Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-015-55227

3a. Address	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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 06/07/2024

Additional Operator Remarks

Location of Well

0. SHL: NWSE / 2275 FSL / 2294 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2894596 / LONG: -103.8503965 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2540 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2907431 / LONG: -103.844044 (TVD: 11159 feet, MD: 11682 feet)

PPP: NESE / 1321 FSL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3158801 / LONG: -103.844028 (TVD: 11180 feet, MD: 20822 feet)

PPP: SESE / 1 FSL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977251 / LONG: -103.8440626 (TVD: 11180 feet, MD: 14222 feet)

PPP: SESE / 1 FSL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3122499 / LONG: -103.8440326 (TVD: 11180 feet, MD: 19502 feet)

PPP: SENE / 2643 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3195103 / LONG: -103.8440233 (TVD: 11180 feet, MD: 22142 feet)

BHL: NENE / 50 FNL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3266359 / LONG: -103.8440143 (TVD: 11180 feet, MD: 24734 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	[2] Pool Code	[3] Pool Name
30-015- 55227	98358 96597	Los Medanos WC23S30E; Wolfcamp (Gas)

[4] Property Code	[5] Property Name	[6] Well Number
336009	THUNDERDOME FED COM	710H

[7] OGRID No.	[8] Operator Name	[9] Elevation
217817	CONOCOPHILLIPS COMPANY	3,266.13'

[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	2,294'	EAST	EDDY

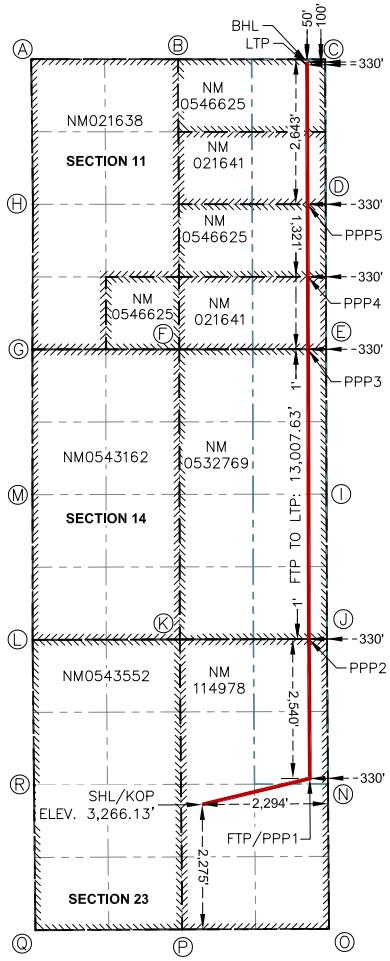
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	11	23-S	30-E		50'	NORTH	330'	EAST	EDDY

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

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

[16]



SURFACE HOLE LOCATION / KICK OFF POINT
2,275' FSL & 2,294' FEL
NEW MEXICO EAST-NAD 83
NORTH:469,374.10'
EAST:690,570.67'
LAT:32.28945965
LONG:-103.85039659

FIRST TAKE POINT / PENETRATION POINT 1
2,540' FNL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:469,849.93'
EAST:692,531.56'
LAT:32.29074318
LONG:-103.84404407

PENETRATION POINT 2
1' FSL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:472,389.86'
EAST:692,514.23'
LAT:32.29772510
LONG:-103.84406265

PENETRATION POINT 3
1' FSL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:477,673.93'
EAST:692,499.39'
LAT:32.31224999
LONG:-103.84403263

PENETRATION POINT 4
1,321' FSL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:478,994.57'
EAST:692,494.79'
LAT:32.31588018
LONG:-103.84402801

PENETRATION POINT 5
2,643' FNL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:480,315.21'
EAST:692,490.19'
LAT:32.31951037
LONG:-103.84402339

LAST TAKE POINT
100' FNL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:482,857.45'
EAST:692,481.33'
LAT:32.32649848
LONG:-103.84401449

BOTTOM HOLE LOCATION
50' FNL & 330' FEL
NEW MEXICO EAST-NAD 83
NORTH:482,907.45'
EAST:692,481.15'
LAT:32.32663592
LONG:-103.84401431

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.

Stan Wagner 10/10/2023
Signature Date

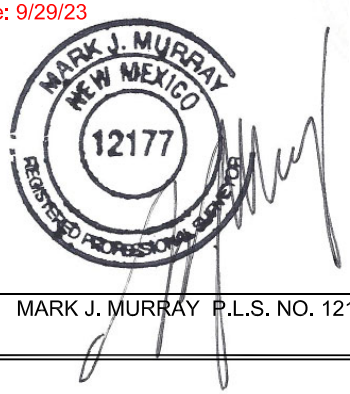
Stan Wagner
Printed Name Date

Email Address Date

[18] SURVEYOR CERTIFICATION

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

Date: 9/29/23



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

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: ConocoPhillips Company **OGRID: 217817** **Date: 10/10/2023**

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Thunderdome Federal Com 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:	Stan Wagner
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 #710H

1. Geologic Formations

TVD of target	11,180' EOL	Pilot hole depth	NA
MD at TD:	24,734'	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	498	Salt	
Base of Salt	3630	Salt	
Lamar	3855	Salt Water	
Bell Canyon	3868	Salt Water	
Brushy Canyon	5494	Oil/Gas	
Bone Spring Lime	7732	Oil/Gas	
1st Bone Spring Sand	8758	Oil/Gas	
2nd Bone Spring Sand	9419	Oil/Gas	
3rd Bone Spring Sand	10711	Oil/Gas	
Wolfcamp A	11262	Target	
Wolfcamp B	11583	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight	Grade	Conn.	SF	SF Burst	SF	SF
	From	To		(lbs)			Collapse		Body	Joint
17.50"	0	400	13.375"	54.5	J55	BTC	6.17	19.09	39.13	41.70
12.25"	0	3795	10.75"	45.5	J55	BTC	1.25	1.84	6.35	6.02
9.875"	0	7400	7.625"	29.7	L80-ICY	BTC	1.74	1.19	3.30	3.34
8.750"	7400	10600	7.625"	29.7	P110 ICY	W513	1.31	1.54	2.99	1.77
6.75"	0	10100	5.5"	23	P110 CY	BTC	2.21	2.61	3.14	3.12
6.75"	10100	24,734	5.5"	23	P110 CY	W441	2.00	2.36	2.84	2.75
					BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

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

COG Operating, LLC - Thunderdome Fed Com #710H

	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 3rd 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 2nd 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 #710H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf	238	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter 1	474	12.4	2.26	12.84	12	Lead: Class C + 5% Gel + 1% CaCl2
	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						
	1376	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	9,600'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #710H

4. Pressure Control Equipment

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

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12 1/4"	13-5/8”	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
9-7/8”	13-5/8”	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4”	13-5/8”	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

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

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

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

COG Operating, LLC - Thunderdome Fed Com #710H

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 #710H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7270 psi at 11180' TVD
Abnormal Temperature	NO 170 Deg. F.

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

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

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

8. Other Facets of Operation

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

x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

710H

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 790' X 850'

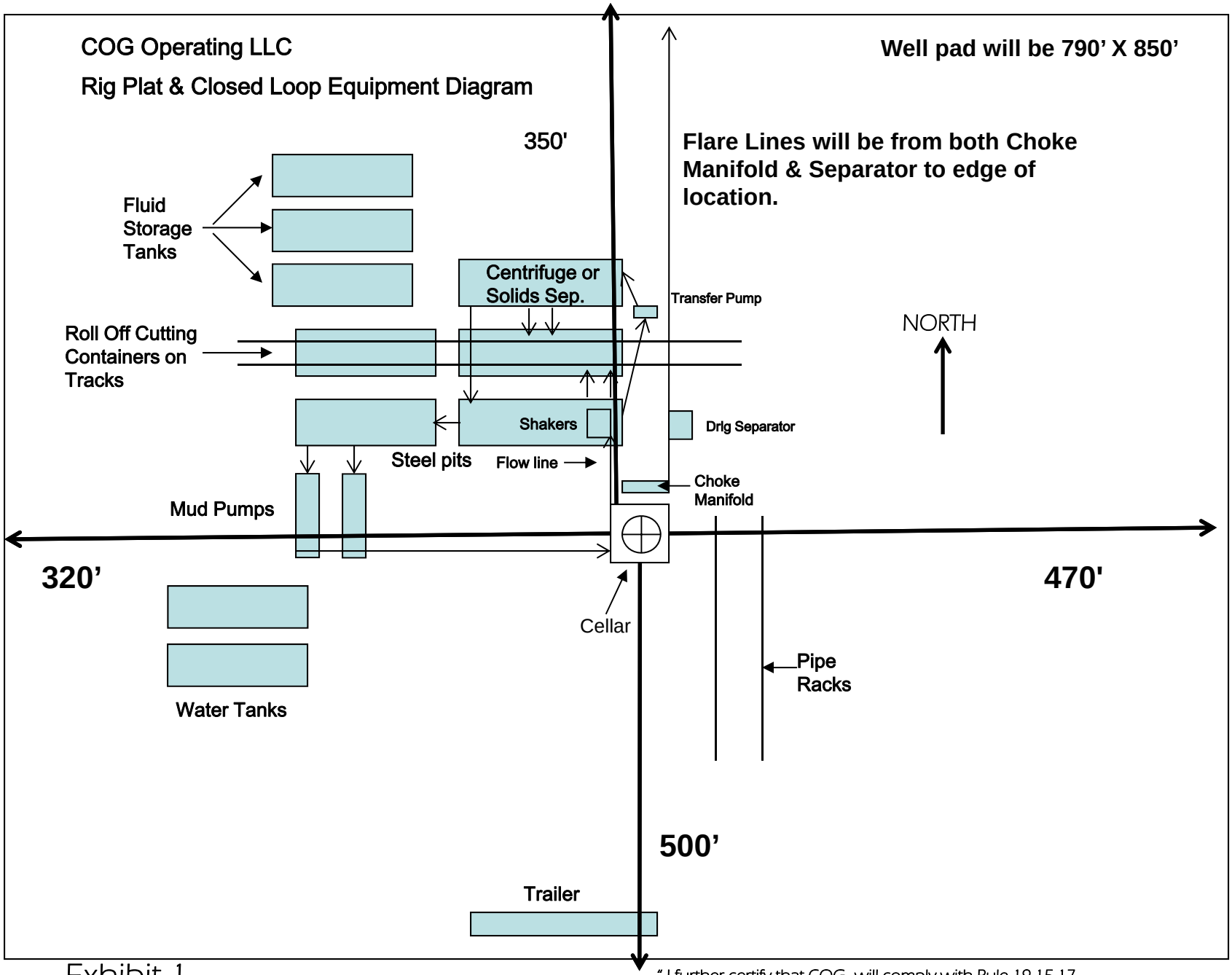


Exhibit 1

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

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-W)
THUNDERDOME PROJECT
***THUNDERDOME FED COM #710H**

OWB
PWP0

Anticollision Report

10 July, 2023

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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	24,734.1	PWP0 (OWB)	r.5 MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction rev.5

Summary

Site Name Offset Well - Wellbore - Design	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	1,800.0	1,800.0	1,572.0	1,559.4	125.004	CC, ES
*THUNDERDOME FED COM #521H - OWB - PWP0	3,300.0	2,876.5	1,994.5	1,975.9	107.511	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	1,800.0	1,800.0	192.1	179.5	15.274	CC, ES
*THUNDERDOME FED COM #522H - OWB - PWP0	2,000.0	1,998.4	196.7	183.6	15.029	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	2,567.1	2,571.3	138.6	124.2	9.633	CC
*THUNDERDOME FED COM #523H - OWB - PWP0	2,600.0	2,603.8	138.7	124.2	9.580	ES
*THUNDERDOME FED COM #523H - OWB - PWP0	9,800.0	9,815.4	203.8	152.0	3.935	SF
*THUNDERDOME FED COM #701H - OWB - PWP0	1,500.0	1,500.0	1,571.7	1,560.0	133.938	CC, ES
*THUNDERDOME FED COM #701H - OWB - PWP0	3,400.0	3,026.3	1,998.6	1,979.3	103.182	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	1,800.0	1,800.0	1,541.6	1,529.0	122.588	CC, ES
*THUNDERDOME FED COM #702H - OWB - PWP0	3,800.0	3,594.6	1,978.3	1,957.1	93.280	SF
*THUNDERDOME FED COM #703H - OWB - PWP0	1,800.0	1,800.0	1,511.7	1,499.1	120.210	CC, ES
*THUNDERDOME FED COM #703H - OWB - PWP0	4,000.0	3,684.5	1,985.5	1,963.9	91.728	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	1,800.0	1,800.0	1,481.8	1,469.2	117.830	CC, ES
*THUNDERDOME FED COM #704H - OWB - PWP0	5,500.0	5,424.4	1,980.2	1,946.0	57.796	SF
*THUNDERDOME FED COM #705H - OWB - PWP0	1,800.0	1,800.0	1,451.8	1,439.2	115.447	CC
*THUNDERDOME FED COM #705H - OWB - PWP0	1,900.0	1,934.2	1,451.9	1,439.0	112.501	ES
*THUNDERDOME FED COM #705H - OWB - PWP0	7,200.0	7,200.0	1,914.5	1,862.1	36.496	SF
*THUNDERDOME FED COM #706H - OWB - PWP0	1,800.0	1,800.0	120.0	107.4	9.542	CC, ES
*THUNDERDOME FED COM #706H - OWB - PWP0	1,900.0	1,900.0	121.3	108.4	9.425	SF
*THUNDERDOME FED COM #707H - OWB - PWP0	1,800.0	1,800.0	90.0	77.4	7.157	CC, ES
*THUNDERDOME FED COM #707H - OWB - PWP0	24,734.5	24,743.0	1,551.3	1,331.2	7.046	SF
*THUNDERDOME FED COM #708H - OWB - PWP0	1,800.0	1,800.0	60.0	47.4	4.771	CC, ES
*THUNDERDOME FED COM #708H - OWB - PWP0	1,900.0	1,900.0	61.3	48.4	4.763	SF
*THUNDERDOME FED COM #709H - OWB - PWP0	1,800.0	1,800.0	30.0	17.4	2.386	CC, ES
*THUNDERDOME FED COM #709H - OWB - PWP0	24,734.5	24,800.4	543.3	305.3	2.283	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	1,800.0	1,800.0	1,542.0	1,529.5	122.621	CC, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	3,400.0	2,941.8	1,987.7	1,969.1	106.763	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	1,800.0	1,800.0	1,512.1	1,499.5	120.239	CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	4,100.0	4,006.9	1,993.2	1,970.8	89.032	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	1,800.0	1,800.0	174.9	162.3	13.909	CC, ES
*THUNDERDOME FED COM 503H - OWB - PWP0	2,000.0	2,000.5	177.9	164.8	13.605	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,800.0	1,800.0	161.6	149.0	12.848	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	24,734.5	22,849.6	1,857.7	1,668.0	9.792	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,800.0	1,800.0	153.0	140.4	12.166	CC
*THUNDERDOME FED COM 505H - OWB - PWP0	1,900.0	1,900.7	153.2	140.4	11.938	ES
*THUNDERDOME FED COM 505H - OWB - PWP0	24,734.5	23,061.6	1,455.0	1,226.1	6.357	SF

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning

TD Summary

Site Name Offset Well - Wellbore - Design	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	24,734.5	23,524.1				Out of Range @TD
*THUNDERDOME FED COM #522H - OWB - PWP0	24,734.5	23,455.7				Out of Range @TD
*THUNDERDOME FED COM #523H - OWB - PWP0	24,734.5	23,558.2	1,030.0	800.3	4.484	
*THUNDERDOME FED COM #701H - OWB - PWP0	24,734.5	24,826.7				Out of Range @TD
*THUNDERDOME FED COM #702H - OWB - PWP0	24,734.5	24,611.3				Out of Range @TD
*THUNDERDOME FED COM #703H - OWB - PWP0	24,734.5	24,708.1				Out of Range @TD
*THUNDERDOME FED COM #704H - OWB - PWP0	24,734.5	24,559.5				Out of Range @TD
*THUNDERDOME FED COM #705H - OWB - PWP0	24,734.5	24,787.6				Out of Range @TD
*THUNDERDOME FED COM #706H - OWB - PWP0	24,734.5	24,460.0				Out of Range @TD
*THUNDERDOME FED COM #707H - OWB - PWP0	24,734.5	24,743.0	1,551.3	1,331.2	7.046	SF
*THUNDERDOME FED COM #708H - OWB - PWP0	24,734.5	24,481.9	1,029.0	813.5	4.774	
*THUNDERDOME FED COM #709H - OWB - PWP0	24,734.5	24,800.4	543.3	305.3	2.283	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	24,734.5	23,178.5				Out of Range @TD
*THUNDERDOME FED COM 502H - OWB - PWP0	24,734.5	23,093.9				Out of Range @TD
*THUNDERDOME FED COM 503H - OWB - PWP0	24,734.5	23,129.7				Out of Range @TD
*THUNDERDOME FED COM 504H - OWB - PWP0	24,734.5	22,849.6	1,857.7	1,668.0	9.792	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	24,734.5	23,061.6	1,455.0	1,226.1	6.357	SF

