206		
8,000.0	7,965.3	7,926.7	7,775.2	21.1	29.4	84.63	0.0	1,332.3	844.2	792.9	51.32	16.450		
8,100.0	8,065.3	8,041.3	7,887.1	21.1	29.9	84.79	0.0	1,357.2	865.8	813.8	52.01	16.647		
8,200.0	8,165.3	8,157.0	8,000.5	21.2	30.4	84.92	0.0	1,379.9	885.4	832.7	52.67	16.810		
8,300.0	8,265.3	8,273.5	8,115.2	21.2	31.0	85.04	0.0	1,400.5	903.0	849.7	53.31	16.940		
8,400.0	8,365.3	8,390.9	8,231.1	21.3	31.5	85.14	0.0	1,418.9	918.6	864.7	53.91	17.039		
8,500.0	8,465.3	8,509.0	8,348.1	21.3	32.0	85.23	0.0	1,435.0	932.2	877.7	54.49	17.109		
8,600.0	8,565.3	8,627.7	8,466.0	21.4	32.5	85.30	0.0	1,448.8	943.8	888.8	55.02	17.152		
8,700.0	8,665.3	8,746.9	8,584.7	21.4	32.9	85.35	0.0	1,460.1	953.3	897.8	55.52	17.170		
8,800.0	8,765.3	8,866.5	8,704.0	21.4	33.4	85.39	0.0	1,469.0	960.7	904.7	55.97	17.165		
8,900.0	8,865.3	8,986.5	8,823.8	21.5	33.8	85.43	0.0	1,475.5	966.0	909.7	56.36	17.140		
9,000.0	8,965.3	9,106.7	8,943.9	21.5	34.1	85.44	0.0	1,479.4	969.3	912.6	56.69	17.099		
9,100.0	9,065.3	9,227.0	9,064.2	21.6	34.4	85.45	0.0	1,480.8	970.5	913.6	56.87	17.065		
9,200.0	9,165.3	9,328.1	9,165.3	21.6	34.4	85.45	0.0	1,480.8	970.5	913.5	56.92	17.048		
9,300.0	9,265.3	9,428.1	9,265.3	21.7	34.4	85.45	0.0	1,480.8	970.5	913.5	56.99	17.029		
9,400.0	9,365.3	9,528.1	9,365.3	21.7	34.5	85.45	0.0	1,480.8	970.5	913.4	57.06	17.009		
9,500.0	9,465.3	9,628.1	9,465.3	21.8	34.5	85.45	0.0	1,480.8	970.5	913.4	57.12	16.989		
9,600.0	9,565.3	9,728.1	9,565.3	21.8	34.5	85.45	0.0	1,480.8	970.5	913.3	57.19	16.969		
9,700.0	9,665.3	9,828.1	9,665.3	21.9	34.6	85.45	0.0	1,480.8	970.5	913.2	57.26	16.950		
9,800.0	9,765.3	9,928.1	9,765.3	21.9	34.6	85.45	0.0	1,480.8	970.5	913.1	57.32	16.930		
9,900.0	9,865.3	10,028.1	9,865.3	22.0	34.6	85.45	0.0	1,480.8	970.5	913.1	57.39	16.910		
10,000.0	9,965.3	10,128.1	9,965.3	22.0	34.6	85.45	0.0	1,480.8	970.5	913.0	57.46	16.890		
10,100.0	10,065.3	10,228.1	10,065.3	22.1	34.7	85.45	0.0	1,480.8	970.5	912.9	57.53	16.869		
10,200.0	10,165.3	10,328.1	10,165.3	22.1	34.7	85.45	0.0	1,480.8	970.5	912.9	57.60	16.849		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	10,265.3	10,428.1	10,265.3	22.2	34.7	85.45	0.0	1,480.8	970.5	912.8	57.67	16.829	
10,400.0	10,365.3	10,528.1	10,365.3	22.2	34.7	85.45	0.0	1,480.8	970.5	912.7	57.74	16.809	
10,500.0	10,465.3	10,628.1	10,465.3	22.3	34.8	85.45	0.0	1,480.8	970.5	912.7	57.81	16.788	
10,600.0	10,565.3	10,728.1	10,565.3	22.3	34.8	85.45	0.0	1,480.8	970.5	912.6	57.88	16.768	
10,700.0	10,665.3	10,828.1	10,665.3	22.4	34.8	85.45	0.0	1,480.8	970.5	912.5	57.95	16.747	
10,800.0	10,765.3	10,928.1	10,765.3	22.4	34.9	85.45	0.0	1,480.8	970.5	912.5	58.01	16.728	
10,900.0	10,865.0	11,009.4	10,846.5	22.4	34.9	85.71	4.2	1,481.2	970.8	912.6	58.24	16.668	
11,000.0	10,962.0	11,088.5	10,924.0	22.4	34.9	85.84	19.1	1,482.4	972.0	913.5	58.51	16.613	
11,100.0	11,053.3	11,168.0	10,999.3	22.4	35.0	86.05	44.7	1,484.4	974.1	915.4	58.76	16.579	
11,200.0	11,136.3	11,250.0	11,072.3	22.4	35.1	86.36	81.7	1,487.4	977.1	918.2	58.94	16.577	
11,300.0	11,208.3	11,330.0	11,137.8	22.4	35.1	86.71	127.4	1,491.1	981.0	921.9	59.08	16.605	
11,400.0	11,267.3	11,413.2	11,198.3	22.4	35.2	87.15	184.1	1,495.6	985.9	926.7	59.13	16.672	
11,500.0	11,311.3	11,500.0	11,252.1	22.4	35.3	87.66	251.9	1,501.1	991.6	932.5	59.10	16.777	
11,600.0	11,339.1	11,585.8	11,294.6	22.5	35.3	88.19	326.1	1,507.1	998.2	939.2	59.01	16.918	
11,700.0	11,349.8	11,676.4	11,326.8	22.6	35.4	88.77	410.4	1,513.8	1,005.7	946.8	58.85	17.087	
11,800.0	11,350.0	11,771.8	11,345.9	22.7	35.5	89.77	503.5	1,521.3	1,013.8	955.0	58.77	17.249	
11,900.0	11,350.0	11,888.5	11,350.0	22.9	35.6	90.00	619.7	1,530.3	1,021.9	962.9	59.06	17.303	
12,000.0	11,350.0	12,044.0	11,350.0	23.0	35.7	90.00	775.1	1,535.9	1,026.0	966.3	59.65	17.200	
12,100.0	11,350.0	12,157.3	11,350.0	23.2	35.8	90.00	888.4	1,535.7	1,026.1	966.1	60.01	17.100	
12,200.0	11,350.0	12,257.3	11,350.0	23.5	36.0	90.00	988.4	1,535.3	1,026.1	965.8	60.34	17.005	
12,300.0	11,350.0	12,357.3	11,350.0	23.7	36.1	90.00	1,088.4	1,534.9	1,026.1	965.4	60.72	16.900	
12,400.0	11,350.0	12,457.3	11,350.0	24.0	36.3	90.00	1,188.4	1,534.5	1,026.1	965.0	61.13	16.787	
12,500.0	11,350.0	12,557.3	11,350.0	24.2	36.5	90.00	1,288.4	1,534.1	1,026.1	964.5	61.57	16.666	
12,600.0	11,350.0	12,657.3	11,350.0	24.6	36.7	90.00	1,388.4	1,533.7	1,026.1	964.1	62.05	16.538	
12,700.0	11,350.0	12,757.3	11,350.0	24.9	36.9	90.00	1,488.4	1,533.3	1,026.1	963.6	62.56	16.403	
12,800.0	11,350.0	12,857.3	11,350.0	25.2	37.1	90.00	1,588.4	1,532.9	1,026.1	963.0	63.10	16.262	
12,900.0	11,350.0	12,957.3	11,350.0	25.6	37.4	90.00	1,688.4	1,532.5	1,026.1	962.4	63.67	16.116	
13,000.0	11,350.0	13,057.3	11,350.0	26.0	37.6	90.00	1,788.4	1,532.1	1,026.1	961.8	64.28	15.964	
13,100.0	11,350.0	13,157.3	11,350.0	26.4	37.9	90.00	1,888.4	1,531.7	1,026.1	961.2	64.91	15.808	
13,200.0	11,350.0	13,257.3	11,350.0	26.8	38.2	90.00	1,988.4	1,531.3	1,026.1	960.5	65.58	15.648	
13,300.0	11,350.0	13,357.3	11,350.0	27.2	38.5	90.00	2,088.4	1,530.9	1,026.1	959.8	66.27	15.484	
13,400.0	11,350.0	13,457.3	11,350.0	27.7	38.8	90.00	2,188.4	1,530.5	1,026.1	959.1	66.99	15.318	
13,500.0	11,350.0	13,557.3	11,350.0	28.1	39.1	90.00	2,288.4	1,530.1	1,026.1	958.4	67.73	15.150	
13,600.0	11,350.0	13,657.3	11,350.0	28.6	39.5	90.00	2,388.4	1,529.7	1,026.1	957.6	68.50	14.979	
13,700.0	11,350.0	13,757.3	11,350.0	29.1	39.8	90.00	2,488.4	1,529.3	1,026.1	956.8	69.30	14.807	
13,800.0	11,350.0	13,857.3	11,350.0	29.6	40.2	90.00	2,588.4	1,528.9	1,026.1	956.0	70.12	14.635	
13,900.0	11,350.0	13,957.3	11,350.0	30.1	40.6	90.00	2,688.4	1,528.5	1,026.1	955.1	70.96	14.461	
14,000.0	11,350.0	14,057.3	11,350.0	30.6	41.0	90.00	2,788.4	1,528.1	1,026.1	954.3	71.82	14.287	
14,100.0	11,350.0	14,157.3	11,350.0	31.1	41.4	90.00	2,888.4	1,527.7	1,026.1	953.4	72.71	14.113	
14,200.0	11,350.0	14,257.3	11,350.0	31.7	41.8	90.00	2,988.4	1,527.3	1,026.1	952.5	73.61	13.939	
14,300.0	11,350.0	14,357.3	11,350.0	32.2	42.2	90.00	3,088.4	1,526.9	1,026.1	951.6	74.54	13.766	
14,400.0	11,350.0	14,457.3	11,350.0	32.8	42.6	90.00	3,188.4	1,526.5	1,026.1	950.6	75.48	13.594	
14,500.0	11,350.0	14,557.3	11,350.0	33.3	43.1	90.00	3,288.4	1,526.1	1,026.1	949.6	76.44	13.423	
14,600.0	11,350.0	14,657.3	11,350.0	33.9	43.5	90.00	3,388.4	1,525.7	1,026.1	948.7	77.43	13.253	
14,700.0	11,350.0	14,757.3	11,350.0	34.5	44.0	90.00	3,488.4	1,525.3	1,026.1	947.7	78.42	13.084	
14,800.0	11,350.0	14,857.3	11,350.0	35.1	44.4	90.00	3,588.4	1,524.9	1,026.1	946.7	79.44	12.917	
14,900.0	11,350.0	14,957.3	11,350.0	35.7	44.9	90.00	3,688.4	1,524.5	1,026.1	945.6	80.47	12.752	
15,000.0	11,350.0	15,057.3	11,350.0	36.3	45.4	90.00	3,788.4	1,524.1	1,026.1	944.6	81.51	12.588	
15,100.0	11,350.0	15,157.3	11,350.0	36.9	45.9	90.00	3,888.4	1,523.7	1,026.1	943.5	82.57	12.427	
15,200.0	11,350.0	15,257.3	11,350.0	37.5	46.4	90.00	3,988.4	1,523.2	1,026.1	942.4	83.64	12.267	
15,300.0	11,350.0	15,357.3	11,350.0	38.1	46.9	90.00	4,088.4	1,522.8	1,026.1	941.4	84.73	12.110	
15,400.0	11,350.0	15,457.3	11,350.0	38.7	47.4	90.00	4,188.4	1,522.4	1,026.1	940.3	85.83	11.955	

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 #707H
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 #707H	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)			
15,500.0	11,350.0	15,557.3	11,350.0	39.4	47.9	90.00	4,288.4	1,522.0	1,026.1	939.1	86.94	11.802	
15,600.0	11,350.0	15,657.3	11,350.0	40.0	48.5	90.00	4,388.4	1,521.6	1,026.1	938.0	88.07	11.651	
15,700.0	11,350.0	15,757.3	11,350.0	40.6	49.0	90.00	4,488.4	1,521.2	1,026.1	936.9	89.20	11.503	
15,800.0	11,350.0	15,857.3	11,350.0	41.3	49.5	90.00	4,588.4	1,520.8	1,026.1	935.7	90.35	11.357	
15,900.0	11,350.0	15,957.3	11,350.0	41.9	50.1	90.00	4,688.4	1,520.4	1,026.1	934.6	91.51	11.213	
16,000.0	11,350.0	16,057.3	11,350.0	42.6	50.6	90.00	4,788.4	1,520.0	1,026.1	933.4	92.67	11.072	
16,100.0	11,350.0	16,157.3	11,350.0	43.2	51.2	90.00	4,888.4	1,519.6	1,026.1	932.2	93.85	10.933	
16,200.0	11,350.0	16,257.3	11,350.0	43.9	51.7	90.00	4,988.4	1,519.2	1,026.1	931.0	95.04	10.796	
16,300.0	11,350.0	16,357.3	11,350.0	44.6	52.3	90.00	5,088.4	1,518.8	1,026.1	929.8	96.24	10.662	
16,400.0	11,350.0	16,457.3	11,350.0	45.2	52.9	90.00	5,188.4	1,518.4	1,026.1	928.6	97.44	10.530	
16,500.0	11,350.0	16,557.3	11,350.0	45.9	53.5	90.00	5,288.4	1,518.0	1,026.1	927.4	98.65	10.401	
16,600.0	11,350.0	16,657.3	11,350.0	46.6	54.0	90.00	5,388.4	1,517.6	1,026.1	926.2	99.88	10.273	
16,700.0	11,350.0	16,757.3	11,350.0	47.2	54.6	90.00	5,488.4	1,517.2	1,026.1	925.0	101.11	10.149	
16,800.0	11,350.0	16,857.3	11,350.0	47.9	55.2	90.00	5,588.4	1,516.8	1,026.1	923.7	102.34	10.026	
16,900.0	11,350.0	16,957.3	11,350.0	48.6	55.8	90.00	5,688.4	1,516.4	1,026.1	922.5	103.59	9.905	
17,000.0	11,350.0	17,057.3	11,350.0	49.3	56.4	90.00	5,788.4	1,516.0	1,026.1	921.2	104.84	9.787	
17,100.0	11,350.0	17,157.3	11,350.0	49.9	57.0	90.00	5,888.4	1,515.6	1,026.1	920.0	106.10	9.671	
17,200.0	11,350.0	17,257.3	11,350.0	50.6	57.6	90.00	5,988.4	1,515.2	1,026.1	918.7	107.36	9.557	
17,300.0	11,350.0	17,357.3	11,350.0	51.3	58.2	90.00	6,088.4	1,514.8	1,026.1	917.4	108.63	9.445	
17,400.0	11,350.0	17,457.3	11,350.0	52.0	58.8	90.00	6,188.4	1,514.4	1,026.1	916.2	109.91	9.335	
17,500.0	11,350.0	17,557.3	11,350.0	52.7	59.5	90.00	6,288.4	1,514.0	1,026.1	914.9	111.19	9.228	
17,600.0	11,350.0	17,657.3	11,350.0	53.4	60.1	90.00	6,388.4	1,513.6	1,026.1	913.6	112.48	9.122	
17,700.0	11,350.0	17,757.3	11,350.0	54.1	60.7	90.00	6,488.4	1,513.2	1,026.1	912.3	113.78	9.018	
17,800.0	11,350.0	17,857.3	11,350.0	54.8	61.3	90.00	6,588.4	1,512.8	1,026.1	911.0	115.08	8.916	
17,900.0	11,350.0	17,957.3	11,350.0	55.5	62.0	90.00	6,688.4	1,512.4	1,026.1	909.7	116.38	8.816	
18,000.0	11,350.0	18,057.3	11,350.0	56.2	62.6	90.00	6,788.4	1,512.0	1,026.1	908.4	117.69	8.718	
18,100.0	11,350.0	18,157.3	11,350.0	56.9	63.2	90.00	6,888.4	1,511.6	1,026.1	907.0	119.01	8.622	
18,200.0	11,350.0	18,257.3	11,350.0	57.6	63.9	90.00	6,988.4	1,511.2	1,026.1	905.7	120.33	8.527	
18,300.0	11,350.0	18,357.3	11,350.0	58.3	64.5	90.00	7,088.4	1,510.8	1,026.1	904.4	121.65	8.435	
18,400.0	11,350.0	18,457.3	11,350.0	59.0	65.2	90.00	7,188.4	1,510.4	1,026.1	903.1	122.98	8.343	
18,500.0	11,350.0	18,557.3	11,350.0	59.7	65.8	90.00	7,288.4	1,510.0	1,026.1	901.7	124.31	8.254	
18,600.0	11,350.0	18,657.3	11,350.0	60.4	66.4	90.00	7,388.4	1,509.6	1,026.1	900.4	125.65	8.166	
18,700.0	11,350.0	18,757.3	11,350.0	61.2	67.1	90.00	7,488.4	1,509.2	1,026.1	899.1	126.99	8.080	
18,800.0	11,350.0	18,857.3	11,350.0	61.9	67.8	90.00	7,588.4	1,508.8	1,026.0	897.7	128.33	7.995	
18,900.0	11,350.0	18,957.3	11,350.0	62.6	68.4	90.00	7,688.4	1,508.4	1,026.0	896.4	129.68	7.912	
19,000.0	11,350.0	19,057.3	11,350.0	63.3	69.1	90.00	7,788.4	1,508.0	1,026.0	895.0	131.03	7.831	
19,100.0	11,350.0	19,157.3	11,350.0	64.0	69.7	90.00	7,888.4	1,507.6	1,026.0	893.7	132.39	7.750	
19,200.0	11,350.0	19,257.3	11,350.0	64.7	70.4	90.00	7,988.4	1,507.2	1,026.0	892.3	133.74	7.672	
19,300.0	11,350.0	19,357.3	11,350.0	65.5	71.1	90.00	8,088.4	1,506.8	1,026.0	890.9	135.11	7.594	
19,400.0	11,350.0	19,457.3	11,350.0	66.2	71.7	90.00	8,188.4	1,506.4	1,026.0	889.6	136.47	7.518	
19,500.0	11,350.0	19,557.3	11,350.0	66.9	72.4	90.00	8,288.4	1,506.0	1,026.0	888.2	137.84	7.444	
19,600.0	11,350.0	19,657.3	11,350.0	67.6	73.1	90.00	8,388.4	1,505.6	1,026.0	886.8	139.21	7.370	
19,700.0	11,350.0	19,757.3	11,350.0	68.3	73.7	90.00	8,488.4	1,505.2	1,026.0	885.5	140.58	7.298	
19,800.0	11,350.0	19,857.3	11,350.0	69.1	74.4	90.00	8,588.4	1,504.8	1,026.0	884.1	141.96	7.228	
19,900.0	11,350.0	19,957.3	11,350.0	69.8	75.1	90.00	8,688.4	1,504.4	1,026.0	882.7	143.34	7.158	
20,000.0	11,350.0	20,057.3	11,350.0	70.5	75.8	90.00	8,788.4	1,504.0	1,026.0	881.3	144.72	7.090	
20,100.0	11,350.0	20,157.3	11,350.0	71.2	76.4	90.00	8,888.4	1,503.6	1,026.0	879.9	146.11	7.023	
20,200.0	11,350.0	20,257.3	11,350.0	72.0	77.1	90.00	8,988.4	1,503.2	1,026.0	878.5	147.49	6.957	
20,300.0	11,350.0	20,357.3	11,350.0	72.7	77.8	90.00	9,088.4	1,502.8	1,026.0	877.2	148.88	6.892	
20,400.0	11,350.0	20,457.3	11,350.0	73.4	78.5	90.00	9,188.4	1,502.4	1,026.0	875.8	150.27	6.828	
20,500.0	11,350.0	20,557.3	11,350.0	74.2	79.2	90.00	9,288.4	1,502.0	1,026.0	874.4	151.67	6.765	
20,600.0	11,350.0	20,657.3	11,350.0	74.9	79.9	90.00	9,388.4	1,501.6	1,026.0	873.0	153.06	6.703	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,350.0	20,757.3	11,350.0	75.6	80.6	90.00	9,488.4	1,501.2	1,026.0	871.6	154.46	6.643	
20,800.0	11,350.0	20,857.3	11,350.0	76.4	81.2	90.00	9,588.4	1,500.8	1,026.0	870.2	155.86	6.583	
20,900.0	11,350.0	20,957.3	11,350.0	77.1	81.9	90.00	9,688.4	1,500.4	1,026.0	868.8	157.27	6.524	
21,000.0	11,350.0	21,057.3	11,350.0	77.8	82.6	90.00	9,788.4	1,500.0	1,026.0	867.4	158.67	6.466	
21,100.0	11,350.0	21,157.3	11,350.0	78.6	83.3	90.00	9,888.4	1,499.6	1,026.0	865.9	160.08	6.410	
21,200.0	11,350.0	21,257.3	11,350.0	79.3	84.0	90.00	9,988.4	1,499.2	1,026.0	864.5	161.49	6.354	
21,300.0	11,350.0	21,357.3	11,350.0	80.0	84.7	90.00	10,088.4	1,498.8	1,026.0	863.1	162.90	6.299	
21,400.0	11,350.0	21,457.3	11,350.0	80.8	85.4	90.00	10,188.4	1,498.4	1,026.0	861.7	164.31	6.244	
21,500.0	11,350.0	21,557.3	11,350.0	81.5	86.1	90.00	10,288.4	1,498.0	1,026.0	860.3	165.72	6.191	
21,600.0	11,350.0	21,657.3	11,350.0	82.2	86.8	90.00	10,388.4	1,497.6	1,026.0	858.9	167.14	6.139	
21,700.0	11,350.0	21,757.3	11,350.0	83.0	87.5	90.00	10,488.4	1,497.2	1,026.0	857.5	168.56	6.087	
21,800.0	11,350.0	21,857.3	11,350.0	83.7	88.2	90.00	10,588.4	1,496.8	1,026.0	856.0	169.98	6.036	
21,900.0	11,350.0	21,957.3	11,350.0	84.5	88.9	90.00	10,688.4	1,496.4	1,026.0	854.6	171.40	5.986	
22,000.0	11,350.0	22,057.3	11,350.0	85.2	89.6	90.00	10,788.4	1,496.0	1,026.0	853.2	172.82	5.937	
22,100.0	11,350.0	22,157.3	11,350.0	85.9	90.3	90.00	10,888.3	1,495.6	1,026.0	851.8	174.24	5.888	
22,200.0	11,350.0	22,257.3	11,350.0	86.7	91.0	90.00	10,988.3	1,495.2	1,026.0	850.3	175.67	5.841	
22,300.0	11,350.0	22,357.3	11,350.0	87.4	91.7	90.00	11,088.3	1,494.8	1,026.0	848.9	177.09	5.794	
22,400.0	11,350.0	22,457.3	11,350.0	88.1	92.4	90.00	11,188.3	1,494.4	1,026.0	847.5	178.52	5.747	
22,500.0	11,350.0	22,557.3	11,350.0	88.9	93.1	90.00	11,288.3	1,494.0	1,026.0	846.1	179.95	5.702	
22,600.0	11,350.0	22,657.3	11,350.0	89.6	93.9	90.00	11,388.3	1,493.6	1,026.0	844.6	181.38	5.657	
22,700.0	11,350.0	22,757.3	11,350.0	90.4	94.6	90.00	11,488.3	1,493.2	1,026.0	843.2	182.81	5.612	
22,800.0	11,350.0	22,857.3	11,350.0	91.1	95.3	90.00	11,588.3	1,492.8	1,026.0	841.8	184.25	5.569	
22,900.0	11,350.0	22,957.3	11,350.0	91.9	96.0	90.00	11,688.3	1,492.4	1,026.0	840.3	185.68	5.526	
23,000.0	11,350.0	23,057.3	11,350.0	92.6	96.7	90.00	11,788.3	1,492.0	1,026.0	838.9	187.12	5.483	
23,100.0	11,350.0	23,157.3	11,350.0	93.3	97.4	90.00	11,888.3	1,491.6	1,026.0	837.5	188.55	5.441	
23,200.0	11,350.0	23,257.3	11,350.0	94.1	98.1	90.00	11,988.3	1,491.2	1,026.0	836.0	189.99	5.400	
23,300.0	11,350.0	23,357.3	11,350.0	94.8	98.8	90.00	12,088.3	1,490.8	1,026.0	834.6	191.43	5.360	
23,400.0	11,350.0	23,457.3	11,350.0	95.6	99.6	90.00	12,188.3	1,490.4	1,026.0	833.1	192.87	5.320	
23,500.0	11,350.0	23,557.3	11,350.0	96.3	100.3	90.00	12,288.3	1,490.0	1,026.0	831.7	194.31	5.280	
23,600.0	11,350.0	23,657.3	11,350.0	97.1	101.0	90.00	12,388.3	1,489.6	1,026.0	830.2	195.76	5.241	
23,700.0	11,350.0	23,757.3	11,350.0	97.8	101.7	90.00	12,488.3	1,489.2	1,026.0	828.8	197.20	5.203	
23,800.0	11,350.0	23,857.3	11,350.0	98.6	102.4	90.00	12,588.3	1,488.8	1,026.0	827.4	198.64	5.165	
23,900.0	11,350.0	23,957.3	11,350.0	99.3	103.2	90.00	12,688.3	1,488.4	1,026.0	825.9	200.09	5.128	
24,000.0	11,350.0	24,057.3	11,350.0	100.1	103.9	90.00	12,788.3	1,488.0	1,026.0	824.5	201.54	5.091	
24,100.0	11,350.0	24,157.3	11,350.0	100.8	104.6	90.00	12,888.3	1,487.6	1,026.0	823.0	202.98	5.055	
24,200.0	11,350.0	24,257.3	11,350.0	101.5	105.3	90.00	12,988.3	1,487.2	1,026.0	821.6	204.43	5.019	
24,300.0	11,350.0	24,357.3	11,350.0	102.3	106.0	90.00	13,088.3	1,486.8	1,026.0	820.1	205.88	4.983	
24,400.0	11,350.0	24,457.3	11,350.0	103.0	106.8	90.00	13,188.3	1,486.4	1,026.0	818.7	207.33	4.949	
24,500.0	11,350.0	24,557.3	11,350.0	103.8	107.5	90.00	13,288.3	1,486.0	1,026.0	817.2	208.78	4.914	
24,600.0	11,350.0	24,657.3	11,350.0	104.5	108.2	90.00	13,388.3	1,485.6	1,026.0	815.8	210.24	4.880	
24,700.0	11,350.0	24,757.3	11,350.0	105.3	108.9	90.00	13,488.3	1,485.2	1,026.0	814.3	211.69	4.847	
24,744.1	11,350.0	24,801.5	11,350.0	105.6	109.3	90.00	13,532.4	1,485.0	1,026.0	813.7	212.33	4.832	
24,750.1	11,350.0	24,802.4	11,350.0	105.7	109.3	90.00	13,533.4	1,485.0	1,026.0	813.6	212.41	4.830	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #710H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.0	0.0	3.0	3.0	90.01	0.0	90.0	90.0	83.6	6.43	13.999		
100.0	100.0	100.0	100.0	3.2	3.2	90.01	0.0	90.0	90.0	83.1	6.89	13.058		
200.0	200.0	200.0	200.0	3.5	3.5	90.01	0.0	90.0	90.0	82.7	7.33	12.281		
300.0	300.0	300.0	300.0	3.7	3.7	90.01	0.0	90.0	90.0	82.3	7.74	11.626		
400.0	400.0	400.0	400.0	3.9	3.9	90.01	0.0	90.0	90.0	81.9	8.14	11.063		
500.0	500.0	500.0	500.0	4.1	4.1	90.01	0.0	90.0	90.0	81.5	8.51	10.571		
600.0	600.0	600.0	600.0	4.2	4.2	90.01	0.0	90.0	90.0	81.1	8.88	10.138		
700.0	700.0	700.0	700.0	4.4	4.4	90.01	0.0	90.0	90.0	80.8	9.23	9.751		
800.0	800.0	800.0	800.0	4.6	4.6	90.01	0.0	90.0	90.0	80.4	9.57	9.404		
900.0	900.0	900.0	900.0	4.8	4.8	90.01	0.0	90.0	90.0	80.1	9.90	9.089		
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.01	0.0	90.0	90.0	79.8	10.22	8.802		
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.01	0.0	90.0	90.0	79.5	10.54	8.539		
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.01	0.0	90.0	90.0	79.2	10.85	8.297		
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.01	0.0	90.0	90.0	78.9	11.15	8.072		
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.01	0.0	90.0	90.0	78.6	11.44	7.864		
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.01	0.0	90.0	90.0	78.3	11.73	7.670		
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.01	0.0	90.0	90.0	78.0	12.02	7.488		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.01	0.0	90.0	90.0	77.7	12.30	7.317		
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.01	0.0	90.0	90.0	77.4	12.58	7.157	CC, ES	
1,900.0	1,900.0	1,897.7	1,897.7	6.3	6.3	90.11	-0.2	91.2	91.3	78.4	12.86	7.096		
2,000.0	2,000.0	1,995.3	1,995.2	6.4	6.4	90.40	-0.7	94.9	95.1	81.9	13.14	7.235		
2,100.0	2,100.0	2,092.7	2,092.4	6.5	6.6	-19.38	-1.5	101.1	100.2	86.7	13.44	7.455		
2,200.0	2,199.9	2,189.9	2,189.3	6.7	6.8	-19.47	-2.6	109.7	105.3	91.6	13.74	7.665		
2,300.0	2,299.7	2,287.1	2,285.7	6.9	7.0	-19.84	-4.1	120.7	110.6	96.5	14.07	7.856		
2,400.0	2,399.3	2,384.1	2,381.8	7.0	7.2	-20.44	-5.8	134.2	115.9	101.4	14.44	8.025		
2,500.0	2,498.6	2,480.9	2,477.3	7.2	7.5	-21.25	-7.9	150.0	121.2	106.4	14.83	8.173		
2,600.0	2,597.6	2,577.6	2,572.3	7.4	7.7	-22.14	-10.3	168.2	127.2	112.0	15.19	8.377		
2,700.0	2,696.6	2,674.3	2,666.7	7.6	8.0	-22.80	-13.0	188.8	135.6	120.0	15.59	8.700		
2,800.0	2,795.7	2,773.8	2,763.7	7.9	8.3	-23.32	-15.9	211.0	145.0	129.0	16.09	9.017		
2,900.0	2,894.7	2,873.4	2,860.6	8.1	8.6	-23.78	-18.9	233.2	154.5	137.9	16.63	9.291		
3,000.0	2,993.7	2,972.9	2,957.6	8.4	8.9	-24.18	-21.8	255.4	164.0	146.8	17.20	9.532		
3,100.0	3,092.8	3,072.4	3,054.6	8.7	9.2	-24.54	-24.7	277.6	173.4	155.6	17.80	9.746		
3,200.0	3,191.8	3,172.0	3,151.6	8.9	9.6	-24.86	-27.6	299.8	182.9	164.5	18.41	9.934		
3,300.0	3,290.8	3,271.5	3,248.6	9.3	9.9	-25.15	-30.6	322.0	192.4	173.3	19.05	10.101		
3,400.0	3,389.8	3,371.1	3,345.6	9.6	10.3	-25.42	-33.5	344.2	201.9	182.2	19.70	10.248		
3,500.0	3,488.9	3,470.6	3,442.6	9.9	10.7	-25.66	-36.4	366.4	211.4	191.0	20.37	10.378		
3,600.0	3,587.9	3,570.2	3,539.6	10.2	11.1	-25.88	-39.3	388.6	220.8	199.8	21.05	10.493		
3,700.0	3,686.9	3,669.7	3,636.6	10.6	11.5	-26.08	-42.2	410.8	230.3	208.6	21.74	10.595		
3,800.0	3,785.9	3,769.3	3,733.6	10.9	11.9	-26.26	-45.2	433.0	239.8	217.4	22.44	10.685		
3,900.0	3,885.0	3,866.7	3,828.5	11.3	12.3	-14.03	-47.9	454.8	249.1	226.0	23.13	10.768		
4,000.0	3,984.0	3,959.2	3,918.2	11.6	12.6	-6.20	-49.1	477.3	259.6	235.8	23.79	10.914		
4,100.0	4,083.0	4,057.4	4,013.1	11.9	13.0	-5.92	-49.2	502.7	271.7	247.1	24.57	11.058		
4,200.0	4,182.1	4,156.7	4,109.0	12.3	13.5	-5.67	-49.2	528.4	283.8	258.4	25.39	11.179		
4,300.0	4,281.1	4,255.9	4,204.8	12.6	13.9	-5.44	-49.2	554.1	296.0	269.7	26.22	11.288		
4,400.0	4,380.1	4,355.2	4,300.7	13.0	14.3	-5.22	-49.2	579.8	308.1	281.0	27.05	11.388		
4,500.0	4,479.2	4,454.4	4,396.6	13.4	14.8	-5.02	-49.2	605.5	320.2	292.3	27.90	11.480		
4,600.0	4,578.2	4,553.7	4,492.5	13.7	15.2	-4.84	-49.2	631.1	332.4	303.6	28.74	11.564		
4,700.0	4,677.2	4,653.0	4,588.3	14.1	15.7	-4.67	-49.2	656.8	344.5	314.9	29.60	11.641		
4,800.0	4,776.2	4,752.2	4,684.2	14.5	16.1	-4.51	-49.2	682.5	356.7	326.2	30.45	11.712		
4,900.0	4,875.3	4,851.5	4,780.1	14.9	16.6	-4.36	-49.2	708.2	368.8	337.5	31.32	11.777		
5,000.0	4,974.3	4,950.7	4,876.0	15.3	17.0	-4.22	-49.2	733.9	381.0	348.8	32.18	11.837		
5,100.0	5,073.3	5,050.0	4,971.8	15.7	17.5	-4.09	-49.2	759.6	393.1	360.1	33.05	11.893		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #710H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,172.3	5,149.2	5,067.7	16.1	17.9	-3.97	-49.2	785.3	405.3	371.4	33.93	11.945	
5,300.0	5,271.4	5,248.5	5,163.6	16.4	18.4	-3.85	-49.2	811.0	417.4	382.6	34.81	11.993	
5,400.0	5,370.4	5,347.7	5,259.4	16.8	18.9	-3.74	-49.2	836.7	429.6	393.9	35.69	12.038	
5,500.0	5,469.4	5,447.0	5,355.3	17.2	19.3	-3.64	-49.2	862.4	441.8	405.2	36.57	12.080	
5,600.0	5,568.5	5,546.2	5,451.2	17.6	19.8	-3.54	-49.2	888.0	453.9	416.5	37.46	12.119	
5,700.0	5,667.5	5,645.5	5,547.0	18.0	20.3	-3.45	-49.2	913.7	466.3	428.0	38.32	12.168	
5,800.0	5,766.8	5,744.5	5,642.7	18.4	20.7	-3.36	-49.2	939.4	480.2	441.0	39.20	12.248	
5,900.0	5,866.2	5,843.3	5,738.1	18.8	21.2	-3.26	-49.2	964.9	495.7	455.7	40.07	12.372	
6,000.0	5,965.8	5,941.8	5,833.2	19.1	21.7	-3.16	-49.2	990.4	513.0	472.1	40.92	12.536	
6,100.0	6,065.6	6,039.9	5,928.1	19.5	22.1	-3.06	-49.2	1,015.8	532.1	490.3	41.76	12.740	
6,200.0	6,165.4	6,137.8	6,022.5	19.8	22.6	-2.96	-49.2	1,041.1	552.8	510.2	42.58	12.982	
6,300.0	6,265.4	6,235.2	6,116.7	20.1	23.1	-2.85	-49.2	1,066.4	575.2	531.8	43.37	13.263	
6,400.0	6,365.3	6,332.2	6,210.4	20.4	23.5	-2.75	-49.2	1,091.5	599.3	555.2	44.12	13.584	
6,500.0	6,465.3	6,428.9	6,303.8	20.5	24.0	87.36	-49.2	1,116.5	625.0	580.3	44.71	13.979	
6,600.0	6,565.3	6,525.5	6,397.1	20.5	24.5	87.46	-49.2	1,141.5	650.8	605.6	45.27	14.377	
6,700.0	6,665.3	6,622.1	6,490.4	20.5	24.9	87.56	-49.2	1,166.5	676.7	630.9	45.84	14.763	
6,800.0	6,765.3	6,718.7	6,583.7	20.6	25.4	87.65	-49.2	1,191.5	702.5	656.1	46.41	15.139	
6,900.0	6,865.3	6,815.3	6,677.0	20.6	25.9	87.73	-49.2	1,216.5	728.4	681.4	46.98	15.505	
7,000.0	6,965.3	6,911.8	6,770.3	20.7	26.3	87.81	-49.2	1,241.5	754.3	706.7	47.56	15.861	
7,100.0	7,065.3	7,008.4	6,863.6	20.7	26.8	87.88	-49.2	1,266.5	780.1	732.0	48.14	16.207	
7,200.0	7,165.3	7,105.0	6,956.9	20.7	27.3	87.95	-49.2	1,291.5	806.0	757.3	48.72	16.544	
7,300.0	7,265.3	7,201.6	7,050.2	20.8	27.7	88.02	-49.2	1,316.5	831.9	782.6	49.30	16.872	
7,400.0	7,365.3	7,298.2	7,143.5	20.8	28.2	88.08	-49.2	1,341.5	857.7	807.8	49.89	17.192	
7,500.0	7,465.3	7,394.8	7,236.8	20.9	28.7	88.13	-49.2	1,366.5	883.6	833.1	50.48	17.502	
7,600.0	7,565.3	7,491.4	7,330.1	20.9	29.1	88.18	-49.2	1,391.5	909.5	858.4	51.08	17.805	
7,700.0	7,665.3	7,588.0	7,423.4	21.0	29.6	88.24	-49.2	1,416.5	935.3	883.7	51.68	18.100	
7,800.0	7,765.3	7,684.6	7,516.7	21.0	30.1	88.28	-49.2	1,441.5	961.2	908.9	52.28	18.387	
7,900.0	7,865.3	7,781.2	7,610.0	21.0	30.5	88.33	-49.2	1,466.5	987.1	934.2	52.88	18.667	
8,000.0	7,965.3	7,877.8	7,703.3	21.1	31.0	88.37	-49.2	1,491.5	1,013.0	959.5	53.49	18.939	
8,100.0	8,065.3	7,974.4	7,796.6	21.1	31.5	88.41	-49.2	1,516.5	1,038.8	984.7	54.09	19.204	
8,200.0	8,165.3	8,071.0	7,889.9	21.2	32.0	88.45	-49.2	1,541.5	1,064.7	1,010.0	54.70	19.463	
8,300.0	8,265.3	8,167.6	7,983.2	21.2	32.4	88.49	-49.2	1,566.5	1,090.6	1,035.3	55.31	19.717	
8,400.0	8,365.3	8,283.3	8,095.2	21.3	33.0	88.53	-49.2	1,595.6	1,115.8	1,059.7	56.06	19.902	
8,500.0	8,465.3	8,404.4	8,213.0	21.3	33.6	88.56	-49.2	1,623.7	1,139.0	1,082.1	56.82	20.045	
8,600.0	8,565.3	8,526.7	8,332.5	21.4	34.2	88.60	-49.2	1,649.5	1,160.1	1,102.5	57.55	20.158	
8,700.0	8,665.3	8,650.0	8,453.6	21.4	34.7	88.63	-49.2	1,673.0	1,179.1	1,120.9	58.25	20.244	
8,800.0	8,765.3	8,774.3	8,576.1	21.4	35.3	88.65	-49.2	1,694.0	1,196.0	1,137.1	58.91	20.302	
8,900.0	8,865.3	8,899.5	8,699.9	21.5	35.8	88.67	-49.2	1,712.5	1,210.7	1,151.2	59.54	20.337	
9,000.0	8,965.3	9,025.5	8,824.9	21.5	36.4	88.69	-49.2	1,728.3	1,223.3	1,163.2	60.12	20.349	
9,100.0	9,065.3	9,152.1	8,950.8	21.6	36.9	88.70	-49.2	1,741.5	1,233.7	1,173.0	60.65	20.341	
9,200.0	9,165.3	9,279.2	9,077.5	21.6	37.3	88.71	-49.2	1,751.9	1,241.9	1,180.7	61.13	20.314	
9,300.0	9,265.3	9,406.7	9,204.8	21.7	37.8	88.72	-49.2	1,759.5	1,247.8	1,186.3	61.56	20.272	
9,400.0	9,365.3	9,534.5	9,332.5	21.7	38.2	88.73	-49.2	1,764.2	1,251.6	1,189.7	61.89	20.222	
9,500.0	9,465.3	9,662.5	9,460.4	21.8	38.5	88.73	-49.2	1,766.2	1,253.1	1,191.0	62.05	20.194	
9,600.0	9,565.3	9,767.4	9,565.3	21.8	38.5	88.73	-49.2	1,766.2	1,253.1	1,191.0	62.11	20.176	
9,700.0	9,665.3	9,867.4	9,665.3	21.9	38.5	88.73	-49.2	1,766.2	1,253.1	1,191.0	62.17	20.156	
9,800.0	9,765.3	9,967.4	9,765.3	21.9	38.6	88.73	-49.2	1,766.2	1,253.1	1,190.9	62.23	20.136	
9,900.0	9,865.3	10,067.4	9,865.3	22.0	38.6	88.73	-49.2	1,766.2	1,253.1	1,190.8	62.29	20.117	
10,000.0	9,965.3	10,167.4	9,965.3	22.0	38.6	88.73	-49.2	1,766.2	1,253.1	1,190.8	62.35	20.097	
10,100.0	10,065.3	10,267.4	10,065.3	22.1	38.6	88.73	-49.2	1,766.2	1,253.1	1,190.7	62.41	20.078	
10,200.0	10,165.3	10,367.4	10,165.3	22.1	38.6	88.73	-49.2	1,766.2	1,253.1	1,190.7	62.47	20.058	
10,300.0	10,265.3	10,467.4	10,265.3	22.2	38.7	88.73	-49.2	1,766.2	1,253.1	1,190.6	62.54	20.038	