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-87.14	78.4	-1,570.0	1,572.0	1,565.6	6.43	244.520	
100.0	100.0	100.0	100.0	3.2	3.2	-87.14	78.4	-1,570.0	1,572.0	1,565.1	6.89	228.078	
200.0	200.0	200.0	200.0	3.5	3.5	-87.14	78.4	-1,570.0	1,572.0	1,564.7	7.33	214.514	
300.0	300.0	300.0	300.0	3.7	3.7	-87.14	78.4	-1,570.0	1,572.0	1,564.3	7.74	203.065	
400.0	400.0	400.0	400.0	3.9	3.9	-87.14	78.4	-1,570.0	1,572.0	1,563.9	8.14	193.226	
500.0	500.0	500.0	500.0	4.1	4.1	-87.14	78.4	-1,570.0	1,572.0	1,563.5	8.51	184.646	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 **Rule Assigned:** **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
600.0	600.0	600.0	600.0	4.2	4.2	-87.14	78.4	-1,570.0	1,572.0	1,563.1	8.88	177.074	
700.0	700.0	700.0	700.0	4.4	4.4	-87.14	78.4	-1,570.0	1,572.0	1,562.8	9.23	170.324	
800.0	800.0	800.0	800.0	4.6	4.6	-87.14	78.4	-1,570.0	1,572.0	1,562.4	9.57	164.254	
900.0	900.0	900.0	900.0	4.8	4.8	-87.14	78.4	-1,570.0	1,572.0	1,562.1	9.90	158.757	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-87.14	78.4	-1,570.0	1,572.0	1,561.8	10.22	153.745	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-87.14	78.4	-1,570.0	1,572.0	1,561.5	10.54	149.150	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-87.14	78.4	-1,570.0	1,572.0	1,561.1	10.85	144.917	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-87.14	78.4	-1,570.0	1,572.0	1,560.8	11.15	140.999	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-87.14	78.4	-1,570.0	1,572.0	1,560.6	11.44	137.359	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-87.14	78.4	-1,570.0	1,572.0	1,560.3	11.73	133.964	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-87.14	78.4	-1,570.0	1,572.0	1,560.0	12.02	130.788	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-87.14	78.4	-1,570.0	1,572.0	1,559.7	12.30	127.808	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-87.14	78.4	-1,570.0	1,572.0	1,559.4	12.58	125.004	CC, ES
1,900.0	1,900.0	1,871.0	1,871.0	6.3	6.2	175.36	78.4	-1,570.7	1,574.2	1,561.4	12.84	122.560	
2,000.0	1,999.9	1,941.7	1,941.7	6.4	6.3	175.35	78.2	-1,572.7	1,580.9	1,567.8	13.11	120.596	
2,100.0	2,099.7	2,000.0	1,999.9	6.6	6.4	175.33	78.0	-1,575.3	1,592.1	1,578.7	13.36	119.141	
2,200.0	2,199.3	2,081.9	2,081.6	6.8	6.6	175.31	77.7	-1,580.4	1,607.5	1,593.8	13.69	117.419	
2,300.0	2,298.6	2,150.9	2,150.4	7.0	6.7	175.29	77.3	-1,586.1	1,627.3	1,613.3	14.02	116.091	
2,400.0	2,397.5	2,218.9	2,218.1	7.3	6.9	175.26	76.8	-1,592.9	1,651.4	1,637.1	14.37	114.944	
2,500.0	2,496.1	2,300.0	2,298.6	7.5	7.0	175.22	76.1	-1,602.6	1,679.8	1,665.1	14.78	113.636	
2,600.0	2,594.2	2,351.5	2,349.6	7.8	7.2	175.18	75.6	-1,609.7	1,712.2	1,697.1	15.14	113.101	
2,700.0	2,691.7	2,415.7	2,413.1	8.0	7.3	175.15	75.0	-1,619.4	1,748.6	1,733.1	15.50	112.843	
2,800.0	2,789.2	2,479.0	2,475.4	8.3	7.5	175.14	74.2	-1,630.1	1,787.0	1,771.1	15.90	112.358	
2,900.0	2,886.6	2,541.4	2,536.7	8.7	7.6	175.14	73.4	-1,641.6	1,826.9	1,810.6	16.33	111.875	
3,000.0	2,984.0	2,604.3	2,598.4	9.0	7.8	175.13	72.5	-1,654.2	1,868.3	1,851.5	16.77	111.394	
3,100.0	3,081.5	2,695.0	2,687.1	9.3	8.1	175.11	71.2	-1,673.0	1,910.4	1,893.0	17.34	110.171	
3,200.0	3,178.9	2,785.7	2,775.8	9.7	8.3	175.09	69.9	-1,691.8	1,952.4	1,934.5	17.93	108.866	
3,300.0	3,276.4	2,876.5	2,864.6	10.1	8.6	175.08	68.6	-1,710.6	1,994.5	1,975.9	18.55	107.511	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS — **Rule Assigned:** — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-38.66	150.0	-120.0	192.1	185.7	6.43	29.878	
100.0	100.0	100.0	100.0	3.2	3.2	-38.66	150.0	-120.0	192.1	185.2	6.89	27.869	
200.0	200.0	200.0	200.0	3.5	3.5	-38.66	150.0	-120.0	192.1	184.8	7.33	26.212	
300.0	300.0	300.0	300.0	3.7	3.7	-38.66	150.0	-120.0	192.1	184.3	7.74	24.813	
400.0	400.0	400.0	400.0	3.9	3.9	-38.66	150.0	-120.0	192.1	183.9	8.14	23.611	
500.0	500.0	500.0	500.0	4.1	4.1	-38.66	150.0	-120.0	192.1	183.6	8.51	22.562	
600.0	600.0	600.0	600.0	4.2	4.2	-38.66	150.0	-120.0	192.1	183.2	8.88	21.637	
700.0	700.0	700.0	700.0	4.4	4.4	-38.66	150.0	-120.0	192.1	182.9	9.23	20.812	
800.0	800.0	800.0	800.0	4.6	4.6	-38.66	150.0	-120.0	192.1	182.5	9.57	20.071	
900.0	900.0	900.0	900.0	4.8	4.8	-38.66	150.0	-120.0	192.1	182.2	9.90	19.399	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-38.66	150.0	-120.0	192.1	181.9	10.22	18.786	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-38.66	150.0	-120.0	192.1	181.5	10.54	18.225	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-38.66	150.0	-120.0	192.1	181.2	10.85	17.708	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-38.66	150.0	-120.0	192.1	180.9	11.15	17.229	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-38.66	150.0	-120.0	192.1	180.6	11.44	16.784	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-38.66	150.0	-120.0	192.1	180.4	11.73	16.369	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-38.66	150.0	-120.0	192.1	180.1	12.02	15.981	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-38.66	150.0	-120.0	192.1	179.8	12.30	15.617	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-38.66	150.0	-120.0	192.1	179.5	12.58	15.274	CC, ES
1,900.0	1,900.0	1,899.4	1,899.3	6.3	6.3	-136.80	149.3	-121.1	193.2	180.4	12.84	15.047	
2,000.0	1,999.9	1,998.4	1,998.3	6.4	6.4	-138.65	147.3	-124.4	196.7	183.6	13.08	15.029	SF
2,100.0	2,099.7	2,096.7	2,096.4	6.6	6.6	-141.57	143.9	-129.8	202.9	189.5	13.35	15.201	
2,200.0	2,199.3	2,193.9	2,193.2	6.8	6.8	-145.31	139.2	-137.2	212.5	198.8	13.63	15.583	
2,300.0	2,298.6	2,289.7	2,288.4	7.0	7.0	-149.55	133.4	-146.6	226.0	212.1	13.96	16.194	
2,400.0	2,397.5	2,385.3	2,383.1	7.3	7.1	-154.00	126.5	-157.7	244.0	229.7	14.27	17.092	
2,500.0	2,496.1	2,481.1	2,477.9	7.5	7.3	-158.10	119.4	-169.0	265.8	251.1	14.68	18.107	
2,600.0	2,594.2	2,576.1	2,572.0	7.8	7.6	-161.72	112.4	-180.2	291.2	276.1	15.13	19.247	
2,700.0	2,691.7	2,670.4	2,665.4	8.0	7.8	-164.91	105.4	-191.3	320.0	304.4	15.56	20.564	
2,800.0	2,789.2	2,764.4	2,758.5	8.3	8.0	-167.67	98.5	-202.4	350.1	334.1	16.06	21.805	
2,900.0	2,886.6	2,858.5	2,851.7	8.7	8.3	-169.99	91.6	-213.5	380.9	364.3	16.58	22.970	
3,000.0	2,984.0	2,952.6	2,944.8	9.0	8.6	-171.98	84.6	-224.6	412.1	395.0	17.13	24.057	
3,100.0	3,081.5	3,046.7	3,038.0	9.3	8.9	-173.69	77.7	-235.7	443.8	426.1	17.70	25.066	
3,200.0	3,178.9	3,140.7	3,131.1	9.7	9.2	-175.17	70.7	-246.8	475.7	457.4	18.30	26.000	
3,300.0	3,276.4	3,234.8	3,224.3	10.1	9.5	-176.47	63.8	-257.9	508.0	489.0	18.91	26.862	
3,400.0	3,373.8	3,328.9	3,317.5	10.4	9.8	-177.61	56.9	-269.0	540.4	520.8	19.54	27.657	
3,500.0	3,471.2	3,423.4	3,411.0	10.8	10.1	-178.63	49.9	-280.2	573.0	552.8	20.18	28.393	
3,600.0	3,568.7	3,521.5	3,508.2	11.2	10.5	-179.55	42.9	-291.3	605.3	584.4	20.87	28.999	
3,700.0	3,666.1	3,620.1	3,606.1	11.6	10.8	179.68	36.4	-301.8	637.2	615.6	21.57	29.545	
3,800.0	3,763.5	3,719.2	3,704.6	12.0	11.1	179.04	30.2	-311.6	668.5	646.2	22.27	30.021	
3,900.0	3,860.9	3,818.7	3,803.4	12.4	11.5	-177.62	24.5	-320.8	699.6	676.7	22.95	30.486	
4,000.0	3,957.6	3,917.8	3,902.0	12.8	11.8	-174.32	19.3	-329.1	732.3	708.7	23.66	30.954	
4,100.0	4,054.2	4,017.2	4,001.0	13.2	12.2	-174.96	14.5	-336.8	765.1	740.7	24.40	31.361	
4,200.0	4,150.8	4,117.1	4,100.6	13.7	12.5	-175.50	10.1	-343.8	797.2	772.1	25.13	31.717	
4,300.0	4,247.4	4,217.6	4,200.8	14.1	12.8	-175.97	6.2	-350.1	828.7	802.9	25.88	32.025	
4,400.0	4,344.0	4,318.6	4,301.6	14.5	13.2	-176.37	2.7	-355.6	859.6	833.0	26.62	32.291	
4,500.0	4,440.6	4,420.2	4,403.0	15.0	13.5	-176.70	-0.3	-360.5	889.9	862.5	27.37	32.518	
4,600.0	4,537.2	4,522.2	4,504.9	15.4	13.8	-176.98	-2.8	-364.6	919.4	891.3	28.11	32.711	
4,700.0	4,633.8	4,624.8	4,607.4	15.9	14.1	-177.21	-4.9	-367.9	948.3	919.5	28.85	32.875	
4,800.0	4,730.4	4,727.8	4,710.4	16.3	14.4	-177.39	-6.5	-370.4	976.5	946.9	29.58	33.015	
4,900.0	4,827.0	4,831.3	4,813.9	16.8	14.7	-177.54	-7.6	-372.2	1,003.9	973.7	30.30	33.136	
5,000.0	4,923.6	4,935.3	4,917.8	17.3	14.9	-177.64	-8.2	-373.2	1,030.7	999.7	31.00	33.250	
5,100.0	5,020.1	5,037.6	5,020.1	17.7	15.0	-177.71	-8.4	-373.4	1,056.8	1,025.1	31.64	33.401	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #522H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS **Rule Assigned:** **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,134.2	5,116.7	18.2	15.1	-177.77	-8.4	-373.4	1,082.6	1,050.4	32.21	33.612	
5,300.0	5,213.3	5,230.8	5,213.3	18.6	15.1	-177.82	-8.4	-373.4	1,108.5	1,075.7	32.78	33.819	
5,400.0	5,309.9	5,327.4	5,309.9	19.1	15.2	-177.87	-8.4	-373.4	1,134.4	1,101.0	33.35	34.013	
5,500.0	5,406.5	5,423.9	5,406.5	19.6	15.2	-177.92	-8.4	-373.4	1,160.2	1,126.3	33.93	34.195	
5,600.0	5,503.1	5,520.5	5,503.1	20.1	15.3	-177.96	-8.4	-373.4	1,186.1	1,151.6	34.51	34.367	
5,700.0	5,599.7	5,617.1	5,599.7	20.5	15.3	-178.00	-8.4	-373.4	1,212.0	1,176.9	35.10	34.528	
5,800.0	5,696.3	5,713.7	5,696.3	21.0	15.4	-178.05	-8.4	-373.4	1,237.8	1,202.1	35.69	34.681	
5,900.0	5,792.9	5,810.3	5,792.9	21.5	15.4	-178.09	-8.4	-373.4	1,263.7	1,227.4	36.29	34.824	
6,000.0	5,889.5	5,906.9	5,889.5	21.9	15.5	-178.12	-8.4	-373.4	1,289.6	1,252.7	36.89	34.959	
6,100.0	5,986.1	6,003.5	5,986.1	22.4	15.5	-178.16	-8.4	-373.4	1,315.4	1,277.9	37.49	35.086	
6,200.0	6,082.7	6,100.1	6,082.7	22.9	15.6	-178.20	-8.4	-373.4	1,341.3	1,303.2	38.10	35.207	
6,300.0	6,179.3	6,196.7	6,179.3	23.4	15.6	-178.23	-8.4	-373.4	1,367.2	1,328.5	38.71	35.320	
6,400.0	6,275.9	6,293.3	6,275.9	23.9	15.7	-178.26	-8.4	-373.4	1,393.0	1,353.7	39.32	35.427	
6,500.0	6,372.4	6,389.9	6,372.4	24.3	15.7	-178.30	-8.4	-373.4	1,418.9	1,379.0	39.94	35.528	
6,600.0	6,469.0	6,486.5	6,469.0	24.8	15.8	-178.33	-8.4	-373.4	1,444.8	1,404.2	40.56	35.623	
6,700.0	6,565.6	6,583.1	6,565.6	25.3	15.8	-178.36	-8.4	-373.4	1,470.7	1,429.5	41.18	35.713	
6,800.0	6,662.2	6,679.6	6,662.2	25.8	15.9	-178.38	-8.4	-373.4	1,496.5	1,454.7	41.80	35.798	
6,900.0	6,758.8	6,776.2	6,758.8	26.3	15.9	-178.41	-8.4	-373.4	1,522.4	1,480.0	42.43	35.879	
7,000.0	6,855.4	6,872.8	6,855.4	26.7	16.0	-178.44	-8.4	-373.4	1,548.3	1,505.2	43.06	35.954	
7,100.0	6,952.0	6,969.4	6,952.0	27.2	16.0	-178.46	-8.4	-373.4	1,574.1	1,530.5	43.69	36.026	
7,200.0	7,048.6	7,066.0	7,048.6	27.7	16.1	-178.49	-8.4	-373.4	1,600.0	1,555.7	44.33	36.094	
7,300.0	7,145.2	7,162.6	7,145.2	28.2	16.2	-178.51	-8.4	-373.4	1,625.9	1,580.9	44.97	36.159	
7,400.0	7,241.8	7,259.2	7,241.8	28.7	16.2	-178.54	-8.4	-373.4	1,651.8	1,606.2	45.60	36.219	
7,500.0	7,338.4	7,355.8	7,338.4	29.2	16.3	-178.56	-8.4	-373.4	1,677.6	1,631.4	46.25	36.277	
7,600.0	7,435.0	7,452.4	7,435.0	29.7	16.3	-178.58	-8.4	-373.4	1,703.5	1,656.6	46.89	36.331	
7,700.0	7,531.6	7,549.0	7,531.6	30.1	16.4	-178.60	-8.4	-373.4	1,729.4	1,681.9	47.53	36.383	
7,800.0	7,628.1	7,645.6	7,628.1	30.6	16.4	-178.62	-8.4	-373.4	1,755.3	1,707.1	48.18	36.432	
7,900.0	7,724.7	7,742.2	7,724.7	31.1	16.5	-178.64	-8.4	-373.4	1,781.1	1,732.3	48.83	36.478	
8,000.0	7,821.3	7,838.8	7,821.3	31.6	16.5	-178.66	-8.4	-373.4	1,807.0	1,757.5	49.48	36.522	
8,100.0	7,917.9	7,935.4	7,917.9	32.1	16.6	-178.68	-8.4	-373.4	1,832.9	1,782.8	50.13	36.564	
8,200.0	8,014.5	8,031.9	8,014.5	32.6	16.6	-178.70	-8.4	-373.4	1,858.7	1,808.0	50.77	36.608	
8,300.0	8,111.4	8,128.8	8,111.4	33.1	16.7	-178.72	-8.4	-373.4	1,883.5	1,832.1	51.43	36.622	
8,400.0	8,208.7	8,226.1	8,208.7	33.6	16.7	-178.74	-8.4	-373.4	1,906.6	1,854.5	52.07	36.614	
8,500.0	8,306.4	8,323.8	8,306.4	34.0	16.8	-178.76	-8.4	-373.4	1,928.0	1,875.3	52.71	36.580	
8,600.0	8,404.4	8,421.9	8,404.4	34.5	16.9	-178.78	-8.4	-373.4	1,947.7	1,894.3	53.33	36.520	
8,700.0	8,502.8	8,520.2	8,502.8	34.9	16.9	-178.79	-8.4	-373.4	1,965.6	1,911.7	53.94	36.438	
8,800.0	8,601.5	8,618.9	8,601.5	35.4	17.0	-178.81	-8.4	-373.4	1,981.9	1,927.3	54.55	36.333	
8,900.0	8,700.4	8,717.8	8,700.4	35.8	17.0	-178.82	-8.4	-373.4	1,996.4	1,941.3	55.14	36.209	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	0.00	150.0	0.0	150.0	143.6	6.43	23.330	
100.0	100.0	100.0	100.0	3.2	3.2	0.00	150.0	0.0	150.0	143.1	6.89	21.762	
200.0	200.0	200.0	200.0	3.5	3.5	0.00	150.0	0.0	150.0	142.7	7.33	20.467	
300.0	300.0	300.0	300.0	3.7	3.7	0.00	150.0	0.0	150.0	142.2	7.74	19.375	
400.0	400.0	400.0	400.0	3.9	3.9	0.00	150.0	0.0	150.0	141.9	8.14	18.436	
500.0	500.0	500.0	500.0	4.1	4.1	0.00	150.0	0.0	150.0	141.5	8.51	17.618	
600.0	600.0	600.0	600.0	4.2	4.2	0.00	150.0	0.0	150.0	141.1	8.88	16.895	
700.0	700.0	700.0	700.0	4.4	4.4	0.00	150.0	0.0	150.0	140.8	9.23	16.251	
800.0	800.0	800.0	800.0	4.6	4.6	0.00	150.0	0.0	150.0	140.4	9.57	15.672	
900.0	900.0	900.0	900.0	4.8	4.8	0.00	150.0	0.0	150.0	140.1	9.90	15.147	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	0.00	150.0	0.0	150.0	139.8	10.22	14.669	
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	14.231	
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	13.827	
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	13.453	
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	13.106	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	0.00	150.0	0.0	150.0	138.3	11.73	12.782	
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	12.479	
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	12.195	
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	11.927	
1,900.0	1,900.0	1,901.4	1,901.3	6.3	6.3	-97.52	149.5	1.3	149.7	136.9	12.83	11.669	
2,000.0	1,999.9	2,002.7	2,002.6	6.4	6.4	-97.60	148.1	5.1	148.9	135.8	13.06	11.398	
2,100.0	2,099.7	2,104.1	2,103.7	6.6	6.6	-97.72	145.9	11.4	147.4	134.2	13.29	11.093	
2,200.0	2,199.3	2,205.4	2,204.6	6.8	6.8	-97.89	142.6	20.2	145.5	131.9	13.53	10.754	
2,300.0	2,298.6	2,306.7	2,305.2	7.0	7.0	-98.12	138.5	31.5	142.9	129.2	13.76	10.386	
2,400.0	2,397.5	2,406.1	2,403.6	7.3	7.2	-98.41	134.0	45.1	140.3	126.4	13.96	10.053	
2,500.0	2,496.1	2,504.9	2,501.1	7.5	7.4	-98.74	130.4	61.0	138.9	124.7	14.21	9.771	
2,567.1	2,562.0	2,571.3	2,566.3	7.7	7.6	-98.99	128.5	73.0	138.6	124.2	14.39	9.633	CC
2,600.0	2,594.2	2,603.8	2,598.2	7.8	7.7	-99.11	127.7	79.2	138.7	124.2	14.47	9.580	ES
2,700.0	2,691.7	2,702.7	2,694.9	8.0	8.0	-99.47	125.8	99.8	139.7	125.0	14.69	9.507	
2,800.0	2,789.2	2,801.5	2,791.0	8.3	8.3	-99.06	124.8	122.8	141.6	126.6	14.95	9.467	
2,900.0	2,886.6	2,900.7	2,886.9	8.7	8.6	-97.77	124.6	148.0	144.3	129.1	15.15	9.519	
3,000.0	2,984.0	3,000.6	2,983.4	9.0	8.9	-96.33	124.6	173.8	147.2	131.8	15.41	9.553	
3,100.0	3,081.5	3,100.5	3,079.9	9.3	9.2	-94.95	124.6	199.7	150.3	134.6	15.67	9.588	
3,200.0	3,178.9	3,200.3	3,176.4	9.7	9.6	-93.62	124.6	225.5	153.4	137.4	15.94	9.622	
3,300.0	3,276.4	3,300.2	3,272.8	10.1	10.0	-92.35	124.6	251.4	156.6	140.4	16.22	9.654	
3,400.0	3,373.8	3,400.1	3,369.3	10.4	10.4	-91.13	124.6	277.2	159.9	143.4	16.51	9.684	
3,500.0	3,471.2	3,500.0	3,465.8	10.8	10.7	-89.96	124.6	303.1	163.2	146.4	16.81	9.711	
3,600.0	3,568.7	3,599.9	3,562.3	11.2	11.1	-88.83	124.6	329.0	166.6	149.5	17.12	9.733	
3,700.0	3,666.1	3,699.8	3,658.8	11.6	11.6	-87.75	124.6	354.8	170.1	152.7	17.44	9.752	
3,800.0	3,763.5	3,799.7	3,755.3	12.0	12.0	-86.72	124.6	380.7	173.6	155.9	17.78	9.765	
3,900.0	3,860.9	3,899.6	3,851.8	12.4	12.4	-82.20	124.6	406.5	176.7	158.6	18.09	9.767	
4,000.0	3,957.6	3,999.6	3,948.4	12.8	12.8	-78.37	124.6	432.4	177.4	159.0	18.41	9.635	
4,100.0	4,054.2	4,099.6	4,045.0	13.2	13.2	-78.37	124.6	458.3	177.4	158.6	18.77	9.451	
4,200.0	4,150.8	4,199.6	4,141.6	13.7	13.7	-78.37	124.6	484.2	177.4	158.3	19.13	9.272	
4,300.0	4,247.4	4,299.6	4,238.1	14.1	14.1	-78.37	124.6	510.0	177.4	157.9	19.50	9.097	
4,400.0	4,344.0	4,399.6	4,334.7	14.5	14.6	-78.37	124.6	535.9	177.4	157.5	19.87	8.927	
4,500.0	4,440.6	4,499.6	4,431.3	15.0	15.0	-78.37	124.6	561.8	177.4	157.2	20.25	8.762	
4,600.0	4,537.2	4,599.6	4,527.9	15.4	15.5	-78.37	124.6	587.7	177.4	156.8	20.63	8.600	
4,700.0	4,633.8	4,699.6	4,624.5	15.9	15.9	-78.37	124.6	613.6	177.4	156.4	21.01	8.443	
4,800.0	4,730.4	4,799.6	4,721.1	16.3	16.4	-78.37	124.6	639.5	177.4	156.0	21.40	8.290	
4,900.0	4,827.0	4,899.6	4,817.7	16.8	16.8	-78.37	124.6	665.3	177.4	155.6	21.79	8.142	
5,000.0	4,923.6	4,999.6	4,914.3	17.3	17.3	-78.37	124.6	691.2	177.4	155.2	22.18	7.997	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,020.1	5,099.6	5,010.9	17.7	17.8	-78.37	124.6	717.1	177.4	154.8	22.58	7.857	
5,200.0	5,116.7	5,199.6	5,107.5	18.2	18.2	-78.37	124.6	743.0	177.4	154.4	22.98	7.720	
5,300.0	5,213.3	5,299.6	5,204.1	18.6	18.7	-78.37	124.6	768.9	177.4	154.0	23.38	7.587	
5,400.0	5,309.9	5,399.6	5,300.7	19.1	19.2	-78.37	124.6	794.7	177.4	153.6	23.79	7.458	
5,500.0	5,406.5	5,499.6	5,397.3	19.6	19.6	-78.37	124.6	820.6	177.4	153.2	24.19	7.332	
5,600.0	5,503.1	5,599.6	5,493.9	20.1	20.1	-78.37	124.6	846.5	177.4	152.8	24.60	7.210	
5,700.0	5,599.7	5,699.6	5,590.4	20.5	20.6	-78.37	124.6	872.4	177.4	152.4	25.02	7.092	
5,800.0	5,696.3	5,799.6	5,687.0	21.0	21.0	-78.37	124.6	898.3	177.4	152.0	25.43	6.976	
5,900.0	5,792.9	5,899.6	5,783.6	21.5	21.5	-78.37	124.6	924.2	177.4	151.6	25.85	6.864	
6,000.0	5,889.5	5,999.6	5,880.2	21.9	22.0	-78.37	124.6	950.0	177.4	151.1	26.26	6.755	
6,100.0	5,986.1	6,099.6	5,976.8	22.4	22.5	-78.37	124.6	975.9	177.4	150.7	26.68	6.648	
6,200.0	6,082.7	6,199.6	6,073.4	22.9	22.9	-78.37	124.6	1,001.8	177.4	150.3	27.11	6.545	
6,300.0	6,179.3	6,299.6	6,170.0	23.4	23.4	-78.37	124.6	1,027.7	177.4	149.9	27.53	6.444	
6,400.0	6,275.9	6,399.6	6,266.6	23.9	23.9	-78.37	124.6	1,053.6	177.4	149.5	27.95	6.346	
6,500.0	6,372.4	6,499.6	6,363.2	24.3	24.4	-78.37	124.6	1,079.4	177.4	149.0	28.38	6.251	
6,600.0	6,469.0	6,599.6	6,459.8	24.8	24.9	-78.37	124.6	1,105.3	177.4	148.6	28.81	6.158	
6,700.0	6,565.6	6,699.6	6,556.4	25.3	25.3	-78.37	124.6	1,131.2	177.4	148.2	29.24	6.068	
6,800.0	6,662.2	6,799.6	6,653.0	25.8	25.8	-78.37	124.6	1,157.1	177.4	147.7	29.67	5.980	
6,900.0	6,758.8	6,899.6	6,749.6	26.3	26.3	-78.37	124.6	1,183.0	177.4	147.3	30.10	5.894	
7,000.0	6,855.4	6,999.6	6,846.1	26.7	26.8	-78.37	124.6	1,208.9	177.4	146.9	30.53	5.811	
7,100.0	6,952.0	7,099.6	6,942.7	27.2	27.3	-78.37	124.6	1,234.7	177.4	146.4	30.97	5.729	
7,200.0	7,048.6	7,199.6	7,039.3	27.7	27.8	-78.37	124.6	1,260.6	177.4	146.0	31.40	5.650	
7,300.0	7,145.2	7,299.6	7,135.9	28.2	28.3	-78.37	124.6	1,286.5	177.4	145.6	31.84	5.572	
7,400.0	7,241.8	7,399.6	7,232.5	28.7	28.7	-78.37	124.6	1,312.4	177.4	145.1	32.27	5.497	
7,500.0	7,338.4	7,499.6	7,329.1	29.2	29.2	-78.37	124.6	1,338.3	177.4	144.7	32.71	5.423	
7,600.0	7,435.0	7,599.6	7,425.7	29.7	29.7	-78.37	124.6	1,364.1	177.4	144.3	33.15	5.352	
7,700.0	7,531.6	7,699.6	7,522.3	30.1	30.2	-78.37	124.6	1,390.0	177.4	143.8	33.59	5.282	
7,800.0	7,628.1	7,799.6	7,618.9	30.6	30.7	-78.37	124.6	1,415.9	177.4	143.4	34.03	5.213	
7,900.0	7,724.7	7,899.6	7,715.5	31.1	31.2	-78.37	124.6	1,441.8	177.4	142.9	34.47	5.146	
8,000.0	7,821.3	7,999.6	7,812.1	31.6	31.7	-78.37	124.6	1,467.7	177.4	142.5	34.92	5.081	
8,100.0	7,917.9	8,099.6	7,908.7	32.1	32.2	-78.37	124.6	1,493.6	177.4	142.1	35.36	5.017	
8,105.2	7,923.0	8,104.8	7,913.7	32.1	32.2	-78.37	124.6	1,494.9	177.4	142.0	35.38	5.014	
8,200.0	8,014.5	8,199.6	8,005.3	32.6	32.7	-78.36	124.6	1,519.4	177.4	141.6	35.79	4.957	
8,300.0	8,111.4	8,299.6	8,101.8	33.1	33.1	-78.00	124.6	1,545.3	177.6	141.3	36.35	4.887	
8,400.0	8,208.7	8,399.5	8,198.4	33.6	33.6	-77.10	124.6	1,571.2	178.3	141.2	37.07	4.810	
8,500.0	8,306.4	8,499.4	8,294.9	34.0	34.1	-75.68	124.6	1,597.0	179.4	141.4	38.00	4.720	
8,600.0	8,404.4	8,599.2	8,391.3	34.5	34.6	-73.74	124.6	1,622.9	181.0	141.8	39.20	4.619	
8,700.0	8,502.8	8,698.9	8,487.6	34.9	35.1	-71.34	124.6	1,648.7	183.5	142.8	40.72	4.506	
8,800.0	8,601.5	8,800.0	8,585.4	35.4	35.6	-68.77	124.6	1,673.8	186.5	144.0	42.46	4.392	
8,900.0	8,700.4	8,901.6	8,684.5	35.8	36.1	-66.52	124.6	1,696.6	189.5	145.4	44.13	4.295	
9,000.0	8,799.6	9,003.4	8,784.3	36.3	36.6	-64.58	124.6	1,716.7	192.5	146.8	45.67	4.214	
9,100.0	8,899.0	9,105.5	8,884.9	36.7	37.0	-62.95	124.6	1,734.2	195.2	148.1	47.07	4.147	
9,200.0	8,998.5	9,207.9	8,986.2	37.1	37.5	-61.60	124.6	1,749.0	197.6	149.3	48.29	4.092	
9,300.0	9,098.2	9,310.4	9,087.9	37.4	37.9	-60.51	124.6	1,761.1	199.7	150.3	49.33	4.048	
9,400.0	9,198.1	9,413.0	9,190.1	37.8	38.3	-59.68	124.6	1,770.5	201.3	151.1	50.17	4.012	
9,500.0	9,298.0	9,515.7	9,292.6	38.1	38.7	-59.10	124.6	1,777.1	202.5	151.7	50.81	3.986	
9,600.0	9,398.0	9,618.5	9,395.4	38.4	39.0	-58.75	124.6	1,781.0	203.3	152.0	51.24	3.967	
9,700.0	9,498.0	9,721.1	9,498.0	38.5	39.2	31.37	124.6	1,782.2	203.5	152.1	51.38	3.961	
9,707.8	9,505.8	9,728.9	9,505.8	38.5	39.2	31.37	124.6	1,782.2	203.5	152.1	51.38	3.961	
9,800.0	9,598.0	9,815.4	9,592.3	38.5	39.3	31.36	124.8	1,782.2	203.8	152.0	51.79	3.935 SF	
9,900.0	9,698.0	9,887.7	9,664.1	38.5	39.4	31.16	131.0	1,785.1	213.2	160.1	53.09	4.015	
10,000.0	9,798.0	9,950.0	9,725.0	38.6	39.5	30.79	143.2	1,790.8	235.4	181.5	53.94	4.365	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.0	9,898.0	10,021.4	9,792.2	38.6	39.7	30.23	164.7	1,800.8	269.2	215.0	54.15	4.970	
10,200.0	9,998.0	10,079.9	9,844.6	38.6	39.8	29.74	188.2	1,811.8	313.4	259.2	54.17	5.786	
10,300.0	10,098.0	10,132.1	9,888.9	38.6	39.9	29.30	213.4	1,823.5	366.5	312.5	54.00	6.787	
10,400.0	10,198.0	10,178.3	9,925.6	38.7	40.0	28.94	238.7	1,835.3	427.0	373.3	53.76	7.944	
10,500.0	10,298.0	10,218.7	9,955.7	38.7	40.1	28.64	263.1	1,846.7	493.7	440.2	53.47	9.233	
10,600.0	10,398.0	10,250.0	9,977.6	38.7	40.2	28.40	283.4	1,856.0	565.3	512.2	53.09	10.648	
10,700.0	10,498.0	10,300.0	10,010.5	38.7	40.3	27.84	318.3	1,870.3	640.5	587.5	53.06	12.072	
10,800.0	10,597.9	10,324.7	10,025.7	38.8	40.3	-4.56	336.6	1,877.1	717.0	664.2	52.76	13.590	
10,900.0	10,696.0	10,350.0	10,040.4	39.1	40.4	-4.19	356.0	1,883.8	786.3	733.8	52.46	14.988	
11,000.0	10,789.5	10,400.0	10,067.2	39.4	40.5	-4.41	396.2	1,896.3	846.1	793.8	52.34	16.166	
11,100.0	10,875.4	10,431.4	10,082.4	39.7	40.5	-4.48	422.7	1,903.8	896.2	844.3	51.89	17.271	
11,200.0	10,951.2	10,468.8	10,098.7	40.0	40.6	-4.78	455.3	1,912.0	936.1	884.7	51.40	18.214	
11,300.0	11,014.6	10,500.0	10,110.8	40.2	40.6	-5.08	483.4	1,918.5	965.6	914.8	50.73	19.034	
11,400.0	11,064.8	10,550.0	10,127.2	40.4	40.6	-4.59	529.6	1,927.9	985.5	935.3	50.16	19.647	
11,500.0	11,106.3	10,581.2	10,135.6	40.6	40.7	-3.16	559.2	1,933.2	1,001.3	951.6	49.66	20.163	
11,600.0	11,139.2	10,619.2	10,143.8	40.8	40.7	-2.17	595.8	1,938.9	1,013.4	963.9	49.49	20.475	
11,700.0	11,162.6	10,650.0	10,148.8	40.9	40.7	-1.42	625.9	1,943.1	1,021.5	972.0	49.52	20.628	
11,800.0	11,176.3	10,700.0	10,153.8	41.0	40.8	-0.90	675.4	1,948.7	1,025.3	975.4	49.95	20.526	
11,900.0	11,180.0	10,739.5	10,155.1	41.0	40.8	-0.54	714.7	1,952.3	1,025.1	974.5	50.53	20.287	
11,941.5	11,180.0	10,765.9	10,155.1	41.1	40.8	-0.43	741.0	1,954.2	1,024.9	974.1	50.87	20.148	
12,000.0	11,180.0	10,824.1	10,155.1	41.1	40.9	-0.22	799.1	1,957.7	1,024.9	973.4	51.49	19.907	
12,011.0	11,180.0	10,835.0	10,155.1	41.1	40.9	-0.19	810.0	1,958.2	1,024.9	973.3	51.60	19.863	
12,100.0	11,180.0	10,923.8	10,155.0	41.2	41.0	-0.02	898.7	1,960.8	1,024.9	972.4	52.48	19.529	
12,200.0	11,180.0	11,023.7	10,155.0	41.4	41.1	0.00	998.6	1,960.9	1,025.0	971.6	53.40	19.194	
12,300.0	11,180.0	11,123.7	10,155.0	41.5	41.2	0.00	1,098.6	1,960.5	1,025.0	970.7	54.33	18.866	
12,400.0	11,180.0	11,223.7	10,154.9	41.7	41.3	0.00	1,198.6	1,960.1	1,025.0	969.8	55.29	18.539	
12,500.0	11,180.0	11,323.7	10,154.9	41.8	41.5	0.00	1,298.6	1,959.7	1,025.1	968.8	56.28	18.215	
12,600.0	11,180.0	11,423.7	10,154.8	42.0	41.6	0.00	1,398.6	1,959.3	1,025.1	967.8	57.29	17.894	
12,700.0	11,180.0	11,523.7	10,154.8	42.2	41.8	0.00	1,498.6	1,958.9	1,025.2	966.8	58.32	17.577	
12,800.0	11,180.0	11,623.7	10,154.8	42.4	42.0	0.00	1,598.6	1,958.5	1,025.2	965.8	59.38	17.264	
12,900.0	11,180.0	11,723.7	10,154.7	42.6	42.2	0.00	1,698.6	1,958.1	1,025.2	964.8	60.46	16.957	
13,000.0	11,180.0	11,823.7	10,154.7	42.9	42.4	0.00	1,798.6	1,957.7	1,025.3	963.7	61.56	16.655	
13,100.0	11,180.0	11,923.7	10,154.6	43.1	42.7	0.00	1,898.6	1,957.3	1,025.3	962.6	62.68	16.358	
13,200.0	11,180.0	12,023.7	10,154.6	43.4	42.9	0.00	1,998.6	1,956.9	1,025.4	961.5	63.82	16.068	
13,300.0	11,180.0	12,123.7	10,154.6	43.7	43.2	0.00	2,098.6	1,956.5	1,025.4	960.4	64.97	15.783	
13,400.0	11,180.0	12,223.7	10,154.5	44.0	43.5	0.00	2,198.6	1,956.1	1,025.4	959.3	66.14	15.504	
13,500.0	11,180.0	12,323.7	10,154.5	44.3	43.7	0.00	2,298.6	1,955.7	1,025.5	958.2	67.32	15.232	
13,600.0	11,180.0	12,423.7	10,154.4	44.6	44.0	0.00	2,398.6	1,955.3	1,025.5	957.0	68.52	14.966	
13,700.0	11,180.0	12,523.7	10,154.4	44.9	44.3	0.00	2,498.6	1,954.9	1,025.6	955.8	69.74	14.706	
13,800.0	11,180.0	12,623.7	10,154.4	45.2	44.7	0.00	2,598.6	1,954.5	1,025.6	954.6	70.97	14.452	
13,900.0	11,180.0	12,723.7	10,154.3	45.6	45.0	0.00	2,698.6	1,954.1	1,025.6	953.4	72.20	14.205	
14,000.0	11,180.0	12,823.7	10,154.3	45.9	45.3	0.00	2,798.6	1,953.7	1,025.7	952.2	73.46	13.963	
14,100.0	11,180.0	12,923.7	10,154.2	46.3	45.7	0.00	2,898.6	1,953.3	1,025.7	951.0	74.72	13.728	
14,200.0	11,180.0	13,023.7	10,154.2	46.7	46.1	0.00	2,998.6	1,952.9	1,025.8	949.8	75.99	13.499	
14,300.0	11,180.0	13,123.7	10,154.2	47.1	46.4	0.00	3,098.6	1,952.5	1,025.8	948.5	77.27	13.275	
14,400.0	11,180.0	13,223.7	10,154.1	47.4	46.8	0.00	3,198.6	1,952.1	1,025.8	947.3	78.57	13.057	
14,500.0	11,180.0	13,323.7	10,154.1	47.9	47.2	0.00	3,298.6	1,951.7	1,025.9	946.0	79.87	12.845	
14,600.0	11,180.0	13,423.7	10,154.0	48.3	47.6	0.00	3,398.6	1,951.3	1,025.9	944.7	81.18	12.638	
14,700.0	11,180.0	13,523.7	10,154.0	48.7	48.0	0.00	3,498.6	1,950.9	1,026.0	943.5	82.50	12.436	
14,800.0	11,180.0	13,623.7	10,154.0	49.1	48.4	0.00	3,598.6	1,950.5	1,026.0	942.2	83.82	12.240	
14,900.0	11,180.0	13,723.7	10,153.9	49.6	48.9	0.00	3,698.6	1,950.1	1,026.0	940.9	85.16	12.049	
15,000.0	11,180.0	13,823.7	10,153.9	50.0	49.3	0.00	3,798.6	1,949.7	1,026.1	939.6	86.50	11.862	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,100.0	11,180.0	13,923.7	10,153.8	50.5	49.8	0.00	3,898.6	1,949.3	1,026.1	938.3	87.85	11.681	
15,200.0	11,180.0	14,023.7	10,153.8	50.9	50.2	0.00	3,998.6	1,948.9	1,026.2	937.0	89.20	11.504	
15,300.0	11,180.0	14,123.7	10,153.8	51.4	50.7	0.00	4,098.6	1,948.5	1,026.2	935.6	90.56	11.331	
15,400.0	11,180.0	14,223.7	10,153.7	51.9	51.1	0.00	4,198.6	1,948.1	1,026.2	934.3	91.93	11.163	
15,500.0	11,180.0	14,323.7	10,153.7	52.3	51.6	0.00	4,298.6	1,947.7	1,026.3	933.0	93.30	10.999	
15,600.0	11,180.0	14,423.7	10,153.6	52.8	52.1	0.00	4,398.6	1,947.4	1,026.3	931.6	94.68	10.840	
15,700.0	11,180.0	14,523.7	10,153.6	53.3	52.6	0.00	4,498.6	1,947.0	1,026.4	930.3	96.07	10.684	
15,800.0	11,180.0	14,623.7	10,153.6	53.8	53.1	0.00	4,598.6	1,946.6	1,026.4	929.0	97.45	10.532	
15,900.0	11,180.0	14,723.7	10,153.5	54.3	53.6	0.00	4,698.6	1,946.2	1,026.4	927.6	98.85	10.384	
16,000.0	11,180.0	14,823.7	10,153.5	54.8	54.1	0.00	4,798.6	1,945.8	1,026.5	926.2	100.24	10.240	
16,100.0	11,180.0	14,923.7	10,153.4	55.4	54.6	0.00	4,898.6	1,945.4	1,026.5	924.9	101.65	10.099	
16,200.0	11,180.0	15,023.7	10,153.4	55.9	55.1	0.00	4,998.6	1,945.0	1,026.6	923.5	103.05	9.962	
16,300.0	11,180.0	15,123.7	10,153.4	56.4	55.7	0.00	5,098.6	1,944.6	1,026.6	922.1	104.46	9.827	
16,400.0	11,180.0	15,223.7	10,153.3	57.0	56.2	0.00	5,198.6	1,944.2	1,026.7	920.8	105.88	9.697	
16,500.0	11,180.0	15,323.7	10,153.3	57.5	56.7	0.00	5,298.6	1,943.8	1,026.7	919.4	107.30	9.569	
16,600.0	11,180.0	15,423.7	10,153.2	58.0	57.3	0.00	5,398.6	1,943.4	1,026.7	918.0	108.72	9.444	
16,700.0	11,180.0	15,523.7	10,153.2	58.6	57.8	0.00	5,498.6	1,943.0	1,026.8	916.6	110.14	9.322	
16,800.0	11,180.0	15,623.7	10,153.2	59.2	58.4	0.00	5,598.6	1,942.6	1,026.8	915.2	111.57	9.203	
16,900.0	11,180.0	15,723.7	10,153.1	59.7	58.9	0.00	5,698.6	1,942.2	1,026.9	913.8	113.00	9.087	
17,000.0	11,180.0	15,823.7	10,153.1	60.3	59.5	0.00	5,798.6	1,941.8	1,026.9	912.5	114.44	8.973	
17,100.0	11,180.0	15,923.7	10,153.0	60.8	60.0	0.00	5,898.6	1,941.4	1,026.9	911.1	115.87	8.863	
17,200.0	11,180.0	16,023.7	10,153.0	61.4	60.6	0.00	5,998.6	1,941.0	1,027.0	909.7	117.31	8.754	
17,300.0	11,180.0	16,123.7	10,153.0	62.0	61.2	0.00	6,098.6	1,940.6	1,027.0	908.3	118.76	8.648	
17,400.0	11,180.0	16,223.7	10,152.9	62.6	61.8	0.00	6,198.6	1,940.2	1,027.1	906.9	120.20	8.544	
17,500.0	11,180.0	16,323.7	10,152.9	63.2	62.3	0.00	6,298.6	1,939.8	1,027.1	905.4	121.65	8.443	
17,600.0	11,180.0	16,423.7	10,152.8	63.8	62.9	0.00	6,398.6	1,939.4	1,027.1	904.0	123.10	8.344	
17,700.0	11,180.0	16,523.7	10,152.8	64.3	63.5	0.00	6,498.6	1,939.0	1,027.2	902.6	124.55	8.247	
17,800.0	11,180.0	16,623.7	10,152.8	64.9	64.1	0.00	6,598.6	1,938.6	1,027.2	901.2	126.01	8.152	
17,900.0	11,180.0	16,723.7	10,152.7	65.5	64.7	0.00	6,698.6	1,938.2	1,027.3	899.8	127.47	8.059	
18,000.0	11,180.0	16,823.7	10,152.7	66.1	65.3	0.00	6,798.6	1,937.8	1,027.3	898.4	128.93	7.968	
18,100.0	11,180.0	16,923.7	10,152.6	66.7	65.9	0.00	6,898.6	1,937.4	1,027.3	896.9	130.39	7.879	
18,200.0	11,180.0	17,023.7	10,152.6	67.4	66.5	0.00	6,998.6	1,937.0	1,027.4	895.5	131.85	7.792	
18,300.0	11,180.0	17,123.7	10,152.6	68.0	67.1	0.00	7,098.6	1,936.6	1,027.4	894.1	133.32	7.707	
18,400.0	11,180.0	17,223.7	10,152.5	68.6	67.7	0.00	7,198.5	1,936.2	1,027.5	892.7	134.78	7.623	
18,500.0	11,180.0	17,323.7	10,152.5	69.2	68.4	0.00	7,298.5	1,935.8	1,027.5	891.2	136.25	7.541	
18,600.0	11,180.0	17,423.7	10,152.4	69.8	69.0	0.00	7,398.5	1,935.4	1,027.5	889.8	137.72	7.461	
18,700.0	11,180.0	17,523.7	10,152.4	70.4	69.6	0.00	7,498.5	1,935.0	1,027.6	888.4	139.20	7.382	
18,800.0	11,180.0	17,623.7	10,152.4	71.1	70.2	0.00	7,598.5	1,934.6	1,027.6	886.9	140.67	7.305	
18,900.0	11,180.0	17,723.7	10,152.3	71.7	70.8	0.00	7,698.5	1,934.2	1,027.7	885.5	142.15	7.230	
19,000.0	11,180.0	17,823.7	10,152.3	72.3	71.5	0.00	7,798.5	1,933.8	1,027.7	884.1	143.62	7.155	
19,100.0	11,180.0	17,923.7	10,152.2	73.0	72.1	0.00	7,898.5	1,933.4	1,027.7	882.6	145.10	7.083	
19,200.0	11,180.0	18,023.7	10,152.2	73.6	72.7	0.00	7,998.5	1,933.0	1,027.8	881.2	146.58	7.012	
19,300.0	11,180.0	18,123.7	10,152.2	74.2	73.4	0.00	8,098.5	1,932.6	1,027.8	879.8	148.06	6.942	
19,400.0	11,180.0	18,223.7	10,152.1	74.9	74.0	0.00	8,198.5	1,932.2	1,027.9	878.3	149.55	6.873	
19,500.0	11,180.0	18,323.7	10,152.1	75.5	74.7	0.00	8,298.5	1,931.8	1,027.9	876.9	151.03	6.806	
19,600.0	11,180.0	18,423.7	10,152.0	76.2	75.3	0.00	8,398.5	1,931.4	1,027.9	875.4	152.52	6.740	
19,700.0	11,180.0	18,523.7	10,152.0	76.8	75.9	0.00	8,498.5	1,931.0	1,028.0	874.0	154.00	6.675	
19,800.0	11,180.0	18,623.7	10,152.0	77.5	76.6	0.00	8,598.5	1,930.6	1,028.0	872.5	155.49	6.611	
19,900.0	11,180.0	18,723.7	10,151.9	78.1	77.2	0.00	8,698.5	1,930.2	1,028.1	871.1	156.98	6.549	
20,000.0	11,180.0	18,823.7	10,151.9	78.8	77.9	0.00	8,798.5	1,929.8	1,028.1	869.6	158.47	6.488	
20,100.0	11,180.0	18,923.7	10,151.8	79.4	78.6	0.00	8,898.5	1,929.4	1,028.1	868.2	159.96	6.427	
20,200.0	11,180.0	19,023.7	10,151.8	80.1	79.2	0.00	8,998.5	1,929.1	1,028.2	866.7	161.46	6.368	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,300.0	11,180.0	19,123.7	10,151.8	80.8	79.9	0.00	9,098.5	1,928.7	1,028.2	865.3	162.95	6.310	
20,400.0	11,180.0	19,223.7	10,151.7	81.4	80.5	0.00	9,198.5	1,928.3	1,028.3	863.8	164.44	6.253	
20,500.0	11,180.0	19,323.7	10,151.7	82.1	81.2	0.00	9,298.5	1,927.9	1,028.3	862.4	165.94	6.197	
20,600.0	11,180.0	19,423.7	10,151.6	82.7	81.9	0.00	9,398.5	1,927.5	1,028.3	860.9	167.44	6.142	
20,700.0	11,180.0	19,523.7	10,151.6	83.4	82.5	0.00	9,498.5	1,927.1	1,028.4	859.4	168.93	6.087	
20,800.0	11,180.0	19,623.7	10,151.6	84.1	83.2	0.00	9,598.5	1,926.7	1,028.4	858.0	170.43	6.034	
20,900.0	11,180.0	19,723.7	10,151.5	84.7	83.9	0.00	9,698.5	1,926.3	1,028.5	856.5	171.93	5.982	
21,000.0	11,180.0	19,823.7	10,151.5	85.4	84.5	0.00	9,798.5	1,925.9	1,028.5	855.1	173.43	5.930	
21,100.0	11,180.0	19,923.7	10,151.4	86.1	85.2	0.00	9,898.5	1,925.5	1,028.5	853.6	174.93	5.880	
21,200.0	11,180.0	20,023.7	10,151.4	86.8	85.9	0.00	9,998.5	1,925.1	1,028.6	852.1	176.43	5.830	
21,300.0	11,180.0	20,123.7	10,151.4	87.4	86.5	0.00	10,098.5	1,924.7	1,028.6	850.7	177.94	5.781	
21,400.0	11,180.0	20,223.7	10,151.3	88.1	87.2	0.00	10,198.5	1,924.3	1,028.7	849.2	179.44	5.733	
21,500.0	11,180.0	20,323.7	10,151.3	88.8	87.9	0.00	10,298.5	1,923.9	1,028.7	847.8	180.94	5.685	
21,600.0	11,180.0	20,423.7	10,151.2	89.5	88.6	0.00	10,398.5	1,923.5	1,028.7	846.3	182.45	5.639	
21,700.0	11,180.0	20,523.7	10,151.2	90.2	89.3	0.00	10,498.5	1,923.1	1,028.8	844.8	183.95	5.593	
21,800.0	11,180.0	20,623.7	10,151.2	90.8	89.9	0.00	10,598.5	1,922.7	1,028.8	843.4	185.46	5.547	
21,900.0	11,180.0	20,723.7	10,151.1	91.5	90.6	0.00	10,698.5	1,922.3	1,028.9	841.9	186.97	5.503	
22,000.0	11,180.0	20,823.7	10,151.1	92.2	91.3	0.00	10,798.5	1,921.9	1,028.9	840.4	188.47	5.459	
22,100.0	11,180.0	20,923.7	10,151.0	92.9	92.0	0.00	10,898.5	1,921.5	1,028.9	839.0	189.98	5.416	
22,200.0	11,180.0	21,023.7	10,151.0	93.6	92.7	0.00	10,998.5	1,921.1	1,029.0	837.5	191.49	5.374	
22,300.0	11,180.0	21,123.7	10,151.0	94.3	93.4	0.00	11,098.5	1,920.7	1,029.0	836.0	193.00	5.332	
22,400.0	11,180.0	21,223.7	10,150.9	95.0	94.1	0.00	11,198.5	1,920.3	1,029.1	834.6	194.51	5.290	
22,500.0	11,180.0	21,323.7	10,150.9	95.7	94.8	0.00	11,298.5	1,919.9	1,029.1	833.1	196.02	5.250	
22,600.0	11,180.0	21,423.7	10,150.9	96.4	95.4	0.00	11,398.5	1,919.5	1,029.1	831.6	197.53	5.210	
22,700.0	11,180.0	21,523.7	10,150.8	97.0	96.1	0.00	11,498.5	1,919.1	1,029.2	830.1	199.05	5.171	
22,800.0	11,180.0	21,623.7	10,150.8	97.7	96.8	0.00	11,598.5	1,918.7	1,029.2	828.7	200.56	5.132	
22,900.0	11,180.0	21,723.7	10,150.7	98.4	97.5	0.00	11,698.5	1,918.3	1,029.3	827.2	202.07	5.094	
23,000.0	11,180.0	21,823.7	10,150.7	99.1	98.2	0.00	11,798.5	1,917.9	1,029.3	825.7	203.58	5.056	
23,100.0	11,180.0	21,923.7	10,150.7	99.8	98.9	0.00	11,898.5	1,917.5	1,029.3	824.2	205.10	5.019	
23,200.0	11,180.0	22,023.7	10,150.6	100.5	99.6	0.00	11,998.5	1,917.1	1,029.4	822.8	206.61	4.982	
23,300.0	11,180.0	22,123.7	10,150.6	101.2	100.3	0.00	12,098.5	1,916.7	1,029.4	821.3	208.13	4.946	
23,400.0	11,180.0	22,223.7	10,150.5	101.9	101.0	0.00	12,198.5	1,916.3	1,029.5	819.8	209.64	4.911	
23,500.0	11,180.0	22,323.7	10,150.5	102.6	101.7	0.00	12,298.5	1,915.9	1,029.5	818.3	211.16	4.875	
23,600.0	11,180.0	22,423.7	10,150.5	103.3	102.4	0.00	12,398.5	1,915.5	1,029.5	816.9	212.68	4.841	
23,700.0	11,180.0	22,523.7	10,150.4	104.0	103.1	0.00	12,498.5	1,915.1	1,029.6	815.4	214.19	4.807	
23,800.0	11,180.0	22,623.7	10,150.4	104.7	103.8	0.00	12,598.5	1,914.7	1,029.6	813.9	215.71	4.773	
23,900.0	11,180.0	22,723.7	10,150.3	105.4	104.5	0.00	12,698.5	1,914.3	1,029.7	812.4	217.23	4.740	
24,000.0	11,180.0	22,823.7	10,150.3	106.2	105.2	0.00	12,798.5	1,913.9	1,029.7	811.0	218.75	4.707	
24,100.0	11,180.0	22,923.7	10,150.3	106.9	105.9	0.00	12,898.5	1,913.5	1,029.7	809.5	220.27	4.675	
24,200.0	11,180.0	23,023.7	10,150.2	107.6	106.7	0.00	12,998.5	1,913.1	1,029.8	808.0	221.78	4.643	
24,300.0	11,180.0	23,123.7	10,150.2	108.3	107.4	0.00	13,098.5	1,912.7	1,029.8	806.5	223.30	4.612	
24,400.0	11,180.0	23,223.7	10,150.1	109.0	108.1	0.00	13,198.5	1,912.3	1,029.9	805.0	224.82	4.581	
24,500.0	11,180.0	23,323.7	10,150.1	109.7	108.8	0.00	13,298.5	1,911.9	1,029.9	803.6	226.34	4.550	
24,600.0	11,180.0	23,423.7	10,150.1	110.4	109.5	0.00	13,398.5	1,911.5	1,029.9	802.1	227.86	4.520	
24,700.0	11,180.0	23,523.7	10,150.0	111.1	110.2	0.00	13,498.5	1,911.1	1,030.0	800.7	229.30	4.492	
24,734.5	11,180.0	23,558.2	10,150.0	111.4	110.4	0.00	13,533.0	1,911.0	1,030.0	800.3	229.69	4.484	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.62	-71.7	-1,570.0	1,571.7	1,565.3	6.43	244.472	
100.0	100.0	100.0	100.0	3.2	3.2	-92.62	-71.7	-1,570.0	1,571.7	1,564.8	6.89	228.033	
200.0	200.0	200.0	200.0	3.5	3.5	-92.62	-71.7	-1,570.0	1,571.7	1,564.4	7.33	214.472	
300.0	300.0	300.0	300.0	3.7	3.7	-92.62	-71.7	-1,570.0	1,571.7	1,563.9	7.74	203.025	
400.0	400.0	400.0	400.0	3.9	3.9	-92.62	-71.7	-1,570.0	1,571.7	1,563.6	8.14	193.188	
500.0	500.0	500.0	500.0	4.1	4.1	-92.62	-71.7	-1,570.0	1,571.7	1,563.2	8.51	184.610	
600.0	600.0	600.0	600.0	4.2	4.2	-92.62	-71.7	-1,570.0	1,571.7	1,562.8	8.88	177.039	
700.0	700.0	700.0	700.0	4.4	4.4	-92.62	-71.7	-1,570.0	1,571.7	1,562.5	9.23	170.290	
800.0	800.0	800.0	800.0	4.6	4.6	-92.62	-71.7	-1,570.0	1,571.7	1,562.1	9.57	164.222	
900.0	900.0	900.0	900.0	4.8	4.8	-92.62	-71.7	-1,570.0	1,571.7	1,561.8	9.90	158.726	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.62	-71.7	-1,570.0	1,571.7	1,561.5	10.22	153.715	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.62	-71.7	-1,570.0	1,571.7	1,561.1	10.54	149.121	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.62	-71.7	-1,570.0	1,571.7	1,560.8	10.85	144.889	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.62	-71.7	-1,570.0	1,571.7	1,560.5	11.15	140.971	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.62	-71.7	-1,570.0	1,571.7	1,560.2	11.44	137.332	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.62	-71.7	-1,570.0	1,571.7	1,560.0	11.73	133.938	CC, ES
1,600.0	1,600.0	1,574.2	1,574.2	5.8	5.8	-92.63	-72.1	-1,570.6	1,572.5	1,560.5	11.99	131.155	
1,700.0	1,700.0	1,648.4	1,648.3	6.0	5.9	-92.67	-73.4	-1,572.4	1,575.0	1,562.7	12.24	128.702	
1,800.0	1,800.0	1,722.4	1,722.3	6.1	6.1	-92.74	-75.4	-1,575.4	1,579.1	1,566.6	12.48	126.518	
1,900.0	1,900.0	1,800.0	1,799.7	6.3	6.2	169.64	-78.5	-1,579.7	1,586.1	1,573.3	12.76	124.346	
2,000.0	1,999.9	1,869.6	1,869.0	6.4	6.3	169.51	-82.0	-1,584.7	1,597.3	1,584.3	13.02	122.670	
2,100.0	2,099.7	1,957.5	1,956.4	6.6	6.5	169.34	-87.2	-1,592.1	1,612.4	1,599.1	13.34	120.899	
2,200.0	2,199.3	2,055.8	2,054.2	6.8	6.7	169.15	-93.1	-1,600.5	1,630.3	1,616.6	13.70	118.993	
2,300.0	2,298.6	2,153.7	2,151.6	7.0	6.9	168.98	-98.9	-1,608.9	1,650.6	1,636.5	14.10	117.104	
2,400.0	2,397.5	2,251.0	2,248.3	7.3	7.1	168.82	-104.8	-1,617.2	1,673.5	1,658.9	14.52	115.246	
2,500.0	2,496.1	2,347.7	2,344.5	7.5	7.4	168.67	-110.6	-1,625.5	1,698.8	1,683.8	14.98	113.433	
2,600.0	2,594.2	2,443.7	2,440.0	7.8	7.6	168.53	-116.3	-1,633.7	1,726.6	1,711.2	15.46	111.685	
2,700.0	2,691.7	2,539.1	2,534.8	8.0	7.9	168.43	-122.0	-1,641.9	1,756.8	1,740.9	15.91	110.401	
2,800.0	2,789.2	2,626.1	2,621.4	8.3	8.2	168.41	-127.2	-1,649.4	1,787.5	1,771.1	16.40	108.976	
2,900.0	2,886.6	2,700.0	2,694.8	8.7	8.4	168.40	-131.1	-1,656.7	1,819.4	1,802.5	16.87	107.838	
3,000.0	2,984.0	2,762.4	2,756.8	9.0	8.6	168.43	-133.7	-1,663.8	1,852.6	1,835.2	17.33	106.894	
3,100.0	3,081.5	2,829.5	2,823.3	9.3	8.8	168.47	-135.9	-1,672.4	1,887.1	1,869.3	17.82	105.883	
3,200.0	3,178.9	2,900.0	2,893.0	9.7	9.0	168.54	-137.6	-1,682.5	1,923.0	1,904.6	18.35	104.823	
3,300.0	3,276.4	2,961.5	2,953.7	10.1	9.2	168.61	-138.5	-1,692.1	1,960.2	1,941.3	18.85	103.997	
3,400.0	3,373.8	3,026.3	3,017.5	10.4	9.4	168.71	-138.9	-1,703.2	1,998.6	1,979.3	19.37	103.182	SF