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 #707H
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 #707H	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		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 3.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,400.0	10,365.3	10,567.4	10,365.3	22.2	38.7	88.73	-49.2	1,766.2	1,253.1	1,190.5	62.60	20.018		
10,500.0	10,465.3	10,667.4	10,465.3	22.3	38.7	88.73	-49.2	1,766.2	1,253.1	1,190.5	62.66	19.999		
10,508.2	10,473.6	10,675.6	10,473.6	22.3	38.7	88.73	-49.2	1,766.2	1,253.1	1,190.5	62.67	19.997		
10,600.0	10,565.3	10,750.0	10,548.0	22.3	38.7	88.73	-49.1	1,766.2	1,253.3	1,190.4	62.84	19.945		
10,700.0	10,665.3	10,800.0	10,597.9	22.4	38.8	88.62	-46.8	1,767.7	1,256.5	1,193.2	63.30	19.850		
10,800.0	10,765.3	10,850.0	10,647.3	22.4	39.0	88.36	-40.9	1,771.5	1,264.2	1,200.4	63.73	19.835		
10,900.0	10,865.0	10,900.0	10,696.0	22.4	39.1	87.31	-31.3	1,777.6	1,276.1	1,212.0	64.13	19.898		
11,000.0	10,962.0	10,930.1	10,724.8	22.4	39.2	85.81	-23.8	1,782.4	1,291.3	1,226.8	64.50	20.022		
11,100.0	11,053.3	10,972.6	10,764.5	22.4	39.3	84.18	-11.1	1,790.5	1,309.7	1,244.9	64.81	20.208		
11,200.0	11,136.3	11,014.1	10,802.1	22.4	39.4	82.49	3.6	1,800.0	1,330.5	1,265.5	65.05	20.453		
11,300.0	11,208.3	11,050.0	10,833.6	22.4	39.5	80.69	18.2	1,809.3	1,353.5	1,288.3	65.18	20.765		
11,400.0	11,267.3	11,100.0	10,875.4	22.4	39.7	79.17	41.2	1,824.0	1,378.1	1,312.8	65.28	21.109		
11,500.0	11,311.3	11,129.8	10,899.2	22.4	39.8	77.27	56.4	1,833.7	1,404.0	1,338.8	65.16	21.548		
11,600.0	11,339.1	11,164.5	10,925.6	22.5	39.9	75.50	75.3	1,845.8	1,430.8	1,365.9	64.93	22.037		
11,700.0	11,349.8	11,200.0	10,951.2	22.6	40.0	73.82	96.0	1,859.1	1,458.3	1,393.7	64.58	22.582		
11,800.0	11,350.0	11,228.4	10,970.6	22.7	40.0	74.39	113.6	1,870.3	1,487.9	1,423.8	64.06	23.226		
11,900.0	11,350.0	11,263.6	10,993.1	22.9	40.1	75.42	136.3	1,884.8	1,522.1	1,458.6	63.54	23.954		
12,000.0	11,350.0	11,991.5	11,180.0	23.0	41.1	83.71	790.4	2,051.7	1,551.1	1,483.0	68.11	22.773		
12,100.0	11,350.0	12,091.5	11,180.0	23.2	41.2	83.71	890.4	2,051.3	1,551.1	1,482.6	68.51	22.641		
12,200.0	11,350.0	12,191.5	11,180.0	23.5	41.4	83.71	990.4	2,050.9	1,551.1	1,482.1	68.93	22.501		
12,300.0	11,350.0	12,291.5	11,180.0	23.7	41.5	83.71	1,090.4	2,050.5	1,551.1	1,481.7	69.39	22.353		
12,400.0	11,350.0	12,391.5	11,180.0	24.0	41.6	83.71	1,190.4	2,050.1	1,551.1	1,481.2	69.88	22.197		
12,500.0	11,350.0	12,491.5	11,180.0	24.2	41.8	83.71	1,290.4	2,049.7	1,551.1	1,480.7	70.39	22.035		
12,600.0	11,350.0	12,591.5	11,180.0	24.6	42.0	83.71	1,390.4	2,049.3	1,551.1	1,480.1	70.94	21.865		
12,700.0	11,350.0	12,691.5	11,180.0	24.9	42.2	83.71	1,490.4	2,048.9	1,551.1	1,479.6	71.51	21.690		
12,800.0	11,350.0	12,791.5	11,180.0	25.2	42.4	83.71	1,590.4	2,048.5	1,551.1	1,479.0	72.11	21.510		
12,900.0	11,350.0	12,891.5	11,180.0	25.6	42.6	83.71	1,690.4	2,048.1	1,551.1	1,478.3	72.74	21.324		
13,000.0	11,350.0	12,991.5	11,180.0	26.0	42.9	83.71	1,790.4	2,047.7	1,551.1	1,477.7	73.39	21.134		
13,100.0	11,350.0	13,091.5	11,180.0	26.4	43.1	83.71	1,890.4	2,047.3	1,551.1	1,477.0	74.07	20.941		
13,200.0	11,350.0	13,191.5	11,180.0	26.8	43.4	83.71	1,990.4	2,046.9	1,551.1	1,476.3	74.77	20.744		
13,300.0	11,350.0	13,291.5	11,180.0	27.2	43.6	83.71	2,090.4	2,046.5	1,551.1	1,475.6	75.50	20.544		
13,400.0	11,350.0	13,391.5	11,180.0	27.7	43.9	83.71	2,190.4	2,046.1	1,551.1	1,474.8	76.25	20.342		
13,500.0	11,350.0	13,491.5	11,180.0	28.1	44.2	83.71	2,290.4	2,045.7	1,551.1	1,474.1	77.02	20.138		
13,600.0	11,350.0	13,591.5	11,180.0	28.6	44.5	83.71	2,390.4	2,045.3	1,551.1	1,473.3	77.82	19.933		
13,700.0	11,350.0	13,691.5	11,180.0	29.1	44.9	83.71	2,490.4	2,044.9	1,551.1	1,472.5	78.63	19.726		
13,800.0	11,350.0	13,791.5	11,180.0	29.6	45.2	83.71	2,590.4	2,044.5	1,551.1	1,471.6	79.47	19.518		
13,900.0	11,350.0	13,891.5	11,180.0	30.1	45.5	83.71	2,690.4	2,044.1	1,551.1	1,470.8	80.33	19.310		
14,000.0	11,350.0	13,991.5	11,180.0	30.6	45.9	83.71	2,790.4	2,043.7	1,551.1	1,469.9	81.20	19.102		
14,100.0	11,350.0	14,091.5	11,180.0	31.1	46.3	83.71	2,890.4	2,043.3	1,551.1	1,469.0	82.10	18.894		
14,200.0	11,350.0	14,191.5	11,180.0	31.7	46.6	83.71	2,990.4	2,042.9	1,551.1	1,468.1	83.01	18.686		
14,300.0	11,350.0	14,291.5	11,180.0	32.2	47.0	83.71	3,090.4	2,042.5	1,551.1	1,467.2	83.94	18.479		
14,400.0	11,350.0	14,391.5	11,180.0	32.8	47.4	83.71	3,190.4	2,042.1	1,551.1	1,466.2	84.88	18.273		
14,500.0	11,350.0	14,491.5	11,180.0	33.3	47.8	83.71	3,290.4	2,041.7	1,551.1	1,465.3	85.85	18.068		
14,600.0	11,350.0	14,591.5	11,180.0	33.9	48.2	83.71	3,390.4	2,041.3	1,551.1	1,464.3	86.83	17.865		
14,700.0	11,350.0	14,691.5	11,180.0	34.5	48.7	83.71	3,490.4	2,040.9	1,551.1	1,463.3	87.82	17.663		
14,800.0	11,350.0	14,791.5	11,180.0	35.1	49.1	83.71	3,590.4	2,040.5	1,551.1	1,462.3	88.83	17.462		
14,900.0	11,350.0	14,891.5	11,180.0	35.7	49.5	83.71	3,690.4	2,040.1	1,551.1	1,461.3	89.85	17.263		
15,000.0	11,350.0	14,991.5	11,180.0	36.3	50.0	83.71	3,790.4	2,039.7	1,551.1	1,460.2	90.89	17.067		
15,100.0	11,350.0	15,091.5	11,180.0	36.9	50.4	83.71	3,890.4	2,039.3	1,551.1	1,459.2	91.94	16.872		
15,200.0	11,350.0	15,191.5	11,180.0	37.5	50.9	83.71	3,990.4	2,039.0	1,551.1	1,458.1	93.00	16.679		
15,300.0	11,350.0	15,291.5	11,180.0	38.1	51.3	83.71	4,090.4	2,038.6	1,551.1	1,457.1	94.07	16.488		
15,400.0	11,350.0	15,391.5	11,180.0	38.7	51.8	83.71	4,190.4	2,038.2	1,551.1	1,456.0	95.16	16.300		

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 #707H
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 #707H	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)			
15,500.0	11,350.0	15,491.5	11,180.0	39.4	52.3	83.71	4,290.4	2,037.8	1,551.1	1,454.9	96.26	16.114	
15,600.0	11,350.0	15,591.5	11,180.0	40.0	52.8	83.71	4,390.4	2,037.4	1,551.1	1,453.8	97.37	15.931	
15,700.0	11,350.0	15,691.5	11,180.0	40.6	53.3	83.71	4,490.4	2,037.0	1,551.1	1,452.7	98.49	15.749	
15,800.0	11,350.0	15,791.5	11,180.0	41.3	53.8	83.71	4,590.4	2,036.6	1,551.1	1,451.5	99.62	15.571	
15,900.0	11,350.0	15,891.5	11,180.0	41.9	54.3	83.71	4,690.4	2,036.2	1,551.1	1,450.4	100.76	15.394	
16,000.0	11,350.0	15,991.5	11,180.0	42.6	54.8	83.71	4,790.4	2,035.8	1,551.2	1,449.2	101.91	15.220	
16,100.0	11,350.0	16,091.5	11,180.0	43.2	55.3	83.71	4,890.4	2,035.4	1,551.2	1,448.1	103.07	15.049	
16,200.0	11,350.0	16,191.5	11,180.0	43.9	55.8	83.71	4,990.4	2,035.0	1,551.2	1,446.9	104.24	14.880	
16,300.0	11,350.0	16,291.5	11,180.0	44.6	56.4	83.71	5,090.4	2,034.6	1,551.2	1,445.7	105.42	14.714	
16,400.0	11,350.0	16,391.5	11,180.0	45.2	56.9	83.71	5,190.4	2,034.2	1,551.2	1,444.6	106.61	14.550	
16,500.0	11,350.0	16,491.5	11,180.0	45.9	57.5	83.71	5,290.4	2,033.8	1,551.2	1,443.4	107.80	14.389	
16,600.0	11,350.0	16,591.5	11,180.0	46.6	58.0	83.71	5,390.4	2,033.4	1,551.2	1,442.2	109.00	14.231	
16,700.0	11,350.0	16,691.5	11,180.0	47.2	58.6	83.71	5,490.4	2,033.0	1,551.2	1,441.0	110.21	14.074	
16,800.0	11,350.0	16,791.5	11,180.0	47.9	59.1	83.71	5,590.4	2,032.6	1,551.2	1,439.7	111.43	13.921	
16,900.0	11,350.0	16,891.5	11,180.0	48.6	59.7	83.71	5,690.4	2,032.2	1,551.2	1,438.5	112.66	13.769	
17,000.0	11,350.0	16,991.5	11,180.0	49.3	60.2	83.71	5,790.4	2,031.8	1,551.2	1,437.3	113.89	13.620	
17,100.0	11,350.0	17,091.5	11,180.0	49.9	60.8	83.71	5,890.4	2,031.4	1,551.2	1,436.0	115.13	13.474	
17,200.0	11,350.0	17,191.5	11,180.0	50.6	61.4	83.71	5,990.4	2,031.0	1,551.2	1,434.8	116.37	13.330	
17,300.0	11,350.0	17,291.5	11,180.0	51.3	61.9	83.71	6,090.4	2,030.6	1,551.2	1,433.6	117.62	13.188	
17,400.0	11,350.0	17,391.5	11,180.0	52.0	62.5	83.71	6,190.4	2,030.2	1,551.2	1,432.3	118.88	13.048	
17,500.0	11,350.0	17,491.5	11,180.0	52.7	63.1	83.71	6,290.4	2,029.8	1,551.2	1,431.0	120.14	12.911	
17,600.0	11,350.0	17,591.5	11,180.0	53.4	63.7	83.71	6,390.4	2,029.4	1,551.2	1,429.8	121.41	12.776	
17,700.0	11,350.0	17,691.5	11,180.0	54.1	64.3	83.71	6,490.4	2,029.0	1,551.2	1,428.5	122.69	12.644	
17,800.0	11,350.0	17,791.5	11,180.0	54.8	64.9	83.71	6,590.4	2,028.6	1,551.2	1,427.2	123.97	12.513	
17,900.0	11,350.0	17,891.5	11,180.0	55.5	65.5	83.71	6,690.4	2,028.2	1,551.2	1,425.9	125.25	12.385	
18,000.0	11,350.0	17,991.5	11,180.0	56.2	66.1	83.71	6,790.4	2,027.8	1,551.2	1,424.7	126.54	12.258	
18,100.0	11,350.0	18,091.5	11,180.0	56.9	66.7	83.71	6,890.4	2,027.4	1,551.2	1,423.4	127.84	12.134	
18,200.0	11,350.0	18,191.5	11,180.0	57.6	67.3	83.71	6,990.4	2,027.0	1,551.2	1,422.1	129.14	12.012	
18,300.0	11,350.0	18,291.5	11,180.0	58.3	67.9	83.71	7,090.4	2,026.6	1,551.2	1,420.8	130.44	11.892	
18,400.0	11,350.0	18,391.5	11,180.0	59.0	68.5	83.71	7,190.4	2,026.2	1,551.2	1,419.5	131.75	11.774	
18,500.0	11,350.0	18,491.5	11,180.0	59.7	69.1	83.71	7,290.4	2,025.8	1,551.2	1,418.1	133.06	11.658	
18,600.0	11,350.0	18,591.5	11,180.0	60.4	69.8	83.71	7,390.4	2,025.4	1,551.2	1,416.8	134.38	11.543	
18,700.0	11,350.0	18,691.5	11,180.0	61.2	70.4	83.71	7,490.4	2,025.0	1,551.2	1,415.5	135.70	11.431	
18,800.0	11,350.0	18,791.5	11,180.0	61.9	71.0	83.71	7,590.4	2,024.6	1,551.2	1,414.2	137.03	11.321	
18,900.0	11,350.0	18,891.5	11,180.0	62.6	71.6	83.71	7,690.4	2,024.2	1,551.2	1,412.9	138.36	11.212	
19,000.0	11,350.0	18,991.5	11,180.0	63.3	72.3	83.71	7,790.4	2,023.8	1,551.2	1,411.5	139.69	11.105	
19,100.0	11,350.0	19,091.5	11,180.0	64.0	72.9	83.71	7,890.4	2,023.4	1,551.2	1,410.2	141.03	11.000	
19,200.0	11,350.0	19,191.5	11,180.0	64.7	73.6	83.71	7,990.4	2,023.0	1,551.2	1,408.9	142.37	10.896	
19,300.0	11,350.0	19,291.5	11,180.0	65.5	74.2	83.71	8,090.4	2,022.6	1,551.2	1,407.5	143.71	10.794	
19,400.0	11,350.0	19,391.5	11,180.0	66.2	74.8	83.71	8,190.4	2,022.3	1,551.2	1,406.2	145.06	10.694	
19,500.0	11,350.0	19,491.5	11,180.0	66.9	75.5	83.71	8,290.4	2,021.9	1,551.2	1,404.8	146.41	10.595	
19,600.0	11,350.0	19,591.5	11,180.0	67.6	76.1	83.71	8,390.4	2,021.5	1,551.2	1,403.5	147.76	10.498	
19,700.0	11,350.0	19,691.5	11,180.0	68.3	76.8	83.71	8,490.4	2,021.1	1,551.2	1,402.1	149.12	10.403	
19,800.0	11,350.0	19,791.5	11,180.0	69.1	77.4	83.71	8,590.4	2,020.7	1,551.2	1,400.8	150.48	10.309	
19,900.0	11,350.0	19,891.5	11,180.0	69.8	78.1	83.71	8,690.4	2,020.3	1,551.2	1,399.4	151.84	10.216	
20,000.0	11,350.0	19,991.5	11,180.0	70.5	78.7	83.71	8,790.4	2,019.9	1,551.2	1,398.0	153.20	10.125	
20,100.0	11,350.0	20,091.5	11,180.0	71.2	79.4	83.71	8,890.4	2,019.5	1,551.2	1,396.7	154.57	10.036	
20,200.0	11,350.0	20,191.5	11,180.0	72.0	80.0	83.71	8,990.4	2,019.1	1,551.2	1,395.3	155.94	9.948	
20,300.0	11,350.0	20,291.5	11,180.0	72.7	80.7	83.71	9,090.4	2,018.7	1,551.2	1,393.9	157.31	9.861	
20,400.0	11,350.0	20,391.5	11,180.0	73.4	81.4	83.71	9,190.4	2,018.3	1,551.2	1,392.6	158.69	9.775	
20,500.0	11,350.0	20,491.5	11,180.0	74.2	82.0	83.71	9,290.4	2,017.9	1,551.2	1,391.2	160.07	9.691	
20,600.0	11,350.0	20,591.5	11,180.0	74.9	82.7	83.71	9,390.4	2,017.5	1,551.2	1,389.8	161.45	9.608	