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS **Rule Assigned:** **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.66	-71.6	-1,539.9	1,541.6	1,535.2	6.43	239.795	
100.0	100.0	100.0	100.0	3.2	3.2	-92.66	-71.6	-1,539.9	1,541.6	1,534.7	6.89	223.670	
200.0	200.0	200.0	200.0	3.5	3.5	-92.66	-71.6	-1,539.9	1,541.6	1,534.3	7.33	210.368	
300.0	300.0	300.0	300.0	3.7	3.7	-92.66	-71.6	-1,539.9	1,541.6	1,533.9	7.74	199.141	
400.0	400.0	400.0	400.0	3.9	3.9	-92.66	-71.6	-1,539.9	1,541.6	1,533.5	8.14	189.492	
500.0	500.0	500.0	500.0	4.1	4.1	-92.66	-71.6	-1,539.9	1,541.6	1,533.1	8.51	181.078	
600.0	600.0	600.0	600.0	4.2	4.2	-92.66	-71.6	-1,539.9	1,541.6	1,532.7	8.88	173.652	
700.0	700.0	700.0	700.0	4.4	4.4	-92.66	-71.6	-1,539.9	1,541.6	1,532.4	9.23	167.032	
800.0	800.0	800.0	800.0	4.6	4.6	-92.66	-71.6	-1,539.9	1,541.6	1,532.0	9.57	161.080	
900.0	900.0	900.0	900.0	4.8	4.8	-92.66	-71.6	-1,539.9	1,541.6	1,531.7	9.90	155.689	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.66	-71.6	-1,539.9	1,541.6	1,531.4	10.22	150.774	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.66	-71.6	-1,539.9	1,541.6	1,531.1	10.54	146.268	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.66	-71.6	-1,539.9	1,541.6	1,530.8	10.85	142.116	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.66	-71.6	-1,539.9	1,541.6	1,530.5	11.15	138.274	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.66	-71.6	-1,539.9	1,541.6	1,530.2	11.44	134.704	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.66	-71.6	-1,539.9	1,541.6	1,529.9	11.73	131.375	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.66	-71.6	-1,539.9	1,541.6	1,529.6	12.02	128.260	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.66	-71.6	-1,539.9	1,541.6	1,529.3	12.30	125.338	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.66	-71.6	-1,539.9	1,541.6	1,529.0	12.58	122.588	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	169.84	-71.6	-1,539.9	1,542.9	1,530.0	12.87	119.895	
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	169.86	-71.6	-1,539.9	1,546.8	1,533.6	13.16	117.547	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	169.88	-71.6	-1,539.9	1,553.2	1,539.7	13.46	115.370	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	169.92	-71.6	-1,539.9	1,562.2	1,548.4	13.78	113.334	
2,300.0	2,298.6	2,298.6	2,298.6	7.0	6.8	169.96	-71.6	-1,539.9	1,573.8	1,559.7	14.12	111.420	
2,400.0	2,397.5	2,397.5	2,397.5	7.3	6.9	170.02	-71.6	-1,539.9	1,587.9	1,573.4	14.49	109.619	
2,500.0	2,496.1	2,496.1	2,496.1	7.5	7.0	170.08	-71.6	-1,539.9	1,604.6	1,589.7	14.87	107.923	
2,600.0	2,594.2	2,566.1	2,566.1	7.8	7.1	170.11	-71.7	-1,540.5	1,624.7	1,609.4	15.24	106.576	
2,700.0	2,691.7	2,634.0	2,633.9	8.0	7.2	170.16	-71.8	-1,542.3	1,648.8	1,633.3	15.57	105.896	
2,800.0	2,789.2	2,700.0	2,699.9	8.3	7.3	170.25	-71.9	-1,545.2	1,675.3	1,659.3	15.94	105.072	
2,900.0	2,886.6	2,767.6	2,767.4	8.7	7.4	170.33	-72.1	-1,549.3	1,703.4	1,687.1	16.34	104.232	
3,000.0	2,984.0	2,833.4	2,833.0	9.0	7.5	170.42	-72.4	-1,554.5	1,733.2	1,716.5	16.72	103.649	
3,100.0	3,081.5	2,928.6	2,927.8	9.3	7.6	170.53	-72.8	-1,562.8	1,763.8	1,746.6	17.18	102.649	
3,200.0	3,178.9	3,023.7	3,022.6	9.7	7.8	170.64	-73.3	-1,571.0	1,794.4	1,776.7	17.69	101.421	
3,300.0	3,276.4	3,118.9	3,117.4	10.1	8.0	170.75	-73.7	-1,579.3	1,825.1	1,806.8	18.23	100.120	
3,400.0	3,373.8	3,214.0	3,212.1	10.4	8.1	170.86	-74.1	-1,587.6	1,855.7	1,836.9	18.79	98.777	
3,500.0	3,471.2	3,309.1	3,306.9	10.8	8.3	170.96	-74.6	-1,595.9	1,886.3	1,867.0	19.37	97.407	
3,600.0	3,568.7	3,404.3	3,401.7	11.2	8.6	171.05	-75.0	-1,604.2	1,917.0	1,897.0	19.96	96.027	
3,700.0	3,666.1	3,499.4	3,496.5	11.6	8.8	171.15	-75.4	-1,612.4	1,947.6	1,927.1	20.58	94.648	
3,800.0	3,763.5	3,594.6	3,591.2	12.0	9.0	171.24	-75.9	-1,620.7	1,978.3	1,957.1	21.21	93.280	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #703H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.72	-71.7	-1,510.0	1,511.7	1,505.3	6.43	235.143	
100.0	100.0	100.0	100.0	3.2	3.2	-92.72	-71.7	-1,510.0	1,511.7	1,504.8	6.89	219.331	
200.0	200.0	200.0	200.0	3.5	3.5	-92.72	-71.7	-1,510.0	1,511.7	1,504.4	7.33	206.287	
300.0	300.0	300.0	300.0	3.7	3.7	-92.72	-71.7	-1,510.0	1,511.7	1,504.0	7.74	195.278	
400.0	400.0	400.0	400.0	3.9	3.9	-92.72	-71.7	-1,510.0	1,511.7	1,503.6	8.14	185.816	
500.0	500.0	500.0	500.0	4.1	4.1	-92.72	-71.7	-1,510.0	1,511.7	1,503.2	8.51	177.565	
600.0	600.0	600.0	600.0	4.2	4.2	-92.72	-71.7	-1,510.0	1,511.7	1,502.8	8.88	170.283	
700.0	700.0	700.0	700.0	4.4	4.4	-92.72	-71.7	-1,510.0	1,511.7	1,502.5	9.23	163.792	
800.0	800.0	800.0	800.0	4.6	4.6	-92.72	-71.7	-1,510.0	1,511.7	1,502.1	9.57	157.955	
900.0	900.0	900.0	900.0	4.8	4.8	-92.72	-71.7	-1,510.0	1,511.7	1,501.8	9.90	152.668	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.72	-71.7	-1,510.0	1,511.7	1,501.5	10.22	147.849	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.72	-71.7	-1,510.0	1,511.7	1,501.2	10.54	143.430	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.72	-71.7	-1,510.0	1,511.7	1,500.9	10.85	139.359	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.72	-71.7	-1,510.0	1,511.7	1,500.6	11.15	135.592	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.72	-71.7	-1,510.0	1,511.7	1,500.3	11.44	132.091	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.72	-71.7	-1,510.0	1,511.7	1,500.0	11.73	128.826	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.72	-71.7	-1,510.0	1,511.7	1,499.7	12.02	125.772	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.72	-71.7	-1,510.0	1,511.7	1,499.4	12.30	122.906	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.72	-71.7	-1,510.0	1,511.7	1,499.1	12.58	120.210	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	169.79	-71.7	-1,510.0	1,513.0	1,500.1	12.87	117.572	
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	169.80	-71.7	-1,510.0	1,516.9	1,503.7	13.16	115.274	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	169.83	-71.7	-1,510.0	1,523.3	1,509.8	13.46	113.149	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	169.87	-71.7	-1,510.0	1,532.3	1,518.5	13.78	111.164	
2,300.0	2,298.6	2,298.6	2,298.6	7.0	6.8	169.91	-71.7	-1,510.0	1,543.9	1,529.8	14.12	109.303	
2,400.0	2,397.5	2,397.5	2,397.5	7.3	6.9	169.97	-71.7	-1,510.0	1,558.0	1,543.5	14.49	107.554	
2,500.0	2,496.1	2,496.1	2,496.1	7.5	7.0	170.03	-71.7	-1,510.0	1,574.7	1,559.8	14.87	105.912	
2,600.0	2,594.2	2,594.2	2,594.2	7.8	7.2	170.10	-71.7	-1,510.0	1,593.9	1,578.7	15.27	104.372	
2,700.0	2,691.7	2,691.7	2,691.7	8.0	7.3	170.20	-71.7	-1,510.0	1,615.5	1,599.9	15.63	103.349	
2,800.0	2,789.2	2,789.2	2,789.2	8.3	7.4	170.33	-71.7	-1,510.0	1,637.7	1,621.7	16.05	102.038	
2,900.0	2,886.6	2,886.6	2,886.6	8.7	7.5	170.46	-71.7	-1,510.0	1,659.9	1,643.4	16.49	100.684	
3,000.0	2,984.0	2,984.0	2,984.0	9.0	7.6	170.59	-71.7	-1,510.0	1,682.1	1,665.2	16.94	99.304	
3,100.0	3,081.5	3,056.3	3,056.3	9.3	7.7	170.68	-71.7	-1,510.4	1,704.9	1,687.6	17.38	98.120	
3,200.0	3,178.9	3,123.2	3,123.2	9.7	7.8	170.77	-71.7	-1,512.0	1,729.4	1,711.6	17.81	97.087	
3,300.0	3,276.4	3,200.0	3,199.9	10.1	7.9	170.86	-71.7	-1,515.2	1,755.7	1,737.4	18.28	96.069	
3,400.0	3,373.8	3,255.0	3,254.8	10.4	8.0	170.93	-71.8	-1,518.5	1,783.5	1,764.8	18.71	95.345	
3,500.0	3,471.2	3,319.9	3,319.6	10.8	8.1	171.01	-71.9	-1,523.4	1,813.0	1,793.8	19.16	94.604	
3,600.0	3,568.7	3,400.0	3,399.3	11.2	8.2	171.10	-72.0	-1,530.9	1,844.2	1,824.5	19.67	93.736	
3,700.0	3,666.1	3,447.7	3,446.6	11.6	8.3	171.15	-72.1	-1,536.2	1,876.8	1,856.7	20.10	93.354	
3,800.0	3,763.5	3,510.4	3,508.9	12.0	8.4	171.22	-72.2	-1,544.1	1,911.1	1,890.5	20.57	92.893	
3,900.0	3,860.9	3,592.2	3,589.9	12.4	8.5	175.23	-72.4	-1,555.4	1,947.1	1,926.1	21.06	92.463	
4,000.0	3,957.6	3,684.5	3,681.3	12.8	8.7	179.26	-72.7	-1,568.2	1,985.5	1,963.9	21.65	91.728	SF