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 #707H
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 #707H	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		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.0	11,350.0	20,691.5	11,180.0	75.6	83.4	83.71	9,490.4	2,017.1	1,551.3	1,388.4	162.83	9.527	
20,800.0	11,350.0	20,791.5	11,180.0	76.4	84.0	83.71	9,590.4	2,016.7	1,551.3	1,387.0	164.22	9.446	
20,900.0	11,350.0	20,891.5	11,180.0	77.1	84.7	83.71	9,690.4	2,016.3	1,551.3	1,385.6	165.60	9.367	
21,000.0	11,350.0	20,991.5	11,180.0	77.8	85.4	83.71	9,790.4	2,015.9	1,551.3	1,384.3	166.99	9.289	
21,100.0	11,350.0	21,091.5	11,180.0	78.6	86.0	83.71	9,890.4	2,015.5	1,551.3	1,382.9	168.39	9.212	
21,200.0	11,350.0	21,191.5	11,180.0	79.3	86.7	83.71	9,990.4	2,015.1	1,551.3	1,381.5	169.78	9.137	
21,300.0	11,350.0	21,291.5	11,180.0	80.0	87.4	83.71	10,090.4	2,014.7	1,551.3	1,380.1	171.18	9.062	
21,400.0	11,350.0	21,391.5	11,180.0	80.8	88.1	83.71	10,190.4	2,014.3	1,551.3	1,378.7	172.57	8.989	
21,500.0	11,350.0	21,491.5	11,180.0	81.5	88.7	83.71	10,290.4	2,013.9	1,551.3	1,377.3	173.97	8.917	
21,600.0	11,350.0	21,591.5	11,180.0	82.2	89.4	83.71	10,390.4	2,013.5	1,551.3	1,375.9	175.38	8.845	
21,700.0	11,350.0	21,691.5	11,180.0	83.0	90.1	83.71	10,490.4	2,013.1	1,551.3	1,374.5	176.78	8.775	
21,800.0	11,350.0	21,791.5	11,180.0	83.7	90.8	83.71	10,590.4	2,012.7	1,551.3	1,373.1	178.18	8.706	
21,900.0	11,350.0	21,891.5	11,180.0	84.5	91.5	83.71	10,690.4	2,012.3	1,551.3	1,371.7	179.59	8.638	
22,000.0	11,350.0	21,991.5	11,180.0	85.2	92.2	83.71	10,790.4	2,011.9	1,551.3	1,370.3	181.00	8.571	
22,100.0	11,350.0	22,091.5	11,180.0	85.9	92.8	83.71	10,890.4	2,011.5	1,551.3	1,368.9	182.41	8.504	
22,200.0	11,350.0	22,191.5	11,180.0	86.7	93.5	83.71	10,990.4	2,011.1	1,551.3	1,367.5	183.82	8.439	
22,300.0	11,350.0	22,291.5	11,180.0	87.4	94.2	83.71	11,090.4	2,010.7	1,551.3	1,366.0	185.24	8.375	
22,400.0	11,350.0	22,391.5	11,180.0	88.1	94.9	83.71	11,190.4	2,010.3	1,551.3	1,364.6	186.65	8.311	
22,500.0	11,350.0	22,491.5	11,180.0	88.9	95.6	83.71	11,290.4	2,009.9	1,551.3	1,363.2	188.07	8.249	
22,600.0	11,350.0	22,591.5	11,180.0	89.6	96.3	83.71	11,390.4	2,009.5	1,551.3	1,361.8	189.49	8.187	
22,700.0	11,350.0	22,691.5	11,180.0	90.4	97.0	83.71	11,490.4	2,009.1	1,551.3	1,360.4	190.91	8.126	
22,800.0	11,350.0	22,791.5	11,180.0	91.1	97.7	83.71	11,590.4	2,008.7	1,551.3	1,359.0	192.33	8.066	
22,900.0	11,350.0	22,891.5	11,180.0	91.9	98.4	83.71	11,690.4	2,008.3	1,551.3	1,357.5	193.75	8.007	
23,000.0	11,350.0	22,991.5	11,180.0	92.6	99.1	83.71	11,790.4	2,007.9	1,551.3	1,356.1	195.17	7.948	
23,100.0	11,350.0	23,091.5	11,180.0	93.3	99.8	83.71	11,890.4	2,007.5	1,551.3	1,354.7	196.60	7.891	
23,200.0	11,350.0	23,191.5	11,180.0	94.1	100.5	83.71	11,990.4	2,007.1	1,551.3	1,353.3	198.02	7.834	
23,300.0	11,350.0	23,291.5	11,180.0	94.8	101.2	83.71	12,090.4	2,006.7	1,551.3	1,351.9	199.45	7.778	
23,400.0	11,350.0	23,391.5	11,180.0	95.6	101.9	83.71	12,190.4	2,006.3	1,551.3	1,350.4	200.88	7.723	
23,500.0	11,350.0	23,491.5	11,180.0	96.3	102.6	83.71	12,290.4	2,006.0	1,551.3	1,349.0	202.31	7.668	
23,600.0	11,350.0	23,591.5	11,180.0	97.1	103.3	83.71	12,390.4	2,005.6	1,551.3	1,347.6	203.74	7.614	
23,700.0	11,350.0	23,691.5	11,180.0	97.8	104.0	83.71	12,490.4	2,005.2	1,551.3	1,346.1	205.17	7.561	
23,800.0	11,350.0	23,791.5	11,180.0	98.6	104.7	83.71	12,590.4	2,004.8	1,551.3	1,344.7	206.61	7.508	
23,900.0	11,350.0	23,891.5	11,180.0	99.3	105.4	83.71	12,690.4	2,004.4	1,551.3	1,343.3	208.04	7.457	
24,000.0	11,350.0	23,991.5	11,180.0	100.1	106.1	83.71	12,790.4	2,004.0	1,551.3	1,341.8	209.48	7.406	
24,100.0	11,350.0	24,091.5	11,180.0	100.8	106.8	83.71	12,890.4	2,003.6	1,551.3	1,340.4	210.92	7.355	
24,200.0	11,350.0	24,191.5	11,180.0	101.5	107.5	83.71	12,990.4	2,003.2	1,551.3	1,339.0	212.35	7.305	
24,300.0	11,350.0	24,291.5	11,180.0	102.3	108.2	83.71	13,090.4	2,002.8	1,551.3	1,337.5	213.79	7.256	
24,400.0	11,350.0	24,391.5	11,180.0	103.0	108.9	83.71	13,190.4	2,002.4	1,551.3	1,336.1	215.23	7.208	
24,500.0	11,350.0	24,491.5	11,180.0	103.8	109.6	83.71	13,290.4	2,002.0	1,551.3	1,334.7	216.67	7.160	
24,600.0	11,350.0	24,591.5	11,180.0	104.5	110.3	83.71	13,390.3	2,001.6	1,551.3	1,333.2	218.12	7.112	
24,700.0	11,350.0	24,691.5	11,180.0	105.3	111.1	83.71	13,490.3	2,001.2	1,551.3	1,331.8	219.56	7.066	
24,702.7	11,350.0	24,694.2	11,180.0	105.3	111.1	83.71	13,493.1	2,001.2	1,551.3	1,331.7	219.60	7.064	
24,750.1	11,350.0	24,734.5	11,180.0	105.7	111.4	83.71	13,533.4	2,001.0	1,551.4	1,331.1	220.27	7.043 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 #707H
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 #707H	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	-86.91	78.4	-1,450.0	1,452.2	1,445.7	6.43	225.880	
100.0	100.0	100.0	100.0	3.2	3.2	-86.91	78.4	-1,450.0	1,452.2	1,445.3	6.89	210.691	
200.0	200.0	200.0	200.0	3.5	3.5	-86.91	78.4	-1,450.0	1,452.2	1,444.8	7.33	198.161	
300.0	300.0	300.0	300.0	3.7	3.7	-86.91	78.4	-1,450.0	1,452.2	1,444.4	7.74	187.585	
400.0	400.0	400.0	400.0	3.9	3.9	-86.91	78.4	-1,450.0	1,452.2	1,444.0	8.14	178.496	
500.0	500.0	500.0	500.0	4.1	4.1	-86.91	78.4	-1,450.0	1,452.2	1,443.6	8.51	170.570	
600.0	600.0	600.0	600.0	4.2	4.2	-86.91	78.4	-1,450.0	1,452.2	1,443.3	8.88	163.575	
700.0	700.0	700.0	700.0	4.4	4.4	-86.91	78.4	-1,450.0	1,452.2	1,442.9	9.23	157.339	
800.0	800.0	800.0	800.0	4.6	4.6	-86.91	78.4	-1,450.0	1,452.2	1,442.6	9.57	151.733	
900.0	900.0	900.0	900.0	4.8	4.8	-86.91	78.4	-1,450.0	1,452.2	1,442.3	9.90	146.654	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.91	78.4	-1,450.0	1,452.2	1,441.9	10.22	142.025	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.91	78.4	-1,450.0	1,452.2	1,441.6	10.54	137.780	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.91	78.4	-1,450.0	1,452.2	1,441.3	10.85	133.869	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.91	78.4	-1,450.0	1,452.2	1,441.0	11.15	130.250	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.91	78.4	-1,450.0	1,452.2	1,440.7	11.44	126.887	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.91	78.4	-1,450.0	1,452.2	1,440.4	11.73	123.752	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.91	78.4	-1,450.0	1,452.2	1,440.1	12.02	120.818	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.91	78.4	-1,450.0	1,452.2	1,439.9	12.30	118.065	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.91	78.4	-1,450.0	1,452.2	1,439.6	12.58	115.474	CC, ES
1,900.0	1,900.0	1,877.0	1,877.0	6.3	6.2	-86.92	77.9	-1,450.7	1,453.0	1,440.1	12.82	113.342	
2,000.0	2,000.0	1,953.9	1,953.8	6.4	6.4	-86.98	76.6	-1,452.6	1,455.3	1,442.3	13.05	111.495	
2,100.0	2,100.0	2,030.6	2,030.4	6.5	6.5	162.91	74.4	-1,455.7	1,460.5	1,447.2	13.30	109.823	
2,200.0	2,199.9	2,100.0	2,099.7	6.7	6.6	162.79	71.6	-1,459.7	1,469.9	1,456.3	13.53	108.637	
2,300.0	2,299.7	2,182.8	2,182.2	6.9	6.7	162.61	67.4	-1,465.7	1,483.2	1,469.4	13.81	107.411	
2,400.0	2,399.3	2,257.9	2,256.8	7.0	6.9	162.42	62.7	-1,472.5	1,500.6	1,486.5	14.09	106.462	
2,500.0	2,498.6	2,332.2	2,330.5	7.2	7.1	162.19	57.2	-1,480.4	1,521.9	1,507.5	14.40	105.660	
2,600.0	2,597.6	2,400.0	2,397.5	7.4	7.2	162.03	51.4	-1,488.6	1,546.7	1,532.0	14.65	105.604	
2,700.0	2,696.6	2,478.4	2,474.8	7.6	7.4	161.86	44.0	-1,499.3	1,573.0	1,558.1	14.94	105.261	
2,800.0	2,795.7	2,551.8	2,547.1	7.9	7.5	161.71	37.3	-1,510.4	1,600.8	1,585.6	15.28	104.778	
2,900.0	2,894.7	2,624.7	2,618.7	8.1	7.7	161.61	31.7	-1,522.4	1,630.0	1,614.3	15.65	104.154	
3,000.0	2,993.7	2,700.0	2,692.7	8.4	7.9	161.53	26.9	-1,535.8	1,660.5	1,644.4	16.05	103.438	
3,100.0	3,092.8	2,768.7	2,760.0	8.7	8.1	161.50	23.4	-1,549.0	1,692.3	1,675.8	16.46	102.828	
3,200.0	3,191.8	2,839.7	2,829.5	8.9	8.3	161.50	20.7	-1,563.5	1,725.4	1,708.5	16.89	102.160	
3,300.0	3,290.8	2,910.0	2,898.1	9.3	8.5	161.53	19.0	-1,578.8	1,759.8	1,742.5	17.33	101.560	
3,400.0	3,389.8	3,003.1	2,988.8	9.6	8.8	161.59	17.4	-1,599.7	1,794.8	1,776.9	17.92	100.151	
3,500.0	3,488.9	3,096.8	3,080.1	9.9	9.1	161.65	15.7	-1,620.7	1,829.9	1,811.4	18.52	98.812	
3,600.0	3,587.9	3,190.4	3,171.3	10.2	9.5	161.70	14.1	-1,641.7	1,864.9	1,845.8	19.14	97.456	
3,700.0	3,686.9	3,284.0	3,262.5	10.6	9.8	161.76	12.4	-1,662.7	1,900.0	1,880.2	19.77	96.100	
3,800.0	3,785.9	3,377.7	3,353.8	10.9	10.1	161.81	10.8	-1,683.7	1,935.1	1,914.6	20.42	94.754	
3,900.0	3,885.0	3,471.3	3,445.0	11.3	10.5	174.76	9.1	-1,704.7	1,970.3	1,949.2	21.09	93.416	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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	-86.84	78.4	-1,420.0	1,422.2	1,415.8	6.43	221.220	
100.0	100.0	100.0	100.0	3.2	3.2	-86.84	78.4	-1,420.0	1,422.2	1,415.3	6.89	206.345	
200.0	200.0	200.0	200.0	3.5	3.5	-86.84	78.4	-1,420.0	1,422.2	1,414.9	7.33	194.073	
300.0	300.0	300.0	300.0	3.7	3.7	-86.84	78.4	-1,420.0	1,422.2	1,414.5	7.74	183.715	
400.0	400.0	400.0	400.0	3.9	3.9	-86.84	78.4	-1,420.0	1,422.2	1,414.1	8.14	174.814	
500.0	500.0	500.0	500.0	4.1	4.1	-86.84	78.4	-1,420.0	1,422.2	1,413.7	8.51	167.051	
600.0	600.0	600.0	600.0	4.2	4.2	-86.84	78.4	-1,420.0	1,422.2	1,413.3	8.88	160.201	
700.0	700.0	700.0	700.0	4.4	4.4	-86.84	78.4	-1,420.0	1,422.2	1,413.0	9.23	154.094	
800.0	800.0	800.0	800.0	4.6	4.6	-86.84	78.4	-1,420.0	1,422.2	1,412.6	9.57	148.603	
900.0	900.0	900.0	900.0	4.8	4.8	-86.84	78.4	-1,420.0	1,422.2	1,412.3	9.90	143.629	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.84	78.4	-1,420.0	1,422.2	1,412.0	10.22	139.095	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.84	78.4	-1,420.0	1,422.2	1,411.7	10.54	134.938	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.84	78.4	-1,420.0	1,422.2	1,411.4	10.85	131.108	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.84	78.4	-1,420.0	1,422.2	1,411.1	11.15	127.563	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.84	78.4	-1,420.0	1,422.2	1,410.8	11.44	124.270	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.84	78.4	-1,420.0	1,422.2	1,410.5	11.73	121.199	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.84	78.4	-1,420.0	1,422.2	1,410.2	12.02	118.325	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.84	78.4	-1,420.0	1,422.2	1,409.9	12.30	115.629	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.84	78.4	-1,420.0	1,422.2	1,409.6	12.58	113.092	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-86.84	78.4	-1,420.0	1,422.2	1,409.4	12.85	110.700	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-86.84	78.4	-1,420.0	1,422.2	1,409.1	13.12	108.437 CC, ES	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	163.17	78.4	-1,420.0	1,423.5	1,410.1	13.40	106.265	
2,200.0	2,199.9	2,199.9	2,199.9	6.7	6.7	163.20	78.4	-1,420.0	1,427.2	1,413.5	13.67	104.414	
2,300.0	2,299.7	2,299.7	2,299.7	6.9	6.8	163.25	78.4	-1,420.0	1,433.5	1,419.5	13.96	102.717	
2,400.0	2,399.3	2,399.3	2,399.3	7.0	6.9	163.31	78.4	-1,420.0	1,442.2	1,428.0	14.26	101.148	
2,500.0	2,498.6	2,498.6	2,498.6	7.2	7.0	163.40	78.4	-1,420.0	1,453.5	1,438.9	14.58	99.690	
2,600.0	2,597.6	2,587.1	2,587.1	7.4	7.2	163.48	77.5	-1,420.4	1,467.1	1,452.3	14.81	99.028	
2,700.0	2,696.6	2,675.3	2,675.3	7.6	7.3	163.50	74.7	-1,421.5	1,481.5	1,466.4	15.10	98.117	
2,800.0	2,795.7	2,763.4	2,763.2	7.9	7.4	163.45	70.0	-1,423.4	1,496.6	1,481.2	15.40	97.196	
2,900.0	2,894.7	2,851.1	2,850.6	8.1	7.5	163.33	63.4	-1,426.1	1,512.5	1,496.8	15.71	96.257	
3,000.0	2,993.7	2,938.4	2,937.5	8.4	7.7	163.14	55.1	-1,429.5	1,529.1	1,513.1	16.04	95.310	
3,100.0	3,092.8	3,025.3	3,023.6	8.7	7.8	162.88	45.0	-1,433.5	1,546.5	1,530.1	16.37	94.468	
3,200.0	3,191.8	3,122.2	3,119.6	8.9	7.9	162.55	32.5	-1,438.6	1,564.3	1,547.6	16.71	93.606	
3,300.0	3,290.8	3,220.2	3,216.7	9.3	8.1	162.23	19.8	-1,443.7	1,582.2	1,565.1	17.10	92.526	
3,400.0	3,389.8	3,318.2	3,313.7	9.6	8.3	161.91	7.2	-1,448.8	1,600.1	1,582.6	17.50	91.421	
3,500.0	3,488.9	3,416.2	3,410.8	9.9	8.6	161.60	-5.5	-1,453.9	1,618.0	1,600.1	17.92	90.294	
3,600.0	3,587.9	3,514.9	3,508.4	10.2	8.8	161.29	-18.2	-1,459.1	1,636.1	1,617.7	18.36	89.130	
3,700.0	3,686.9	3,621.1	3,613.7	10.6	9.1	161.00	-31.1	-1,464.3	1,653.8	1,635.0	18.80	87.954	
3,800.0	3,785.9	3,727.6	3,719.6	10.9	9.4	160.76	-42.7	-1,469.0	1,671.2	1,651.9	19.27	86.730	
3,900.0	3,885.0	3,834.5	3,825.8	11.3	9.6	173.12	-53.0	-1,473.1	1,688.2	1,668.5	19.75	85.485	
4,000.0	3,984.0	3,941.3	3,932.3	11.6	9.9	-179.48	-61.8	-1,476.7	1,705.3	1,685.1	20.21	84.389	
4,100.0	4,083.0	4,048.6	4,039.2	11.9	10.2	-179.74	-69.4	-1,479.7	1,722.0	1,701.2	20.72	83.118	
4,200.0	4,182.1	4,156.2	4,146.6	12.3	10.5	-179.95	-75.5	-1,482.2	1,738.1	1,716.9	21.23	81.855	
4,300.0	4,281.1	4,264.1	4,254.4	12.6	10.8	179.89	-80.3	-1,484.1	1,753.8	1,732.1	21.76	80.606	
4,400.0	4,380.1	4,372.3	4,362.6	13.0	11.1	179.78	-83.6	-1,485.5	1,769.0	1,746.7	22.29	79.377	
4,500.0	4,479.2	4,480.8	4,471.0	13.4	11.3	179.72	-85.5	-1,486.3	1,783.6	1,760.8	22.82	78.173	
4,600.0	4,578.2	4,588.0	4,578.2	13.7	11.4	179.71	-86.0	-1,486.5	1,797.7	1,774.4	23.31	77.106	
4,700.0	4,677.2	4,687.0	4,677.2	14.1	11.5	179.71	-86.0	-1,486.5	1,811.6	1,787.8	23.82	76.058	
4,800.0	4,776.2	4,786.0	4,776.2	14.5	11.6	179.71	-86.0	-1,486.5	1,825.6	1,801.2	24.33	75.026	
4,900.0	4,875.3	4,885.1	4,875.3	14.9	11.6	179.71	-86.0	-1,486.5	1,839.5	1,814.6	24.85	74.023	
5,000.0	4,974.3	4,984.1	4,974.3	15.3	11.7	179.72	-86.0	-1,486.5	1,853.4	1,828.0	25.37	73.048	
5,100.0	5,073.3	5,083.1	5,073.3	15.7	11.8	179.72	-86.0	-1,486.5	1,867.3	1,841.4	25.90	72.101	

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 #707H
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 #707H	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)			
5,200.0	5,172.3	5,182.1	5,172.3	16.1	11.8	179.72	-86.0	-1,486.5	1,881.2	1,854.8	26.43	71.181	
5,300.0	5,271.4	5,281.2	5,271.4	16.4	11.9	179.72	-86.0	-1,486.5	1,895.1	1,868.2	26.96	70.287	
5,400.0	5,370.4	5,380.2	5,370.4	16.8	12.0	179.73	-86.0	-1,486.5	1,909.1	1,881.6	27.50	69.419	
5,500.0	5,469.4	5,479.2	5,469.4	17.2	12.0	179.73	-86.0	-1,486.5	1,923.0	1,894.9	28.04	68.577	
5,600.0	5,568.5	5,578.2	5,568.5	17.6	12.1	179.73	-86.0	-1,486.5	1,936.9	1,908.3	28.59	67.759	
5,700.0	5,667.5	5,677.3	5,667.5	18.0	12.2	179.73	-86.0	-1,486.5	1,950.6	1,921.5	29.10	67.027	
5,800.0	5,766.8	5,776.6	5,766.8	18.4	12.3	179.73	-86.0	-1,486.5	1,962.8	1,933.2	29.64	66.226	
5,900.0	5,866.2	5,876.0	5,866.2	18.8	12.3	179.74	-86.0	-1,486.5	1,973.3	1,943.2	30.16	65.425	
6,000.0	5,965.8	5,975.6	5,965.8	19.1	12.4	179.74	-86.0	-1,486.5	1,982.1	1,951.4	30.67	64.628	
6,100.0	6,065.6	6,075.4	6,065.6	19.5	12.5	179.74	-86.0	-1,486.5	1,989.1	1,957.9	31.16	63.841	
6,200.0	6,165.4	6,175.2	6,165.4	19.8	12.5	179.74	-86.0	-1,486.5	1,994.4	1,962.7	31.62	63.072	
6,300.0	6,265.4	6,275.2	6,265.4	20.1	12.6	179.74	-86.0	-1,486.5	1,997.9	1,965.8	32.05	62.338	
6,400.0	6,365.3	6,375.1	6,365.3	20.4	12.7	179.74	-86.0	-1,486.5	1,999.7	1,967.2	32.42	61.671	
6,500.0	6,465.3	6,475.1	6,465.3	20.5	12.7	-90.26	-86.0	-1,486.5	1,999.9	1,967.3	32.56	61.415	
6,600.0	6,565.3	6,575.1	6,565.3	20.5	12.8	-90.26	-86.0	-1,486.5	1,999.9	1,967.2	32.67	61.219	
6,700.0	6,665.3	6,675.1	6,665.3	20.5	12.9	-90.26	-86.0	-1,486.5	1,999.9	1,967.1	32.77	61.023	
6,800.0	6,765.3	6,775.1	6,765.3	20.6	13.0	-90.26	-86.0	-1,486.5	1,999.9	1,967.0	32.88	60.828	
6,900.0	6,865.3	6,875.1	6,865.3	20.6	13.0	-90.26	-86.0	-1,486.5	1,999.9	1,966.9	32.98	60.633	
7,000.0	6,965.3	6,975.1	6,965.3	20.7	13.1	-90.26	-86.0	-1,486.5	1,999.9	1,966.8	33.09	60.438	
7,100.0	7,065.3	7,075.1	7,065.3	20.7	13.2	-90.26	-86.0	-1,486.5	1,999.9	1,966.7	33.20	60.244	
7,200.0	7,165.3	7,175.1	7,165.3	20.7	13.2	-90.26	-86.0	-1,486.5	1,999.9	1,966.6	33.30	60.051	
7,300.0	7,265.3	7,275.1	7,265.3	20.8	13.3	-90.26	-86.0	-1,486.5	1,999.9	1,966.5	33.41	59.857	
7,400.0	7,365.3	7,375.1	7,365.3	20.8	13.4	-90.26	-86.0	-1,486.5	1,999.9	1,966.4	33.52	59.665	
7,500.0	7,465.3	7,475.1	7,465.3	20.9	13.5	-90.26	-86.0	-1,486.5	1,999.9	1,966.3	33.63	59.472	
7,600.0	7,565.3	7,575.1	7,565.3	20.9	13.5	-90.26	-86.0	-1,486.5	1,999.9	1,966.2	33.74	59.281	
7,700.0	7,665.3	7,675.1	7,665.3	21.0	13.6	-90.26	-86.0	-1,486.5	1,999.9	1,966.1	33.85	59.089	
7,800.0	7,765.3	7,775.1	7,765.3	21.0	13.7	-90.26	-86.0	-1,486.5	1,999.9	1,965.9	33.96	58.899	
7,900.0	7,865.3	7,875.1	7,865.3	21.0	13.8	-90.26	-86.0	-1,486.5	1,999.9	1,965.8	34.07	58.708	
8,000.0	7,965.3	7,975.1	7,965.3	21.1	13.8	-90.26	-86.0	-1,486.5	1,999.9	1,965.7	34.18	58.519	
8,100.0	8,065.3	8,075.1	8,065.3	21.1	13.9	-90.26	-86.0	-1,486.5	1,999.9	1,965.6	34.29	58.329	
8,200.0	8,165.3	8,175.1	8,165.3	21.2	14.0	-90.26	-86.0	-1,486.5	1,999.9	1,965.5	34.40	58.141	
8,300.0	8,265.3	8,275.1	8,265.3	21.2	14.0	-90.26	-86.0	-1,486.5	1,999.9	1,965.4	34.51	57.953	
8,400.0	8,365.3	8,375.1	8,365.3	21.3	14.1	-90.26	-86.0	-1,486.5	1,999.9	1,965.3	34.62	57.765	
8,500.0	8,465.3	8,475.1	8,465.3	21.3	14.2	-90.26	-86.0	-1,486.5	1,999.9	1,965.2	34.73	57.578	
8,600.0	8,565.3	8,575.1	8,565.3	21.4	14.3	-90.26	-86.0	-1,486.5	1,999.9	1,965.1	34.85	57.392	
8,700.0	8,665.3	8,675.1	8,665.3	21.4	14.3	-90.26	-86.0	-1,486.5	1,999.9	1,964.9	34.96	57.206	
8,800.0	8,765.3	8,775.1	8,765.3	21.4	14.4	-90.26	-86.0	-1,486.5	1,999.9	1,964.8	35.07	57.021	
8,900.0	8,865.3	8,875.1	8,865.3	21.5	14.5	-90.26	-86.0	-1,486.5	1,999.9	1,964.7	35.19	56.836	
9,000.0	8,965.3	8,975.1	8,965.3	21.5	14.6	-90.26	-86.0	-1,486.5	1,999.9	1,964.6	35.30	56.652	
9,100.0	9,065.3	9,075.1	9,065.3	21.6	14.6	-90.26	-86.0	-1,486.5	1,999.9	1,964.5	35.42	56.468	
9,200.0	9,165.3	9,175.2	9,165.4	21.6	14.7	-90.26	-85.9	-1,486.5	1,999.9	1,964.4	35.52	56.311	
9,218.7	9,184.0	9,193.8	9,184.0	21.6	14.7	-90.23	-85.2	-1,486.5	1,999.9	1,964.4	35.53	56.285	
9,300.0	9,265.3	9,273.9	9,263.4	21.7	14.7	-89.95	-75.1	-1,486.5	1,999.9	1,964.3	35.60	56.173 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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	0.00	150.0	0.0	150.0	143.5	6.43	23.327	
100.0	100.0	100.0	100.0	3.2	3.2	0.00	150.0	0.0	150.0	143.1	6.89	21.759	
200.0	200.0	200.0	200.0	3.5	3.5	0.00	150.0	0.0	150.0	142.6	7.33	20.465	
300.0	300.0	300.0	300.0	3.7	3.7	0.00	150.0	0.0	150.0	142.2	7.74	19.373	
400.0	400.0	400.0	400.0	3.9	3.9	0.00	150.0	0.0	150.0	141.8	8.14	18.434	
500.0	500.0	500.0	500.0	4.1	4.1	0.00	150.0	0.0	150.0	141.5	8.51	17.615	
600.0	600.0	600.0	600.0	4.2	4.2	0.00	150.0	0.0	150.0	141.1	8.88	16.893	
700.0	700.0	700.0	700.0	4.4	4.4	0.00	150.0	0.0	150.0	140.7	9.23	16.249	
800.0	800.0	800.0	800.0	4.6	4.6	0.00	150.0	0.0	150.0	140.4	9.57	15.670	
900.0	900.0	900.0	900.0	4.8	4.8	0.00	150.0	0.0	150.0	140.1	9.90	15.146	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	0.00	150.0	0.0	150.0	139.7	10.22	14.667	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	0.00	150.0	0.0	150.0	139.4	10.54	14.229	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	0.00	150.0	0.0	150.0	139.1	10.85	13.825	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	0.00	150.0	0.0	150.0	138.8	11.15	13.451	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	0.00	150.0	0.0	150.0	138.5	11.44	13.104	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	0.00	150.0	0.0	150.0	138.2	11.73	12.780	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	0.00	150.0	0.0	150.0	138.0	12.02	12.477	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	0.00	150.0	0.0	150.0	137.7	12.30	12.193	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	0.00	150.0	0.0	150.0	137.4	12.58	11.926	
1,900.0	1,900.0	1,902.4	1,902.4	6.3	6.3	-0.42	149.1	-1.1	149.2	136.3	12.85	11.612	
2,000.0	2,000.0	2,004.6	2,004.5	6.4	6.4	-1.71	146.7	-4.4	146.8	133.7	13.10	11.208	
2,100.0	2,100.0	2,106.5	2,106.2	6.5	6.6	-114.47	142.6	-9.8	143.6	130.2	13.34	10.763	
2,200.0	2,199.9	2,207.7	2,206.9	6.7	6.8	-119.23	136.9	-17.4	140.6	127.1	13.57	10.364	
2,300.0	2,299.7	2,307.9	2,306.4	6.9	7.0	-125.95	129.7	-26.9	139.2	125.4	13.80	10.086	
2,306.7	2,306.4	2,314.5	2,313.0	6.9	7.0	-126.47	129.1	-27.6	139.2	125.3	13.81	10.077	CC, ES
2,400.0	2,399.3	2,406.1	2,403.7	7.0	7.2	-134.04	121.5	-37.8	141.0	127.0	14.00	10.067	
2,500.0	2,498.6	2,503.6	2,500.2	7.2	7.4	-142.31	113.3	-48.6	147.6	133.3	14.30	10.326	
2,600.0	2,597.6	2,600.6	2,596.3	7.4	7.6	-150.12	105.2	-59.4	159.0	144.4	14.57	10.913	
2,700.0	2,696.6	2,697.6	2,692.4	7.6	7.9	-156.87	97.1	-70.2	173.2	158.2	14.94	11.590	
2,800.0	2,795.7	2,794.6	2,788.4	7.9	8.1	-162.57	89.0	-81.0	189.4	174.0	15.35	12.335	
2,900.0	2,894.7	2,891.7	2,884.5	8.1	8.4	-167.35	80.8	-91.7	207.2	191.4	15.80	13.112	
3,000.0	2,993.7	2,988.7	2,980.6	8.4	8.7	-171.38	72.7	-102.5	226.2	209.9	16.28	13.893	
3,100.0	3,092.8	3,085.7	3,076.6	8.7	9.0	-174.78	64.6	-113.3	246.1	229.3	16.79	14.662	
3,200.0	3,191.8	3,182.7	3,172.7	8.9	9.3	-177.67	56.5	-124.1	266.8	249.5	17.31	15.408	
3,300.0	3,290.8	3,279.7	3,268.7	9.3	9.6	-179.86	48.3	-134.9	288.0	270.1	17.86	16.125	
3,400.0	3,389.8	3,376.7	3,364.8	9.6	9.9	-177.72	40.2	-145.7	309.7	291.2	18.42	16.807	
3,500.0	3,488.9	3,473.7	3,460.9	9.9	10.3	-175.86	32.1	-156.4	331.7	312.7	19.00	17.455	
3,600.0	3,587.9	3,570.7	3,556.9	10.2	10.6	-174.23	24.0	-167.2	354.0	334.4	19.59	18.068	
3,700.0	3,686.9	3,667.7	3,653.0	10.6	10.9	-172.80	15.8	-178.0	376.6	356.4	20.20	18.646	
3,800.0	3,785.9	3,764.7	3,749.1	10.9	11.3	-171.52	7.7	-188.8	399.4	378.5	20.81	19.190	
3,900.0	3,885.0	3,861.6	3,845.0	11.3	11.6	-177.09	-0.4	-199.6	422.3	400.8	21.44	19.696	
4,000.0	3,984.0	3,958.2	3,940.7	11.6	12.0	-170.90	-8.5	-210.3	445.5	423.4	22.06	20.194	
4,100.0	4,083.0	4,054.7	4,036.2	11.9	12.4	-172.38	-16.6	-221.0	468.9	446.2	22.73	20.634	
4,200.0	4,182.1	4,151.2	4,131.8	12.3	12.7	-173.72	-24.7	-231.7	492.7	469.3	23.40	21.052	
4,300.0	4,281.1	4,247.7	4,227.4	12.6	13.1	-174.94	-32.7	-242.5	516.7	492.6	24.07	21.462	
4,400.0	4,380.1	4,347.4	4,326.1	13.0	13.4	-176.06	-40.9	-253.3	540.6	515.8	24.77	21.829	
4,500.0	4,479.2	4,447.9	4,425.8	13.4	13.8	-177.03	-48.6	-263.5	564.1	538.6	25.48	22.135	
4,600.0	4,578.2	4,548.8	4,526.0	13.7	14.2	-177.88	-55.8	-273.1	587.0	560.8	26.20	22.403	
4,700.0	4,677.2	4,650.2	4,626.7	14.1	14.6	-178.60	-62.5	-282.0	609.4	582.4	26.92	22.635	
4,800.0	4,776.2	4,751.9	4,728.0	14.5	15.0	-179.23	-68.7	-290.2	631.1	603.5	27.64	22.835	
4,900.0	4,875.3	4,854.0	4,829.6	14.9	15.3	-179.76	-74.3	-297.7	652.3	623.9	28.35	23.004	
5,000.0	4,974.3	4,956.5	4,931.8	15.3	15.7	-179.78	-79.5	-304.5	672.7	643.7	29.07	23.144	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,073.3	5,059.4	5,034.4	15.7	16.1	179.40	-84.1	-310.6	692.5	662.8	29.77	23.259	
5,200.0	5,172.3	5,162.6	5,137.3	16.1	16.4	179.09	-88.1	-316.0	711.7	681.2	30.48	23.351	
5,300.0	5,271.4	5,266.1	5,240.7	16.4	16.8	178.83	-91.7	-320.6	730.1	698.9	31.17	23.421	
5,400.0	5,370.4	5,369.9	5,344.4	16.8	17.1	178.63	-94.6	-324.6	747.8	715.9	31.86	23.472	
5,500.0	5,469.4	5,474.0	5,448.4	17.2	17.4	178.48	-97.0	-327.7	764.8	732.2	32.54	23.506	
5,600.0	5,568.5	5,578.4	5,552.8	17.6	17.7	178.38	-98.8	-330.2	781.0	747.8	33.20	23.526	
5,700.0	5,667.5	5,683.1	5,657.4	18.0	18.0	178.32	-100.1	-331.9	796.4	762.6	33.82	23.548	
5,800.0	5,766.8	5,788.3	5,762.6	18.4	18.2	178.30	-100.8	-332.8	809.5	775.0	34.43	23.511	
5,900.0	5,866.2	5,891.9	5,866.2	18.8	18.3	178.32	-100.9	-333.0	820.1	785.2	34.91	23.496	
6,000.0	5,965.8	5,991.5	5,965.8	19.1	18.4	178.34	-100.9	-333.0	828.9	793.5	35.33	23.461	
6,100.0	6,065.6	6,091.2	6,065.6	19.5	18.4	178.36	-100.9	-333.0	835.9	800.1	35.74	23.387	
6,200.0	6,165.4	6,191.1	6,165.4	19.8	18.4	178.37	-100.9	-333.0	841.2	805.0	36.13	23.279	
6,300.0	6,265.4	6,291.0	6,265.4	20.1	18.5	178.37	-100.9	-333.0	844.7	808.2	36.50	23.142	
6,400.0	6,365.3	6,391.0	6,365.3	20.4	18.5	178.38	-100.9	-333.0	846.5	809.6	36.82	22.990	
6,500.0	6,465.3	6,491.0	6,465.3	20.5	18.6	-91.62	-100.9	-333.0	846.7	809.8	36.93	22.926	
6,600.0	6,565.3	6,591.0	6,565.3	20.5	18.6	-91.62	-100.9	-333.0	846.7	809.7	37.01	22.875	
6,700.0	6,665.3	6,691.0	6,665.3	20.5	18.6	-91.62	-100.9	-333.0	846.7	809.6	37.10	22.823	
6,800.0	6,765.3	6,791.0	6,765.3	20.6	18.7	-91.62	-100.9	-333.0	846.7	809.5	37.18	22.772	
6,900.0	6,865.3	6,891.0	6,865.3	20.6	18.7	-91.62	-100.9	-333.0	846.7	809.4	37.27	22.720	
7,000.0	6,965.3	6,991.0	6,965.3	20.7	18.8	-91.62	-100.9	-333.0	846.7	809.3	37.35	22.669	
7,100.0	7,065.3	7,091.0	7,065.3	20.7	18.8	-91.62	-100.9	-333.0	846.7	809.3	37.44	22.617	
7,200.0	7,165.3	7,191.0	7,165.3	20.7	18.8	-91.62	-100.9	-333.0	846.7	809.2	37.52	22.565	
7,300.0	7,265.3	7,291.0	7,265.3	20.8	18.9	-91.62	-100.9	-333.0	846.7	809.1	37.61	22.513	
7,400.0	7,365.3	7,391.0	7,365.3	20.8	18.9	-91.62	-100.9	-333.0	846.7	809.0	37.70	22.462	
7,500.0	7,465.3	7,491.0	7,465.3	20.9	19.0	-91.62	-100.9	-333.0	846.7	808.9	37.78	22.410	
7,600.0	7,565.3	7,591.0	7,565.3	20.9	19.0	-91.62	-100.9	-333.0	846.7	808.8	37.87	22.358	
7,700.0	7,665.3	7,691.0	7,665.3	21.0	19.1	-91.62	-100.9	-333.0	846.7	808.7	37.96	22.306	
7,800.0	7,765.3	7,791.0	7,765.3	21.0	19.1	-91.62	-100.9	-333.0	846.7	808.6	38.05	22.254	
7,900.0	7,865.3	7,891.0	7,865.3	21.0	19.1	-91.62	-100.9	-333.0	846.7	808.6	38.14	22.201	
8,000.0	7,965.3	7,991.0	7,965.3	21.1	19.2	-91.62	-100.9	-333.0	846.7	808.5	38.23	22.149	
8,100.0	8,065.3	8,091.0	8,065.3	21.1	19.2	-91.62	-100.9	-333.0	846.7	808.4	38.32	22.097	
8,200.0	8,165.3	8,191.0	8,165.3	21.2	19.3	-91.62	-100.9	-333.0	846.7	808.3	38.41	22.045	
8,300.0	8,265.3	8,291.0	8,265.3	21.2	19.3	-91.62	-100.9	-333.0	846.7	808.2	38.50	21.993	
8,400.0	8,365.3	8,391.0	8,365.3	21.3	19.4	-91.62	-100.9	-333.0	846.7	808.1	38.59	21.940	
8,500.0	8,465.3	8,491.0	8,465.3	21.3	19.4	-91.62	-100.9	-333.0	846.7	808.0	38.68	21.888	
8,600.0	8,565.3	8,591.0	8,565.3	21.4	19.5	-91.62	-100.9	-333.0	846.7	807.9	38.78	21.836	
8,700.0	8,665.3	8,691.0	8,665.3	21.4	19.5	-91.62	-100.9	-333.0	846.7	807.8	38.87	21.784	
8,800.0	8,765.3	8,791.0	8,765.3	21.4	19.5	-91.62	-100.9	-333.0	846.7	807.7	38.96	21.731	
8,900.0	8,865.3	8,891.0	8,865.3	21.5	19.6	-91.62	-100.9	-333.0	846.7	807.6	39.06	21.679	
9,000.0	8,965.3	8,991.0	8,965.3	21.5	19.6	-91.62	-100.9	-333.0	846.7	807.5	39.15	21.627	
9,100.0	9,065.3	9,091.0	9,065.3	21.6	19.7	-91.62	-100.9	-333.0	846.7	807.5	39.24	21.575	
9,200.0	9,165.3	9,191.5	9,165.8	21.6	19.7	-91.61	-100.8	-333.0	846.7	807.4	39.33	21.529	
9,300.0	9,265.3	9,293.6	9,267.2	21.7	19.6	-90.83	-89.2	-333.0	846.5	807.1	39.36	21.509	
9,338.9	9,304.2	9,331.7	9,304.2	21.7	19.5	-90.23	-80.3	-333.0	846.4	807.1	39.35	21.511	
9,400.0	9,365.3	9,388.9	9,358.4	21.7	19.4	-89.02	-62.4	-333.1	846.7	807.3	39.32	21.533	
9,500.0	9,465.3	9,473.3	9,434.7	21.8	19.3	-86.58	-26.3	-333.2	848.7	809.5	39.23	21.633	
9,600.0	9,565.3	9,545.8	9,495.3	21.8	19.2	-83.92	13.3	-333.4	854.5	815.4	39.11	21.850	
9,700.0	9,665.3	9,606.7	9,542.0	21.9	19.1	-81.32	52.3	-333.6	865.6	826.7	38.96	22.221	
9,800.0	9,765.3	9,650.0	9,572.6	21.9	19.0	-79.31	83.0	-333.7	883.3	844.5	38.81	22.758	
9,900.0	9,865.3	9,700.0	9,604.9	22.0	19.0	-76.84	121.1	-333.8	908.2	869.6	38.66	23.491	
10,000.0	9,965.3	9,735.9	9,626.0	22.0	18.9	-75.00	150.1	-333.9	940.6	902.0	38.57	24.390	
10,100.0	10,065.3	9,766.0	9,642.3	22.1	18.9	-73.41	175.5	-334.0	980.3	941.7	38.52	25.446	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.0	10,165.3	9,800.0	9,659.0	22.1	18.9	-71.59	205.1	-334.2	1,026.8	988.3	38.52	26.654		
10,300.0	10,265.3	9,813.8	9,665.3	22.2	18.9	-70.85	217.4	-334.2	1,079.5	1,040.8	38.63	27.946		
10,400.0	10,365.3	9,832.9	9,673.5	22.2	18.9	-69.82	234.6	-334.3	1,137.7	1,098.9	38.77	29.346		
10,500.0	10,465.3	9,850.0	9,680.3	22.3	18.9	-68.89	250.3	-334.3	1,200.9	1,161.9	38.96	30.821		
10,600.0	10,565.3	9,850.0	9,680.3	22.3	18.9	-68.89	250.3	-334.3	1,268.5	1,229.3	39.22	32.344		
10,700.0	10,665.3	9,877.2	9,690.2	22.4	18.9	-67.42	275.6	-334.4	1,339.4	1,299.9	39.48	33.928		
10,800.0	10,765.3	9,900.0	9,697.6	22.4	18.9	-66.19	297.2	-334.5	1,413.9	1,374.1	39.77	35.548		
10,900.0	10,865.0	9,900.0	9,697.6	22.4	18.9	-57.19	297.2	-334.5	1,488.8	1,448.8	40.09	37.136		
11,000.0	10,962.0	9,900.0	9,697.6	22.4	18.9	-48.97	297.2	-334.5	1,560.6	1,520.1	40.43	38.596		
11,100.0	11,053.3	9,950.0	9,710.8	22.4	18.9	-41.46	345.4	-334.7	1,626.3	1,585.5	40.79	39.870		
11,200.0	11,136.3	9,950.0	9,710.8	22.4	18.9	-36.91	345.4	-334.7	1,684.6	1,643.5	41.17	40.919		
11,300.0	11,208.3	9,979.3	9,716.5	22.4	19.0	-33.20	374.1	-334.8	1,734.6	1,693.0	41.55	41.743		
11,400.0	11,267.3	10,000.0	9,719.7	22.4	19.0	-30.68	394.6	-334.9	1,775.1	1,733.1	41.93	42.336		
11,500.0	11,311.3	10,028.4	9,722.8	22.4	19.0	-28.94	422.8	-335.0	1,805.1	1,762.8	42.29	42.680		
11,600.0	11,339.1	10,050.0	9,724.3	22.5	19.1	-27.93	444.4	-335.1	1,824.3	1,781.7	42.63	42.795		
11,700.0	11,349.8	10,086.6	9,725.0	22.6	19.1	-27.52	481.0	-335.3	1,832.1	1,789.2	42.94	42.663		
11,800.0	11,350.0	10,186.6	9,725.0	22.7	19.3	-27.51	581.0	-335.7	1,832.2	1,788.9	43.31	42.301		
11,900.0	11,350.0	10,286.6	9,725.0	22.9	19.6	-27.51	681.0	-336.1	1,832.2	1,788.5	43.74	41.886		
12,000.0	11,350.0	10,386.6	9,725.0	23.0	19.9	-27.51	781.0	-336.5	1,832.2	1,788.0	44.23	41.429		
12,100.0	11,350.0	10,486.6	9,725.0	23.2	20.3	-27.51	881.0	-336.9	1,832.2	1,787.5	44.76	40.935		
12,200.0	11,350.0	10,586.6	9,725.0	23.5	20.6	-27.51	981.0	-337.2	1,832.2	1,786.9	45.34	40.408		
12,300.0	11,350.0	10,686.6	9,725.0	23.7	21.1	-27.51	1,081.0	-337.6	1,832.2	1,786.2	45.98	39.853		
12,400.0	11,350.0	10,786.6	9,725.0	24.0	21.5	-27.51	1,181.0	-338.0	1,832.2	1,785.6	46.65	39.274		
12,500.0	11,350.0	10,886.6	9,725.0	24.2	22.0	-27.51	1,281.0	-338.4	1,832.2	1,784.8	47.37	38.676		
12,600.0	11,350.0	10,986.6	9,725.0	24.6	22.6	-27.51	1,381.0	-338.8	1,832.2	1,784.1	48.14	38.062		
12,700.0	11,350.0	11,086.6	9,725.0	24.9	23.1	-27.51	1,481.0	-339.2	1,832.2	1,783.3	48.94	37.437		
12,800.0	11,350.0	11,186.6	9,725.0	25.2	23.7	-27.51	1,581.0	-339.6	1,832.2	1,782.4	49.78	36.805		
12,900.0	11,350.0	11,286.6	9,725.0	25.6	24.3	-27.51	1,681.0	-340.0	1,832.2	1,781.6	50.66	36.167		
13,000.0	11,350.0	11,386.6	9,725.0	26.0	25.0	-27.51	1,781.0	-340.4	1,832.2	1,780.6	51.57	35.528		
13,100.0	11,350.0	11,486.6	9,725.0	26.4	25.6	-27.51	1,881.0	-340.8	1,832.2	1,779.7	52.52	34.889		
13,200.0	11,350.0	11,586.6	9,725.0	26.8	26.3	-27.51	1,981.0	-341.2	1,832.2	1,778.7	53.49	34.253		
13,300.0	11,350.0	11,686.6	9,725.0	27.2	27.0	-27.51	2,081.0	-341.6	1,832.2	1,777.7	54.49	33.623		
13,400.0	11,350.0	11,786.6	9,725.0	27.7	27.7	-27.51	2,181.0	-342.0	1,832.2	1,776.7	55.52	32.998		
13,500.0	11,350.0	11,886.6	9,725.0	28.1	28.5	-27.51	2,281.0	-342.4	1,832.2	1,775.6	56.58	32.382		
13,600.0	11,350.0	11,986.6	9,725.0	28.6	29.2	-27.51	2,380.9	-342.8	1,832.2	1,774.5	57.66	31.774		
13,700.0	11,350.0	12,086.6	9,725.0	29.1	30.0	-27.51	2,480.9	-343.2	1,832.2	1,773.4	58.77	31.177		
13,800.0	11,350.0	12,186.6	9,725.0	29.6	30.8	-27.51	2,580.9	-343.6	1,832.2	1,772.3	59.89	30.591		
13,900.0	11,350.0	12,286.6	9,725.0	30.1	31.6	-27.51	2,680.9	-344.0	1,832.2	1,771.2	61.04	30.016		
14,000.0	11,350.0	12,386.6	9,725.0	30.6	32.4	-27.51	2,780.9	-344.4	1,832.2	1,770.0	62.21	29.453		
14,100.0	11,350.0	12,486.6	9,725.0	31.1	33.2	-27.51	2,880.9	-344.8	1,832.2	1,768.8	63.39	28.902		
14,200.0	11,350.0	12,586.6	9,725.0	31.7	34.0	-27.51	2,980.9	-345.2	1,832.2	1,767.6	64.60	28.364		
14,300.0	11,350.0	12,686.6	9,725.0	32.2	34.8	-27.51	3,080.9	-345.6	1,832.2	1,766.4	65.81	27.839		
14,400.0	11,350.0	12,786.6	9,725.0	32.8	35.7	-27.51	3,180.9	-346.0	1,832.2	1,765.2	67.05	27.327		
14,500.0	11,350.0	12,886.6	9,725.0	33.3	36.5	-27.51	3,280.9	-346.4	1,832.2	1,763.9	68.30	26.827		
14,600.0	11,350.0	12,986.6	9,725.0	33.9	37.3	-27.51	3,380.9	-346.8	1,832.2	1,762.6	69.56	26.340		
14,700.0	11,350.0	13,086.6	9,725.0	34.5	38.2	-27.51	3,480.9	-347.2	1,832.2	1,761.4	70.84	25.865		
14,800.0	11,350.0	13,186.6	9,725.0	35.1	39.1	-27.51	3,580.9	-347.6	1,832.2	1,760.1	72.12	25.403		
14,900.0	11,350.0	13,286.6	9,725.0	35.7	39.9	-27.51	3,680.9	-348.0	1,832.2	1,758.8	73.42	24.954		
15,000.0	11,350.0	13,386.6	9,725.0	36.3	40.8	-27.51	3,780.9	-348.4	1,832.2	1,757.5	74.73	24.516		
15,100.0	11,350.0	13,486.6	9,725.0	36.9	41.7	-27.51	3,880.9	-348.8	1,832.2	1,756.1	76.06	24.090		
15,200.0	11,350.0	13,586.6	9,725.0	37.5	42.5	-27.51	3,980.9	-349.2	1,832.2	1,754.8	77.39	23.675		
15,300.0	11,350.0	13,686.6	9,725.0	38.1	43.4	-27.51	4,080.9	-349.6	1,832.2	1,753.5	78.73	23.272		