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 — **Rule Assigned:** — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.77	-71.6	-1,480.0	1,481.8	1,475.4	6.43	230.487	
100.0	100.0	100.0	100.0	3.2	3.2	-92.77	-71.6	-1,480.0	1,481.8	1,474.9	6.89	214.989	
200.0	200.0	200.0	200.0	3.5	3.5	-92.77	-71.6	-1,480.0	1,481.8	1,474.5	7.33	202.203	
300.0	300.0	300.0	300.0	3.7	3.7	-92.77	-71.6	-1,480.0	1,481.8	1,474.0	7.74	191.412	
400.0	400.0	400.0	400.0	3.9	3.9	-92.77	-71.6	-1,480.0	1,481.8	1,473.6	8.14	182.137	
500.0	500.0	500.0	500.0	4.1	4.1	-92.77	-71.6	-1,480.0	1,481.8	1,473.3	8.51	174.050	
600.0	600.0	600.0	600.0	4.2	4.2	-92.77	-71.6	-1,480.0	1,481.8	1,472.9	8.88	166.912	
700.0	700.0	700.0	700.0	4.4	4.4	-92.77	-71.6	-1,480.0	1,481.8	1,472.6	9.23	160.549	
800.0	800.0	800.0	800.0	4.6	4.6	-92.77	-71.6	-1,480.0	1,481.8	1,472.2	9.57	154.828	
900.0	900.0	900.0	900.0	4.8	4.8	-92.77	-71.6	-1,480.0	1,481.8	1,471.9	9.90	149.646	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.77	-71.6	-1,480.0	1,481.8	1,471.6	10.22	144.922	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.77	-71.6	-1,480.0	1,481.8	1,471.2	10.54	140.591	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.77	-71.6	-1,480.0	1,481.8	1,470.9	10.85	136.600	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.77	-71.6	-1,480.0	1,481.8	1,470.6	11.15	132.907	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.77	-71.6	-1,480.0	1,481.8	1,470.3	11.44	129.476	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.77	-71.6	-1,480.0	1,481.8	1,470.0	11.73	126.276	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.77	-71.6	-1,480.0	1,481.8	1,469.8	12.02	123.282	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.77	-71.6	-1,480.0	1,481.8	1,469.5	12.30	120.473	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.77	-71.6	-1,480.0	1,481.8	1,469.2	12.58	117.830	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	169.74	-71.6	-1,480.0	1,483.1	1,470.2	12.87	115.246	
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	169.75	-71.6	-1,480.0	1,486.9	1,473.8	13.16	113.000	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	169.78	-71.6	-1,480.0	1,493.4	1,479.9	13.46	110.926	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	169.82	-71.6	-1,480.0	1,502.4	1,488.6	13.78	108.993	
2,300.0	2,298.6	2,298.6	2,298.6	7.0	6.8	169.87	-71.6	-1,480.0	1,513.9	1,499.8	14.12	107.185	
2,400.0	2,397.5	2,397.5	2,397.5	7.3	6.9	169.92	-71.6	-1,480.0	1,528.1	1,513.6	14.49	105.489	
2,500.0	2,496.1	2,496.1	2,496.1	7.5	7.0	169.99	-71.6	-1,480.0	1,544.8	1,529.9	14.87	103.899	
2,600.0	2,594.2	2,658.9	2,658.9	7.8	7.3	170.14	-71.8	-1,476.7	1,562.0	1,546.7	15.37	101.628	
2,700.0	2,691.7	2,826.1	2,825.7	8.0	7.5	170.31	-72.3	-1,466.2	1,577.4	1,561.6	15.84	99.591	
2,800.0	2,789.2	2,995.2	2,993.8	8.3	7.8	170.48	-73.3	-1,448.0	1,589.1	1,572.7	16.40	96.866	
2,900.0	2,886.6	3,110.6	3,108.1	8.7	8.0	170.59	-74.1	-1,432.2	1,597.7	1,580.8	16.89	94.602	
3,000.0	2,984.0	3,210.2	3,206.8	9.0	8.2	170.67	-74.8	-1,418.3	1,606.1	1,588.7	17.44	92.119	
3,100.0	3,081.5	3,309.8	3,305.4	9.3	8.5	170.76	-75.6	-1,404.5	1,614.6	1,596.6	18.01	89.634	
3,200.0	3,178.9	3,409.4	3,404.1	9.7	8.7	170.85	-76.3	-1,390.7	1,623.1	1,604.4	18.62	87.174	
3,300.0	3,276.4	3,509.1	3,502.7	10.1	8.9	170.94	-77.0	-1,376.8	1,631.5	1,612.3	19.25	84.758	
3,400.0	3,373.8	3,608.7	3,601.3	10.4	9.2	171.02	-77.7	-1,363.0	1,640.0	1,620.1	19.90	82.401	
3,500.0	3,471.2	3,708.3	3,700.0	10.8	9.5	171.11	-78.5	-1,349.1	1,648.5	1,627.9	20.58	80.115	
3,600.0	3,568.7	3,807.9	3,798.6	11.2	9.8	171.19	-79.2	-1,335.3	1,657.0	1,635.7	21.27	77.905	
3,700.0	3,666.1	3,907.5	3,897.3	11.6	10.1	171.28	-79.9	-1,321.4	1,665.5	1,643.5	21.98	75.778	
3,800.0	3,763.5	4,007.1	3,995.9	12.0	10.4	171.36	-80.6	-1,307.6	1,674.0	1,651.3	22.70	73.734	
3,900.0	3,860.9	4,106.7	4,094.5	12.4	10.7	175.14	-81.4	-1,293.8	1,683.0	1,659.6	23.41	71.884	
4,000.0	3,957.6	4,206.0	4,192.9	12.8	11.0	178.88	-82.1	-1,279.9	1,694.5	1,670.4	24.15	70.153	
4,100.0	4,054.2	4,305.3	4,291.1	13.2	11.4	178.86	-82.8	-1,266.2	1,706.7	1,681.8	24.93	68.453	
4,200.0	4,150.8	4,404.5	4,389.4	13.7	11.7	178.84	-83.5	-1,252.4	1,719.0	1,693.2	25.72	66.837	
4,300.0	4,247.4	4,485.6	4,469.8	14.1	12.0	178.83	-84.1	-1,241.4	1,731.6	1,705.1	26.44	65.497	
4,400.0	4,344.0	4,561.6	4,545.2	14.5	12.2	178.82	-84.6	-1,232.1	1,745.5	1,718.3	27.15	64.283	
4,500.0	4,440.6	4,637.3	4,620.5	15.0	12.5	178.82	-85.0	-1,223.9	1,760.7	1,732.9	27.87	63.185	
4,600.0	4,537.2	4,712.7	4,695.5	15.4	12.7	178.81	-85.4	-1,216.7	1,777.2	1,748.7	28.57	62.203	
4,700.0	4,633.8	4,787.8	4,770.3	15.9	13.0	178.81	-85.7	-1,210.5	1,795.1	1,765.8	29.27	61.331	
4,800.0	4,730.4	4,862.5	4,844.9	16.3	13.2	178.81	-86.0	-1,205.3	1,814.1	1,784.2	29.95	60.565	
4,900.0	4,827.0	4,936.8	4,919.0	16.8	13.5	178.82	-86.2	-1,201.0	1,834.5	1,803.9	30.63	59.897	
5,000.0	4,923.6	5,000.0	4,982.2	17.3	13.6	178.82	-86.4	-1,198.2	1,856.2	1,824.9	31.25	59.404	
5,100.0	5,020.1	5,084.2	5,066.3	17.7	13.9	178.83	-86.5	-1,195.5	1,879.0	1,847.1	31.93	58.843	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,157.2	5,139.3	18.2	14.0	178.84	-86.6	-1,194.2	1,903.1	1,870.6	32.55	58.472	
5,300.0	5,213.3	5,231.2	5,213.3	18.6	14.2	178.85	-86.6	-1,193.8	1,928.5	1,895.3	33.12	58.228	
5,400.0	5,309.9	5,327.8	5,309.9	19.1	14.2	178.86	-86.6	-1,193.8	1,954.3	1,920.7	33.68	58.020	
5,500.0	5,406.5	5,424.4	5,406.5	19.6	14.3	178.88	-86.6	-1,193.8	1,980.2	1,946.0	34.26	57.796 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.83	-71.6	-1,450.0	1,451.8	1,445.4	6.43	225.825	
100.0	100.0	100.0	100.0	3.2	3.2	-92.83	-71.6	-1,450.0	1,451.8	1,444.9	6.89	210.640	
200.0	200.0	200.0	200.0	3.5	3.5	-92.83	-71.6	-1,450.0	1,451.8	1,444.5	7.33	198.113	
300.0	300.0	300.0	300.0	3.7	3.7	-92.83	-71.6	-1,450.0	1,451.8	1,444.1	7.74	187.540	
400.0	400.0	400.0	400.0	3.9	3.9	-92.83	-71.6	-1,450.0	1,451.8	1,443.7	8.14	178.453	
500.0	500.0	500.0	500.0	4.1	4.1	-92.83	-71.6	-1,450.0	1,451.8	1,443.3	8.51	170.529	
600.0	600.0	600.0	600.0	4.2	4.2	-92.83	-71.6	-1,450.0	1,451.8	1,442.9	8.88	163.536	
700.0	700.0	700.0	700.0	4.4	4.4	-92.83	-71.6	-1,450.0	1,451.8	1,442.6	9.23	157.301	
800.0	800.0	800.0	800.0	4.6	4.6	-92.83	-71.6	-1,450.0	1,451.8	1,442.2	9.57	151.696	
900.0	900.0	900.0	900.0	4.8	4.8	-92.83	-71.6	-1,450.0	1,451.8	1,441.9	9.90	146.619	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.83	-71.6	-1,450.0	1,451.8	1,441.6	10.22	141.990	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.83	-71.6	-1,450.0	1,451.8	1,441.3	10.54	137.747	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.83	-71.6	-1,450.0	1,451.8	1,441.0	10.85	133.837	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.83	-71.6	-1,450.0	1,451.8	1,440.7	11.15	130.219	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.83	-71.6	-1,450.0	1,451.8	1,440.4	11.44	126.857	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.83	-71.6	-1,450.0	1,451.8	1,440.1	11.73	123.722	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.83	-71.6	-1,450.0	1,451.8	1,439.8	12.02	120.788	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.83	-71.6	-1,450.0	1,451.8	1,439.5	12.30	118.036	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.83	-71.6	-1,450.0	1,451.8	1,439.2	12.58	115.447 CC	
1,900.0	1,900.0	1,934.2	1,934.2	6.3	6.3	169.62	-73.3	-1,448.4	1,451.9	1,439.0	12.91	112.501 ES	
2,000.0	1,999.9	2,068.3	2,068.1	6.4	6.5	169.45	-78.3	-1,443.4	1,452.2	1,439.0	13.22	109.846	
2,100.0	2,099.7	2,202.2	2,201.5	6.6	6.8	169.16	-86.6	-1,435.1	1,452.8	1,439.3	13.56	107.143	
2,200.0	2,199.3	2,301.4	2,300.1	6.8	7.0	168.92	-93.9	-1,427.7	1,454.9	1,441.0	13.88	104.795	
2,300.0	2,298.6	2,401.2	2,399.3	7.0	7.1	168.69	-101.3	-1,420.4	1,459.5	1,445.3	14.24	102.519	
2,400.0	2,397.5	2,500.8	2,498.4	7.3	7.4	168.47	-108.6	-1,413.0	1,466.7	1,452.1	14.62	100.326	
2,500.0	2,496.1	2,600.2	2,597.3	7.5	7.6	168.27	-116.0	-1,405.7	1,476.5	1,461.5	15.03	98.222	
2,600.0	2,594.2	2,699.4	2,695.9	7.8	7.8	168.08	-123.3	-1,398.3	1,488.8	1,473.4	15.48	96.185	
2,700.0	2,691.7	2,868.9	2,864.3	8.0	8.3	167.93	-132.8	-1,382.1	1,501.3	1,485.3	16.03	93.665	
2,800.0	2,789.2	3,043.1	3,036.8	8.3	8.7	168.06	-135.8	-1,357.5	1,509.5	1,492.8	16.72	90.305	
2,900.0	2,886.6	3,157.6	3,149.5	8.7	9.0	168.24	-134.8	-1,337.8	1,514.4	1,497.0	17.34	87.347	
3,000.0	2,984.0	3,257.4	3,247.8	9.0	9.3	168.40	-133.8	-1,320.5	1,519.1	1,501.2	17.98	84.479	
3,100.0	3,081.5	3,357.2	3,346.1	9.3	9.6	168.56	-132.8	-1,303.2	1,523.9	1,505.3	18.65	81.711	
3,200.0	3,178.9	3,456.9	3,444.4	9.7	9.9	168.72	-131.9	-1,285.9	1,528.7	1,509.4	19.34	79.037	
3,300.0	3,276.4	3,556.7	3,542.6	10.1	10.2	168.88	-130.9	-1,268.6	1,533.5	1,513.5	20.05	76.466	
3,400.0	3,373.8	3,656.5	3,640.9	10.4	10.6	169.04	-129.9	-1,251.3	1,538.3	1,517.5	20.79	74.003	
3,500.0	3,471.2	3,756.3	3,739.2	10.8	10.9	169.20	-128.9	-1,234.0	1,543.1	1,521.6	21.54	71.651	
3,600.0	3,568.7	3,856.1	3,837.5	11.2	11.2	169.35	-127.9	-1,216.7	1,548.0	1,525.7	22.30	69.410	
3,700.0	3,666.1	3,955.9	3,935.7	11.6	11.6	169.51	-126.9	-1,199.4	1,552.8	1,529.8	23.08	67.276	
3,800.0	3,763.5	4,055.7	4,034.0	12.0	12.0	169.66	-126.0	-1,182.1	1,557.7	1,533.8	23.87	65.249	
3,900.0	3,860.9	4,155.5	4,132.3	12.4	12.3	173.48	-125.0	-1,164.8	1,563.1	1,538.5	24.65	63.415	
4,000.0	3,957.6	4,255.2	4,230.4	12.8	12.7	177.26	-124.0	-1,147.5	1,571.1	1,545.6	25.45	61.726	
4,100.0	4,054.2	4,354.8	4,328.5	13.2	13.1	177.31	-123.0	-1,130.3	1,579.7	1,553.5	26.29	60.091	
4,200.0	4,150.8	4,454.4	4,426.6	13.7	13.5	177.36	-122.0	-1,113.0	1,588.4	1,561.3	27.13	58.541	
4,300.0	4,247.4	4,554.0	4,524.7	14.1	13.8	177.41	-121.1	-1,095.7	1,597.1	1,569.1	27.99	57.070	
4,400.0	4,344.0	4,653.6	4,622.8	14.5	14.2	177.46	-120.1	-1,078.5	1,605.8	1,577.0	28.84	55.671	
4,500.0	4,440.6	4,753.2	4,720.9	15.0	14.6	177.51	-119.1	-1,061.2	1,614.5	1,584.8	29.71	54.341	
4,600.0	4,537.2	4,852.8	4,819.0	15.4	15.0	177.56	-118.1	-1,043.9	1,623.2	1,592.6	30.58	53.077	
4,700.0	4,633.8	4,952.4	4,917.1	15.9	15.4	177.60	-117.1	-1,026.7	1,631.9	1,600.4	31.46	51.874	
4,800.0	4,730.4	5,052.1	5,015.2	16.3	15.8	177.65	-116.2	-1,009.4	1,640.6	1,608.3	32.34	50.728	
4,900.0	4,827.0	5,151.7	5,113.3	16.8	16.2	177.70	-115.2	-992.1	1,649.3	1,616.1	33.23	49.636	
5,000.0	4,923.6	5,251.3	5,211.4	17.3	16.7	177.74	-114.2	-974.8	1,658.0	1,623.9	34.12	48.595	
5,100.0	5,020.1	5,350.9	5,309.5	17.7	17.1	177.79	-113.2	-957.6	1,666.7	1,631.7	35.01	47.602	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 **Rule Assigned:** **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,450.5	5,407.6	18.2	17.5	177.83	-112.2	-940.3	1,675.4	1,639.5	35.91	46.653	
5,300.0	5,213.3	5,550.1	5,505.7	18.6	17.9	177.88	-111.2	-923.0	1,684.1	1,647.3	36.81	45.747	
5,400.0	5,309.9	5,649.7	5,603.8	19.1	18.3	177.92	-110.3	-905.8	1,692.8	1,655.1	37.72	44.881	
5,500.0	5,406.5	5,749.3	5,701.9	19.6	18.7	177.97	-109.3	-888.5	1,701.5	1,662.9	38.62	44.052	
5,600.0	5,503.1	5,849.0	5,800.0	20.1	19.2	178.01	-108.3	-871.2	1,710.2	1,670.7	39.53	43.258	
5,700.0	5,599.7	5,948.6	5,898.1	20.5	19.6	178.05	-107.3	-854.0	1,718.9	1,678.4	40.45	42.497	
5,800.0	5,696.3	6,048.2	5,996.2	21.0	20.0	178.09	-106.3	-836.7	1,727.6	1,686.2	41.36	41.768	
5,900.0	5,792.9	6,147.8	6,094.3	21.5	20.4	178.14	-105.4	-819.4	1,736.3	1,694.0	42.28	41.068	
6,000.0	5,889.5	6,247.4	6,192.4	21.9	20.9	178.18	-104.4	-802.1	1,745.0	1,701.8	43.20	40.396	
6,100.0	5,986.1	6,347.0	6,290.5	22.4	21.3	178.22	-103.4	-784.9	1,753.7	1,709.6	44.12	39.750	
6,200.0	6,082.7	6,446.6	6,388.6	22.9	21.7	178.26	-102.4	-767.6	1,762.4	1,717.4	45.03	39.137	
6,300.0	6,179.3	6,523.0	6,464.0	23.4	22.0	178.29	-101.7	-754.8	1,771.8	1,725.9	45.83	38.657	
6,400.0	6,275.9	6,600.0	6,540.0	23.9	22.3	178.32	-101.0	-743.0	1,782.5	1,735.8	46.64	38.220	
6,500.0	6,372.4	6,674.6	6,613.8	24.3	22.7	178.35	-100.4	-732.5	1,794.4	1,747.0	47.41	37.847	
6,600.0	6,469.0	6,750.0	6,688.6	24.8	23.0	178.38	-99.9	-722.9	1,807.7	1,759.6	48.18	37.520	
6,700.0	6,565.6	6,825.1	6,763.3	25.3	23.3	178.40	-99.4	-714.2	1,822.3	1,773.4	48.93	37.241	
6,800.0	6,662.2	6,900.0	6,837.7	25.8	23.6	178.43	-99.0	-706.6	1,838.2	1,788.5	49.67	37.008	
6,900.0	6,758.8	6,974.5	6,911.9	26.3	23.8	178.45	-98.6	-700.0	1,855.4	1,805.0	50.39	36.822	
7,000.0	6,855.4	7,048.6	6,985.9	26.7	24.1	178.47	-98.3	-694.4	1,873.8	1,822.8	51.09	36.679	
7,100.0	6,952.0	7,122.4	7,059.5	27.2	24.4	178.49	-98.0	-689.7	1,893.6	1,841.8	51.77	36.576	
7,200.0	7,048.6	7,200.0	7,137.0	27.7	24.6	178.51	-97.8	-685.8	1,914.5	1,862.1	52.46	36.496	SF
7,300.0	7,145.2	7,268.8	7,205.7	28.2	24.8	178.53	-97.6	-683.3	1,936.8	1,883.7	53.07	36.497	
7,400.0	7,241.8	7,341.4	7,278.3	28.7	25.0	178.54	-97.5	-681.5	1,960.2	1,906.5	53.67	36.522	
7,500.0	7,338.4	7,413.5	7,350.3	29.2	25.2	178.56	-97.5	-680.6	1,984.9	1,930.7	54.24	36.596	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS — **Rule Assigned:** — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-89.99	0.0	-120.0	120.0	113.6	6.43	18.666	
100.0	100.0	100.0	100.0	3.2	3.2	-89.99	0.0	-120.0	120.0	113.1	6.89	17.411	
200.0	200.0	200.0	200.0	3.5	3.5	-89.99	0.0	-120.0	120.0	112.7	7.33	16.375	
300.0	300.0	300.0	300.0	3.7	3.7	-89.99	0.0	-120.0	120.0	112.3	7.74	15.501	
400.0	400.0	400.0	400.0	3.9	3.9	-89.99	0.0	-120.0	120.0	111.9	8.14	14.750	
500.0	500.0	500.0	500.0	4.1	4.1	-89.99	0.0	-120.0	120.0	111.5	8.51	14.095	
600.0	600.0	600.0	600.0	4.2	4.2	-89.99	0.0	-120.0	120.0	111.1	8.88	13.517	
700.0	700.0	700.0	700.0	4.4	4.4	-89.99	0.0	-120.0	120.0	110.8	9.23	13.002	
800.0	800.0	800.0	800.0	4.6	4.6	-89.99	0.0	-120.0	120.0	110.4	9.57	12.539	
900.0	900.0	900.0	900.0	4.8	4.8	-89.99	0.0	-120.0	120.0	110.1	9.90	12.119	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-89.99	0.0	-120.0	120.0	109.8	10.22	11.736	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-89.99	0.0	-120.0	120.0	109.5	10.54	11.386	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-89.99	0.0	-120.0	120.0	109.2	10.85	11.062	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-89.99	0.0	-120.0	120.0	108.9	11.15	10.763	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-89.99	0.0	-120.0	120.0	108.6	11.44	10.485	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-89.99	0.0	-120.0	120.0	108.3	11.73	10.226	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-89.99	0.0	-120.0	120.0	108.0	12.02	9.984	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-89.99	0.0	-120.0	120.0	107.7	12.30	9.756	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-89.99	0.0	-120.0	120.0	107.4	12.58	9.542	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	172.59	0.0	-120.0	121.3	108.4	12.87	9.425	SF
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	172.81	0.0	-120.0	125.2	112.0	13.16	9.513	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	173.16	0.0	-120.0	131.7	118.2	13.47	9.780	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	173.58	0.0	-120.0	140.8	127.0	13.79	10.210	
2,300.0	2,298.6	2,298.6	2,298.6	7.0	6.8	174.06	0.0	-120.0	152.5	138.3	14.13	10.789	
2,400.0	2,397.5	2,397.5	2,397.5	7.3	6.9	174.55	0.0	-120.0	166.7	152.2	14.49	11.503	
2,500.0	2,496.1	2,496.1	2,496.1	7.5	7.0	175.03	0.0	-120.0	183.6	168.7	14.88	12.339	
2,600.0	2,594.2	2,594.2	2,594.2	7.8	7.2	175.48	0.0	-120.0	203.0	187.8	15.29	13.282	
2,700.0	2,691.7	2,691.7	2,691.7	8.0	7.3	175.91	0.0	-120.0	224.9	209.3	15.65	14.371	
2,800.0	2,789.2	2,789.2	2,789.2	8.3	7.4	176.28	0.0	-120.0	247.4	231.3	16.07	15.390	
2,900.0	2,886.6	2,886.6	2,886.6	8.7	7.5	176.59	0.0	-120.0	269.8	253.3	16.51	16.340	
3,000.0	2,984.0	2,984.0	2,984.0	9.0	7.6	176.85	0.0	-120.0	292.3	275.3	16.97	17.224	
3,100.0	3,081.5	3,081.5	3,081.5	9.3	7.8	177.08	0.0	-120.0	314.7	297.3	17.44	18.047	
3,200.0	3,178.9	3,178.9	3,178.9	9.7	7.9	177.27	0.0	-120.0	337.2	319.3	17.93	18.811	
3,300.0	3,276.4	3,276.4	3,276.4	10.1	8.0	177.44	0.0	-120.0	359.7	341.3	18.42	19.522	
3,400.0	3,373.8	3,373.8	3,373.8	10.4	8.1	177.59	0.0	-120.0	382.2	363.2	18.94	20.182	
3,500.0	3,471.2	3,471.2	3,471.2	10.8	8.2	177.73	0.0	-120.0	404.6	385.2	19.46	20.797	
3,600.0	3,568.7	3,568.7	3,568.7	11.2	8.3	177.85	0.0	-120.0	427.1	407.1	19.99	21.369	
3,700.0	3,666.1	3,666.1	3,666.1	11.6	8.4	177.95	0.0	-120.0	449.6	429.1	20.53	21.901	
3,800.0	3,763.5	3,763.5	3,763.5	12.0	8.6	178.05	0.0	-120.0	472.1	451.0	21.08	22.397	
3,900.0	3,860.9	3,860.9	3,860.9	12.4	8.7	-178.07	0.0	-120.0	495.0	473.4	21.61	22.913	
4,000.0	3,957.6	3,957.6	3,957.6	12.8	8.8	-174.39	0.0	-120.0	520.2	498.0	22.16	23.477	
4,100.0	4,054.2	4,054.2	4,054.2	13.2	8.9	-174.65	0.0	-120.0	545.9	523.2	22.74	24.009	
4,200.0	4,150.8	4,150.8	4,150.8	13.7	9.0	-174.89	0.0	-120.0	571.7	548.4	23.33	24.510	
4,300.0	4,247.4	4,247.4	4,247.4	14.1	9.1	-175.12	0.0	-120.0	597.5	573.6	23.92	24.980	
4,400.0	4,344.0	4,344.0	4,344.0	14.5	9.2	-175.32	0.0	-120.0	623.3	598.8	24.52	25.421	
4,500.0	4,440.6	4,440.6	4,440.6	15.0	9.3	-175.50	0.0	-120.0	649.1	624.0	25.13	25.835	
4,600.0	4,537.2	4,537.2	4,537.2	15.4	9.4	-175.68	0.0	-120.0	674.9	649.2	25.74	26.225	
4,700.0	4,633.8	4,633.8	4,633.8	15.9	9.5	-175.84	0.0	-120.0	700.7	674.4	26.35	26.593	
4,800.0	4,730.4	4,730.4	4,730.4	16.3	9.6	-175.98	0.0	-120.0	726.6	699.6	26.97	26.939	
4,900.0	4,827.0	4,827.0	4,827.0	16.8	9.7	-176.12	0.0	-120.0	752.4	724.8	27.59	27.266	
5,000.0	4,923.6	4,923.6	4,923.6	17.3	9.8	-176.25	0.0	-120.0	778.2	750.0	28.22	27.575	
5,100.0	5,020.1	5,020.1	5,020.1	17.7	9.9	-176.37	0.0	-120.0	804.0	775.2	28.85	27.867	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,116.7	5,116.7	18.2	10.1	-176.49	0.0	-120.0	829.9	800.4	29.49	28.143	
5,300.0	5,213.3	5,213.3	5,213.3	18.6	10.2	-176.59	0.0	-120.0	855.7	825.6	30.13	28.405	
5,400.0	5,309.9	5,309.9	5,309.9	19.1	10.3	-176.69	0.0	-120.0	881.6	850.8	30.77	28.653	
5,500.0	5,406.5	5,406.5	5,406.5	19.6	10.4	-176.79	0.0	-120.0	907.4	876.0	31.41	28.888	
5,600.0	5,503.1	5,503.1	5,503.1	20.1	10.5	-176.87	0.0	-120.0	933.2	901.2	32.06	29.112	
5,700.0	5,599.7	5,599.7	5,599.7	20.5	10.6	-176.96	0.0	-120.0	959.1	926.4	32.71	29.325	
5,800.0	5,696.3	5,696.3	5,696.3	21.0	10.7	-177.04	0.0	-120.0	984.9	951.6	33.36	29.527	