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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				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	
15,400.0	11,350.0	13,786.6	9,725.0	38.7	44.3	-27.51	4,180.9	-350.0	1,832.2	1,752.1	80.08	22.880		
15,500.0	11,350.0	13,886.6	9,725.0	39.4	45.2	-27.51	4,280.9	-350.4	1,832.2	1,750.7	81.44	22.498		
15,600.0	11,350.0	13,986.6	9,725.0	40.0	46.1	-27.51	4,380.9	-350.8	1,832.2	1,749.4	82.81	22.126		
15,700.0	11,350.0	14,086.6	9,725.0	40.6	47.0	-27.51	4,480.9	-351.1	1,832.2	1,748.0	84.18	21.765		
15,800.0	11,350.0	14,186.6	9,725.0	41.3	47.9	-27.51	4,580.9	-351.5	1,832.2	1,746.6	85.56	21.414		
15,900.0	11,350.0	14,286.6	9,725.0	41.9	48.8	-27.51	4,680.9	-351.9	1,832.2	1,745.2	86.95	21.072		
16,000.0	11,350.0	14,386.6	9,725.0	42.6	49.7	-27.51	4,780.9	-352.3	1,832.2	1,743.8	88.35	20.739		
16,100.0	11,350.0	14,486.6	9,725.0	43.2	50.6	-27.51	4,880.9	-352.7	1,832.2	1,742.4	89.75	20.415		
16,200.0	11,350.0	14,586.6	9,725.0	43.9	51.5	-27.51	4,980.9	-353.1	1,832.2	1,741.0	91.16	20.099		
16,300.0	11,350.0	14,686.6	9,725.0	44.6	52.4	-27.51	5,080.9	-353.5	1,832.2	1,739.6	92.57	19.792		
16,400.0	11,350.0	14,786.6	9,725.0	45.2	53.3	-27.51	5,180.9	-353.9	1,832.2	1,738.2	93.99	19.493		
16,500.0	11,350.0	14,886.6	9,725.0	45.9	54.2	-27.51	5,280.9	-354.3	1,832.2	1,736.8	95.41	19.202		
16,600.0	11,350.0	14,986.6	9,725.0	46.6	55.2	-27.51	5,380.9	-354.7	1,832.2	1,735.3	96.84	18.919		
16,700.0	11,350.0	15,086.6	9,725.0	47.2	56.1	-27.51	5,480.9	-355.1	1,832.2	1,733.9	98.28	18.643		
16,800.0	11,350.0	15,186.6	9,725.0	47.9	57.0	-27.51	5,580.9	-355.5	1,832.2	1,732.5	99.72	18.373		
16,900.0	11,350.0	15,286.6	9,725.0	48.6	57.9	-27.51	5,680.9	-355.9	1,832.2	1,731.0	101.16	18.111		
17,000.0	11,350.0	15,386.6	9,725.0	49.3	58.9	-27.51	5,780.9	-356.3	1,832.2	1,729.6	102.61	17.856		
17,100.0	11,350.0	15,486.6	9,725.0	49.9	59.8	-27.51	5,880.9	-356.7	1,832.2	1,728.1	104.06	17.607		
17,200.0	11,350.0	15,586.6	9,725.0	50.6	60.7	-27.51	5,980.9	-357.1	1,832.2	1,726.6	105.52	17.364		
17,300.0	11,350.0	15,686.6	9,725.0	51.3	61.6	-27.51	6,080.9	-357.5	1,832.2	1,725.2	106.98	17.127		
17,400.0	11,350.0	15,786.6	9,725.0	52.0	62.6	-27.51	6,180.9	-357.9	1,832.2	1,723.7	108.44	16.896		
17,500.0	11,350.0	15,886.6	9,725.0	52.7	63.5	-27.51	6,280.9	-358.3	1,832.2	1,722.3	109.91	16.670		
17,600.0	11,350.0	15,986.6	9,725.0	53.4	64.4	-27.51	6,380.9	-358.7	1,832.2	1,720.8	111.38	16.450		
17,700.0	11,350.0	16,086.6	9,725.0	54.1	65.4	-27.51	6,480.9	-359.1	1,832.2	1,719.3	112.85	16.235		
17,800.0	11,350.0	16,186.6	9,725.0	54.8	66.3	-27.51	6,580.9	-359.5	1,832.2	1,717.8	114.33	16.026		
17,900.0	11,350.0	16,286.6	9,725.0	55.5	67.2	-27.51	6,680.9	-359.9	1,832.2	1,716.4	115.80	15.821		
18,000.0	11,350.0	16,386.6	9,725.0	56.2	68.2	-27.51	6,780.9	-360.3	1,832.2	1,714.9	117.29	15.621		
18,100.0	11,350.0	16,486.6	9,725.0	56.9	69.1	-27.51	6,880.9	-360.7	1,832.2	1,713.4	118.77	15.426		
18,200.0	11,350.0	16,586.6	9,725.0	57.6	70.0	-27.51	6,980.9	-361.1	1,832.2	1,711.9	120.26	15.235		
18,300.0	11,350.0	16,686.6	9,725.0	58.3	71.0	-27.51	7,080.9	-361.5	1,832.2	1,710.4	121.75	15.049		
18,400.0	11,350.0	16,786.6	9,725.0	59.0	71.9	-27.51	7,180.9	-361.9	1,832.2	1,708.9	123.24	14.867		
18,500.0	11,350.0	16,886.6	9,725.0	59.7	72.9	-27.51	7,280.9	-362.3	1,832.2	1,707.4	124.73	14.688		
18,600.0	11,350.0	16,986.6	9,725.0	60.4	73.8	-27.51	7,380.9	-362.7	1,832.2	1,705.9	126.23	14.514		
18,700.0	11,350.0	17,086.6	9,725.0	61.2	74.8	-27.51	7,480.9	-363.1	1,832.1	1,704.4	127.73	14.344		
18,800.0	11,350.0	17,186.6	9,725.0	61.9	75.7	-27.51	7,580.9	-363.5	1,832.1	1,702.9	129.23	14.177		
18,900.0	11,350.0	17,286.6	9,725.0	62.6	76.6	-27.51	7,680.9	-363.9	1,832.1	1,701.4	130.73	14.014		
19,000.0	11,350.0	17,386.6	9,725.0	63.3	77.6	-27.51	7,780.9	-364.3	1,832.1	1,699.9	132.24	13.855		
19,100.0	11,350.0	17,486.6	9,725.0	64.0	78.5	-27.51	7,880.9	-364.7	1,832.1	1,698.4	133.74	13.699		
19,200.0	11,350.0	17,586.6	9,725.0	64.7	79.5	-27.51	7,980.9	-365.1	1,832.1	1,696.9	135.25	13.546		
19,300.0	11,350.0	17,686.6	9,725.0	65.5	80.4	-27.51	8,080.9	-365.4	1,832.1	1,695.4	136.76	13.396		
19,400.0	11,350.0	17,786.6	9,725.0	66.2	81.4	-27.51	8,180.9	-365.8	1,832.1	1,693.9	138.28	13.250		
19,500.0	11,350.0	17,886.6	9,725.0	66.9	82.3	-27.51	8,280.9	-366.2	1,832.1	1,692.4	139.79	13.106		
19,600.0	11,350.0	17,986.6	9,725.0	67.6	83.3	-27.51	8,380.9	-366.6	1,832.1	1,690.8	141.30	12.966		
19,700.0	11,350.0	18,086.6	9,725.0	68.3	84.2	-27.51	8,480.9	-367.0	1,832.1	1,689.3	142.82	12.828		
19,800.0	11,350.0	18,186.6	9,725.0	69.1	85.2	-27.51	8,580.9	-367.4	1,832.1	1,687.8	144.34	12.693		
19,900.0	11,350.0	18,286.6	9,725.0	69.8	86.1	-27.51	8,680.9	-367.8	1,832.1	1,686.3	145.86	12.561		
20,000.0	11,350.0	18,386.6	9,725.0	70.5	87.1	-27.51	8,780.9	-368.2	1,832.1	1,684.8	147.38	12.431		
20,100.0	11,350.0	18,486.6	9,725.0	71.2	88.0	-27.51	8,880.9	-368.6	1,832.1	1,683.2	148.90	12.304		
20,200.0	11,350.0	18,586.6	9,725.0	72.0	89.0	-27.51	8,980.9	-369.0	1,832.1	1,681.7	150.43	12.180		
20,300.0	11,350.0	18,686.6	9,725.0	72.7	89.9	-27.51	9,080.9	-369.4	1,832.1	1,680.2	151.95	12.057		
20,400.0	11,350.0	18,786.6	9,725.0	73.4	90.9	-27.51	9,180.9	-369.8	1,832.1	1,678.7	153.48	11.937		
20,500.0	11,350.0	18,886.6	9,725.0	74.2	91.8	-27.51	9,280.9	-370.2	1,832.1	1,677.1	155.01	11.820		

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 503H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,350.0	18,986.6	9,725.0	74.9	92.8	-27.51	9,380.9	-370.6	1,832.1	1,675.6	156.54	11.704	
20,700.0	11,350.0	19,086.6	9,725.0	75.6	93.7	-27.51	9,480.9	-371.0	1,832.1	1,674.1	158.07	11.591	
20,800.0	11,350.0	19,186.6	9,725.0	76.4	94.7	-27.51	9,580.9	-371.4	1,832.1	1,672.5	159.60	11.480	
20,900.0	11,350.0	19,286.6	9,725.0	77.1	95.6	-27.51	9,680.9	-371.8	1,832.1	1,671.0	161.13	11.371	
21,000.0	11,350.0	19,386.6	9,725.0	77.8	96.6	-27.51	9,780.9	-372.2	1,832.1	1,669.5	162.66	11.263	
21,100.0	11,350.0	19,486.6	9,725.0	78.6	97.5	-27.51	9,880.9	-372.6	1,832.1	1,667.9	164.20	11.158	
21,200.0	11,350.0	19,586.6	9,725.0	79.3	98.5	-27.51	9,980.9	-373.0	1,832.1	1,666.4	165.73	11.055	
21,300.0	11,350.0	19,686.6	9,725.0	80.0	99.4	-27.51	10,080.9	-373.4	1,832.1	1,664.9	167.27	10.953	
21,400.0	11,350.0	19,786.6	9,725.0	80.8	100.4	-27.51	10,180.9	-373.8	1,832.1	1,663.3	168.80	10.854	
21,500.0	11,350.0	19,886.6	9,725.0	81.5	101.4	-27.51	10,280.9	-374.2	1,832.1	1,661.8	170.34	10.756	
21,600.0	11,350.0	19,986.6	9,725.0	82.2	102.3	-27.51	10,380.9	-374.6	1,832.1	1,660.2	171.88	10.659	
21,700.0	11,350.0	20,086.6	9,725.0	83.0	103.3	-27.51	10,480.9	-375.0	1,832.1	1,658.7	173.42	10.565	
21,800.0	11,350.0	20,186.6	9,725.0	83.7	104.2	-27.51	10,580.9	-375.4	1,832.1	1,657.2	174.96	10.472	
21,900.0	11,350.0	20,286.6	9,725.0	84.5	105.2	-27.51	10,680.9	-375.8	1,832.1	1,655.6	176.50	10.380	
22,000.0	11,350.0	20,386.6	9,725.0	85.2	106.1	-27.51	10,780.9	-376.2	1,832.1	1,654.1	178.04	10.290	
22,100.0	11,350.0	20,486.6	9,725.0	85.9	107.1	-27.51	10,880.9	-376.6	1,832.1	1,652.5	179.59	10.202	
22,200.0	11,350.0	20,586.6	9,725.0	86.7	108.0	-27.51	10,980.9	-377.0	1,832.1	1,651.0	181.13	10.115	
22,300.0	11,350.0	20,686.6	9,725.0	87.4	109.0	-27.51	11,080.9	-377.4	1,832.1	1,649.4	182.67	10.029	
22,400.0	11,350.0	20,786.6	9,725.0	88.1	110.0	-27.51	11,180.9	-377.8	1,832.1	1,647.9	184.22	9.945	
22,500.0	11,350.0	20,886.6	9,725.0	88.9	110.9	-27.51	11,280.9	-378.2	1,832.1	1,646.3	185.77	9.862	
22,600.0	11,350.0	20,986.6	9,725.0	89.6	111.9	-27.51	11,380.9	-378.6	1,832.1	1,644.8	187.31	9.781	
22,700.0	11,350.0	21,086.6	9,725.0	90.4	112.8	-27.51	11,480.9	-379.0	1,832.1	1,643.2	188.86	9.701	
22,800.0	11,350.0	21,186.6	9,725.0	91.1	113.8	-27.51	11,580.9	-379.3	1,832.1	1,641.7	190.41	9.622	
22,900.0	11,350.0	21,286.6	9,725.0	91.9	114.8	-27.51	11,680.9	-379.7	1,832.1	1,640.1	191.96	9.544	
23,000.0	11,350.0	21,386.6	9,725.0	92.6	115.7	-27.51	11,780.9	-380.1	1,832.1	1,638.6	193.50	9.468	
23,100.0	11,350.0	21,486.6	9,725.0	93.3	116.7	-27.51	11,880.9	-380.5	1,832.1	1,637.0	195.05	9.393	
23,200.0	11,350.0	21,586.6	9,725.0	94.1	117.6	-27.51	11,980.9	-380.9	1,832.1	1,635.5	196.60	9.319	
23,300.0	11,350.0	21,686.6	9,725.0	94.8	118.6	-27.51	12,080.9	-381.3	1,832.1	1,633.9	198.15	9.246	
23,400.0	11,350.0	21,786.6	9,725.0	95.6	119.6	-27.51	12,180.9	-381.7	1,832.1	1,632.4	199.71	9.174	
23,500.0	11,350.0	21,886.6	9,725.0	96.3	120.5	-27.51	12,280.9	-382.1	1,832.1	1,630.8	201.26	9.103	
23,600.0	11,350.0	21,986.6	9,725.0	97.1	121.5	-27.51	12,380.9	-382.5	1,832.1	1,629.3	202.81	9.034	
23,700.0	11,350.0	22,086.6	9,725.0	97.8	122.4	-27.51	12,480.9	-382.9	1,832.1	1,627.7	204.36	8.965	
23,800.0	11,350.0	22,186.6	9,725.0	98.6	123.4	-27.51	12,580.9	-383.3	1,832.1	1,626.2	205.92	8.897	
23,900.0	11,350.0	22,286.6	9,725.0	99.3	124.4	-27.51	12,680.9	-383.7	1,832.1	1,624.6	207.47	8.831	
24,000.0	11,350.0	22,386.6	9,725.0	100.1	125.3	-27.51	12,780.9	-384.1	1,832.1	1,623.1	209.02	8.765	
24,100.0	11,350.0	22,486.6	9,725.0	100.8	126.3	-27.51	12,880.9	-384.5	1,832.1	1,621.5	210.58	8.700	
24,200.0	11,350.0	22,586.6	9,725.0	101.5	127.2	-27.51	12,980.9	-384.9	1,832.1	1,619.9	212.13	8.636	
24,300.0	11,350.0	22,686.6	9,725.0	102.3	128.2	-27.51	13,080.9	-385.3	1,832.1	1,618.4	213.69	8.574	
24,400.0	11,350.0	22,786.6	9,725.0	103.0	129.2	-27.51	13,180.9	-385.7	1,832.1	1,616.8	215.25	8.512	
24,500.0	11,350.0	22,886.6	9,725.0	103.8	130.1	-27.51	13,280.9	-386.1	1,832.1	1,615.3	216.80	8.450	
24,600.0	11,350.0	22,986.6	9,725.0	104.5	131.1	-27.51	13,380.9	-386.5	1,832.1	1,613.7	218.36	8.390	
24,700.0	11,350.0	23,086.6	9,725.0	105.3	132.0	-27.51	13,480.9	-386.9	1,832.1	1,612.2	219.92	8.331	
24,750.1	11,350.0	23,136.7	9,725.0	105.7	132.5	-27.50	13,530.9	-387.1	1,832.1	1,611.4	220.70	8.301 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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	3.0	3.0	11.31	150.0	30.0	153.0	146.5	6.43	23.794	
100.0	100.0	100.0	100.0	3.2	3.2	11.31	150.0	30.0	153.0	146.1	6.89	22.194	
200.0	200.0	200.0	200.0	3.5	3.5	11.31	150.0	30.0	153.0	145.6	7.33	20.874	
300.0	300.0	300.0	300.0	3.7	3.7	11.31	150.0	30.0	153.0	145.2	7.74	19.760	
400.0	400.0	400.0	400.0	3.9	3.9	11.31	150.0	30.0	153.0	144.8	8.14	18.803	
500.0	500.0	500.0	500.0	4.1	4.1	11.31	150.0	30.0	153.0	144.5	8.51	17.968	
600.0	600.0	600.0	600.0	4.2	4.2	11.31	150.0	30.0	153.0	144.1	8.88	17.231	
700.0	700.0	700.0	700.0	4.4	4.4	11.31	150.0	30.0	153.0	143.7	9.23	16.574	
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	142.7	10.22	14.961	
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	14.102	
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	13.366	
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	13.036	
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	12.727	
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	12.437	
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	12.164	CC, ES
1,900.0	1,900.0	1,897.7	1,897.7	6.3	6.3	11.68	150.5	31.1	153.7	140.9	12.85	11.964	
2,000.0	2,000.0	1,995.2	1,995.1	6.4	6.4	12.79	152.1	34.5	156.1	142.9	13.12	11.896	
2,100.0	2,100.0	2,092.5	2,092.2	6.5	6.6	-95.85	154.7	40.1	160.2	146.8	13.38	11.975	
2,200.0	2,199.9	2,189.7	2,189.0	6.7	6.8	-94.74	158.4	48.0	166.2	152.6	13.63	12.199	
2,300.0	2,299.7	2,286.5	2,285.2	6.9	7.0	-93.91	163.1	58.0	174.2	160.3	13.88	12.546	
2,400.0	2,399.3	2,385.8	2,383.5	7.0	7.2	-93.31	168.5	70.6	183.6	169.5	14.11	13.012	
2,500.0	2,498.6	2,487.8	2,484.3	7.2	7.4	-92.85	172.6	85.4	192.3	177.9	14.40	13.348	
2,600.0	2,597.6	2,589.8	2,585.0	7.4	7.7	-92.41	174.8	102.1	199.8	185.2	14.62	13.663	
2,700.0	2,696.6	2,689.6	2,683.2	7.6	8.0	-91.77	176.0	119.4	206.8	191.9	14.93	13.849	
2,800.0	2,795.7	2,789.3	2,781.4	7.9	8.3	-91.18	177.2	136.7	213.8	198.6	15.22	14.049	
2,900.0	2,894.7	2,889.0	2,879.6	8.1	8.6	-90.62	178.4	154.0	220.8	205.3	15.51	14.241	
3,000.0	2,993.7	2,988.7	2,977.8	8.4	8.9	-90.10	179.6	171.3	227.9	212.1	15.80	14.420	
3,100.0	3,092.8	3,088.5	3,076.1	8.7	9.2	-89.61	180.8	188.5	235.0	218.9	16.11	14.588	
3,200.0	3,191.8	3,188.2	3,174.3	8.9	9.5	-89.14	182.0	205.8	242.1	225.6	16.42	14.745	
3,300.0	3,290.8	3,287.9	3,272.5	9.3	9.9	-88.71	183.2	223.1	249.2	232.4	16.73	14.891	
3,400.0	3,389.8	3,387.7	3,370.7	9.6	10.2	-88.29	184.4	240.4	256.3	239.2	17.05	15.027	
3,500.0	3,488.9	3,487.4	3,468.9	9.9	10.6	-87.90	185.6	257.6	263.4	246.0	17.38	15.152	
3,600.0	3,587.9	3,587.1	3,567.1	10.2	10.9	-87.54	186.8	274.9	270.5	252.8	17.72	15.269	
3,700.0	3,686.9	3,686.9	3,665.4	10.6	11.3	-87.19	188.0	292.2	277.7	259.6	18.06	15.377	
3,800.0	3,785.9	3,786.6	3,763.6	10.9	11.7	-86.85	189.3	309.5	284.8	266.4	18.41	15.476	
3,900.0	3,885.0	3,886.4	3,861.9	11.3	12.1	-74.20	190.5	326.7	290.8	272.0	18.79	15.475	
4,000.0	3,984.0	3,986.3	3,960.3	11.6	12.4	-66.20	191.7	344.1	293.7	274.6	19.13	15.353	
4,100.0	4,083.0	4,086.2	4,058.7	11.9	12.8	-65.68	192.9	361.4	296.2	276.7	19.53	15.168	
4,200.0	4,182.1	4,186.2	4,157.1	12.3	13.2	-65.17	194.1	378.7	298.8	278.8	19.94	14.981	
4,300.0	4,281.1	4,286.1	4,255.5	12.6	13.6	-64.68	195.3	396.0	301.3	281.0	20.37	14.793	
4,400.0	4,380.1	4,386.0	4,353.9	13.0	14.0	-64.19	196.5	413.3	303.9	283.1	20.81	14.606	
4,500.0	4,479.2	4,486.0	4,452.3	13.4	14.4	-63.71	197.7	430.6	306.5	285.3	21.26	14.418	
4,600.0	4,578.2	4,585.9	4,550.7	13.7	14.9	-63.23	198.9	447.9	309.1	287.4	21.72	14.231	
4,700.0	4,677.2	4,685.8	4,649.2	14.1	15.3	-62.77	200.1	465.2	311.8	289.6	22.20	14.046	
4,800.0	4,776.2	4,785.8	4,747.6	14.5	15.7	-62.31	201.4	482.5	314.5	291.8	22.69	13.861	
4,900.0	4,875.3	4,885.7	4,846.0	14.9	16.1	-61.86	202.6	499.9	317.1	294.0	23.18	13.679	
5,000.0	4,974.3	4,985.6	4,944.4	15.3	16.5	-61.42	203.8	517.2	319.8	296.1	23.69	13.498	
5,100.0	5,073.3	5,085.6	5,042.8	15.7	16.9	-60.98	205.0	534.5	322.6	298.3	24.22	13.320	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,172.3	5,185.5	5,141.2	16.1	17.4	-60.55	206.2	551.8	325.3	300.6	24.75	13.144	
5,300.0	5,271.4	5,285.4	5,239.6	16.4	17.8	-60.13	207.4	569.1	328.1	302.8	25.29	12.971	
5,400.0	5,370.4	5,385.4	5,338.1	16.8	18.2	-59.72	208.6	586.4	330.8	305.0	25.84	12.801	
5,500.0	5,469.4	5,485.3	5,436.5	17.2	18.6	-59.32	209.8	603.7	333.6	307.2	26.41	12.634	
5,600.0	5,568.5	5,585.2	5,534.9	17.6	19.1	-58.92	211.0	621.0	336.4	309.5	26.98	12.470	
5,700.0	5,667.5	5,685.2	5,633.3	18.0	19.5	-58.51	212.3	638.3	339.4	311.8	27.54	12.324	
5,800.0	5,766.8	5,785.0	5,731.6	18.4	19.9	-57.91	213.5	655.6	343.1	314.9	28.19	12.173	
5,900.0	5,866.2	5,884.8	5,829.9	18.8	20.4	-57.09	214.7	672.9	347.9	319.0	28.91	12.033	
6,000.0	5,965.8	5,984.4	5,928.0	19.1	20.8	-56.08	215.9	690.2	353.6	323.9	29.70	11.906	
6,100.0	6,065.6	6,083.8	6,025.9	19.5	21.2	-54.88	217.1	707.4	360.5	330.0	30.57	11.795	
6,200.0	6,165.4	6,183.1	6,123.7	19.8	21.7	-53.52	218.3	724.6	368.6	337.1	31.50	11.703	
6,300.0	6,265.4	6,282.1	6,221.2	20.1	22.1	-52.02	219.5	741.7	378.0	345.5	32.49	11.635	
6,400.0	6,365.3	6,380.9	6,318.5	20.4	22.5	-50.42	220.7	758.9	388.8	355.3	33.52	11.597	
6,500.0	6,465.3	6,479.4	6,415.5	20.5	23.0	41.30	221.9	775.9	400.9	366.4	34.50	11.620	
6,600.0	6,565.3	6,577.9	6,512.5	20.5	23.4	42.98	223.1	793.0	413.5	378.0	35.46	11.660	
6,700.0	6,665.3	6,676.4	6,609.5	20.5	23.8	44.56	224.3	810.0	426.5	390.1	36.40	11.715	
6,800.0	6,765.3	6,779.7	6,711.4	20.6	24.3	46.07	225.5	827.4	439.3	401.9	37.40	11.744	
6,900.0	6,865.3	6,885.0	6,815.4	20.6	24.8	47.37	226.6	843.1	451.0	412.7	38.27	11.783	
7,000.0	6,965.3	6,990.7	6,920.2	20.7	25.2	48.46	227.5	857.1	461.4	422.4	39.04	11.819	
7,100.0	7,065.3	7,097.0	7,025.8	20.7	25.7	49.36	228.4	869.2	470.5	430.8	39.74	11.841	
7,200.0	7,165.3	7,203.7	7,132.0	20.7	26.1	50.09	229.1	879.3	478.2	437.8	40.36	11.849	
7,300.0	7,265.3	7,310.7	7,238.7	20.8	26.5	50.66	229.7	887.5	484.4	443.5	40.91	11.843	
7,400.0	7,365.3	7,418.0	7,345.8	20.8	26.9	51.08	230.1	893.7	489.2	447.8	41.38	11.822	
7,500.0	7,465.3	7,525.5	7,453.2	20.9	27.2	51.36	230.4	897.9	492.4	450.7	41.78	11.788	
7,600.0	7,565.3	7,633.1	7,560.8	20.9	27.5	51.51	230.6	900.1	494.1	452.1	42.05	11.751	
7,700.0	7,665.3	7,737.7	7,665.3	21.0	27.6	51.53	230.6	900.5	494.4	452.2	42.20	11.714	
7,800.0	7,765.3	7,837.7	7,765.3	21.0	27.7	51.53	230.6	900.5	494.4	452.0	42.35	11.674	
7,900.0	7,865.3	7,937.7	7,865.3	21.0	27.7	51.53	230.6	900.5	494.4	452.0	42.44	11.650	
8,000.0	7,965.3	8,037.7	7,965.3	21.1	27.7	51.53	230.6	900.5	494.4	451.9	42.53	11.626	
8,100.0	8,065.3	8,137.7	8,065.3	21.1	27.8	51.53	230.6	900.5	494.4	451.8	42.61	11.602	
8,200.0	8,165.3	8,237.7	8,165.3	21.2	27.8	51.53	230.6	900.5	494.4	451.7	42.70	11.578	
8,300.0	8,265.3	8,337.7	8,265.3	21.2	27.8	51.53	230.6	900.5	494.4	451.6	42.79	11.553	
8,400.0	8,365.3	8,437.7	8,365.3	21.3	27.9	51.53	230.6	900.5	494.4	451.5	42.88	11.529	
8,500.0	8,465.3	8,537.7	8,465.3	21.3	27.9	51.53	230.6	900.5	494.4	451.4	42.97	11.505	
8,600.0	8,565.3	8,637.7	8,565.3	21.4	27.9	51.53	230.6	900.5	494.4	451.3	43.06	11.481	
8,700.0	8,665.3	8,737.7	8,665.3	21.4	28.0	51.53	230.6	900.5	494.4	451.2	43.15	11.456	
8,800.0	8,765.3	8,837.7	8,765.3	21.4	28.0	51.53	230.6	900.5	494.4	451.2	43.25	11.432	
8,900.0	8,865.3	8,937.7	8,865.3	21.5	28.0	51.53	230.6	900.5	494.4	451.1	43.34	11.408	
9,000.0	8,965.3	9,037.7	8,965.3	21.5	28.1	51.53	230.6	900.5	494.4	451.0	43.43	11.384	
9,100.0	9,065.3	9,137.7	9,065.3	21.6	28.1	51.53	230.6	900.5	494.4	450.9	43.52	11.359	
9,115.5	9,076.9	9,149.2	9,076.9	21.6	28.1	51.53	230.6	900.5	494.4	450.9	43.53	11.356	
9,200.0	9,165.3	9,233.0	9,160.7	21.6	28.1	51.52	230.6	900.5	494.5	450.8	43.65	11.327	
9,300.0	9,265.3	9,300.0	9,227.5	21.7	28.2	51.08	235.6	900.5	498.9	455.0	43.97	11.348	
9,400.0	9,365.3	9,360.7	9,287.2	21.7	28.2	50.09	246.8	900.4	510.6	466.5	44.10	11.577	
9,500.0	9,465.3	9,420.5	9,344.4	21.8	28.3	48.63	263.9	900.4	529.6	485.6	44.03	12.029	
9,600.0	9,565.3	9,476.2	9,395.8	21.8	28.3	46.90	285.1	900.3	556.3	512.5	43.82	12.695	
9,700.0	9,665.3	9,527.2	9,441.0	21.9	28.4	45.07	308.8	900.2	590.6	547.0	43.53	13.566	
9,800.0	9,765.3	9,573.4	9,479.9	21.9	28.4	43.28	333.7	900.1	632.2	588.9	43.23	14.625	
9,900.0	9,865.3	9,614.9	9,513.1	22.0	28.4	41.58	358.7	900.0	680.7	637.7	42.94	15.851	
10,000.0	9,965.3	9,650.0	9,539.6	22.0	28.5	40.12	381.6	899.9	735.5	692.7	42.71	17.218	
10,100.0	10,065.3	9,685.3	9,564.8	22.1	28.5	38.64	406.2	899.8	795.8	753.3	42.54	18.706	
10,200.0	10,165.3	9,714.9	9,584.8	22.1	28.5	37.41	428.1	899.7	861.0	818.6	42.44	20.287	

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	10,265.3	9,750.0	9,607.0	22.2	28.6	35.96	455.3	899.6	930.5	888.1	42.40	21.946	
10,400.0	10,365.3	9,750.0	9,607.0	22.2	28.6	35.96	455.3	899.6	1,003.8	961.3	42.43	23.660	
10,500.0	10,465.3	9,800.0	9,635.6	22.3	28.6	33.95	496.3	899.4	1,079.9	1,037.4	42.51	25.405	
10,600.0	10,565.3	9,800.0	9,635.6	22.3	28.6	33.95	496.3	899.4	1,158.5	1,115.9	42.61	27.186	
10,700.0	10,665.3	9,822.8	9,647.5	22.4	28.7	33.07	515.8	899.3	1,239.5	1,196.7	42.77	28.980	
10,800.0	10,765.3	9,850.0	9,660.5	22.4	28.7	32.04	539.6	899.2	1,322.7	1,279.8	42.97	30.782	
10,900.0	10,865.0	9,850.0	9,660.5	22.4	28.7	26.29	539.6	899.2	1,404.1	1,360.8	43.22	32.484	
11,000.0	10,962.0	9,873.2	9,670.8	22.4	28.7	21.42	560.4	899.1	1,477.9	1,434.2	43.63	33.876	
11,100.0	11,053.3	9,900.0	9,681.6	22.4	28.7	18.25	584.9	899.0	1,542.6	1,498.5	44.11	34.973	
11,200.0	11,136.3	9,900.0	9,681.6	22.4	28.7	16.30	584.9	899.0	1,597.4	1,552.8	44.57	35.842	
11,300.0	11,208.3	9,950.0	9,698.6	22.4	28.8	14.76	631.9	898.8	1,640.6	1,595.4	45.19	36.304	
11,400.0	11,267.3	9,950.0	9,698.6	22.4	28.8	13.93	631.9	898.8	1,672.4	1,626.7	45.68	36.615	
11,500.0	11,311.3	10,000.0	9,711.5	22.4	28.8	13.38	680.2	898.6	1,691.7	1,645.4	46.33	36.512	
11,600.0	11,339.1	10,000.0	9,711.5	22.5	28.8	13.21	680.2	898.6	1,698.8	1,652.0	46.80	36.302	
11,700.0	11,349.8	10,050.0	9,720.1	22.6	28.9	13.36	729.4	898.4	1,692.9	1,645.5	47.46	35.672	
11,800.0	11,350.0	10,050.0	9,720.1	22.7	28.9	13.40	729.4	898.4	1,681.6	1,633.8	47.80	35.176	
11,900.0	11,350.0	10,100.0	9,724.4	22.9	28.9	13.43	779.2	898.2	1,673.8	1,625.5	48.39	34.591	
12,000.0	11,350.0	10,124.3	9,725.0	23.0	28.9	13.44	803.5	898.1	1,670.8	1,622.0	48.82	34.227	
12,040.6	11,350.0	10,147.3	9,725.0	23.1	29.0	13.44	826.5	898.0	1,670.7	1,621.7	49.05	34.060	
12,100.0	11,350.0	10,206.7	9,725.0	23.2	29.0	13.44	885.9	897.8	1,670.7	1,621.2	49.53	33.730	
12,200.0	11,350.0	10,306.7	9,725.0	23.5	29.1	13.44	985.9	897.4	1,670.7	1,620.4	50.37	33.166	
12,300.0	11,350.0	10,406.7	9,725.0	23.7	29.3	13.44	1,085.9	897.0	1,670.7	1,619.5	51.25	32.599	
12,400.0	11,350.0	10,506.7	9,725.0	24.0	29.4	13.44	1,185.9	896.6	1,670.7	1,618.6	52.16	32.032	
12,500.0	11,350.0	10,606.7	9,725.0	24.2	29.6	13.44	1,285.9	896.2	1,670.7	1,617.6	53.09	31.467	
12,600.0	11,350.0	10,706.7	9,725.0	24.6	29.8	13.44	1,385.9	895.8	1,670.7	1,616.7	54.06	30.905	
12,700.0	11,350.0	10,806.7	9,725.0	24.9	30.0	13.44	1,485.9	895.3	1,670.7	1,615.7	55.05	30.348	
12,800.0	11,350.0	10,906.7	9,725.0	25.2	30.3	13.43	1,585.9	894.9	1,670.7	1,614.7	56.07	29.797	
12,900.0	11,350.0	11,006.7	9,725.0	25.6	30.5	13.43	1,685.9	894.5	1,670.7	1,613.6	57.11	29.254	
13,000.0	11,350.0	11,106.7	9,725.0	26.0	30.8	13.43	1,785.9	894.1	1,670.7	1,612.5	58.18	28.719	
13,100.0	11,350.0	11,206.7	9,725.0	26.4	31.1	13.43	1,885.9	893.7	1,670.7	1,611.5	59.26	28.193	
13,200.0	11,350.0	11,306.7	9,725.0	26.8	31.4	13.43	1,985.9	893.3	1,670.7	1,610.3	60.37	27.676	
13,300.0	11,350.0	11,406.7	9,725.0	27.2	31.7	13.43	2,085.9	892.9	1,670.7	1,609.2	61.49	27.170	
13,400.0	11,350.0	11,506.7	9,725.0	27.7	32.0	13.43	2,185.9	892.5	1,670.7	1,608.1	62.63	26.674	
13,500.0	11,350.0	11,606.7	9,725.0	28.1	32.4	13.43	2,285.9	892.1	1,670.7	1,606.9	63.80	26.189	
13,600.0	11,350.0	11,706.7	9,725.0	28.6	32.8	13.43	2,385.9	891.7	1,670.7	1,605.7	64.97	25.714	
13,700.0	11,350.0	11,806.7	9,725.0	29.1	33.1	13.43	2,485.9	891.3	1,670.7	1,604.5	66.16	25.251	
13,800.0	11,350.0	11,906.7	9,725.0	29.6	33.5	13.43	2,585.9	890.8	1,670.7	1,603.3	67.37	24.799	
13,900.0	11,350.0	12,006.7	9,725.0	30.1	33.9	13.43	2,685.9	890.4	1,670.7	1,602.1	68.59	24.357	
14,000.0	11,350.0	12,106.7	9,725.0	30.6	34.4	13.43	2,785.9	890.0	1,670.7	1,600.9	69.82	23.927	
14,100.0	11,350.0	12,206.7	9,725.0	31.1	34.8	13.43	2,885.9	889.6	1,670.7	1,599.6	71.07	23.508	
14,200.0	11,350.0	12,306.7	9,725.0	31.7	35.3	13.43	2,985.9	889.2	1,670.7	1,598.4	72.33	23.099	
14,300.0	11,350.0	12,406.7	9,725.0	32.2	35.7	13.43	3,085.9	888.8	1,670.7	1,597.1	73.60	22.701	
14,400.0	11,350.0	12,506.7	9,725.0	32.8	36.2	13.43	3,185.9	888.4	1,670.7	1,595.8	74.87	22.313	
14,500.0	11,350.0	12,606.7	9,725.0	33.3	36.7	13.43	3,285.9	888.0	1,670.7	1,594.5	76.16	21.935	
14,600.0	11,350.0	12,706.7	9,725.0	33.9	37.2	13.43	3,385.9	887.6	1,670.7	1,593.2	77.46	21.568	
14,700.0	11,350.0	12,806.7	9,725.0	34.5	37.7	13.43	3,485.9	887.2	1,670.7	1,591.9	78.77	21.210	
14,800.0	11,350.0	12,906.7	9,725.0	35.1	38.2	13.43	3,585.9	886.7	1,670.7	1,590.6	80.09	20.861	
14,900.0	11,350.0	13,006.7	9,725.0	35.7	38.7	13.43	3,685.9	886.3	1,670.7	1,589.3	81.41	20.522	
15,000.0	11,350.0	13,106.7	9,725.0	36.3	39.2	13.43	3,785.9	885.9	1,670.7	1,587.9	82.74	20.191	
15,100.0	11,350.0	13,206.7	9,725.0	36.9	39.7	13.43	3,885.9	885.5	1,670.7	1,586.6	84.08	19.870	
15,200.0	11,350.0	13,306.7	9,725.0	37.5	40.3	13.43	3,985.9	885.1	1,670.7	1,585.2	85.43	19.556	
15,300.0	11,350.0	13,406.7	9,725.0	38.1	40.8	13.43	4,085.9	884.7	1,670.7	1,583.9	86.78	19.251	

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 #707H
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 #707H	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								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			
15,400.0	11,350.0	13,506.7	9,725.0	38.7	41.4	13.43	4,185.9	884.3	1,670.7	1,582.5	88.14	18.954				
15,500.0	11,350.0	13,606.7	9,725.0	39.4	42.0	13.43	4,285.9	883.9	1,670.7	1,581.2	89.51	18.665				
15,600.0	11,350.0	13,706.7	9,725.0	40.0	42.5	13.43	4,385.9	883.5	1,670.7	1,579.8	90.88	18.383				
15,700.0	11,350.0	13,806.7	9,725.0	40.6	43.1	13.43	4,485.9	883.1	1,670.7	1,578.4	92.26	18.109				
15,800.0	11,350.0	13,906.7	9,725.0	41.3	43.7	13.43	4,585.9	882.7	1,670.7	1,577.0	93.64	17.842				
15,900.0	11,350.0	14,006.7	9,725.0	41.9	44.3	13.42	4,685.9	882.2	1,670.6	1,575.6	95.03	17.581				
16,000.0	11,350.0	14,106.7	9,725.0	42.6	44.9	13.42	4,785.9	881.8	1,670.6	1,574.2	96.42	17.327				
16,100.0	11,350.0	14,206.7	9,725.0	43.2	45.5	13.42	4,885.9	881.4	1,670.6	1,572.8	97.82	17.080				
16,200.0	11,350.0	14,306.7	9,725.0	43.9	46.1	13.42	4,985.9	881.0	1,670.6	1,571.4	99.22	16.838				
16,300.0	11,350.0	14,406.7	9,725.0	44.6	46.7	13.42	5,085.9	880.6	1,670.6	1,570.0	100.62	16.603				
16,400.0	11,350.0	14,506.7	9,725.0	45.2	47.3	13.42	5,185.9	880.2	1,670.6	1,568.6	102.03	16.373				
16,500.0	11,350.0	14,606.7	9,725.0	45.9	47.9	13.42	5,285.9	879.8	1,670.6	1,567.2	103.45	16.150				
16,600.0	11,350.0	14,706.7	9,725.0	46.6	48.6	13.42	5,385.9	879.4	1,670.6	1,565.8	104.86	15.931				
16,700.0	11,350.0	14,806.7	9,725.0	47.2	49.2	13.42	5,485.9	879.0	1,670.6	1,564.3	106.29	15.718				
16,800.0	11,350.0	14,906.7	9,725.0	47.9	49.8	13.42	5,585.9	878.6	1,670.6	1,562.9	107.71	15.510				
16,900.0	11,350.0	15,006.7	9,725.0	48.6	50.5	13.42	5,685.9	878.1	1,670.6	1,561.5	109.14	15.307				
17,000.0	11,350.0	15,106.7	9,725.0	49.3	51.1	13.42	5,785.9	877.7	1,670.6	1,560.1	110.57	15.109				
17,100.0	11,350.0	15,206.7	9,725.0	49.9	51.7	13.42	5,885.9	877.3	1,670.6	1,558.6	112.01	14.916				
17,200.0	11,350.0	15,306.7	9,725.0	50.6	52.4	13.42	5,985.9	876.9	1,670.6	1,557.2	113.44	14.727				
17,300.0	11,350.0	15,406.7	9,725.0	51.3	53.0	13.42	6,085.9	876.5	1,670.6	1,555.7	114.88	14.542				
17,400.0	11,350.0	15,506.7	9,725.0	52.0	53.7	13.42	6,185.9	876.1	1,670.6	1,554.3	116.33	14.362				
17,500.0	11,350.0	15,606.7	9,725.0	52.7	54.3	13.42	6,285.9	875.7	1,670.6	1,552.8	117.77	14.185				
17,600.0	11,350.0	15,706.7	9,725.0	53.4	55.0	13.42	6,385.9	875.3	1,670.6	1,551.4	119.22	14.013				
17,700.0	11,350.0	15,806.7	9,725.0	54.1	55.7	13.42	6,485.9	874.9	1,670.6	1,549.9	120.67	13.844				
17,800.0	11,350.0	15,906.7	9,725.0	54.8	56.3	13.42	6,585.9	874.5	1,670.6	1,548.5	122.12	13.680				
17,900.0	11,350.0	16,006.7	9,725.0	55.5	57.0	13.42	6,685.9	874.0	1,670.6	1,547.0	123.58	13.519				
18,000.0	11,350.0	16,106.7	9,725.0	56.2	57.7	13.42	6,785.9	873.6	1,670.6	1,545.6	125.04	13.361				
18,100.0	11,350.0	16,206.7	9,725.0	56.9	58.3	13.42	6,885.9	873.2	1,670.6	1,544.1	126.50	13.207				
18,200.0	11,350.0	16,306.7	9,725.0	57.6	59.0	13.42	6,985.9	872.8	1,670.6	1,542.6	127.96	13.056				
18,300.0	11,350.0	16,406.7	9,725.0	58.3	59.7	13.42	7,085.9	872.4	1,670.6	1,541.2	129.42	12.908				
18,400.0	11,350.0	16,506.7	9,725.0	59.0	60.4	13.42	7,185.9	872.0	1,670.6	1,539.7	130.89	12.764				
18,500.0	11,350.0	16,606.7	9,725.0	59.7	61.0	13.42	7,285.9	871.6	1,670.6	1,538.2	132.35	12.622				
18,600.0	11,350.0	16,706.7	9,725.0	60.4	61.7	13.42	7,385.9	871.2	1,670.6	1,536.8	133.82	12.483				
18,700.0	11,350.0	16,806.7	9,725.0	61.2	62.4	13.42	7,485.9	870.8	1,670.6	1,535.3	135.29	12.348				
18,800.0	11,350.0	16,906.7	9,725.0	61.9	63.1	13.42	7,585.9	870.4	1,670.6	1,533.8	136.77	12.215				
18,900.0	11,350.0	17,006.7	9,725.0	62.6	63.8	13.41	7,685.9	870.0	1,670.6	1,532.3	138.24	12.084				
19,000.0	11,350.0	17,106.7	9,725.0	63.3	64.5	13.41	7,785.9	869.5	1,670.6	1,530.9	139.72	11.957				
19,100.0	11,350.0	17,206.7	9,725.0	64.0	65.2	13.41	7,885.9	869.1	1,670.6	1,529.4	141.20	11.832				
19,200.0	11,350.0	17,306.7	9,725.0	64.7	65.8	13.41	7,985.9	868.7	1,670.6	1,527.9	142.67	11.709				
19,300.0	11,350.0	17,406.7	9,725.0	65.5	66.5	13.41	8,085.9	868.3	1,670.6	1,526.4	144.15	11.589				
19,400.0	11,350.0	17,506.7	9,725.0	66.2	67.2	13.41	8,185.9	867.9	1,670.6	1,524.9	145.64	11.471				
19,500.0	11,350.0	17,606.7	9,725.0	66.9	67.9	13.41	8,285.9	867.5	1,670.6	1,523.4	147.12	11.355				
19,600.0	11,350.0	17,706.7	9,725.0	67.6	68.6	13.41	8,385.9	867.1	1,670.6	1,522.0	148.60	11.242				
19,700.0	11,350.0	17,806.7	9,725.0	68.3	69.3	13.41	8,485.8	866.7	1,670.6	1,520.5	150.09	11.130				
19,800.0	11,350.0	17,906.7	9,725.0	69.1	70.0	13.41	8,585.8	866.3	1,670.6	1,519.0	151.58	11.021				
19,900.0	11,350.0	18,006.7	9,725.0	69.8	70.7	13.41	8,685.8	865.9	1,670.6	1,517.5	153.06	10.914				
20,000.0	11,350.0	18,106.7	9,725.0	70.5	71.4	13.41	8,785.8	865.4	1,670.6	1,516.0	154.55	10.809				
20,100.0	11,350.0	18,206.7	9,725.0	71.2	72.2	13.41	8,885.8	865.0	1,670.6	1,514.5	156.04	10.706				
20,200.0	11,350.0	18,306.7	9,725.0	72.0	72.9	13.41	8,985.8	864.6	1,670.6	1,513.0	157.54	10.604				
20,300.0	11,350.0	18,406.7	9,725.0	72.7	73.6	13.41	9,085.8	864.2	1,670.5	1,511.5	159.03	10.505				
20,400.0	11,350.0	18,506.7	9,725.0	73.4	74.3	13.41	9,185.8	863.8	1,670.5	1,510.0	160.52	10.407				
20,500.0	11,350.0	18,606.7	9,725.0	74.2	75.0	13.41	9,285.8	863.4	1,670.5	1,508.5	162.02	10.311				

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 #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	Central Planning Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.0	11,350.0	18,706.7	9,725.0	74.9	75.7	13.41	9,385.8	863.0	1,670.5	1,507.0	163.51	10.217	
20,700.0	11,350.0	18,806.7	9,725.0	75.6	76.4	13.41	9,485.8	862.6	1,670.5	1,505.5	165.01	10.124	
20,800.0	11,350.0	18,906.7	9,725.0	76.4	77.1	13.41	9,585.8	862.2	1,670.5	1,504.0	166.51	10.033	
20,900.0	11,350.0	19,006.7	9,725.0	77.1	77.8	13.41	9,685.8	861.8	1,670.5	1,502.5	168.00	9.943	
21,000.0	11,350.0	19,106.7	9,725.0	77.8	78.6	13.41	9,785.8	861.4	1,670.5	1,501.0	169.50	9.855	
21,100.0	11,350.0	19,206.7	9,725.0	78.6	79.3	13.41	9,885.8	860.9	1,670.5	1,499.5	171.00	9.769	
21,200.0	11,350.0	19,306.7	9,725.0	79.3	80.0	13.41	9,985.8	860.5	1,670.5	1,498.0	172.50	9.684	
21,300.0	11,350.0	19,406.7	9,725.0	80.0	80.7	13.41	10,085.8	860.1	1,670.5	1,496.5	174.01	9.600	
21,400.0	11,350.0	19,506.7	9,725.0	80.8	81.4	13.41	10,185.8	859.7	1,670.5	1,495.0	175.51	9.518	
21,500.0	11,350.0	19,606.7	9,725.0	81.5	82.1	13.41	10,285.8	859.3	1,670.5	1,493.5	177.01	9.437	
21,600.0	11,350.0	19,706.7	9,725.0	82.2	82.9	13.41	10,385.8	858.9	1,670.5	1,492.0	178.52	9.358	
21,700.0	11,350.0	19,806.7	9,725.0	83.0	83.6	13.41	10,485.8	858.5	1,670.5	1,490.5	180.02	9.280	
21,800.0	11,350.0	19,906.7	9,725.0	83.7	84.3	13.41	10,585.8	858.1	1,670.5	1,489.0	181.53	9.203	
21,900.0	11,350.0	20,006.7	9,725.0	84.5	85.0	13.40	10,685.8	857.7	1,670.5	1,487.5	183.03	9.127	
22,000.0	11,350.0	20,106.7	9,725.0	85.2	85.8	13.40	10,785.8	857.3	1,670.5	1,486.0	184.54	9.052	
22,100.0	11,350.0	20,206.7	9,725.0	85.9	86.5	13.40	10,885.8	856.8	1,670.5	1,484.5	186.05	8.979	
22,200.0	11,350.0	20,306.7	9,725.0	86.7	87.2	13.40	10,985.8	856.4	1,670.5	1,483.0	187.55	8.907	
22,300.0	11,350.0	20,406.7	9,725.0	87.4	87.9	13.40	11,085.8	856.0	1,670.5	1,481.4	189.06	8.836	
22,400.0	11,350.0	20,506.7	9,725.0	88.1	88.7	13.40	11,185.8	855.6	1,670.5	1,479.9	190.57	8.766	
22,500.0	11,350.0	20,606.7	9,725.0	88.9	89.4	13.40	11,285.8	855.2	1,670.5	1,478.4	192.08	8.697	
22,600.0	11,350.0	20,706.7	9,725.0	89.6	90.1	13.40	11,385.8	854.8	1,670.5	1,476.9	193.59	8.629	
22,700.0	11,350.0	20,806.7	9,725.0	90.4	90.8	13.40	11,485.8	854.4	1,670.5	1,475.4	195.10	8.562	
22,800.0	11,350.0	20,906.7	9,725.0	91.1	91.6	13.40	11,585.8	854.0	1,670.5	1,473.9	196.61	8.496	
22,900.0	11,350.0	21,006.7	9,725.0	91.9	92.3	13.40	11,685.8	853.6	1,670.5	1,472.4	198.13	8.431	
23,000.0	11,350.0	21,106.7	9,725.0	92.6	93.0	13.40	11,785.8	853.2	1,670.5	1,470.8	199.64	8.367	
23,100.0	11,350.0	21,206.7	9,725.0	93.3	93.8	13.40	11,885.8	852.8	1,670.5	1,469.3	201.15	8.305	
23,200.0	11,350.0	21,306.7	9,725.0	94.1	94.5	13.40	11,985.8	852.3	1,670.5	1,467.8	202.67	8.243	
23,300.0	11,350.0	21,406.7	9,725.0	94.8	95.2	13.40	12,085.8	851.9	1,670.5	1,466.3	204.18	8.181	
23,400.0	11,350.0	21,506.7	9,725.0	95.6	96.0	13.40	12,185.8	851.5	1,670.5	1,464.8	205.70	8.121	
23,500.0	11,350.0	21,606.7	9,725.0	96.3	96.7	13.40	12,285.8	851.1	1,670.5	1,463.3	207.21	8.062	
23,600.0	11,350.0	21,706.7	9,725.0	97.1	97.4	13.40	12,385.8	850.7	1,670.5	1,461.7	208.73	8.003	
23,700.0	11,350.0	21,806.7	9,725.0	97.8	98.2	13.40	12,485.8	850.3	1,670.5	1,460.2	210.24	7.945	
23,800.0	11,350.0	21,906.7	9,725.0	98.6	98.9	13.40	12,585.8	849.9	1,670.5	1,458.7	211.76	7.889	
23,900.0	11,350.0	22,006.7	9,725.0	99.3	99.6	13.40	12,685.8	849.5	1,670.5	1,457.2	213.28	7.832	
24,000.0	11,350.0	22,106.7	9,725.0	100.1	100.4	13.40	12,785.8	849.1	1,670.5	1,455.7	214.79	7.777	
24,100.0	11,350.0	22,206.7	9,725.0	100.8	101.1	13.40	12,885.8	848.7	1,670.5	1,454.1	216.31	7.722	
24,200.0	11,350.0	22,306.7	9,725.0	101.5	101.8	13.40	12,985.8	848.2	1,670.5	1,452.6	217.83	7.669	
24,300.0	11,350.0	22,406.7	9,725.0	102.3	102.6	13.40	13,085.8	847.8	1,670.5	1,451.1	219.35	7.616	
24,400.0	11,350.0	22,506.7	9,725.0	103.0	103.3	13.40	13,185.8	847.4	1,670.5	1,449.6	220.87	7.563	
24,500.0	11,350.0	22,606.7	9,725.0	103.8	104.1	13.40	13,285.8	847.0	1,670.5	1,448.1	222.39	7.511	
24,600.0	11,350.0	22,706.7	9,725.0	104.5	104.8	13.40	13,385.8	846.6	1,670.4	1,446.5	223.91	7.460	
24,700.0	11,350.0	22,806.7	9,725.0	105.3	105.5	13.40	13,485.8	846.2	1,670.4	1,445.0	225.43	7.410	
24,748.2	11,350.0	22,854.8	9,725.0	105.6	105.9	13.40	13,534.0	846.0	1,670.4	1,444.3	226.16	7.386	
24,750.1	11,350.0	22,854.8	9,725.0	105.7	105.9	13.40	13,534.0	846.0	1,670.4	1,444.3	226.18	7.386 SF	

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Project:	ATLAS PROSPECT (NM-W)	TVD Reference:	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	MD Reference:	GL @ 3243.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	*THUNDERDOME FED COM #707H	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:				Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	3.0	3.0	21.80	150.0	60.0	161.6	155.1	6.43	25.129	
100.0	100.0	100.0	100.0	3.2	3.2	21.80	150.0	60.0	161.6	154.7	6.89	23.440	
200.0	200.0	200.0	200.0	3.5	3.5	21.80	150.0	60.0	161.6	154.2	7.33	22.046	
300.0	300.0	300.0	300.0	3.7	3.7	21.80	150.0	60.0	161.6	153.8	7.74	20.869	
400.0	400.0	400.0	400.0	3.9	3.9	21.80	150.0	60.0	161.6	153.4	8.14	19.858	
500.0	500.0	500.0	500.0	4.1	4.1	21.80	150.0	60.0	161.6	153.0	8.51	18.976	
600.0	600.0	600.0	600.0	4.2	4.2	21.80	150.0	60.0	161.6	152.7	8.88	18.198	
700.0	700.0	700.0	700.0	4.4	4.4	21.80	150.0	60.0	161.6	152.3	9.23	17.504	
800.0	800.0	800.0	800.0	4.6	4.6	21.80	150.0	60.0	161.6	152.0	9.57	16.881	
900.0	900.0	900.0	900.0	4.8	4.8	21.80	150.0	60.0	161.6	151.7	9.90	16.316	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	21.80	150.0	60.0	161.6	151.3	10.22	15.800	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	21.80	150.0	60.0	161.6	151.0	10.54	15.328	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	21.80	150.0	60.0	161.6	150.7	10.85	14.893	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	21.80	150.0	60.0	161.6	150.4	11.15	14.491	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	21.80	150.0	60.0	161.6	150.1	11.44	14.116	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	21.80	150.0	60.0	161.6	149.8	11.73	13.768	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	21.80	150.0	60.0	161.6	149.5	12.02	13.441	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	21.80	150.0	60.0	161.6	149.3	12.30	13.135	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	21.80	150.0	60.0	161.6	149.0	12.58	12.847	CC, ES
1,900.0	1,900.0	1,898.3	1,898.3	6.3	6.3	22.21	150.0	61.3	162.1	149.2	12.84	12.622	
2,000.0	2,000.0	1,996.5	1,996.4	6.4	6.4	23.42	150.2	65.0	163.7	150.6	13.10	12.499	
2,100.0	2,100.0	2,094.5	2,094.2	6.5	6.6	-85.02	150.4	71.3	166.4	153.1	13.34	12.476	SF
2,200.0	2,199.9	2,192.3	2,191.6	6.7	6.8	-83.61	150.7	80.1	170.2	156.7	13.58	12.539	
2,300.0	2,299.7	2,290.0	2,288.6	6.9	7.0	-82.37	151.1	91.4	175.0	161.2	13.82	12.667	
2,400.0	2,399.3	2,387.5	2,385.2	7.0	7.2	-81.30	151.6	105.1	180.8	166.7	14.07	12.851	
2,500.0	2,498.6	2,484.8	2,481.2	7.2	7.5	-80.40	152.1	121.2	187.5	173.2	14.33	13.086	
2,600.0	2,597.6	2,581.9	2,576.5	7.4	7.8	-79.58	152.8	139.7	195.3	180.7	14.55	13.419	
2,700.0	2,696.6	2,678.7	2,670.9	7.6	8.1	-78.31	153.5	160.6	204.4	189.5	14.85	13.766	
2,800.0	2,795.7	2,774.9	2,764.3	7.9	8.4	-76.62	154.3	183.7	215.0	199.9	15.17	14.175	
2,900.0	2,894.7	2,873.1	2,859.2	8.1	8.7	-74.69	155.2	209.0	227.0	211.4	15.54	14.606	
3,000.0	2,893.7	2,872.1	2,854.8	8.4	9.0	-72.92	156.1	234.6	239.2	223.3	15.94	15.003	
3,100.0	3,092.8	3,071.1	3,050.4	8.7	9.4	-71.33	157.0	260.2	251.6	235.3	16.38	15.367	
3,200.0	3,191.8	3,170.1	3,146.1	8.9	9.7	-69.88	157.9	285.8	264.2	247.4	16.83	15.698	
3,300.0	3,290.8	3,269.0	3,241.7	9.3	10.1	-68.57	158.8	311.4	277.0	259.7	17.31	15.997	
3,400.0	3,389.8	3,368.0	3,337.3	9.6	10.5	-67.37	159.7	337.0	289.9	272.0	17.82	16.267	
3,500.0	3,488.9	3,467.0	3,432.9	9.9	10.8	-66.28	160.6	362.6	302.9	284.5	18.35	16.508	
3,600.0	3,587.9	3,566.0	3,528.5	10.2	11.2	-65.27	161.5	388.2	316.0	297.1	18.89	16.723	
3,700.0	3,686.9	3,665.0	3,624.2	10.6	11.6	-64.35	162.4	413.8	329.1	309.7	19.46	16.915	
3,800.0	3,785.9	3,764.0	3,719.8	10.9	12.0	-63.50	163.2	439.4	342.4	322.4	20.04	17.084	
3,900.0	3,885.0	3,863.1	3,815.5	11.3	12.5	-50.41	164.1	465.1	354.7	334.0	20.68	17.154	
4,000.0	3,984.0	3,962.3	3,911.3	11.6	12.9	-41.81	165.0	490.7	364.7	343.4	21.34	17.094	
4,100.0	4,083.0	4,061.6	4,007.2	11.9	13.3	-40.68	165.9	516.4	374.5	352.4	22.07	16.970	
4,200.0	4,182.1	4,160.8	4,103.1	12.3	13.7	-39.60	166.8	542.1	384.4	361.6	22.82	16.845	
4,300.0	4,281.1	4,260.1	4,198.9	12.6	14.2	-38.58	167.7	567.7	394.5	370.9	23.59	16.720	
4,400.0	4,380.1	4,359.3	4,294.8	13.0	14.6	-37.60	168.6	593.4	404.6	380.2	24.38	16.596	
4,500.0	4,479.2	4,458.6	4,390.7	13.4	15.0	-36.68	169.5	619.1	414.9	389.7	25.18	16.474	
4,600.0	4,578.2	4,557.8	4,486.6	13.7	15.5	-35.80	170.4	644.8	425.3	399.3	26.00	16.355	
4,700.0	4,677.2	4,657.1	4,582.4	14.1	15.9	-34.96	171.3	670.4	435.7	408.9	26.83	16.239	
4,800.0	4,776.2	4,756.3	4,678.3	14.5	16.4	-34.16	172.2	696.1	446.3	418.6	27.67	16.127	
4,900.0	4,875.3	4,855.6	4,774.2	14.9	16.8	-33.40	173.1	721.8	456.9	428.4	28.52	16.019	
5,000.0	4,974.3	4,954.8	4,870.0	15.3	17.3	-32.67	174.0	747.4	467.6	438.3	29.38	15.915	
5,100.0	5,073.3	5,054.1	4,965.9	15.7	17.8	-31.98	174.9	773.1	478.4	448.2	30.25	15.815	