5,900.0	5,792.9	5,792.9	5,792.9	21.5	10.8	-177.11	0.0	-120.0	1,010.8	976.8	34.01	29.720	
6,000.0	5,889.5	5,889.5	5,889.5	21.9	10.9	-177.19	0.0	-120.0	1,036.6	1,002.0	34.67	29.904	
6,100.0	5,986.1	5,986.1	5,986.1	22.4	11.0	-177.26	0.0	-120.0	1,062.5	1,027.2	35.32	30.079	
6,200.0	6,082.7	6,082.7	6,082.7	22.9	11.1	-177.32	0.0	-120.0	1,088.4	1,052.4	35.98	30.246	
6,300.0	6,179.3	6,179.3	6,179.3	23.4	11.2	-177.38	0.0	-120.0	1,114.2	1,077.6	36.64	30.406	
6,400.0	6,275.9	6,275.9	6,275.9	23.9	11.3	-177.44	0.0	-120.0	1,140.1	1,102.8	37.31	30.559	
6,500.0	6,372.4	6,372.4	6,372.4	24.3	11.4	-177.50	0.0	-120.0	1,165.9	1,128.0	37.97	30.705	
6,600.0	6,469.0	6,469.0	6,469.0	24.8	11.5	-177.55	0.0	-120.0	1,191.8	1,153.1	38.64	30.845	
6,700.0	6,565.6	6,565.6	6,565.6	25.3	11.6	-177.61	0.0	-120.0	1,217.6	1,178.3	39.30	30.980	
6,800.0	6,662.2	6,662.2	6,662.2	25.8	11.6	-177.65	0.0	-120.0	1,243.5	1,203.5	39.97	31.108	
6,900.0	6,758.8	6,758.8	6,758.8	26.3	11.7	-177.70	0.0	-120.0	1,269.4	1,228.7	40.64	31.232	
7,000.0	6,855.4	6,855.4	6,855.4	26.7	11.8	-177.75	0.0	-120.0	1,295.2	1,253.9	41.32	31.350	
7,100.0	6,952.0	6,952.0	6,952.0	27.2	11.9	-177.79	0.0	-120.0	1,321.1	1,279.1	41.99	31.464	
7,200.0	7,048.6	7,048.6	7,048.6	27.7	12.0	-177.84	0.0	-120.0	1,347.0	1,304.3	42.66	31.573	
7,300.0	7,145.2	7,145.2	7,145.2	28.2	12.1	-177.88	0.0	-120.0	1,372.8	1,329.5	43.34	31.678	
7,400.0	7,241.8	7,241.8	7,241.8	28.7	12.2	-177.92	0.0	-120.0	1,398.7	1,354.7	44.01	31.780	
7,500.0	7,338.4	7,338.4	7,338.4	29.2	12.3	-177.95	0.0	-120.0	1,424.6	1,379.9	44.69	31.877	
7,600.0	7,435.0	7,435.0	7,435.0	29.7	12.4	-177.99	0.0	-120.0	1,450.4	1,405.1	45.37	31.971	
7,700.0	7,531.6	7,531.6	7,531.6	30.1	12.5	-178.02	0.0	-120.0	1,476.3	1,430.2	46.05	32.061	
7,800.0	7,628.1	7,628.1	7,628.1	30.6	12.6	-178.06	0.0	-120.0	1,502.2	1,455.4	46.73	32.148	
7,900.0	7,724.7	7,724.7	7,724.7	31.1	12.7	-178.09	0.0	-120.0	1,528.0	1,480.6	47.41	32.233	
8,000.0	7,821.3	7,821.3	7,821.3	31.6	12.8	-178.12	0.0	-120.0	1,553.9	1,505.8	48.09	32.314	
8,100.0	7,917.9	7,917.9	7,917.9	32.1	12.9	-178.15	0.0	-120.0	1,579.8	1,531.0	48.77	32.392	
8,200.0	8,014.5	8,014.5	8,014.5	32.6	13.0	-178.19	0.0	-120.0	1,605.6	1,556.2	49.45	32.473	
8,300.0	8,111.4	8,111.4	8,111.4	33.1	13.1	-178.22	0.0	-120.0	1,630.4	1,580.3	50.13	32.522	
8,400.0	8,208.7	8,208.7	8,208.7	33.6	13.2	-178.25	0.0	-120.0	1,653.5	1,602.7	50.80	32.547	
8,500.0	8,306.4	8,306.4	8,306.4	34.0	13.3	-178.28	0.0	-120.0	1,674.8	1,623.4	51.46	32.545	
8,600.0	8,404.4	8,404.4	8,404.4	34.5	13.4	-178.31	0.0	-120.0	1,694.5	1,642.4	52.11	32.516	
8,700.0	8,502.8	8,502.8	8,502.8	34.9	13.5	-178.33	0.0	-120.0	1,712.5	1,659.7	52.75	32.462	
8,800.0	8,601.5	8,601.5	8,601.5	35.4	13.6	-178.35	0.0	-120.0	1,728.7	1,675.3	53.38	32.384	
8,900.0	8,700.4	8,700.4	8,700.4	35.8	13.6	-178.37	0.0	-120.0	1,743.2	1,689.2	53.99	32.286	
9,000.0	8,799.6	8,799.6	8,799.6	36.3	13.7	-178.38	0.0	-120.0	1,756.0	1,701.4	54.59	32.167	
9,100.0	8,899.0	8,899.0	8,899.0	36.7	13.8	-178.40	0.0	-120.0	1,767.1	1,711.9	55.17	32.030	
9,200.0	8,998.5	8,998.5	8,998.5	37.1	13.9	-178.41	0.0	-120.0	1,776.4	1,720.7	55.73	31.876	
9,300.0	9,098.2	9,098.2	9,098.2	37.4	14.0	-178.42	0.0	-120.0	1,784.0	1,727.7	56.26	31.709	
9,400.0	9,198.1	9,198.1	9,198.1	37.8	14.1	-178.42	0.0	-120.0	1,789.8	1,733.0	56.77	31.530	
9,500.0	9,298.0	9,298.0	9,298.0	38.1	14.2	-178.43	0.0	-120.0	1,793.9	1,736.7	57.23	31.344	
9,600.0	9,398.0	9,398.0	9,398.0	38.4	14.3	-178.43	0.0	-120.0	1,796.3	1,738.6	57.65	31.159	
9,700.0	9,498.0	9,498.0	9,498.0	38.5	14.4	-88.43	0.0	-120.0	1,796.9	1,739.0	57.85	31.064	
9,800.0	9,598.0	9,598.0	9,598.0	38.5	14.5	-88.43	0.0	-120.0	1,796.9	1,739.0	57.93	31.019	
9,900.0	9,698.0	9,698.0	9,698.0	38.5	14.6	-88.43	0.0	-120.0	1,796.9	1,738.9	58.00	30.979	
10,000.0	9,798.0	9,798.0	9,798.0	38.6	14.7	-88.43	0.0	-120.0	1,796.9	1,738.8	58.08	30.939	
10,100.0	9,898.0	9,898.0	9,898.0	38.6	14.8	-88.43	0.0	-120.0	1,796.9	1,738.7	58.16	30.898	
10,200.0	9,998.0	9,998.0	9,998.0	38.6	14.9	-88.43	0.0	-120.0	1,796.9	1,738.7	58.23	30.858	
10,300.0	10,098.0	10,098.0	10,098.0	38.6	15.0	-88.43	0.0	-120.0	1,796.9	1,738.6	58.31	30.817	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #706H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS **Rule Assigned:** **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,198.0	10,198.0	10,198.0	38.7	15.1	-88.43	0.0	-120.0	1,796.9	1,738.5	58.39	30.777	
10,500.0	10,298.0	10,298.0	10,298.0	38.7	15.2	-88.43	0.0	-120.0	1,796.9	1,738.4	58.46	30.736	
10,600.0	10,398.0	10,398.0	10,398.0	38.7	15.2	-88.43	0.0	-120.0	1,796.9	1,738.4	58.54	30.695	
10,700.0	10,498.0	10,498.0	10,498.0	38.7	15.3	-88.43	0.0	-120.0	1,796.9	1,738.3	58.62	30.654	
10,704.4	10,502.4	10,502.4	10,502.4	38.7	15.3	-121.03	0.0	-120.0	1,796.9	1,738.3	58.63	30.650	
10,800.0	10,597.9	10,597.9	10,597.9	38.8	15.4	-120.99	0.0	-120.0	1,798.3	1,739.5	58.80	30.583	
10,900.0	10,696.0	10,702.6	10,702.2	39.1	15.6	-120.45	8.0	-119.7	1,807.7	1,748.6	59.19	30.542	
11,000.0	10,789.5	10,808.2	10,804.1	39.4	15.8	-119.05	35.0	-118.5	1,825.6	1,766.0	59.62	30.621	
11,100.0	10,875.4	10,912.9	10,898.5	39.7	16.1	-116.79	79.7	-116.7	1,851.2	1,791.2	60.05	30.830	
11,200.0	10,951.2	11,015.6	10,981.8	40.0	16.3	-113.67	139.5	-114.2	1,884.0	1,823.5	60.45	31.167	
11,300.0	11,014.6	11,116.0	11,051.7	40.2	16.5	-109.75	211.5	-111.1	1,922.8	1,862.0	60.81	31.618	
11,400.0	11,064.8	11,215.2	11,107.2	40.4	16.6	-104.21	293.4	-107.7	1,964.8	1,903.6	61.14	32.137	
11,500.0	11,106.3	11,317.0	11,148.8	40.6	16.7	-98.90	386.1	-103.8	1,999.9	1,938.5	61.39	32.578	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-89.99	0.0	-90.0	90.0	83.6	6.43	13.999	
100.0	100.0	100.0	100.0	3.2	3.2	-89.99	0.0	-90.0	90.0	83.1	6.89	13.058	
200.0	200.0	200.0	200.0	3.5	3.5	-89.99	0.0	-90.0	90.0	82.7	7.33	12.281	
300.0	300.0	300.0	300.0	3.7	3.7	-89.99	0.0	-90.0	90.0	82.3	7.74	11.626	
400.0	400.0	400.0	400.0	3.9	3.9	-89.99	0.0	-90.0	90.0	81.9	8.14	11.063	
500.0	500.0	500.0	500.0	4.1	4.1	-89.99	0.0	-90.0	90.0	81.5	8.51	10.571	
600.0	600.0	600.0	600.0	4.2	4.2	-89.99	0.0	-90.0	90.0	81.1	8.88	10.138	
700.0	700.0	700.0	700.0	4.4	4.4	-89.99	0.0	-90.0	90.0	80.8	9.23	9.751	
800.0	800.0	800.0	800.0	4.6	4.6	-89.99	0.0	-90.0	90.0	80.4	9.57	9.404	
900.0	900.0	900.0	900.0	4.8	4.8	-89.99	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	-89.99	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	-89.99	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	-89.99	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	-89.99	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	-89.99	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	-89.99	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	-89.99	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	-89.99	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	-89.99	0.0	-90.0	90.0	77.4	12.58	7.157	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	172.62	0.0	-90.0	91.3	78.4	12.87	7.094	
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	172.91	0.0	-90.0	95.2	82.0	13.16	7.233	
2,100.0	2,099.7	2,102.2	2,102.2	6.6	6.5	173.11	-0.4	-88.7	100.4	86.9	13.48	7.450	
2,200.0	2,199.3	2,204.7	2,204.6	6.8	6.7	172.97	-1.9	-84.8	105.7	91.9	13.81	7.657	
2,300.0	2,298.6	2,307.3	2,307.0	7.0	6.9	172.54	-4.2	-78.4	111.1	96.9	14.17	7.843	
2,400.0	2,397.5	2,410.0	2,409.2	7.3	7.1	171.86	-7.5	-69.3	116.6	102.0	14.56	8.006	
2,500.0	2,496.1	2,512.8	2,511.3	7.5	7.3	170.95	-11.7	-57.7	122.1	107.1	14.97	8.155	
2,600.0	2,594.2	2,613.2	2,610.7	7.8	7.4	170.04	-16.5	-44.6	128.6	113.2	15.40	8.351	
2,700.0	2,691.7	2,712.8	2,709.3	8.0	7.6	169.39	-21.2	-31.6	137.4	121.6	15.84	8.678	
2,800.0	2,789.2	2,812.4	2,807.9	8.3	7.9	168.89	-26.0	-18.6	146.9	130.5	16.35	8.982	
2,900.0	2,886.6	2,911.9	2,906.5	8.7	8.1	168.44	-30.7	-5.6	156.3	139.4	16.90	9.252	
3,000.0	2,984.0	3,011.5	3,005.1	9.0	8.4	168.05	-35.5	7.5	165.8	148.3	17.47	9.491	
3,100.0	3,081.5	3,111.0	3,103.6	9.3	8.7	167.70	-40.2	20.5	175.3	157.2	18.06	9.703	
3,200.0	3,178.9	3,210.5	3,202.2	9.7	9.0	167.38	-44.9	33.5	184.7	166.1	18.68	9.891	
3,300.0	3,276.4	3,310.1	3,300.8	10.1	9.3	167.10	-49.7	46.5	194.2	174.9	19.31	10.057	
3,400.0	3,373.8	3,409.6	3,399.4	10.4	9.6	166.84	-54.4	59.5	203.7	183.7	19.96	10.205	
3,500.0	3,471.2	3,509.2	3,498.0	10.8	9.9	166.60	-59.1	72.6	213.2	192.6	20.63	10.335	
3,600.0	3,568.7	3,608.7	3,596.5	11.2	10.3	166.39	-63.9	85.6	222.7	201.4	21.31	10.451	
3,700.0	3,666.1	3,708.3	3,695.1	11.6	10.6	166.19	-68.6	98.6	232.2	210.2	22.00	10.554	
3,800.0	3,763.5	3,807.8	3,793.7	12.0	10.9	166.01	-73.4	111.6	241.7	219.0	22.70	10.647	
3,900.0	3,860.9	3,909.7	3,894.6	12.4	11.3	169.81	-76.6	125.2	251.3	227.9	23.41	10.733	
4,000.0	3,957.6	4,010.1	3,994.0	12.8	11.6	173.87	-77.0	139.1	262.7	238.6	24.16	10.875	
4,100.0	4,054.2	4,109.3	4,092.3	13.2	12.0	174.15	-77.0	152.9	274.9	249.9	24.97	11.008	
4,200.0	4,150.8	4,208.6	4,190.6	13.7	12.3	174.39	-77.0	166.8	287.0	261.2	25.79	11.129	
4,300.0	4,247.4	4,307.8	4,288.9	14.1	12.7	174.62	-77.0	180.6	299.1	272.5	26.61	11.239	
4,400.0	4,344.0	4,407.1	4,387.1	14.5	13.0	174.83	-77.0	194.4	311.3	283.8	27.45	11.341	
4,500.0	4,440.6	4,506.3	4,485.4	15.0	13.4	175.03	-77.0	208.2	323.4	295.1	28.29	11.433	
4,600.0	4,537.2	4,605.6	4,583.7	15.4	13.8	175.21	-77.0	222.0	335.5	306.4	29.13	11.518	
4,700.0	4,633.8	4,704.8	4,682.0	15.9	14.1	175.38	-77.0	235.8	347.7	317.7	29.98	11.596	
4,800.0	4,730.4	4,804.1	4,780.3	16.3	14.5	175.53	-77.0	249.6	359.8	329.0	30.84	11.668	
4,900.0	4,827.0	4,903.4	4,878.6	16.8	14.9	175.68	-77.0	263.4	372.0	340.3	31.70	11.735	
5,000.0	4,923.6	5,002.6	4,976.9	17.3	15.3	175.81	-77.0	277.3	384.1	351.6	32.56	11.796	
5,100.0	5,020.1	5,101.9	5,075.2	17.7	15.7	175.94	-77.0	291.1	396.3	362.9	33.43	11.853	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,201.1	5,173.5	18.2	16.1	176.06	-77.0	304.9	408.5	374.1	34.31	11.906	
5,300.0	5,213.3	5,300.4	5,271.7	18.6	16.4	176.18	-77.0	318.7	420.6	385.4	35.18	11.956	
5,400.0	5,309.9	5,399.6	5,370.0	19.1	16.8	176.29	-77.0	332.5	432.8	396.7	36.06	12.002	
5,500.0	5,406.5	5,498.9	5,468.3	19.6	17.2	176.39	-77.0	346.3	444.9	408.0	36.94	12.045	
5,600.0	5,503.1	5,598.1	5,566.6	20.1	17.6	176.48	-77.0	360.1	457.1	419.3	37.83	12.085	
5,700.0	5,599.7	5,694.0	5,661.5	20.5	18.0	176.57	-77.0	373.3	469.4	430.8	38.67	12.140	
5,800.0	5,696.3	5,785.4	5,752.3	21.0	18.3	176.66	-77.0	384.7	483.1	443.6	39.49	12.233	
5,900.0	5,792.9	5,876.5	5,842.8	21.5	18.7	176.76	-77.0	394.5	498.4	458.1	40.30	12.368	
6,000.0	5,889.5	5,967.0	5,933.0	21.9	19.0	176.85	-77.0	402.9	515.2	474.1	41.08	12.541	
6,100.0	5,986.1	6,057.1	6,022.8	22.4	19.3	176.95	-77.0	409.8	533.6	491.7	41.84	12.752	
6,200.0	6,082.7	6,146.6	6,112.1	22.9	19.6	177.05	-77.0	415.3	553.5	510.9	42.57	13.000	
6,300.0	6,179.3	6,235.6	6,201.0	23.4	19.9	177.15	-77.0	419.3	574.9	531.6	43.28	13.283	
6,400.0	6,275.9	6,323.9	6,289.2	23.9	20.2	177.25	-77.0	422.0	597.8	553.9	43.95	13.602	
6,500.0	6,372.4	6,411.5	6,376.8	24.3	20.4	177.35	-77.0	423.3	622.3	577.7	44.57	13.961	
6,600.0	6,469.0	6,503.7	6,469.0	24.8	20.5	177.45	-77.0	423.4	648.0	602.9	45.10	14.366	
6,700.0	6,565.6	6,600.3	6,565.6	25.3	20.5	177.55	-77.0	423.4	673.8	628.2	45.67	14.755	
6,800.0	6,662.2	6,696.9	6,662.2	25.8	20.5	177.64	-77.0	423.4	699.7	653.5	46.23	15.134	
6,900.0	6,758.8	6,793.5	6,758.8	26.3	20.6	177.72	-77.0	423.4	725.5	678.7	46.80	15.502	
7,000.0	6,855.4	6,890.1	6,855.4	26.7	20.6	177.80	-77.0	423.4	751.4	704.0	47.38	15.860	
7,100.0	6,952.0	6,986.7	6,952.0	27.2	20.7	177.88	-77.0	423.4	777.3	729.3	47.96	16.208	
7,200.0	7,048.6	7,083.2	7,048.6	27.7	20.7	177.94	-77.0	423.4	803.1	754.6	48.54	16.547	
7,300.0	7,145.2	7,179.8	7,145.2	28.2	20.7	178.01	-77.0	423.4	829.0	779.9	49.12	16.877	
7,400.0	7,241.8	7,276.4	7,241.8	28.7	20.8	178.07	-77.0	423.4	854.9	805.2	49.71	17.198	
7,500.0	7,338.4	7,373.0	7,338.4	29.2	20.8	178.13	-77.0	423.4	880.7	830.4	50.30	17.511	
7,600.0	7,435.0	7,469.6	7,435.0	29.7	20.9	178.18	-77.0	423.4	906.6	855.7	50.89	17.815	
7,700.0	7,531.6	7,566.2	7,531.6	30.1	20.9	178.23	-77.0	423.4	932.5	881.0	51.48	18.112	
7,800.0	7,628.1	7,662.8	7,628.1	30.6	20.9	178.28	-77.0	423.4	958.4	906.3	52.08	18.400	
7,900.0	7,724.7	7,759.4	7,724.7	31.1	21.0	178.32	-77.0	423.4	984.2	931.5	52.68	18.682	
8,000.0	7,821.3	7,856.0	7,821.3	31.6	21.0	178.37	-77.0	423.4	1,010.1	956.8	53.29	18.955	
8,100.0	7,917.9	7,952.6	7,917.9	32.1	21.1	178.41	-77.0	423.4	1,036.0	982.1	53.89	19.222	
8,200.0	8,014.5	8,049.2	8,014.5	32.6	21.1	178.45	-77.0	423.4	1,061.8	1,007.3	54.50	19.485	
8,300.0	8,111.4	8,146.1	8,111.4	33.1	21.2	178.49	-77.0	423.4	1,086.6	1,031.5	55.11	19.717	
8,400.0	8,208.7	8,243.4	8,208.7	33.6	21.2	178.53	-77.0	423.4	1,109.7	1,054.0	55.71	19.919	
8,500.0	8,306.4	8,341.0	8,306.4	34.0	21.2	178.56	-77.0	423.4	1,131.1	1,074.8	56.30	20.089	
8,600.0	8,404.4	8,439.1	8,404.4	34.5	21.3	178.59	-77.0	423.4	1,150.7	1,093.8	56.89	20.229	
8,700.0	8,502.8	8,537.5	8,502.8	34.9	21.3	178.62	-77.0	423.4	1,168.7	1,111.2	57.46	20.338	
8,800.0	8,601.5	8,636.1	8,601.5	35.4	21.4	178.64	-77.0	423.4	1,184.9	1,126.9	58.03	20.420	
8,900.0	8,700.4	8,735.1	8,700.4	35.8	21.4	178.66	-77.0	423.4	1,199.5	1,140.9	58.58	20.475	
9,000.0	8,799.6	8,834.2	8,799.6	36.3	21.5	178.68	-77.0	423.4	1,212.2	1,153.1	59.12	20.504	
9,100.0	8,899.0	8,933.6	8,899.0	36.7	21.5	178.69	-77.0	423.4	1,223.3	1,163.7	59.65	20.510	
9,200.0	8,998.5	9,033.2	8,998.5	37.1	21.6	178.70	-77.0	423.4	1,232.6	1,172.5	60.15	20.492	
9,300.0	9,098.2	9,132.9	9,098.2	37.4	21.6	178.71	-77.0	423.4	1,240.2	1,179.6	60.64	20.454	
9,400.0	9,198.1	9,232.7	9,198.1	37.8	21.6	178.72	-77.0	423.4	1,246.0	1,184.9	61.09	20.396	
9,500.0	9,298.0	9,332.6	9,298.0	38.1	21.7	178.72	-77.0	423.4	1,250.1	1,188.6	61.52	20.322	
9,600.0	9,398.0	9,432.6	9,398.0	38.4	21.7	178.73	-77.0	423.4	1,252.5	1,190.6	61.89	20.237	
9,700.0	9,498.0	9,532.6	9,498.0	38.5	21.8	-91.27	-77.0	423.4	1,253.1	1,191.1	62.06	20.191	
9,800.0	9,598.0	9,632.6	9,598.0	38.5	21.8	-91.27	-77.0	423.4	1,253.1	1,191.0	62.13	20.169	
9,900.0	9,698.0	9,732.6	9,698.0	38.5	21.9	-91.27	-77.0	423.4	1,253.1	1,190.9	62.19	20.149	
10,000.0	9,798.0	9,832.6	9,798.0	38.6	21.9	-91.27	-77.0	423.4	1,253.1	1,190.9	62.25	20.130	
10,100.0	9,898.0	9,932.6	9,898.0	38.6	22.0	-91.27	-77.0	423.4	1,253.1	1,190.8	62.31	20.111	
10,200.0	9,998.0	10,032.6	9,998.0	38.6	22.0	-91.27	-77.0	423.4	1,253.1	1,190.8	62.37	20.091	
10,300.0	10,098.0	10,132.6	10,098.0	38.6	22.1	-91.27	-77.0	423.4	1,253.1	1,190.7	62.43	20.071	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,198.0	10,232.6	10,198.0	38.7	22.1	-91.27	-77.0	423.4	1,253.1	1,190.6	62.49	20.052	
10,500.0	10,298.0	10,332.6	10,298.0	38.7	22.2	-91.27	-77.0	423.4	1,253.1	1,190.6	62.56	20.032	
10,600.0	10,398.0	10,432.6	10,398.0	38.7	22.2	-91.27	-77.0	423.4	1,253.1	1,190.5	62.62	20.012	
10,700.0	10,498.0	10,532.6	10,498.0	38.7	22.3	-91.27	-77.0	423.4	1,253.1	1,190.4	62.68	19.992	
10,704.4	10,502.4	10,537.1	10,502.4	38.7	22.3	-123.87	-77.0	423.4	1,253.1	1,190.4	62.69	19.990	
10,800.0	10,597.9	10,632.5	10,597.9	38.8	22.3	-123.85	-77.0	423.4	1,254.7	1,191.8	62.84	19.965	
10,900.0	10,696.0	10,730.7	10,696.0	39.1	22.4	-123.67	-77.0	423.4	1,265.1	1,201.9	63.17	20.027	
11,000.0	10,789.5	10,825.9	10,791.2	39.4	22.4	-123.21	-76.8	423.4	1,285.4	1,221.9	63.51	20.238	
11,100.0	10,875.4	10,932.4	10,896.9	39.7	22.4	-122.17	-64.3	423.4	1,315.1	1,251.1	64.00	20.550	
11,200.0	10,951.2	11,044.2	11,003.2	40.0	22.4	-120.14	-30.4	423.2	1,352.8	1,288.2	64.57	20.951	
11,300.0	11,014.6	11,160.7	11,104.9	40.2	22.4	-117.09	26.1	423.0	1,397.1	1,332.0	65.20	21.430	
11,400.0	11,064.8	11,283.2	11,197.1	40.4	22.4	-111.96	106.4	422.7	1,444.9	1,379.0	65.84	21.946	
11,500.0	11,106.3	11,418.6	11,276.6	40.6	22.4	-106.72	215.5	422.2	1,485.5	1,419.0	66.45	22.354	
11,600.0	11,139.2	11,563.7	11,331.0	40.8	22.5	-102.42	349.6	421.7	1,516.5	1,449.5	66.95	22.649	
11,700.0	11,162.6	11,710.0	11,350.0	40.9	22.6	-98.89	494.4	421.1	1,536.9	1,469.7	67.25	22.853	
11,800.0	11,176.3	11,808.7	11,350.0	41.0	22.7	-96.84	593.0	420.7	1,548.0	1,480.6	67.47	22.944	
11,900.0	11,180.0	11,908.5	11,350.0	41.0	22.9	-96.29	692.8	420.3	1,551.1	1,483.3	67.78	22.885	
12,000.0	11,180.0	12,008.5	11,350.0	41.1	23.1	-96.29	792.8	419.9	1,551.1	1,482.9	68.14	22.762	
12,100.0	11,180.0	12,108.5	11,350.0	41.2	23.3	-96.29	892.8	419.5	1,551.1	1,482.5	68.54	22.630	
12,200.0	11,180.0	12,208.5	11,350.0	41.4	23.5	-96.29	992.8	419.1	1,551.1	1,482.1	68.97	22.489	
12,300.0	11,180.0	12,308.5	11,350.0	41.5	23.7	-96.29	1,092.8	418.7	1,551.1	1,481.6	69.43	22.340	
12,400.0	11,180.0	12,408.5	11,350.0	41.7	24.0	-96.29	1,192.8	418.3	1,551.1	1,481.2	69.92	22.184	
12,500.0	11,180.0	12,508.5	11,350.0	41.8	24.3	-96.29	1,292.8	417.9	1,551.1	1,480.6	70.44	22.020	
12,600.0	11,180.0	12,608.5	11,350.0	42.0	24.6	-96.29	1,392.8	417.5	1,551.1	1,480.1	70.99	21.851	
12,700.0	11,180.0	12,708.5	11,350.0	42.2	24.9	-96.29	1,492.8	417.1	1,551.1	1,479.5	71.56	21.675	
12,800.0	11,180.0	12,808.5	11,350.0	42.4	25.3	-96.29	1,592.8	416.7	1,551.1	1,478.9	72.16	21.494	
12,900.0	11,180.0	12,908.5	11,350.0	42.6	25.6	-96.29	1,692.8	416.3	1,551.1	1,478.3	72.79	21.308	
13,000.0	11,180.0	13,008.5	11,350.0	42.9	26.0	-96.29	1,792.8	415.9	1,551.1	1,477.6	73.45	21.118	
13,100.0	11,180.0	13,108.5	11,350.0	43.1	26.4	-96.29	1,892.8	415.5	1,551.1	1,477.0	74.13	20.924	
13,200.0	11,180.0	13,208.5	11,350.0	43.4	26.8	-96.29	1,992.8	415.1	1,551.1	1,476.3	74.83	20.727	
13,300.0	11,180.0	13,308.5	11,350.0	43.7	27.3	-96.29	2,092.8	414.7	1,551.1	1,475.5	75.56	20.527	
13,400.0	11,180.0	13,408.5	11,350.0	44.0	27.7	-96.29	2,192.8	414.3	1,551.1	1,474.8	76.32	20.325	
13,500.0	11,180.0	13,508.5	11,350.0	44.3	28.2	-96.29	2,292.8	413.9	1,551.1	1,474.0	77.09	20.121	
13,600.0	11,180.0	13,608.5	11,350.0	44.6	28.6	-96.29	2,392.8	413.5	1,551.1	1,473.2	77.89	19.915	
13,700.0	11,180.0	13,708.5	11,350.0	44.9	29.1	-96.29	2,492.8	413.1	1,551.1	1,472.4	78.70	19.708	
13,800.0	11,180.0	13,808.5	11,350.0	45.2	29.6	-96.29	2,592.8	412.7	1,551.1	1,471.6	79.54	19.501	
13,900.0	11,180.0	13,908.5	11,350.0	45.6	30.1	-96.29	2,692.8	412.3	1,551.1	1,470.7	80.40	19.292	