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 #707H
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 #707H	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			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	5,172.3	5,153.3	5,061.8	16.1	18.2	-31.31	175.8	798.8	489.3	458.1	31.12	15.720	
5,300.0	5,271.4	5,252.6	5,157.6	16.4	18.7	-30.68	176.7	824.5	500.2	468.2	32.01	15.628	
5,400.0	5,370.4	5,351.9	5,253.5	16.8	19.1	-30.07	177.6	850.1	511.2	478.3	32.89	15.541	
5,500.0	5,469.4	5,451.1	5,349.4	17.2	19.6	-29.49	178.5	875.8	522.2	488.4	33.78	15.457	
5,600.0	5,568.5	5,550.4	5,445.3	17.6	20.1	-28.93	179.4	901.5	533.3	498.6	34.68	15.377	
5,700.0	5,667.5	5,649.6	5,541.1	18.0	20.5	-28.41	180.3	927.2	544.6	509.0	35.56	15.316	
5,800.0	5,766.8	5,748.6	5,636.8	18.4	21.0	-27.87	181.2	952.8	557.2	520.8	36.47	15.281	
5,900.0	5,866.2	5,847.4	5,732.2	18.8	21.5	-27.29	182.1	978.3	571.5	534.1	37.38	15.287	
6,000.0	5,965.8	5,945.9	5,827.3	19.1	21.9	-26.67	183.0	1,003.8	587.4	549.1	38.31	15.335	
6,100.0	6,065.6	6,044.0	5,922.1	19.5	22.4	-26.02	183.8	1,029.2	604.9	565.7	39.22	15.422	
6,200.0	6,165.4	6,141.9	6,016.6	19.8	22.9	-25.34	184.7	1,054.5	624.0	583.9	40.13	15.549	
6,300.0	6,265.4	6,239.3	6,110.7	20.1	23.3	-24.65	185.6	1,079.7	644.9	603.8	41.03	15.716	
6,400.0	6,365.3	6,336.3	6,204.5	20.4	23.8	-23.95	186.5	1,104.8	667.3	625.4	41.90	15.927	
6,500.0	6,465.3	6,433.0	6,297.8	20.5	24.3	66.79	187.4	1,129.8	691.3	648.7	42.62	16.220	
6,600.0	6,565.3	6,529.6	6,391.1	20.5	24.7	67.53	188.2	1,154.8	715.6	672.3	43.31	16.520	
6,700.0	6,665.3	6,626.2	6,484.4	20.5	25.2	68.23	189.1	1,179.8	740.0	696.0	44.00	16.816	
6,800.0	6,765.3	6,722.8	6,577.7	20.6	25.7	68.89	190.0	1,204.7	764.5	719.8	44.69	17.108	
6,900.0	6,865.3	6,819.4	6,671.0	20.6	26.1	69.50	190.8	1,229.7	789.1	743.7	45.36	17.394	
7,000.0	6,965.3	6,916.0	6,764.3	20.7	26.6	70.08	191.7	1,254.7	813.7	767.7	46.03	17.676	
7,100.0	7,065.3	7,012.5	6,857.6	20.7	27.1	70.62	192.6	1,279.7	838.5	791.8	46.70	17.953	
7,200.0	7,165.3	7,109.1	6,950.9	20.7	27.5	71.13	193.5	1,304.7	863.3	815.9	47.37	18.224	
7,300.0	7,265.3	7,205.7	7,044.2	20.8	28.0	71.61	194.3	1,329.7	888.1	840.1	48.03	18.491	
7,400.0	7,365.3	7,302.3	7,137.5	20.8	28.5	72.07	195.2	1,354.7	913.1	864.4	48.69	18.752	
7,500.0	7,465.3	7,398.9	7,230.8	20.9	28.9	72.50	196.1	1,379.6	938.0	888.7	49.35	19.007	
7,600.0	7,565.3	7,495.5	7,324.1	20.9	29.4	72.91	197.0	1,404.6	963.1	913.1	50.01	19.258	
7,700.0	7,665.3	7,592.1	7,417.4	21.0	29.9	73.30	197.8	1,429.6	988.1	937.5	50.67	19.503	
7,800.0	7,765.3	7,688.7	7,510.7	21.0	30.4	73.67	198.7	1,454.6	1,013.2	961.9	51.32	19.743	
7,900.0	7,865.3	7,785.3	7,604.0	21.0	30.8	74.03	199.6	1,479.6	1,038.4	986.4	51.97	19.979	
8,000.0	7,965.3	7,881.9	7,697.3	21.1	31.3	74.36	200.4	1,504.6	1,063.6	1,010.9	52.63	20.209	
8,100.0	8,065.3	7,978.5	7,790.6	21.1	31.8	74.68	201.3	1,529.5	1,088.8	1,035.5	53.28	20.434	
8,200.0	8,165.3	8,075.1	7,883.9	21.2	32.2	74.99	202.2	1,554.5	1,114.0	1,060.1	53.94	20.655	
8,300.0	8,265.3	8,171.7	7,977.2	21.2	32.7	75.28	203.1	1,579.5	1,139.3	1,084.7	54.59	20.870	
8,400.0	8,365.3	8,268.3	8,070.5	21.3	33.2	75.56	203.9	1,604.5	1,164.6	1,109.4	55.24	21.081	
8,500.0	8,465.3	8,366.7	8,165.7	21.3	33.7	75.84	204.8	1,630.0	1,189.9	1,134.0	55.90	21.286	
8,600.0	8,565.3	8,507.1	8,301.9	21.4	34.3	76.18	206.0	1,663.5	1,213.4	1,156.6	56.82	21.355	
8,700.0	8,665.3	8,649.8	8,441.6	21.4	35.0	76.46	207.0	1,692.5	1,233.3	1,175.7	57.66	21.390	
8,800.0	8,765.3	8,794.5	8,584.4	21.4	35.7	76.68	207.9	1,716.6	1,249.6	1,191.2	58.41	21.395	
8,900.0	8,865.3	8,940.9	8,729.5	21.5	36.3	76.85	208.5	1,735.4	1,262.3	1,203.2	59.04	21.379	
9,000.0	8,965.3	9,088.6	8,876.6	21.5	36.9	76.97	209.0	1,748.8	1,271.1	1,211.6	59.55	21.344	
9,100.0	9,065.3	9,237.1	9,024.8	21.6	37.4	77.03	209.2	1,756.5	1,276.2	1,216.3	59.90	21.304	
9,200.0	9,165.3	9,360.6	9,148.3	21.6	37.7	77.05	209.3	1,758.4	1,277.6	1,217.6	60.10	21.260	
9,300.0	9,265.3	9,400.0	9,187.7	21.7	37.7	77.00	210.5	1,759.2	1,280.9	1,220.3	60.58	21.143	
9,400.0	9,365.3	9,450.0	9,237.4	21.7	37.8	76.81	215.6	1,762.1	1,288.9	1,227.9	61.02	21.122	
9,500.0	9,465.3	9,480.7	9,267.5	21.8	37.9	76.62	220.7	1,765.0	1,301.7	1,240.3	61.40	21.199	
9,600.0	9,565.3	9,516.8	9,302.5	21.8	38.0	76.33	228.6	1,769.6	1,319.2	1,257.6	61.68	21.388	
9,700.0	9,665.3	9,550.0	9,334.0	21.9	38.1	76.00	237.5	1,774.7	1,341.5	1,279.6	61.86	21.686	
9,800.0	9,765.3	9,600.0	9,380.1	21.9	38.3	75.40	254.1	1,784.3	1,368.6	1,306.6	62.03	22.065	
9,900.0	9,865.3	9,600.0	9,380.1	22.0	38.3	75.40	254.1	1,784.3	1,400.1	1,338.2	61.87	22.628	
10,000.0	9,965.3	9,650.0	9,424.4	22.0	38.4	74.68	274.2	1,795.9	1,435.6	1,373.7	61.93	23.179	
10,100.0	10,065.3	9,674.1	9,444.9	22.1	38.5	74.30	285.2	1,802.3	1,475.6	1,413.8	61.78	23.886	
10,200.0	10,165.3	9,700.0	9,466.3	22.1	38.6	73.87	297.8	1,809.6	1,519.6	1,458.0	61.58	24.676	
10,300.0	10,265.3	9,725.0	9,486.3	22.2	38.6	73.43	310.8	1,817.1	1,567.5	1,506.1	61.35	25.548	

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 #707H
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 #707H	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

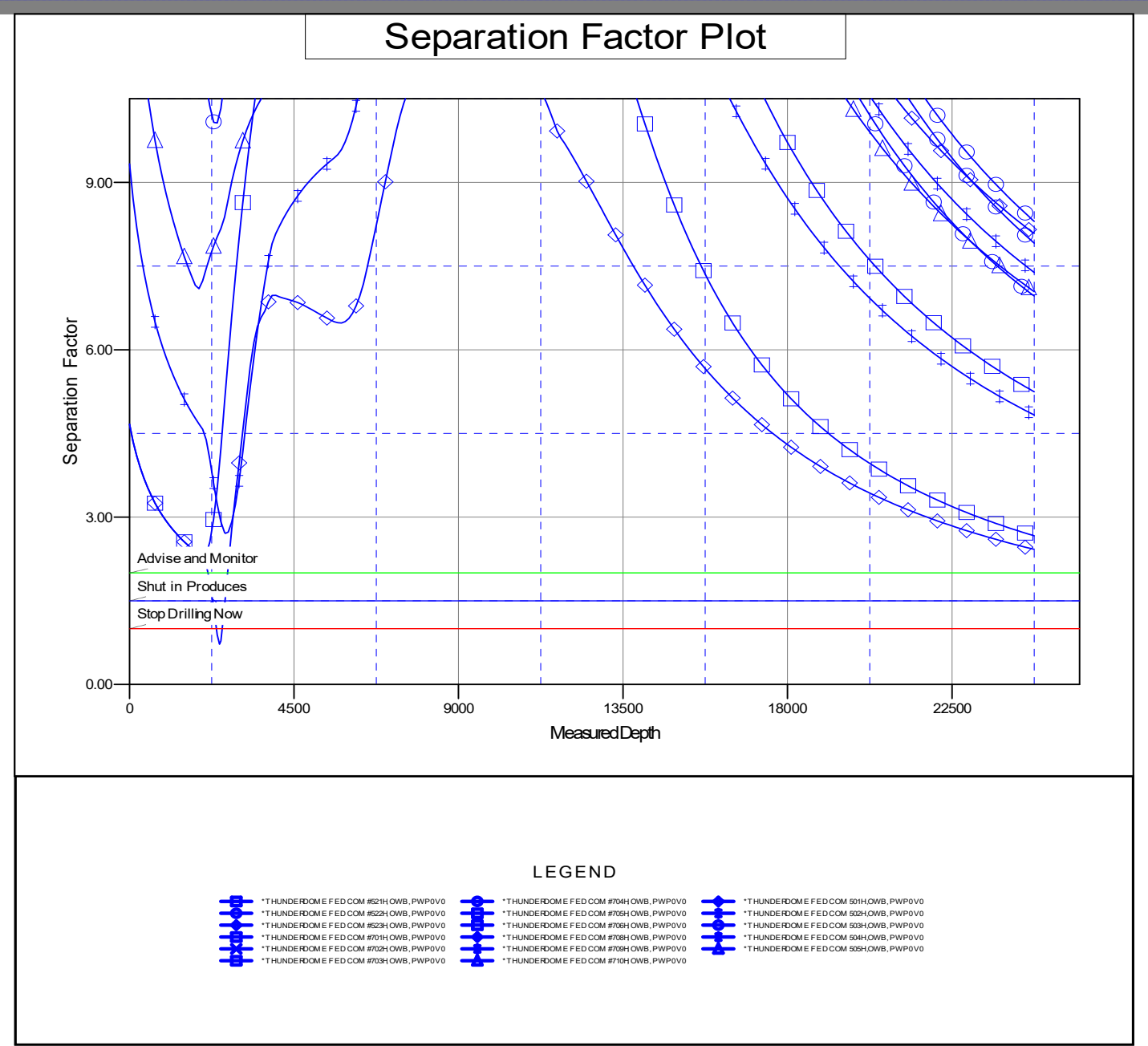
Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 505H - OWB - PWP0													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft	
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned: Distance			Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.0	10,365.3	9,750.0	9,505.5	22.2	38.7	72.98	324.6	1,825.0	1,618.9	1,557.8	61.10	26.495		
10,500.0	10,465.3	9,769.4	9,519.9	22.3	38.8	72.61	335.8	1,831.5	1,673.8	1,613.0	60.79	27.534		
10,600.0	10,565.3	9,800.0	9,541.8	22.3	38.9	72.01	354.4	1,842.2	1,731.9	1,671.4	60.60	28.582		
10,700.0	10,665.3	9,800.0	9,541.8	22.4	38.9	72.01	354.4	1,842.2	1,792.9	1,732.8	60.08	29.840		
10,800.0	10,765.3	9,825.2	9,558.8	22.4	38.9	71.51	370.5	1,851.5	1,856.5	1,796.6	59.86	31.014		
10,900.0	10,865.0	9,850.0	9,574.7	22.4	39.0	64.47	387.0	1,861.0	1,920.9	1,861.2	59.70	32.175		
11,000.0	10,962.0	9,850.0	9,574.7	22.4	39.0	57.71	387.0	1,861.0	1,982.1	1,922.7	59.39	33.374		

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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 #707H
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 #707H**

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 #707H
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 #707H	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 #707H					
Well Position	+N/-S	0.0 usft	Northing:	469,314.63 usft	Latitude:	32° 17' 21.617 N
	+E/-W	0.0 usft	Easting:	649,297.41 usft	Longitude:	103° 51' 0.719 W
Position Uncertainty	3.0 usft	Wellhead Elevation:	usft	Ground Level:	3,243.0 usft	
Grid Convergence:	0.26 °					

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	12/2/2022	6.70	59.95	47,541.33033846

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	1.94

Plan Survey Tool Program	Date	7/10/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	24,749.8 PWP0 (OWB)	r.5 MWD+IFR1+MS	
			OWSG MWD + IFR1 + Multi-St	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,533.3	8.00	110.00	2,531.6	-12.7	34.9	1.50	1.50	0.00	110.00	
3,814.2	8.00	110.00	3,800.0	-73.7	202.4	0.00	0.00	0.00	0.00	
3,952.7	8.00	90.00	3,937.2	-77.0	221.1	2.00	0.00	-14.44	-99.90	
5,652.1	8.00	90.00	5,620.0	-77.0	457.6	0.00	0.00	0.00	0.00	
6,452.1	0.00	0.00	6,417.4	-77.0	513.4	1.00	-1.00	0.00	180.00	
10,811.7	0.00	0.00	10,777.0	-77.0	513.4	0.00	0.00	0.00	0.00	
11,711.7	90.00	359.77	11,350.0	496.0	511.1	10.00	10.00	-0.03	359.77	
24,750.1	90.00	359.77	11,350.0	13,534.3	459.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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	1.50	110.00	2,100.0	-0.4	1.2	-0.4	1.50	1.50	0.00
2,200.0	3.00	110.00	2,199.9	-1.8	4.9	-1.6	1.50	1.50	0.00
2,300.0	4.50	110.00	2,299.7	-4.0	11.1	-3.6	1.50	1.50	0.00
2,400.0	6.00	110.00	2,399.3	-7.2	19.7	-6.5	1.50	1.50	0.00
2,500.0	7.50	110.00	2,498.6	-11.2	30.7	-10.1	1.50	1.50	0.00
2,533.3	8.00	110.00	2,531.6	-12.7	34.9	-11.5	1.50	1.50	0.00
2,600.0	8.00	110.00	2,597.6	-15.9	43.7	-14.4	0.00	0.00	0.00
2,700.0	8.00	110.00	2,696.6	-20.6	56.7	-18.7	0.00	0.00	0.00
2,800.0	8.00	110.00	2,795.7	-25.4	69.8	-23.0	0.00	0.00	0.00
2,900.0	8.00	110.00	2,894.7	-30.2	82.9	-27.3	0.00	0.00	0.00
3,000.0	8.00	110.00	2,993.7	-34.9	96.0	-31.7	0.00	0.00	0.00
3,100.0	8.00	110.00	3,092.8	-39.7	109.0	-36.0	0.00	0.00	0.00
3,200.0	8.00	110.00	3,191.8	-44.4	122.1	-40.3	0.00	0.00	0.00
3,300.0	8.00	110.00	3,290.8	-49.2	135.2	-44.6	0.00	0.00	0.00
3,400.0	8.00	110.00	3,389.8	-54.0	148.3	-48.9	0.00	0.00	0.00
3,500.0	8.00	110.00	3,488.9	-58.7	161.4	-53.2	0.00	0.00	0.00
3,600.0	8.00	110.00	3,587.9	-63.5	174.4	-57.5	0.00	0.00	0.00
3,700.0	8.00	110.00	3,686.9	-68.2	187.5	-61.9	0.00	0.00	0.00
3,800.0	8.00	110.00	3,785.9	-73.0	200.6	-66.2	0.00	0.00	0.00
3,814.2	8.00	110.00	3,800.0	-73.7	202.4	-66.8	0.00	0.00	0.00
3,900.0	7.89	97.59	3,885.0	-76.5	213.9	-69.2	2.00	-0.13	-14.47
3,952.7	8.00	90.00	3,937.2	-77.0	221.1	-69.4	2.00	0.21	-14.40
4,000.0	8.00	90.00	3,984.0	-77.0	227.7	-69.2	0.00	0.00	0.00
4,100.0	8.00	90.00	4,083.0	-77.0	241.6	-68.7	0.00	0.00	0.00
4,200.0	8.00	90.00	4,182.1	-77.0	255.6	-68.3	0.00	0.00	0.00
4,300.0	8.00	90.00	4,281.1	-77.0	269.5	-67.8	0.00	0.00	0.00
4,400.0	8.00	90.00	4,380.1	-77.0	283.4	-67.3	0.00	0.00	0.00
4,500.0	8.00	90.00	4,479.2	-77.0	297.3	-66.9	0.00	0.00	0.00
4,600.0	8.00	90.00	4,578.2	-77.0	311.2	-66.4	0.00	0.00	0.00
4,700.0	8.00	90.00	4,677.2	-77.0	325.1	-65.9	0.00	0.00	0.00
4,800.0	8.00	90.00	4,776.2	-77.0	339.1	-65.4	0.00	0.00	0.00
4,900.0	8.00	90.00	4,875.3	-77.0	353.0	-65.0	0.00	0.00	0.00
5,000.0	8.00	90.00	4,974.3	-77.0	366.9	-64.5	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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)
5,100.0	8.00	90.00	5,073.3	-77.0	380.8	-64.0	0.00	0.00	0.00
5,200.0	8.00	90.00	5,172.3	-77.0	394.7	-63.6	0.00	0.00	0.00
5,300.0	8.00	90.00	5,271.4	-77.0	408.6	-63.1	0.00	0.00	0.00
5,400.0	8.00	90.00	5,370.4	-77.0	422.6	-62.6	0.00	0.00	0.00
5,500.0	8.00	90.00	5,469.4	-77.0	436.5	-62.1	0.00	0.00	0.00
5,600.0	8.00	90.00	5,568.5	-77.0	450.4	-61.7	0.00	0.00	0.00
5,652.1	8.00	90.00	5,620.0	-77.0	457.6	-61.4	0.00	0.00	0.00
5,700.0	7.52	90.00	5,667.5	-77.0	464.1	-61.2	1.00	-1.00	0.00
5,800.0	6.52	90.00	5,766.8	-77.0	476.3	-60.8	1.00	-1.00	0.00
5,900.0	5.52	90.00	5,866.2	-77.0	486.8	-60.4	1.00	-1.00	0.00
6,000.0	4.52	90.00	5,965.8	-77.0	495.6	-60.1	1.00	-1.00	0.00
6,100.0	3.52	90.00	6,065.6	-77.0	502.6	-59.9	1.00	-1.00	0.00
6,200.0	2.52	90.00	6,165.4	-77.0	507.9	-59.7	1.00	-1.00	0.00
6,300.0	1.52	90.00	6,265.4	-77.0	511.4	-59.6	1.00	-1.00	0.00
6,400.0	0.52	90.00	6,365.3	-77.0	513.2	-59.5	1.00	-1.00	0.00
6,452.1	0.00	0.00	6,417.4	-77.0	513.4	-59.5	1.00	-1.00	0.00
6,500.0	0.00	0.00	6,465.3	-77.0	513.4	-59.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,565.3	-77.0	513.4	-59.5	0.00	0.00	0.00
6,700.0	0.00	0.00	6,665.3	-77.0	513.4	-59.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,765.3	-77.0	513.4	-59.5	0.00	0.00	0.00
6,900.0	0.00	0.00	6,865.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,965.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,100.0	0.00	0.00	7,065.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,200.0	0.00	0.00	7,165.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,300.0	0.00	0.00	7,265.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,400.0	0.00	0.00	7,365.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,500.0	0.00	0.00	7,465.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,600.0	0.00	0.00	7,565.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,700.0	0.00	0.00	7,665.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,800.0	0.00	0.00	7,765.3	-77.0	513.4	-59.5	0.00	0.00	0.00
7,900.0	0.00	0.00	7,865.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,000.0	0.00	0.00	7,965.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,100.0	0.00	0.00	8,065.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,200.0	0.00	0.00	8,165.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,300.0	0.00	0.00	8,265.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,400.0	0.00	0.00	8,365.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,500.0	0.00	0.00	8,465.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,600.0	0.00	0.00	8,565.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,700.0	0.00	0.00	8,665.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,800.0	0.00	0.00	8,765.3	-77.0	513.4	-59.5	0.00	0.00	0.00
8,900.0	0.00	0.00	8,865.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,000.0	0.00	0.00	8,965.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,100.0	0.00	0.00	9,065.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,200.0	0.00	0.00	9,165.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,300.0	0.00	0.00	9,265.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,400.0	0.00	0.00	9,365.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,500.0	0.00	0.00	9,465.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,600.0	0.00	0.00	9,565.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,700.0	0.00	0.00	9,665.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,800.0	0.00	0.00	9,765.3	-77.0	513.4	-59.5	0.00	0.00	0.00
9,900.0	0.00	0.00	9,865.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,000.0	0.00	0.00	9,965.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,100.0	0.00	0.00	10,065.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,200.0	0.00	0.00	10,165.3	-77.0	513.4	-59.5	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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)
10,300.0	0.00	0.00	10,265.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,400.0	0.00	0.00	10,365.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,500.0	0.00	0.00	10,465.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,600.0	0.00	0.00	10,565.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,700.0	0.00	0.00	10,665.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,800.0	0.00	0.00	10,765.3	-77.0	513.4	-59.5	0.00	0.00	0.00
10,811.7	0.00	0.00	10,777.0	-77.0	513.4	-59.5	0.00	0.00	0.00
10,850.0	3.83	359.77	10,815.3	-75.7	513.4	-58.3	10.00	10.00	0.00
10,900.0	8.83	359.77	10,865.0	-70.2	513.4	-52.7	10.00	10.00	0.00
10,950.0	13.83	359.77	10,914.0	-60.4	513.3	-42.9	10.00	10.00	0.00
11,000.0	18.83	359.77	10,962.0	-46.3	513.3	-28.9	10.00	10.00	0.00
11,050.0	23.83	359.77	11,008.5	-28.1	513.2	-10.7	10.00	10.00	0.00
11,100.0	28.83	359.77	11,053.3	-5.9	513.1	11.5	10.00	10.00	0.00
11,150.0	33.83	359.77	11,096.0	20.1	513.0	37.4	10.00	10.00	0.00
11,200.0	38.83	359.77	11,136.3	49.7	512.9	67.0	10.00	10.00	0.00
11,250.0	43.83	359.77	11,173.8	82.7	512.8	100.0	10.00	10.00	0.00
11,300.0	48.83	359.77	11,208.3	118.8	512.6	136.1	10.00	10.00	0.00
11,350.0	53.83	359.77	11,239.6	157.9	512.5	175.1	10.00	10.00	0.00
11,400.0	58.83	359.77	11,267.3	199.5	512.3	216.7	10.00	10.00	0.00
11,450.0	63.83	359.77	11,291.2	243.3	512.1	260.5	10.00	10.00	0.00
11,500.0	68.83	359.77	11,311.3	289.1	511.9	306.3	10.00	10.00	0.00
11,550.0	73.83	359.77	11,327.3	336.5	511.8	353.6	10.00	10.00	0.00
11,600.0	78.83	359.77	11,339.1	385.0	511.6	402.1	10.00	10.00	0.00
11,650.0	83.83	359.77	11,346.6	434.4	511.4	451.5	10.00	10.00	0.00
11,700.0	88.83	359.77	11,349.8	484.3	511.2	501.4	10.00	10.00	0.00
11,711.7	90.00	359.77	11,350.0	496.0	511.1	513.0	10.00	10.00	0.00
11,800.0	90.00	359.77	11,350.0	584.3	510.8	601.3	0.00	0.00	0.00
11,900.0	90.00	359.77	11,350.0	684.3	510.4	701.2	0.00	0.00	0.00
12,000.0	90.00	359.77	11,350.0	784.3	510.0	801.2	0.00	0.00	0.00
12,100.0	90.00	359.77	11,350.0	884.3	509.6	901.1	0.00	0.00	0.00
12,200.0	90.00	359.77	11,350.0	984.3	509.2	1,001.0	0.00	0.00	0.00
12,300.0	90.00	359.77	11,350.0	1,084.3	508.8	1,100.9	0.00	0.00	0.00
12,400.0	90.00	359.77	11,350.0	1,184.3	508.4	1,200.9	0.00	0.00	0.00
12,500.0	90.00	359.77	11,350.0	1,284.3	508.0	1,300.8	0.00	0.00	0.00
12,600.0	90.00	359.77	11,350.0	1,384.3	507.6	1,400.7	0.00	0.00	0.00
12,700.0	90.00	359.77	11,350.0	1,484.3	507.2	1,500.7	0.00	0.00	0.00
12,800.0	90.00	359.77	11,350.0	1,584.3	506.8	1,600.6	0.00	0.00	0.00
12,900.0	90.00	359.77	11,350.0	1,684.3	506.4	1,700.5	0.00	0.00	0.00
13,000.0	90.00	359.77	11,350.0	1,784.3	506.0	1,800.4	0.00	0.00	0.00
13,100.0	90.00	359.77	11,350.0	1,884.3	505.6	1,900.4	0.00	0.00	0.00
13,200.0	90.00	359.77	11,350.0	1,984.3	505.2	2,000.3	0.00	0.00	0.00
13,300.0	90.00	359.77	11,350.0	2,084.3	504.8	2,100.2	0.00	0.00	0.00
13,400.0	90.00	359.77	11,350.0	2,184.3	504.4	2,200.1	0.00	0.00	0.00
13,500.0	90.00	359.77	11,350.0	2,284.3	504.0	2,300.1	0.00	0.00	0.00
13,600.0	90.00	359.77	11,350.0	2,384.3	503.6	2,400.0	0.00	0.00	0.00
13,700.0	90.00	359.77	11,350.0	2,484.3	503.2	2,499.9	0.00	0.00	0.00
13,800.0	90.00	359.77	11,350.0	2,584.3	502.8	2,599.9	0.00	0.00	0.00
13,900.0	90.00	359.77	11,350.0	2,684.3	502.4	2,699.8	0.00	0.00	0.00
14,000.0	90.00	359.77	11,350.0	2,784.3	502.0	2,799.7	0.00	0.00	0.00
14,100.0	90.00	359.77	11,350.0	2,884.3	501.6	2,899.6	0.00	0.00	0.00
14,200.0	90.00	359.77	11,350.0	2,984.3	501.2	2,999.6	0.00	0.00	0.00
14,300.0	90.00	359.77	11,350.0	3,084.3	500.8	3,099.5	0.00	0.00	0.00
14,400.0	90.00	359.77	11,350.0	3,184.3	500.4	3,199.4	0.00	0.00	0.00
14,500.0	90.00	359.77	11,350.0	3,284.3	500.0	3,299.4	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	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)	
14,600.0	90.00	359.77	11,350.0	3,384.3	499.6	3,399.3	0.00	0.00	0.00	
14,700.0	90.00	359.77	11,350.0	3,484.3	499.2	3,499.2	0.00	0.00	0.00	
14,800.0	90.00	359.77	11,350.0	3,584.3	498.8	3,599.1	0.00	0.00	0.00	
14,900.0	90.00	359.77	11,350.0	3,684.3	498.4	3,699.1	0.00	0.00	0.00	
15,000.0	90.00	359.77	11,350.0	3,784.3	498.0	3,799.0	0.00	0.00	0.00	
15,100.0	90.00	359.77	11,350.0	3,884.3	497.6	3,898.9	0.00	0.00	0.00	
15,200.0	90.00	359.77	11,350.0	3,984.3	497.2	3,998.9	0.00	0.00	0.00	
15,300.0	90.00	359.77	11,350.0	4,084.3	496.8	4,098.8	0.00	0.00	0.00	
15,400.0	90.00	359.77	11,350.0	4,184.3	496.4	4,198.7	0.00	0.00	0.00	
15,500.0	90.00	359.77	11,350.0	4,284.3	496.0	4,298.6	0.00	0.00	0.00	
15,600.0	90.00	359.77	11,350.0	4,384.3	495.6	4,398.6	0.00	0.00	0.00	
15,700.0	90.00	359.77	11,350.0	4,484.3	495.2	4,498.5	0.00	0.00	0.00	
15,800.0	90.00	359.77	11,350.0	4,584.3	494.8	4,598.4	0.00	0.00	0.00	
15,900.0	90.00	359.77	11,350.0	4,684.3	494.4	4,698.4	0.00	0.00	0.00	
16,000.0	90.00	359.77	11,350.0	4,784.3	494.0	4,798.3	0.00	0.00	0.00	
16,100.0	90.00	359.77	11,350.0	4,884.3	493.6	4,898.2	0.00	0.00	0.00	
16,200.0	90.00	359.77	11,350.0	4,984.3	493.2	4,998.1	0.00	0.00	0.00	
16,300.0	90.00	359.77	11,350.0	5,084.3	492.8	5,098.1	0.00	0.00	0.00	
16,400.0	90.00	359.77	11,350.0	5,184.3	492.4	5,198.0	0.00	0.00	0.00	
16,500.0	90.00	359.77	11,350.0	5,284.3	492.0	5,297.9	0.00	0.00	0.00	
16,600.0	90.00	359.77	11,350.0	5,384.3	491.6	5,397.8	0.00	0.00	0.00	
16,700.0	90.00	359.77	11,350.0	5,484.3	491.2	5,497.8	0.00	0.00	0.00	
16,800.0	90.00	359.77	11,350.0	5,584.3	490.8	5,597.7	0.00	0.00	0.00	
16,900.0	90.00	359.77	11,350.0	5,684.3	490.4	5,697.6	0.00	0.00	0.00	
17,000.0	90.00	359.77	11,350.0	5,784.3	490.0	5,797.6	0.00	0.00	0.00	
17,100.0	90.00	359.77	11,350.0	5,884.3	489.6	5,897.5	0.00	0.00	0.00	
17,200.0	90.00	359.77	11,350.0	5,984.3	489.2	5,997.4	0.00	0.00	0.00	
17,300.0	90.00	359.77	11,350.0	6,084.3	488.8	6,097.3	0.00	0.00	0.00	
17,400.0	90.00	359.77	11,350.0	6,184.3	488.4	6,197.3	0.00	0.00	0.00	
17,500.0	90.00	359.77	11,350.0	6,284.3	488.0	6,297.2	0.00	0.00	0.00	
17,600.0	90.00	359.77	11,350.0	6,384.3	487.6	6,397.1	0.00	0.00	0.00	
17,700.0	90.00	359.77	11,350.0	6,484.3	487.2	6,497.1	0.00	0.00	0.00	
17,800.0	90.00	359.77	11,350.0	6,584.3	486.8	6,597.0	0.00	0.00	0.00	
17,900.0	90.00	359.77	11,350.0	6,684.3	486.4	6,696.9	0.00	0.00	0.00	
18,000.0	90.00	359.77	11,350.0	6,784.3	486.0	6,796.8	0.00	0.00	0.00	
18,100.0	90.00	359.77	11,350.0	6,884.3	485.6	6,896.8	0.00	0.00	0.00	
18,200.0	90.00	359.77	11,350.0	6,984.3	485.2	6,996.7	0.00	0.00	0.00	
18,300.0	90.00	359.77	11,350.0	7,084.3	484.8	7,096.6	0.00	0.00	0.00	
18,400.0	90.00	359.77	11,350.0	7,184.3	484.4	7,196.6	0.00	0.00	0.00	
18,500.0	90.00	359.77	11,350.0	7,284.3	484.0	7,296.5	0.00	0.00	0.00	
18,600.0	90.00	359.77	11,350.0	7,384.3	483.6	7,396.4	0.00	0.00	0.00	
18,700.0	90.00	359.77	11,350.0	7,484.3	483.2	7,496.3	0.00	0.00	0.00	
18,800.0	90.00	359.77	11,350.0	7,584.3	482.8	7,596.3	0.00	0.00	0.00	
18,900.0	90.00	359.77	11,350.0	7,684.3	482.4	7,696.2	0.00	0.00	0.00	
19,000.0	90.00	359.77	11,350.0	7,784.3	482.0	7,796.1	0.00	0.00	0.00	
19,100.0	90.00	359.77	11,350.0	7,884.3	481.6	7,896.1	0.00	0.00	0.00	
19,200.0	90.00	359.77	11,350.0	7,984.3	481.2	7,996.0	0.00	0.00	0.00	
19,300.0	90.00	359.77	11,350.0	8,084.3	480.8	8,095.9	0.00	0.00	0.00	
19,400.0	90.00	359.77	11,350.0	8,184.3	480.4	8,195.8	0.00	0.00	0.00	
19,500.0	90.00	359.77	11,350.0	8,284.3	480.0	8,295.8	0.00	0.00	0.00	
19,600.0	90.00	359.77	11,350.0	8,384.3	479.6	8,395.7	0.00	0.00	0.00	
19,700.0	90.00	359.77	11,350.0	8,484.3	479.2	8,495.6	0.00	0.00	0.00	
19,800.0	90.00	359.77	11,350.0	8,584.3	478.8	8,595.6	0.00	0.00	0.00	
19,900.0	90.00	359.77	11,350.0	8,684.3	478.4	8,695.5	0.00	0.00	0.00	

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Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
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 #707H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

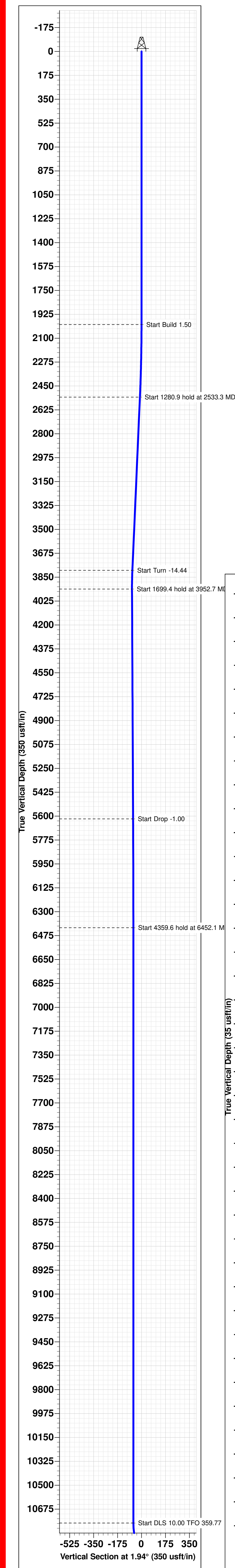
Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
20,000.0	90.00	359.77	11,350.0	8,784.3	478.0	8,795.4	0.00	0.00	0.00	
20,100.0	90.00	359.77	11,350.0	8,884.3	477.6	8,895.3	0.00	0.00	0.00	
20,200.0	90.00	359.77	11,350.0	8,984.3	477.2	8,995.3	0.00	0.00	0.00	
20,300.0	90.00	359.77	11,350.0	9,084.3	476.8	9,095.2	0.00	0.00	0.00	
20,400.0	90.00	359.77	11,350.0	9,184.3	476.4	9,195.1	0.00	0.00	0.00	
20,500.0	90.00	359.77	11,350.0	9,284.3	476.0	9,295.0	0.00	0.00	0.00	
20,600.0	90.00	359.77	11,350.0	9,384.2	475.6	9,395.0	0.00	0.00	0.00	
20,700.0	90.00	359.77	11,350.0	9,484.2	475.2	9,494.9	0.00	0.00	0.00	
20,800.0	90.00	359.77	11,350.0	9,584.2	474.8	9,594.8	0.00	0.00	0.00	
20,900.0	90.00	359.77	11,350.0	9,684.2	474.4	9,694.8	0.00	0.00	0.00	
21,000.0	90.00	359.77	11,350.0	9,784.2	474.0	9,794.7	0.00	0.00	0.00	
21,100.0	90.00	359.77	11,350.0	9,884.2	473.6	9,894.6	0.00	0.00	0.00	
21,200.0	90.00	359.77	11,350.0	9,984.2	473.2	9,994.5	0.00	0.00	0.00	
21,300.0	90.00	359.77	11,350.0	10,084.2	472.8	10,094.5	0.00	0.00	0.00	
21,400.0	90.00	359.77	11,350.0	10,184.2	472.4	10,194.4	0.00	0.00	0.00	
21,500.0	90.00	359.77	11,350.0	10,284.2	472.0	10,294.3	0.00	0.00	0.00	
21,600.0	90.00	359.77	11,350.0	10,384.2	471.6	10,394.3	0.00	0.00	0.00	
21,700.0	90.00	359.77	11,350.0	10,484.2	471.2	10,494.2	0.00	0.00	0.00	
21,800.0	90.00	359.77	11,350.0	10,584.2	470.8	10,594.1	0.00	0.00	0.00	
21,900.0	90.00	359.77	11,350.0	10,684.2	470.4	10,694.0	0.00	0.00	0.00	
22,000.0	90.00	359.77	11,350.0	10,784.2	470.0	10,794.0	0.00	0.00	0.00	
22,100.0	90.00	359.77	11,350.0	10,884.2	469.6	10,893.9	0.00	0.00	0.00	
22,200.0	90.00	359.77	11,350.0	10,984.2	469.2	10,993.8	0.00	0.00	0.00	
22,300.0	90.00	359.77	11,350.0	11,084.2	468.8	11,093.8	0.00	0.00	0.00	
22,400.0	90.00	359.77	11,350.0	11,184.2	468.4	11,193.7	0.00	0.00	0.00	
22,500.0	90.00	359.77	11,350.0	11,284.2	468.0	11,293.6	0.00	0.00	0.00	
22,600.0	90.00	359.77	11,350.0	11,384.2	467.6	11,393.5	0.00	0.00	0.00	
22,700.0	90.00	359.77	11,350.0	11,484.2	467.2	11,493.5	0.00	0.00	0.00	
22,800.0	90.00	359.77	11,350.0	11,584.2	466.8	11,593.4	0.00	0.00	0.00	
22,900.0	90.00	359.77	11,350.0	11,684.2	466.4	11,693.3	0.00	0.00	0.00	
23,000.0	90.00	359.77	11,350.0	11,784.2	466.0	11,793.3	0.00	0.00	0.00	
23,100.0	90.00	359.77	11,350.0	11,884.2	465.6	11,893.2	0.00	0.00	0.00	
23,200.0	90.00	359.77	11,350.0	11,984.2	465.2	11,993.1	0.00	0.00	0.00	
23,300.0	90.00	359.77	11,350.0	12,084.2	464.8	12,093.0	0.00	0.00	0.00	
23,400.0	90.00	359.77	11,350.0	12,184.2	464.4	12,193.0	0.00	0.00	0.00	
23,500.0	90.00	359.77	11,350.0	12,284.2	464.0	12,292.9	0.00	0.00	0.00	
23,600.0	90.00	359.77	11,350.0	12,384.2	463.6	12,392.8	0.00	0.00	0.00	
23,700.0	90.00	359.77	11,350.0	12,484.2	463.2	12,492.8	0.00	0.00	0.00	
23,800.0	90.00	359.77	11,350.0	12,584.2	462.8	12,592.7	0.00	0.00	0.00	
23,900.0	90.00	359.77	11,350.0	12,684.2	462.4	12,692.6	0.00	0.00	0.00	
24,000.0	90.00	359.77	11,350.0	12,784.2	462.0	12,792.5	0.00	0.00	0.00	
24,100.0	90.00	359.77	11,350.0	12,884.2	461.6	12,892.5	0.00	0.00	0.00	
24,200.0	90.00	359.77	11,350.0	12,984.2	461.2	12,992.4	0.00	0.00	0.00	
24,300.0	90.00	359.77	11,350.0	13,084.2	460.8	13,092.3	0.00	0.00	0.00	
24,400.0	90.00	359.77	11,350.0	13,184.2	460.4	13,192.2	0.00	0.00	0.00	
24,500.0	90.00	359.77	11,350.0	13,284.2	460.0	13,292.2	0.00	0.00	0.00	
24,600.0	90.00	359.77	11,350.0	13,384.2	459.6	13,392.1	0.00	0.00	0.00	
24,700.0	90.00	359.77	11,350.0	13,484.2	459.2	13,492.0	0.00	0.00	0.00	
24,750.1	90.00	359.77	11,350.0	13,534.3	459.0	13,542.1	0.00	0.00	0.00	

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Planning Report

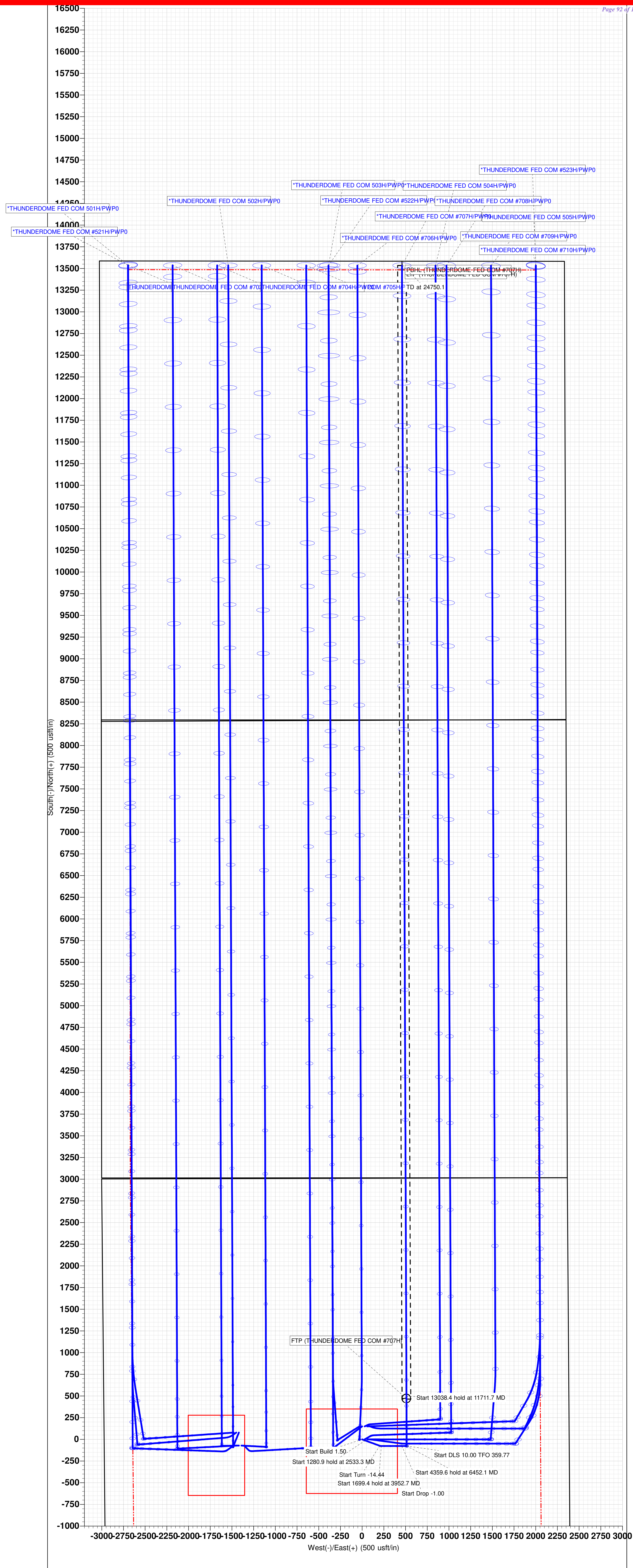
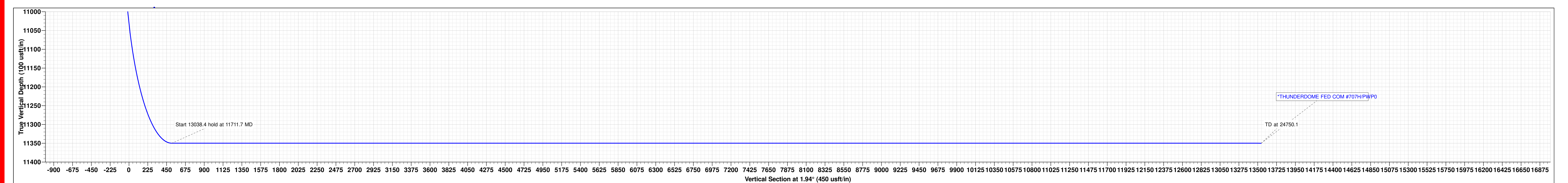
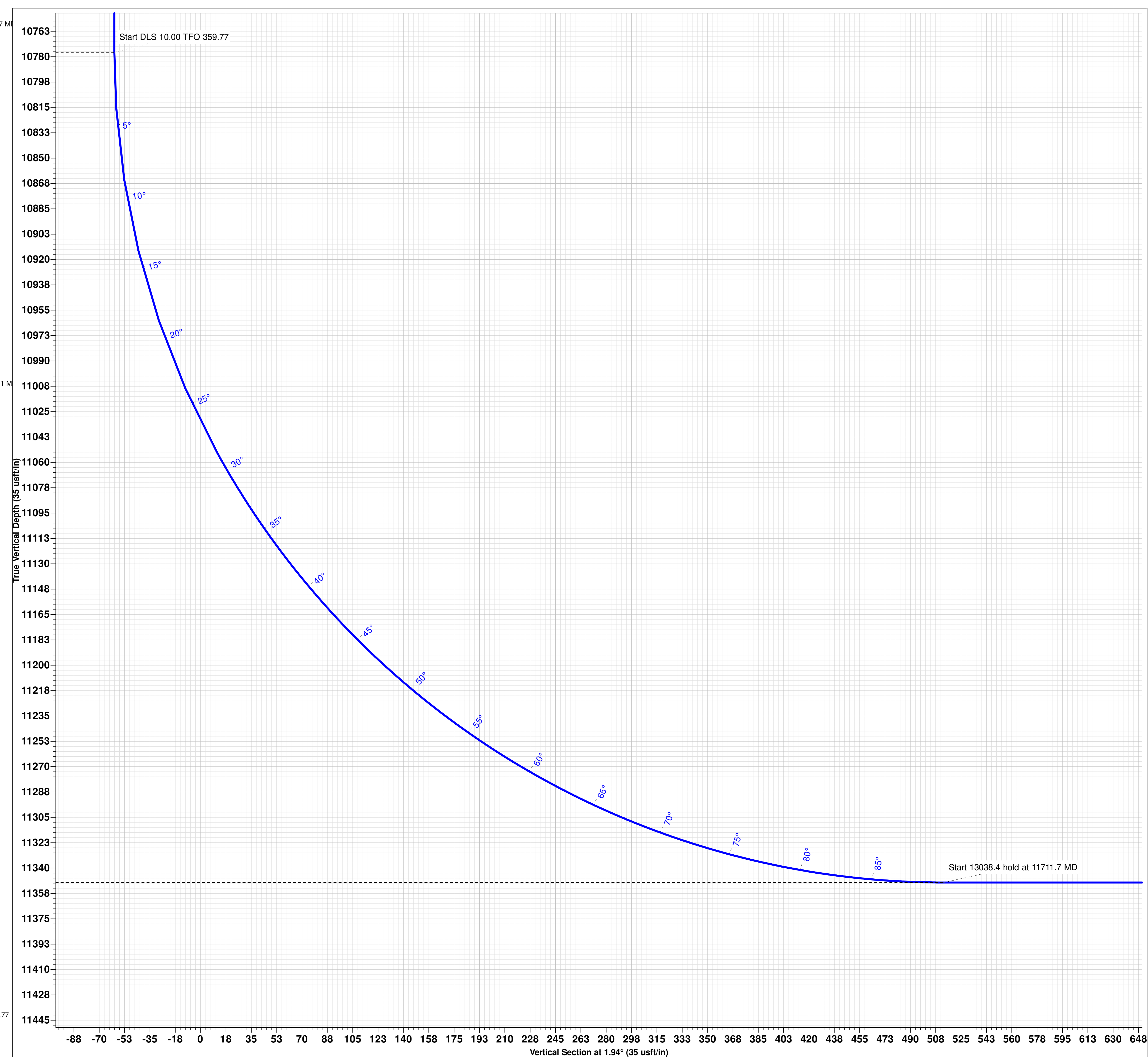
Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well *THUNDERDOME FED COM #707H
Company:	DELAWARE BASIN WEST	TVD Reference:	GL @ 3243.0usft
Project:	ATLAS PROSPECT (DBW)	MD Reference:	GL @ 3243.0usft
Site:	THUNDERDOME PROJECT	North Reference:	Grid
Well:	*THUNDERDOME FED COM #707H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
PBHL (THUNDERDOME - plan hits target center - Rectangle (sides W100.0 H13,069.8 D20.0)	0.00	179.78	11,350.0	13,534.3	459.0	482,848.90	649,756.41	32° 19' 35.531 N	103° 50' 54.659 W
LTP (THUNDERDOME I - plan misses target center by 0.1usft at 24700.0usft MD (11350.0 TVD, 13484.2 N, 459.2 E) - Circle (radius 50.0)	90.00	359.77	11,350.0	13,484.3	459.2	482,798.90	649,756.66	32° 19' 35.036 N	103° 50' 54.659 W
FTP (THUNDERDOME I - plan misses target center by 2.4usft at 11687.4usft MD (11349.4 TVD, 471.7 N, 511.2 E) - Circle (radius 50.0)	0.00	0.01	11,350.0	471.7	508.9	469,786.33	649,806.27	32° 17' 26.263 N	103° 50' 54.766 W



Site: THUNDERDOME PROJECT
Well: *THUNDERDOME FED COM #707H
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
	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0
	2533.3	8.00	110.00	2531.6	-12.7	34.9	1.50	110.00	-11.5
	3614.2	8.00	110.00	3600.0	-73.7	202.4	0.00	0.00	-66.8
	3952.7	8.00	90.00	3937.2	-77.0	221.1	2.00	-99.90	-69.4
	5652.1	8.00	90.00	5620.0	-77.0	457.6	0.00	0.00	-61.4
	6452.1	0.00	0.00	6417.4	-77.0	513.4	1.00	180.00	-59.5
	10811.7	0.00	0.00	10777.0	-77.0	513.4	0.00	0.00	-59.5
	11711.7	90.00	359.77	11350.0	496.0	511.1	10.00	359.77	513.0
	24750.1	90.00	359.77	11350.0	1354.3	459.0	0.00	0.00	13542.1



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 707H
SURFACE HOLE FOOTAGE:	2275'/S & 2384'/E
BOTTOM HOLE FOOTAGE:	50'/N & 1872'/E
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 **10,700** 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 **24,750** 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

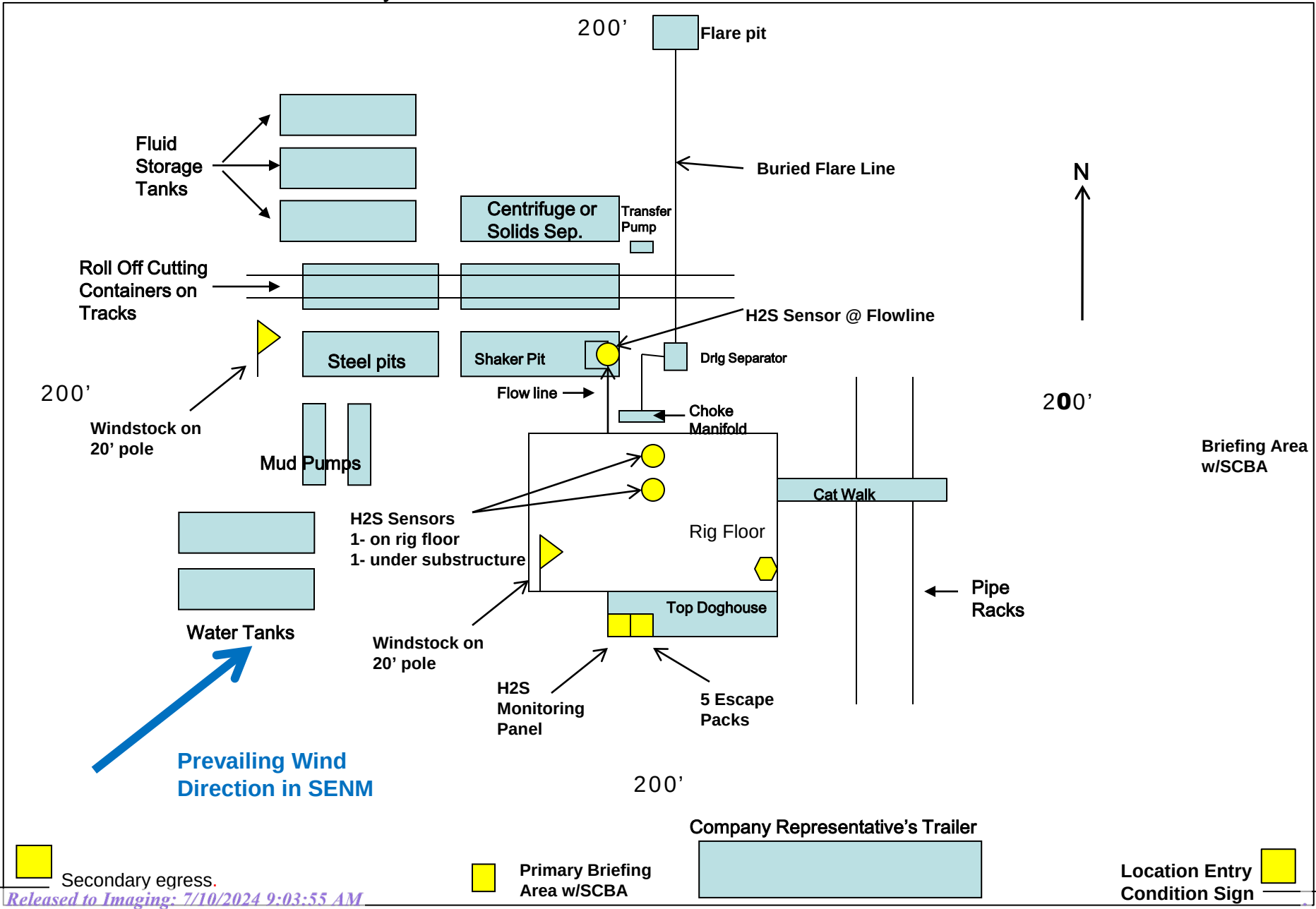
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location 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 352718

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID:
	217817
	Action Number:
	352718
Action Type:	
[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	7/10/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/10/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	7/10/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	7/10/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	7/10/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/10/2024
ward.rikala	Must comply with all R-111-Q requirements.	7/10/2024