14,000.0	11,180.0	14,008.5	11,350.0	45.9	30.7	-96.29	2,792.8	411.9	1,551.1	1,469.8	81.28	19.084	
14,100.0	11,180.0	14,108.5	11,350.0	46.3	31.2	-96.29	2,892.8	411.5	1,551.1	1,468.9	82.17	18.876	
14,200.0	11,180.0	14,208.5	11,350.0	46.7	31.7	-96.29	2,992.8	411.1	1,551.1	1,468.0	83.09	18.669	
14,300.0	11,180.0	14,308.5	11,350.0	47.1	32.3	-96.29	3,092.8	410.7	1,551.1	1,467.1	84.02	18.462	
14,400.0	11,180.0	14,408.5	11,350.0	47.4	32.8	-96.29	3,192.8	410.3	1,551.1	1,466.2	84.97	18.256	
14,500.0	11,180.0	14,508.5	11,350.0	47.9	33.4	-96.29	3,292.8	409.9	1,551.1	1,465.2	85.93	18.051	
14,600.0	11,180.0	14,608.5	11,350.0	48.3	34.0	-96.29	3,392.8	409.5	1,551.1	1,464.2	86.91	17.848	
14,700.0	11,180.0	14,708.5	11,350.0	48.7	34.6	-96.29	3,492.8	409.1	1,551.1	1,463.2	87.90	17.646	
14,800.0	11,180.0	14,808.5	11,350.0	49.1	35.1	-96.29	3,592.8	408.7	1,551.1	1,462.2	88.91	17.445	
14,900.0	11,180.0	14,908.5	11,350.0	49.6	35.7	-96.29	3,692.8	408.3	1,551.1	1,461.2	89.94	17.247	
15,000.0	11,180.0	15,008.5	11,350.0	50.0	36.3	-96.29	3,792.8	407.9	1,551.1	1,460.2	90.98	17.050	
15,100.0	11,180.0	15,108.5	11,350.0	50.5	36.9	-96.29	3,892.8	407.5	1,551.1	1,459.1	92.03	16.855	
15,200.0	11,180.0	15,208.5	11,350.0	50.9	37.6	-96.29	3,992.8	407.1	1,551.1	1,458.0	93.09	16.663	
15,300.0	11,180.0	15,308.5	11,350.0	51.4	38.2	-96.29	4,092.8	406.7	1,551.1	1,457.0	94.17	16.472	
15,400.0	11,180.0	15,408.5	11,350.0	51.9	38.8	-96.29	4,192.8	406.3	1,551.1	1,455.9	95.25	16.284	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	11,180.0	15,508.5	11,350.0	52.3	39.4	-96.29	4,292.8	405.9	1,551.1	1,454.8	96.35	16.098	
15,600.0	11,180.0	15,608.5	11,350.0	52.8	40.1	-96.29	4,392.8	405.5	1,551.1	1,453.7	97.46	15.915	
15,700.0	11,180.0	15,708.5	11,350.0	53.3	40.7	-96.29	4,492.8	405.1	1,551.1	1,452.6	98.59	15.734	
15,800.0	11,180.0	15,808.5	11,350.0	53.8	41.3	-96.29	4,592.8	404.7	1,551.1	1,451.4	99.72	15.555	
15,900.0	11,180.0	15,908.5	11,350.0	54.3	42.0	-96.29	4,692.8	404.3	1,551.1	1,450.3	100.86	15.379	
16,000.0	11,180.0	16,008.5	11,350.0	54.8	42.6	-96.29	4,792.8	403.9	1,551.2	1,449.1	102.01	15.206	
16,100.0	11,180.0	16,108.5	11,350.0	55.4	43.3	-96.29	4,892.8	403.5	1,551.2	1,448.0	103.17	15.035	
16,200.0	11,180.0	16,208.5	11,350.0	55.9	43.9	-96.29	4,992.8	403.1	1,551.2	1,446.8	104.34	14.866	
16,300.0	11,180.0	16,308.5	11,350.0	56.4	44.6	-96.29	5,092.8	402.7	1,551.2	1,445.6	105.52	14.700	
16,400.0	11,180.0	16,408.5	11,350.0	57.0	45.3	-96.29	5,192.8	402.3	1,551.2	1,444.5	106.71	14.537	
16,500.0	11,180.0	16,508.5	11,350.0	57.5	45.9	-96.29	5,292.8	401.9	1,551.2	1,443.3	107.90	14.376	
16,600.0	11,180.0	16,608.5	11,350.0	58.0	46.6	-96.29	5,392.8	401.5	1,551.2	1,442.1	109.11	14.217	
16,700.0	11,180.0	16,708.5	11,350.0	58.6	47.3	-96.29	5,492.8	401.1	1,551.2	1,440.9	110.32	14.061	
16,800.0	11,180.0	16,808.5	11,350.0	59.2	48.0	-96.29	5,592.8	400.7	1,551.2	1,439.6	111.53	13.908	
16,900.0	11,180.0	16,908.5	11,350.0	59.7	48.6	-96.29	5,692.8	400.3	1,551.2	1,438.4	112.76	13.756	
17,000.0	11,180.0	17,008.5	11,350.0	60.3	49.3	-96.29	5,792.8	399.9	1,551.2	1,437.2	113.99	13.608	
17,100.0	11,180.0	17,108.5	11,350.0	60.8	50.0	-96.29	5,892.8	399.5	1,551.2	1,435.9	115.23	13.461	
17,200.0	11,180.0	17,208.5	11,350.0	61.4	50.7	-96.29	5,992.8	399.1	1,551.2	1,434.7	116.48	13.318	
17,300.0	11,180.0	17,308.5	11,350.0	62.0	51.4	-96.29	6,092.8	398.7	1,551.2	1,433.5	117.73	13.176	
17,400.0	11,180.0	17,408.5	11,350.0	62.6	52.1	-96.29	6,192.8	398.3	1,551.2	1,432.2	118.99	13.037	
17,500.0	11,180.0	17,508.5	11,350.0	63.2	52.8	-96.29	6,292.8	397.9	1,551.2	1,430.9	120.25	12.900	
17,600.0	11,180.0	17,608.5	11,350.0	63.8	53.5	-96.29	6,392.8	397.5	1,551.2	1,429.7	121.52	12.765	
17,700.0	11,180.0	17,708.5	11,350.0	64.3	54.2	-96.29	6,492.8	397.1	1,551.2	1,428.4	122.79	12.632	
17,800.0	11,180.0	17,808.5	11,350.0	64.9	54.9	-96.29	6,592.8	396.7	1,551.2	1,427.1	124.07	12.502	
17,900.0	11,180.0	17,908.5	11,350.0	65.5	55.6	-96.29	6,692.8	396.3	1,551.2	1,425.8	125.36	12.374	
18,000.0	11,180.0	18,008.5	11,350.0	66.1	56.3	-96.29	6,792.8	395.9	1,551.2	1,424.5	126.65	12.248	
18,100.0	11,180.0	18,108.5	11,350.0	66.7	57.0	-96.29	6,892.8	395.5	1,551.2	1,423.2	127.95	12.124	
18,200.0	11,180.0	18,208.5	11,350.0	67.4	57.7	-96.29	6,992.8	395.1	1,551.2	1,422.0	129.25	12.002	
18,300.0	11,180.0	18,308.5	11,350.0	68.0	58.4	-96.29	7,092.8	394.7	1,551.2	1,420.6	130.55	11.882	
18,400.0	11,180.0	18,408.5	11,350.0	68.6	59.1	-96.29	7,192.8	394.3	1,551.2	1,419.3	131.86	11.764	
18,500.0	11,180.0	18,508.5	11,350.0	69.2	59.8	-96.29	7,292.8	393.9	1,551.2	1,418.0	133.17	11.648	
18,600.0	11,180.0	18,608.5	11,350.0	69.8	60.5	-96.29	7,392.8	393.5	1,551.2	1,416.7	134.49	11.534	
18,700.0	11,180.0	18,708.5	11,350.0	70.4	61.2	-96.29	7,492.8	393.1	1,551.2	1,415.4	135.81	11.422	
18,800.0	11,180.0	18,808.5	11,350.0	71.1	61.9	-96.29	7,592.8	392.7	1,551.2	1,414.1	137.14	11.311	
18,900.0	11,180.0	18,908.5	11,350.0	71.7	62.6	-96.29	7,692.8	392.3	1,551.2	1,412.7	138.47	11.203	
19,000.0	11,180.0	19,008.5	11,350.0	72.3	63.4	-96.29	7,792.8	391.9	1,551.2	1,411.4	139.80	11.096	
19,100.0	11,180.0	19,108.5	11,350.0	73.0	64.1	-96.29	7,892.8	391.5	1,551.2	1,410.1	141.14	10.991	
19,200.0	11,180.0	19,208.5	11,350.0	73.6	64.8	-96.29	7,992.8	391.1	1,551.2	1,408.7	142.48	10.887	
19,300.0	11,180.0	19,308.5	11,350.0	74.2	65.5	-96.29	8,092.8	390.8	1,551.2	1,407.4	143.82	10.786	
19,400.0	11,180.0	19,408.5	11,350.0	74.9	66.2	-96.29	8,192.8	390.4	1,551.2	1,406.1	145.17	10.685	
19,500.0	11,180.0	19,508.5	11,350.0	75.5	67.0	-96.29	8,292.8	390.0	1,551.2	1,404.7	146.52	10.587	
19,600.0	11,180.0	19,608.5	11,350.0	76.2	67.7	-96.29	8,392.8	389.6	1,551.2	1,403.4	147.87	10.490	
19,700.0	11,180.0	19,708.5	11,350.0	76.8	68.4	-96.29	8,492.8	389.2	1,551.2	1,402.0	149.23	10.395	
19,800.0	11,180.0	19,808.5	11,350.0	77.5	69.1	-96.29	8,592.8	388.8	1,551.2	1,400.6	150.59	10.301	
19,900.0	11,180.0	19,908.5	11,350.0	78.1	69.9	-96.29	8,692.8	388.4	1,551.2	1,399.3	151.95	10.209	
20,000.0	11,180.0	20,008.5	11,350.0	78.8	70.6	-96.29	8,792.8	388.0	1,551.2	1,397.9	153.32	10.118	
20,100.0	11,180.0	20,108.5	11,350.0	79.4	71.3	-96.29	8,892.8	387.6	1,551.2	1,396.6	154.69	10.028	
20,200.0	11,180.0	20,208.5	11,350.0	80.1	72.0	-96.29	8,992.8	387.2	1,551.2	1,395.2	156.06	9.940	
20,300.0	11,180.0	20,308.5	11,350.0	80.8	72.8	-96.29	9,092.8	386.8	1,551.2	1,393.8	157.43	9.853	
20,400.0	11,180.0	20,408.5	11,350.0	81.4	73.5	-96.29	9,192.8	386.4	1,551.2	1,392.4	158.81	9.768	
20,500.0	11,180.0	20,508.5	11,350.0	82.1	74.2	-96.29	9,292.8	386.0	1,551.2	1,391.1	160.19	9.684	
20,600.0	11,180.0	20,608.5	11,350.0	82.7	75.0	-96.29	9,392.8	385.6	1,551.2	1,389.7	161.57	9.601	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #707H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,700.0	11,180.0	20,708.5	11,350.0	83.4	75.7	-96.29	9,492.8	385.2	1,551.3	1,388.3	162.95	9.520	
20,800.0	11,180.0	20,808.5	11,350.0	84.1	76.4	-96.29	9,592.8	384.8	1,551.3	1,386.9	164.34	9.440	
20,900.0	11,180.0	20,908.5	11,350.0	84.7	77.2	-96.29	9,692.8	384.4	1,551.3	1,385.5	165.72	9.361	
21,000.0	11,180.0	21,008.5	11,350.0	85.4	77.9	-96.29	9,792.8	384.0	1,551.3	1,384.1	167.11	9.283	
21,100.0	11,180.0	21,108.5	11,350.0	86.1	78.6	-96.29	9,892.8	383.6	1,551.3	1,382.8	168.50	9.206	
21,200.0	11,180.0	21,208.5	11,350.0	86.8	79.4	-96.29	9,992.8	383.2	1,551.3	1,381.4	169.90	9.130	
21,300.0	11,180.0	21,308.5	11,350.0	87.4	80.1	-96.29	10,092.8	382.8	1,551.3	1,380.0	171.29	9.056	
21,400.0	11,180.0	21,408.5	11,350.0	88.1	80.8	-96.29	10,192.8	382.4	1,551.3	1,378.6	172.69	8.983	
21,500.0	11,180.0	21,508.5	11,350.0	88.8	81.6	-96.29	10,292.8	382.0	1,551.3	1,377.2	174.09	8.911	
21,600.0	11,180.0	21,608.5	11,350.0	89.5	82.3	-96.29	10,392.8	381.6	1,551.3	1,375.8	175.49	8.839	
21,700.0	11,180.0	21,708.5	11,350.0	90.2	83.0	-96.29	10,492.8	381.2	1,551.3	1,374.4	176.90	8.769	
21,800.0	11,180.0	21,808.5	11,350.0	90.8	83.8	-96.29	10,592.8	380.8	1,551.3	1,373.0	178.30	8.700	
21,900.0	11,180.0	21,908.5	11,350.0	91.5	84.5	-96.29	10,692.8	380.4	1,551.3	1,371.6	179.71	8.632	
22,000.0	11,180.0	22,008.5	11,350.0	92.2	85.3	-96.29	10,792.8	380.0	1,551.3	1,370.2	181.12	8.565	
22,100.0	11,180.0	22,108.5	11,350.0	92.9	86.0	-96.29	10,892.8	379.6	1,551.3	1,368.7	182.53	8.499	
22,200.0	11,180.0	22,208.5	11,350.0	93.6	86.7	-96.29	10,992.8	379.2	1,551.3	1,367.3	183.94	8.434	
22,300.0	11,180.0	22,308.5	11,350.0	94.3	87.5	-96.29	11,092.8	378.8	1,551.3	1,365.9	185.36	8.369	
22,400.0	11,180.0	22,408.5	11,350.0	95.0	88.2	-96.29	11,192.8	378.4	1,551.3	1,364.5	186.77	8.306	
22,500.0	11,180.0	22,508.5	11,350.0	95.7	89.0	-96.29	11,292.8	378.0	1,551.3	1,363.1	188.19	8.243	
22,600.0	11,180.0	22,608.5	11,350.0	96.4	89.7	-96.29	11,392.8	377.6	1,551.3	1,361.7	189.61	8.182	
22,700.0	11,180.0	22,708.5	11,350.0	97.0	90.4	-96.29	11,492.8	377.2	1,551.3	1,360.3	191.03	8.121	
22,800.0	11,180.0	22,808.5	11,350.0	97.7	91.2	-96.29	11,592.8	376.8	1,551.3	1,358.8	192.45	8.061	
22,900.0	11,180.0	22,908.5	11,350.0	98.4	91.9	-96.29	11,692.8	376.4	1,551.3	1,357.4	193.87	8.002	
23,000.0	11,180.0	23,008.5	11,350.0	99.1	92.7	-96.29	11,792.8	376.0	1,551.3	1,356.0	195.29	7.943	
23,100.0	11,180.0	23,108.5	11,350.0	99.8	93.4	-96.29	11,892.8	375.6	1,551.3	1,354.6	196.72	7.886	
23,200.0	11,180.0	23,208.5	11,350.0	100.5	94.2	-96.29	11,992.8	375.2	1,551.3	1,353.2	198.15	7.829	
23,300.0	11,180.0	23,308.5	11,350.0	101.2	94.9	-96.29	12,092.8	374.8	1,551.3	1,351.7	199.57	7.773	
23,400.0	11,180.0	23,408.5	11,350.0	101.9	95.6	-96.29	12,192.8	374.4	1,551.3	1,350.3	201.00	7.718	
23,500.0	11,180.0	23,508.5	11,350.0	102.6	96.4	-96.29	12,292.8	374.0	1,551.3	1,348.9	202.43	7.663	
23,600.0	11,180.0	23,608.5	11,350.0	103.3	97.1	-96.29	12,392.8	373.6	1,551.3	1,347.4	203.86	7.610	
23,700.0	11,180.0	23,708.5	11,350.0	104.0	97.9	-96.29	12,492.8	373.2	1,551.3	1,346.0	205.30	7.556	
23,800.0	11,180.0	23,808.5	11,350.0	104.7	98.6	-96.29	12,592.8	372.8	1,551.3	1,344.6	206.73	7.504	
23,900.0	11,180.0	23,908.5	11,350.0	105.4	99.4	-96.29	12,692.8	372.4	1,551.3	1,343.2	208.17	7.452	
24,000.0	11,180.0	24,008.5	11,350.0	106.2	100.1	-96.29	12,792.8	372.0	1,551.3	1,341.7	209.60	7.401	
24,100.0	11,180.0	24,108.5	11,350.0	106.9	100.9	-96.29	12,892.7	371.6	1,551.3	1,340.3	211.04	7.351	
24,200.0	11,180.0	24,208.5	11,350.0	107.6	101.6	-96.29	12,992.7	371.2	1,551.3	1,338.8	212.48	7.301	
24,300.0	11,180.0	24,308.5	11,350.0	108.3	102.4	-96.29	13,092.7	370.8	1,551.3	1,337.4	213.92	7.252	
24,400.0	11,180.0	24,408.5	11,350.0	109.0	103.1	-96.29	13,192.7	370.4	1,551.3	1,336.0	215.36	7.204	
24,500.0	11,180.0	24,508.5	11,350.0	109.7	103.9	-96.29	13,292.7	370.0	1,551.3	1,334.5	216.80	7.156	
24,600.0	11,180.0	24,608.5	11,350.0	110.4	104.6	-96.29	13,392.7	369.6	1,551.3	1,333.1	218.24	7.108	
24,700.0	11,180.0	24,708.5	11,350.0	111.1	105.4	-96.29	13,492.7	369.2	1,551.3	1,331.7	219.68	7.062	
24,734.5	11,180.0	24,743.0	11,350.0	111.4	105.6	-96.29	13,527.3	369.0	1,551.3	1,331.2	220.18	7.046 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-89.98	0.0	-60.0	60.0	53.6	6.43	9.333	
100.0	100.0	100.0	100.0	3.2	3.2	-89.98	0.0	-60.0	60.0	53.1	6.89	8.705	
200.0	200.0	200.0	200.0	3.5	3.5	-89.98	0.0	-60.0	60.0	52.7	7.33	8.188	
300.0	300.0	300.0	300.0	3.7	3.7	-89.98	0.0	-60.0	60.0	52.3	7.74	7.751	
400.0	400.0	400.0	400.0	3.9	3.9	-89.98	0.0	-60.0	60.0	51.9	8.14	7.375	
500.0	500.0	500.0	500.0	4.1	4.1	-89.98	0.0	-60.0	60.0	51.5	8.51	7.048	
600.0	600.0	600.0	600.0	4.2	4.2	-89.98	0.0	-60.0	60.0	51.1	8.88	6.759	
700.0	700.0	700.0	700.0	4.4	4.4	-89.98	0.0	-60.0	60.0	50.8	9.23	6.501	
800.0	800.0	800.0	800.0	4.6	4.6	-89.98	0.0	-60.0	60.0	50.4	9.57	6.269	
900.0	900.0	900.0	900.0	4.8	4.8	-89.98	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	-89.98	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	-89.98	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	-89.98	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	-89.98	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	-89.98	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	-89.98	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	-89.98	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	-89.98	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	-89.98	0.0	-60.0	60.0	47.4	12.58	4.771	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	172.67	0.0	-60.0	61.3	48.4	12.87	4.763	SF
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	173.11	0.0	-60.0	65.2	52.0	13.16	4.954	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	173.72	0.0	-60.0	71.7	58.2	13.47	5.324	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	174.42	0.0	-60.0	80.8	67.0	13.79	5.859	
2,300.0	2,298.6	2,298.6	2,298.6	7.0	6.8	175.11	0.0	-60.0	92.5	78.4	14.13	6.545	
2,400.0	2,397.5	2,397.5	2,397.5	7.3	6.9	175.75	0.0	-60.0	106.8	92.3	14.50	7.368	
2,500.0	2,496.1	2,496.1	2,496.1	7.5	7.0	176.32	0.0	-60.0	123.7	108.8	14.88	8.312	
2,600.0	2,594.2	2,597.1	2,597.1	7.8	7.2	177.10	0.6	-58.9	142.2	126.9	15.31	9.289	
2,700.0	2,691.7	2,698.6	2,698.5	8.0	7.3	178.31	2.6	-55.5	161.0	145.3	15.69	10.263	
2,800.0	2,789.2	2,800.6	2,800.3	8.3	7.5	179.80	5.9	-49.8	178.4	162.2	16.13	11.056	
2,900.0	2,886.6	2,903.2	2,902.5	8.7	7.7	-178.47	10.7	-41.6	193.7	177.1	16.60	11.669	
3,000.0	2,984.0	3,006.3	3,004.8	9.0	7.9	-176.49	16.8	-31.0	207.2	190.1	17.09	12.129	
3,100.0	3,081.5	3,106.4	3,103.9	9.3	8.1	-174.47	23.7	-19.0	219.5	201.9	17.54	12.511	
3,200.0	3,178.9	3,205.3	3,201.9	9.7	8.3	-172.66	30.6	-7.1	231.9	213.8	18.05	12.845	
3,300.0	3,276.4	3,306.1	3,301.7	10.1	8.5	-171.02	37.5	5.1	244.5	225.9	18.56	13.174	
3,400.0	3,373.8	3,414.4	3,408.8	10.4	8.8	-169.62	43.4	20.6	254.7	235.6	19.13	13.316	
3,500.0	3,471.2	3,523.5	3,516.1	10.8	9.1	-168.59	46.9	39.5	261.5	241.8	19.71	13.270	
3,600.0	3,568.7	3,629.5	3,619.9	11.2	9.4	-167.86	48.2	60.8	264.9	244.6	20.32	13.036	
3,700.0	3,666.1	3,729.4	3,717.7	11.6	9.7	-167.23	48.9	81.6	267.6	246.6	21.00	12.741	
3,800.0	3,763.5	3,829.3	3,815.4	12.0	10.0	-166.62	49.6	102.3	270.4	248.7	21.65	12.486	
3,900.0	3,860.9	3,929.2	3,913.1	12.4	10.3	-162.46	50.3	123.1	273.5	251.2	22.29	12.270	
4,000.0	3,957.6	4,029.1	4,010.8	12.8	10.7	-158.86	51.1	143.8	278.2	255.2	22.98	12.107	
4,100.0	4,054.2	4,129.0	4,108.5	13.2	11.0	-159.10	51.8	164.6	283.3	259.6	23.72	11.946	
4,200.0	4,150.8	4,228.9	4,206.2	13.7	11.3	-159.34	52.5	185.3	288.5	264.0	24.47	11.789	
4,300.0	4,247.4	4,328.7	4,303.9	14.1	11.7	-159.57	53.2	206.1	293.7	268.4	25.24	11.635	
4,400.0	4,344.0	4,428.6	4,401.6	14.5	12.1	-159.79	54.0	226.8	298.8	272.8	26.02	11.484	
4,500.0	4,440.6	4,528.4	4,499.2	15.0	12.4	-160.00	54.7	247.6	304.0	277.2	26.82	11.337	
4,600.0	4,537.2	4,628.3	4,596.9	15.4	12.8	-160.21	55.4	268.3	309.2	281.6	27.62	11.195	
4,700.0	4,633.8	4,728.2	4,694.6	15.9	13.2	-160.41	56.1	289.1	314.4	285.9	28.43	11.057	
4,800.0	4,730.4	4,828.0	4,792.3	16.3	13.6	-160.60	56.9	309.8	319.6	290.3	29.26	10.923	
4,900.0	4,827.0	4,927.9	4,889.9	16.8	14.0	-160.79	57.6	330.6	324.8	294.7	30.09	10.793	
5,000.0	4,923.6	5,027.7	4,987.6	17.3	14.4	-160.97	58.3	351.3	330.0	299.0	30.93	10.668	
5,100.0	5,020.1	5,127.6	5,085.3	17.7	14.8	-161.14	59.0	372.1	335.2	303.4	31.78	10.548	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,227.5	5,183.0	18.2	15.2	-161.31	59.8	392.8	340.4	307.7	32.63	10.431	
5,300.0	5,213.3	5,327.3	5,280.7	18.6	15.6	-161.48	60.5	413.6	345.6	312.1	33.49	10.319	
5,400.0	5,309.9	5,427.2	5,378.3	19.1	16.0	-161.64	61.2	434.3	350.8	316.4	34.35	10.210	
5,500.0	5,406.5	5,527.0	5,476.0	19.6	16.4	-161.79	61.9	455.1	356.0	320.7	35.23	10.106	
5,600.0	5,503.1	5,626.9	5,573.7	20.1	16.8	-161.94	62.7	475.8	361.2	325.1	36.10	10.005	
5,700.0	5,599.7	5,726.7	5,671.4	20.5	17.3	-162.09	63.4	496.6	366.4	329.4	36.98	9.907	
5,800.0	5,696.3	5,826.6	5,769.0	21.0	17.7	-162.23	64.1	517.3	371.6	333.7	37.87	9.814	
5,900.0	5,792.9	5,926.5	5,866.7	21.5	18.1	-162.37	64.8	538.1	376.8	338.1	38.76	9.723	
6,000.0	5,889.5	6,026.3	5,964.4	21.9	18.6	-162.51	65.6	558.8	382.1	342.4	39.65	9.636	
6,100.0	5,986.1	6,126.2	6,062.1	22.4	19.0	-162.64	66.3	579.6	387.3	346.7	40.55	9.552	
6,200.0	6,082.7	6,226.0	6,159.7	22.9	19.4	-162.76	67.0	600.3	392.5	351.1	41.45	9.470	
6,300.0	6,179.3	6,325.9	6,257.4	23.4	19.9	-162.89	67.7	621.1	397.7	355.4	42.35	9.392	
6,400.0	6,275.9	6,425.8	6,355.1	23.9	20.3	-163.01	68.5	641.8	403.0	359.7	43.25	9.316	
6,500.0	6,372.4	6,525.6	6,452.8	24.3	20.7	-163.13	69.2	662.6	408.2	364.0	44.16	9.243	
6,600.0	6,469.0	6,625.5	6,550.5	24.8	21.2	-163.24	69.9	683.3	413.4	368.3	45.07	9.172	
6,700.0	6,565.6	6,725.3	6,648.1	25.3	21.6	-163.35	70.6	704.1	418.6	372.7	45.99	9.104	
6,800.0	6,662.2	6,825.2	6,745.8	25.8	22.1	-163.46	71.4	724.8	423.9	377.0	46.90	9.037	
6,900.0	6,758.8	6,925.1	6,843.5	26.3	22.5	-163.57	72.1	745.6	429.1	381.3	47.82	8.973	
7,000.0	6,855.4	7,024.9	6,941.2	26.7	23.0	-163.67	72.8	766.3	434.4	385.6	48.74	8.911	
7,100.0	6,952.0	7,124.8	7,038.8	27.2	23.4	-163.77	73.5	787.1	439.6	389.9	49.66	8.851	
7,200.0	7,048.6	7,224.6	7,136.5	27.7	23.9	-163.87	74.3	807.8	444.8	394.3	50.58	8.794	
7,300.0	7,145.2	7,318.5	7,228.5	28.2	24.3	-163.99	74.9	826.8	450.7	399.2	51.47	8.756	
7,400.0	7,241.8	7,411.2	7,319.6	28.7	24.7	-164.15	75.5	844.0	458.0	405.6	52.36	8.747	
7,500.0	7,338.4	7,503.7	7,410.7	29.2	25.1	-164.37	76.1	859.8	466.9	413.6	53.24	8.769	
7,600.0	7,435.0	7,595.9	7,501.8	29.7	25.5	-164.63	76.6	874.0	477.3	423.2	54.11	8.820	
7,700.0	7,531.6	7,687.7	7,592.7	30.1	25.9	-164.93	77.0	886.7	489.2	434.3	54.97	8.900	
7,800.0	7,628.1	7,779.2	7,683.5	30.6	26.2	-165.27	77.4	898.0	502.7	446.9	55.82	9.007	
7,900.0	7,724.7	7,870.2	7,774.0	31.1	26.6	-165.63	77.7	907.7	517.8	461.1	56.65	9.140	
8,000.0	7,821.3	7,960.8	7,864.2	31.6	26.9	-166.02	78.0	915.9	534.3	476.9	57.45	9.300	
8,100.0	7,917.9	8,050.8	7,953.9	32.1	27.3	-166.42	78.3	922.7	552.4	494.1	58.24	9.485	
8,200.0	8,014.5	8,140.3	8,043.3	32.6	27.6	-166.84	78.5	928.1	571.9	513.0	58.99	9.695	
8,300.0	8,111.4	8,229.4	8,132.3	33.1	27.9	-167.28	78.6	932.0	592.0	532.2	59.72	9.913	
8,400.0	8,208.7	8,318.3	8,221.1	33.6	28.1	-167.70	78.7	934.6	611.8	551.4	60.39	10.131	
8,500.0	8,306.4	8,406.9	8,309.8	34.0	28.3	-168.08	78.7	935.7	631.5	570.5	60.99	10.354	
8,600.0	8,404.4	8,501.6	8,404.4	34.5	28.4	-168.47	78.7	935.8	650.7	589.1	61.53	10.575	
8,700.0	8,502.8	8,600.0	8,502.8	34.9	28.4	-168.81	78.7	935.8	668.3	606.2	62.10	10.761	
8,800.0	8,601.5	8,698.6	8,601.5	35.4	28.4	-169.10	78.7	935.8	684.2	621.6	62.66	10.921	
8,900.0	8,700.4	8,797.6	8,700.4	35.8	28.5	-169.36	78.7	935.8	698.5	635.3	63.19	11.054	
9,000.0	8,799.6	8,896.8	8,799.6	36.3	28.5	-169.57	78.7	935.8	711.1	647.4	63.71	11.161	
9,100.0	8,899.0	8,996.1	8,899.0	36.7	28.5	-169.75	78.7	935.8	722.0	657.8	64.21	11.244	
9,200.0	8,998.5	9,095.7	8,998.5	37.1	28.6	-169.89	78.7	935.8	731.2	666.5	64.69	11.302	
9,300.0	9,098.2	9,195.4	9,098.2	37.4	28.6	-170.01	78.7	935.8	738.6	673.5	65.15	11.337	
9,400.0	9,198.1	9,295.2	9,198.1	37.8	28.6	-170.10	78.7	935.8	744.4	678.8	65.58	11.351	
9,500.0	9,298.0	9,395.2	9,298.0	38.1	28.7	-170.16	78.7	935.8	748.4	682.4	65.97	11.344	
9,600.0	9,398.0	9,495.1	9,398.0	38.4	28.7	-170.19	78.7	935.8	750.7	684.4	66.32	11.320	
9,700.0	9,498.0	9,595.1	9,498.0	38.5	28.7	-80.20	78.7	935.8	751.4	684.9	66.48	11.302	
9,800.0	9,598.0	9,695.1	9,598.0	38.5	28.8	-80.20	78.7	935.8	751.4	684.8	66.54	11.292	
9,900.0	9,698.0	9,795.1	9,698.0	38.5	28.8	-80.20	78.7	935.8	751.4	684.8	66.60	11.282	
10,000.0	9,798.0	9,895.1	9,798.0	38.6	28.9	-80.20	78.7	935.8	751.4	684.7	66.65	11.273	
10,100.0	9,898.0	9,995.1	9,898.0	38.6	28.9	-80.20	78.7	935.8	751.4	684.7	66.71	11.263	
10,200.0	9,998.0	10,095.1	9,998.0	38.6	28.9	-80.20	78.7	935.8	751.4	684.6	66.77	11.254	
10,300.0	10,098.0	10,195.1	10,098.0	38.6	29.0	-80.20	78.7	935.8	751.4	684.5	66.82	11.244	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,198.0	10,295.1	10,198.0	38.7	29.0	-80.20	78.7	935.8	751.4	684.5	66.88	11.235	
10,500.0	10,298.0	10,395.1	10,298.0	38.7	29.0	-80.20	78.7	935.8	751.4	684.4	66.94	11.225	
10,600.0	10,398.0	10,495.1	10,398.0	38.7	29.1	-80.20	78.7	935.8	751.4	684.4	66.99	11.215	
10,700.0	10,498.0	10,595.1	10,498.0	38.7	29.1	-80.20	78.7	935.8	751.4	684.3	67.05	11.206	
10,704.4	10,502.4	10,599.6	10,502.4	38.7	29.1	-112.80	78.7	935.8	751.4	684.3	67.06	11.205	
10,800.0	10,597.9	10,695.0	10,597.9	38.8	29.1	-112.90	78.7	935.8	752.4	685.2	67.21	11.196	
10,900.0	10,696.0	10,778.1	10,680.7	39.1	29.2	-112.84	83.5	935.8	760.7	693.3	67.36	11.293	
11,000.0	10,789.5	10,859.5	10,760.5	39.4	29.2	-112.04	99.7	935.7	778.0	710.5	67.59	11.511	
11,100.0	10,875.4	10,940.4	10,836.6	39.7	29.3	-110.48	126.7	935.6	803.9	736.0	67.91	11.838	
11,200.0	10,951.2	11,020.4	10,907.4	40.0	29.4	-108.19	163.8	935.5	837.5	769.2	68.31	12.261	
11,300.0	11,014.6	11,100.0	10,972.1	40.2	29.5	-105.22	210.1	935.3	877.8	809.0	68.78	12.763	
11,400.0	11,064.8	11,178.4	11,028.9	40.4	29.5	-100.85	264.0	935.1	921.8	852.5	69.29	13.304	
11,500.0	11,106.3	11,262.8	11,081.3	40.6	29.6	-96.76	330.2	934.8	960.0	890.3	69.77	13.761	
11,600.0	11,139.2	11,353.1	11,125.8	40.8	29.7	-93.77	408.6	934.5	990.5	920.3	70.19	14.111	
11,700.0	11,162.6	11,448.6	11,159.0	40.9	29.8	-91.71	498.0	934.1	1,012.4	941.9	70.54	14.352	
11,800.0	11,176.3	11,547.4	11,177.1	41.0	29.9	-90.45	595.0	933.8	1,025.2	954.4	70.80	14.481	
11,900.0	11,180.0	11,647.4	11,180.0	41.0	30.0	-90.00	694.9	933.4	1,028.7	957.7	70.98	14.493	
12,000.0	11,180.0	11,747.4	11,180.0	41.1	30.1	-90.00	794.9	933.0	1,028.7	957.5	71.20	14.449	
12,100.0	11,180.0	11,847.4	11,180.0	41.2	30.2	-90.00	894.9	932.6	1,028.7	957.3	71.45	14.398	
12,200.0	11,180.0	11,947.4	11,180.0	41.4	30.3	-90.00	994.9	932.2	1,028.7	957.0	71.73	14.341	
12,300.0	11,180.0	12,047.4	11,180.0	41.5	30.5	-90.00	1,094.9	931.8	1,028.7	956.7	72.04	14.279	
12,400.0	11,180.0	12,147.4	11,180.0	41.7	30.6	-90.00	1,194.9	931.4	1,028.7	956.3	72.39	14.211	
12,500.0	11,180.0	12,247.4	11,180.0	41.8	30.8	-90.00	1,294.9	931.0	1,028.7	955.9	72.76	14.138	
12,600.0	11,180.0	12,347.4	11,180.0	42.0	31.1	-90.00	1,394.9	930.6	1,028.7	955.5	73.16	14.061	
12,700.0	11,180.0	12,447.4	11,180.0	42.2	31.3	-90.00	1,494.9	930.2	1,028.7	955.1	73.59	13.978	
12,800.0	11,180.0	12,547.4	11,180.0	42.4	31.5	-90.00	1,594.9	929.8	1,028.7	954.7	74.06	13.891	
12,900.0	11,180.0	12,647.4	11,180.0	42.6	31.8	-90.00	1,694.9	929.4	1,028.7	954.2	74.54	13.800	
13,000.0	11,180.0	12,747.4	11,180.0	42.9	32.1	-90.00	1,794.9	929.0	1,028.7	953.7	75.06	13.705	
13,100.0	11,180.0	12,847.4	11,180.0	43.1	32.4	-90.00	1,894.9	928.6	1,028.7	953.1	75.60	13.607	
13,200.0	11,180.0	12,947.4	11,180.0	43.4	32.7	-90.00	1,994.9	928.2	1,028.7	952.6	76.17	13.505	
13,300.0	11,180.0	13,047.4	11,180.0	43.7	33.0	-90.00	2,094.9	927.8	1,028.7	952.0	76.77	13.401	
13,400.0	11,180.0	13,147.4	11,180.0	44.0	33.4	-90.00	2,194.9	927.4	1,028.7	951.3	77.39	13.293	
13,500.0	11,180.0	13,247.4	11,180.0	44.3	33.8	-90.00	2,294.9	927.0	1,028.7	950.7	78.03	13.184	
13,600.0	11,180.0	13,347.4	11,180.0	44.6	34.1	-90.00	2,394.9	926.6	1,028.7	950.0	78.70	13.072	
13,700.0	11,180.0	13,447.4	11,180.0	44.9	34.5	-90.00	2,494.9	926.2	1,028.7	949.3	79.39	12.958	
13,800.0	11,180.0	13,547.4	11,180.0	45.2	34.9	-90.00	2,594.9	925.8	1,028.7	948.6	80.11	12.842	
13,900.0	11,180.0	13,647.4	11,180.0	45.6	35.3	-90.00	2,694.9	925.4	1,028.7	947.9	80.84	12.725	
14,000.0	11,180.0	13,747.4	11,180.0	45.9	35.8	-90.00	2,794.9	925.0	1,028.7	947.1	81.60	12.607	
14,100.0	11,180.0	13,847.4	11,180.0	46.3	36.2	-90.00	2,894.9	924.6	1,028.7	946.4	82.38	12.488	
14,200.0	11,180.0	13,947.4	11,180.0	46.7	36.7	-90.00	2,994.9	924.2	1,028.7	945.6	83.18	12.368	
14,300.0	11,180.0	14,047.4	11,180.0	47.1	37.1	-90.00	3,094.9	923.8	1,028.8	944.8	84.00	12.247	
14,400.0	11,180.0	14,147.4	11,180.0	47.4	37.6	-90.00	3,194.9	923.4	1,028.8	943.9	84.84	12.126	
14,500.0	11,180.0	14,247.4	11,180.0	47.9	38.1	-90.00	3,294.9	923.0	1,028.8	943.1	85.69	12.005	
14,600.0	11,180.0	14,347.4	11,180.0	48.3	38.6	-90.00	3,394.9	922.6	1,028.8	942.2	86.57	11.884	
14,700.0	11,180.0	14,447.4	11,180.0	48.7	39.1	-90.00	3,494.9	922.2	1,028.8	941.3	87.46	11.763	
14,800.0	11,180.0	14,547.4	11,180.0	49.1	39.6	-90.00	3,594.9	921.8	1,028.8	940.4	88.37	11.642	
14,900.0	11,180.0	14,647.4	11,180.0	49.6	40.1	-90.00	3,694.9	921.4	1,028.8	939.5	89.29	11.521	
15,000.0	11,180.0	14,747.4	11,180.0	50.0	40.7	-90.00	3,794.9	921.0	1,028.8	938.5	90.24	11.401	
15,100.0	11,180.0	14,847.4	11,180.0	50.5	41.2	-90.00	3,894.9	920.6	1,028.8	937.6	91.19	11.281	
15,200.0	11,180.0	14,947.4	11,180.0	50.9	41.7	-90.00	3,994.9	920.2	1,028.8	936.6	92.17	11.162	
15,300.0	11,180.0	15,047.4	11,180.0	51.4	42.3	-90.00	4,094.9	919.8	1,028.8	935.6	93.15	11.044	
15,400.0	11,180.0	15,147.4	11,180.0	51.9	42.9	-90.00	4,194.9	919.4	1,028.8	934.6	94.15	10.927	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	11,180.0	15,247.4	11,180.0	52.3	43.4	-90.00	4,294.9	919.0	1,028.8	933.6	95.17	10.810	
15,600.0	11,180.0	15,347.4	11,180.0	52.8	44.0	-90.00	4,394.9	918.6	1,028.8	932.6	96.19	10.695	
15,700.0	11,180.0	15,447.4	11,180.0	53.3	44.6	-90.00	4,494.9	918.2	1,028.8	931.6	97.23	10.581	
15,800.0	11,180.0	15,547.4	11,180.0	53.8	45.2	-90.00	4,594.9	917.8	1,028.8	930.5	98.28	10.467	
15,900.0	11,180.0	15,647.4	11,180.0	54.3	45.7	-90.00	4,694.9	917.4	1,028.8	929.4	99.35	10.355	
16,000.0	11,180.0	15,747.4	11,180.0	54.8	46.3	-90.00	4,794.9	917.0	1,028.8	928.4	100.42	10.244	
16,100.0	11,180.0	15,847.4	11,180.0	55.4	46.9	-90.00	4,894.9	916.6	1,028.8	927.3	101.51	10.135	
16,200.0	11,180.0	15,947.4	11,180.0	55.9	47.5	-90.00	4,994.9	916.2	1,028.8	926.2	102.61	10.026	
16,300.0	11,180.0	16,047.4	11,180.0	56.4	48.1	-90.00	5,094.9	915.8	1,028.8	925.1	103.72	9.919	
16,400.0	11,180.0	16,147.4	11,180.0	57.0	48.8	-90.00	5,194.9	915.4	1,028.8	924.0	104.84	9.814	
16,500.0	11,180.0	16,247.4	11,180.0	57.5	49.4	-90.00	5,294.9	915.0	1,028.8	922.8	105.96	9.709	
16,600.0	11,180.0	16,347.4	11,180.0	58.0	50.0	-90.00	5,394.9	914.6	1,028.8	921.7	107.10	9.606	
16,700.0	11,180.0	16,447.4	11,180.0	58.6	50.6	-90.00	5,494.9	914.2	1,028.8	920.6	108.25	9.504	
16,800.0	11,180.0	16,547.4	11,180.0	59.2	51.3	-90.00	5,594.9	913.8	1,028.8	919.4	109.40	9.404	
16,900.0	11,180.0	16,647.4	11,180.0	59.7	51.9	-90.00	5,694.9	913.4	1,028.8	918.2	110.57	9.305	
17,000.0	11,180.0	16,747.4	11,180.0	60.3	52.5	-90.00	5,794.9	913.0	1,028.8	917.1	111.74	9.207	
17,100.0	11,180.0	16,847.4	11,180.0	60.8	53.2	-90.00	5,894.9	912.6	1,028.8	915.9	112.92	9.111	
17,200.0	11,180.0	16,947.4	11,180.0	61.4	53.8	-90.00	5,994.9	912.2	1,028.8	914.7	114.11	9.016	
17,300.0	11,180.0	17,047.4	11,180.0	62.0	54.5	-90.00	6,094.9	911.8	1,028.8	913.5	115.31	8.923	
17,400.0	11,180.0	17,147.4	11,180.0	62.6	55.1	-90.00	6,194.9	911.4	1,028.8	912.3	116.51	8.830	
17,500.0	11,180.0	17,247.4	11,180.0	63.2	55.8	-90.00	6,294.9	911.0	1,028.8	911.1	117.72	8.740	
17,600.0	11,180.0	17,347.4	11,180.0	63.8	56.4	-90.00	6,394.8	910.6	1,028.8	909.9	118.94	8.650	
17,700.0	11,180.0	17,447.4	11,180.0	64.3	57.1	-90.00	6,494.8	910.2	1,028.8	908.7	120.16	8.562	
17,800.0	11,180.0	17,547.4	11,180.0	64.9	57.7	-90.00	6,594.8	909.8	1,028.8	907.4	121.39	8.475	
17,900.0	11,180.0	17,647.4	11,180.0	65.5	58.4	-90.00	6,694.8	909.4	1,028.8	906.2	122.63	8.390	
18,000.0	11,180.0	17,747.4	11,180.0	66.1	59.1	-90.00	6,794.8	909.0	1,028.8	905.0	123.87	8.306	
18,100.0	11,180.0	17,847.4	11,180.0	66.7	59.7	-90.00	6,894.8	908.6	1,028.8	903.7	125.12	8.223	
18,200.0	11,180.0	17,947.4	11,180.0	67.4	60.4	-90.00	6,994.8	908.2	1,028.8	902.5	126.38	8.141	
18,300.0	11,180.0	18,047.4	11,180.0	68.0	61.1	-90.00	7,094.8	907.8	1,028.8	901.2	127.64	8.061	
18,400.0	11,180.0	18,147.4	11,180.0	68.6	61.8	-90.00	7,194.8	907.4	1,028.8	899.9	128.90	7.982	
18,500.0	11,180.0	18,247.4	11,180.0	69.2	62.4	-90.00	7,294.8	907.0	1,028.9	898.7	130.17	7.904	
18,600.0	11,180.0	18,347.4	11,180.0	69.8	63.1	-90.00	7,394.8	906.6	1,028.9	897.4	131.45	7.827	
18,700.0	11,180.0	18,447.4	11,180.0	70.4	63.8	-90.00	7,494.8	906.2	1,028.9	896.1	132.73	7.751	
18,800.0	11,180.0	18,547.4	11,180.0	71.1	64.5	-90.00	7,594.8	905.8	1,028.9	894.8	134.02	7.677	
18,900.0	11,180.0	18,647.4	11,180.0	71.7	65.2	-90.00	7,694.8	905.4	1,028.9	893.6	135.31	7.604	
19,000.0	11,180.0	18,747.4	11,180.0	72.3	65.9	-90.00	7,794.8	905.0	1,028.9	892.3	136.60	7.532	
19,100.0	11,180.0	18,847.4	11,180.0	73.0	66.5	-90.00	7,894.8	904.6	1,028.9	891.0	137.90	7.461	
19,200.0	11,180.0	18,947.4	11,180.0	73.6	67.2	-90.00	7,994.8	904.2	1,028.9	889.7	139.21	7.391	
19,300.0	11,180.0	19,047.4	11,180.0	74.2	67.9	-90.00	8,094.8	903.8	1,028.9	888.4	140.52	7.322	
19,400.0	11,180.0	19,147.4	11,180.0	74.9	68.6	-90.00	8,194.8	903.4	1,028.9	887.0	141.83	7.254	
19,500.0	11,180.0	19,247.4	11,180.0	75.5	69.3	-90.00	8,294.8	903.0	1,028.9	885.7	143.14	7.188	
19,600.0	11,180.0	19,347.4	11,180.0	76.2	70.0	-90.00	8,394.8	902.6	1,028.9	884.4	144.46	7.122	
19,700.0	11,180.0	19,447.4	11,180.0	76.8	70.7	-90.00	8,494.8	902.2	1,028.9	883.1	145.79	7.057	
19,800.0	11,180.0	19,547.4	11,180.0	77.5	71.4	-90.00	8,594.8	901.8	1,028.9	881.8	147.12	6.994	
19,900.0	11,180.0	19,647.4	11,180.0	78.1	72.1	-90.00	8,694.8	901.4	1,028.9	880.4	148.45	6.931	
20,000.0	11,180.0	19,747.4	11,180.0	78.8	72.8	-90.00	8,794.8	901.0	1,028.9	879.1	149.78	6.869	
20,100.0	11,180.0	19,847.4	11,180.0	79.4	73.5	-90.00	8,894.8	900.6	1,028.9	877.8	151.12	6.809	
20,200.0	11,180.0	19,947.4	11,180.0	80.1	74.2	-90.00	8,994.8	900.2	1,028.9	876.4	152.46	6.749	
20,300.0	11,180.0	20,047.4	11,180.0	80.8	74.9	-90.00	9,094.8	899.8	1,028.9	875.1	153.80	6.690	
20,400.0	11,180.0	20,147.4	11,180.0	81.4	75.6	-90.00	9,194.8	899.4	1,028.9	873.7	155.15	6.632	
20,500.0	11,180.0	20,247.4	11,180.0	82.1	76.3	-90.00	9,294.8	899.0	1,028.9	872.4	156.50	6.574	
20,600.0	11,180.0	20,347.4	11,180.0	82.7	77.0	-90.00	9,394.8	898.6	1,028.9	871.0	157.85	6.518	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,700.0	11,180.0	20,447.4	11,180.0	83.4	77.8	-90.00	9,494.8	898.2	1,028.9	869.7	159.21	6.463	
20,800.0	11,180.0	20,547.4	11,180.0	84.1	78.5	-90.00	9,594.8	897.8	1,028.9	868.3	160.57	6.408	
20,900.0	11,180.0	20,647.4	11,180.0	84.7	79.2	-90.00	9,694.8	897.4	1,028.9	867.0	161.93	6.354	
21,000.0	11,180.0	20,747.4	11,180.0	85.4	79.9	-90.00	9,794.8	897.0	1,028.9	865.6	163.29	6.301	
21,100.0	11,180.0	20,847.4	11,180.0	86.1	80.6	-90.00	9,894.8	896.6	1,028.9	864.3	164.66	6.249	
21,200.0	11,180.0	20,947.4	11,180.0	86.8	81.3	-90.00	9,994.8	896.2	1,028.9	862.9	166.03	6.197	
21,300.0	11,180.0	21,047.4	11,180.0	87.4	82.0	-90.00	10,094.8	895.8	1,028.9	861.5	167.40	6.146	
21,400.0	11,180.0	21,147.4	11,180.0	88.1	82.8	-90.00	10,194.8	895.4	1,028.9	860.1	168.78	6.096	
21,500.0	11,180.0	21,247.4	11,180.0	88.8	83.5	-90.00	10,294.8	895.0	1,028.9	858.8	170.15	6.047	
21,600.0	11,180.0	21,347.4	11,180.0	89.5	84.2	-90.00	10,394.8	894.6	1,028.9	857.4	171.53	5.998	
21,700.0	11,180.0	21,447.4	11,180.0	90.2	84.9	-90.00	10,494.8	894.2	1,028.9	856.0	172.91	5.951	
21,800.0	11,180.0	21,547.4	11,180.0	90.8	85.6	-90.00	10,594.8	893.8	1,028.9	854.6	174.30	5.903	
21,900.0	11,180.0	21,647.4	11,180.0	91.5	86.4	-90.00	10,694.8	893.4	1,028.9	853.2	175.68	5.857	
22,000.0	11,180.0	21,747.4	11,180.0	92.2	87.1	-90.00	10,794.8	893.0	1,028.9	851.9	177.07	5.811	
22,100.0	11,180.0	21,847.4	11,180.0	92.9	87.8	-90.00	10,894.8	892.6	1,028.9	850.5	178.46	5.766	
22,200.0	11,180.0	21,947.4	11,180.0	93.6	88.5	-90.00	10,994.8	892.2	1,028.9	849.1	179.85	5.721	
22,300.0	11,180.0	22,047.4	11,180.0	94.3	89.2	-90.00	11,094.8	891.8	1,028.9	847.7	181.24	5.677	
22,400.0	11,180.0	22,147.4	11,180.0	95.0	90.0	-90.00	11,194.8	891.4	1,028.9	846.3	182.64	5.634	
22,500.0	11,180.0	22,247.4	11,180.0	95.7	90.7	-90.00	11,294.8	891.0	1,028.9	844.9	184.04	5.591	
22,600.0	11,180.0	22,347.4	11,180.0	96.4	91.4	-90.00	11,394.8	890.6	1,028.9	843.5	185.43	5.549	
22,700.0	11,180.0	22,447.4	11,180.0	97.0	92.2	-90.00	11,494.8	890.2	1,029.0	842.1	186.84	5.507	
22,800.0	11,180.0	22,547.4	11,180.0	97.7	92.9	-90.00	11,594.8	889.8	1,029.0	840.7	188.24	5.466	
22,900.0	11,180.0	22,647.4	11,180.0	98.4	93.6	-90.00	11,694.8	889.4	1,029.0	839.3	189.64	5.426	
23,000.0	11,180.0	22,747.4	11,180.0	99.1	94.3	-90.00	11,794.8	889.0	1,029.0	837.9	191.05	5.386	
23,100.0	11,180.0	22,847.4	11,180.0	99.8	95.1	-90.00	11,894.8	888.6	1,029.0	836.5	192.45	5.347	
23,200.0	11,180.0	22,947.4	11,180.0	100.5	95.8	-90.00	11,994.8	888.2	1,029.0	835.1	193.86	5.308	
23,300.0	11,180.0	23,047.4	11,180.0	101.2	96.5	-90.00	12,094.8	887.8	1,029.0	833.7	195.27	5.269	
23,400.0	11,180.0	23,147.4	11,180.0	101.9	97.3	-90.00	12,194.8	887.4	1,029.0	832.3	196.69	5.232	
23,500.0	11,180.0	23,247.4	11,180.0	102.6	98.0	-90.00	12,294.8	887.0	1,029.0	830.9	198.10	5.194	
23,600.0	11,180.0	23,347.4	11,180.0	103.3	98.7	-90.00	12,394.8	886.6	1,029.0	829.5	199.51	5.157	
23,700.0	11,180.0	23,447.4	11,180.0	104.0	99.5	-90.00	12,494.8	886.2	1,029.0	828.0	200.93	5.121	
23,800.0	11,180.0	23,547.4	11,180.0	104.7	100.2	-90.00	12,594.8	885.8	1,029.0	826.6	202.35	5.085	
23,900.0	11,180.0	23,647.4	11,180.0	105.4	100.9	-90.00	12,694.8	885.4	1,029.0	825.2	203.77	5.050	
24,000.0	11,180.0	23,747.4	11,180.0	106.2	101.7	-90.00	12,794.8	885.0	1,029.0	823.8	205.19	5.015	
24,100.0	11,180.0	23,847.4	11,180.0	106.9	102.4	-90.00	12,894.8	884.6	1,029.0	822.4	206.61	4.980	
24,200.0	11,180.0	23,947.4	11,180.0	107.6	103.1	-90.00	12,994.8	884.2	1,029.0	821.0	208.03	4.946	
24,300.0	11,180.0	24,047.4	11,180.0	108.3	103.9	-90.00	13,094.8	883.8	1,029.0	819.5	209.46	4.913	
24,400.0	11,180.0	24,147.4	11,180.0	109.0	104.6	-90.00	13,194.8	883.4	1,029.0	818.1	210.88	4.879	
24,500.0	11,180.0	24,247.4	11,180.0	109.7	105.3	-90.00	13,294.8	883.0	1,029.0	816.7	212.31	4.847	
24,600.0	11,180.0	24,347.4	11,180.0	110.4	106.1	-90.00	13,394.8	882.6	1,029.0	815.3	213.74	4.814	
24,700.0	11,180.0	24,447.4	11,180.0	111.1	106.7	-90.00	13,494.8	882.2	1,029.0	813.9	215.09	4.784	
24,734.5	11,180.0	24,481.9	11,180.0	111.4	106.9	-90.00	13,529.3	882.0	1,029.0	813.5	215.53	4.774	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS — **Rule Assigned:** — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-89.96	0.0	-30.0	30.0	23.6	6.43	4.666	
100.0	100.0	100.0	100.0	3.2	3.2	-89.96	0.0	-30.0	30.0	23.1	6.89	4.353	
200.0	200.0	200.0	200.0	3.5	3.5	-89.96	0.0	-30.0	30.0	22.7	7.33	4.094	
300.0	300.0	300.0	300.0	3.7	3.7	-89.96	0.0	-30.0	30.0	22.3	7.74	3.875	
400.0	400.0	400.0	400.0	3.9	3.9	-89.96	0.0	-30.0	30.0	21.9	8.14	3.688	
500.0	500.0	500.0	500.0	4.1	4.1	-89.96	0.0	-30.0	30.0	21.5	8.51	3.524	
600.0	600.0	600.0	600.0	4.2	4.2	-89.96	0.0	-30.0	30.0	21.1	8.88	3.379	
700.0	700.0	700.0	700.0	4.4	4.4	-89.96	0.0	-30.0	30.0	20.8	9.23	3.250	
800.0	800.0	800.0	800.0	4.6	4.6	-89.96	0.0	-30.0	30.0	20.4	9.57	3.135	
900.0	900.0	900.0	900.0	4.8	4.8	-89.96	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	-89.96	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	-89.96	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	-89.96	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	-89.96	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	-89.96	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	-89.96	0.0	-30.0	30.0	18.3	11.73	2.557	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-89.96	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	-89.96	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	-89.96	0.0	-30.0	30.0	17.4	12.58	2.386	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	172.84	0.0	-30.0	31.3	18.4	12.87	2.432	
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	173.63	0.0	-30.0	35.2	22.0	13.16	2.675	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	174.62	0.0	-30.0	41.7	28.2	13.47	3.097	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	175.58	0.0	-30.0	50.8	37.0	13.79	3.685	
2,300.0	2,298.6	2,300.2	2,300.2	7.0	6.8	176.49	0.0	-28.7	61.3	47.1	14.15	4.329	
2,400.0	2,397.5	2,401.4	2,401.3	7.3	7.0	177.42	0.0	-24.7	71.7	57.2	14.53	4.934	
2,500.0	2,496.1	2,502.9	2,502.6	7.5	7.1	178.36	0.0	-18.0	82.1	67.2	14.94	5.495	
2,600.0	2,594.2	2,604.6	2,603.9	7.8	7.3	179.31	0.0	-8.6	92.5	77.1	15.39	6.011	
2,700.0	2,691.7	2,706.7	2,705.2	8.0	7.5	-179.73	0.0	3.6	102.8	87.0	15.81	6.500	
2,800.0	2,789.2	2,809.2	2,806.6	8.3	7.8	-178.74	0.0	18.5	111.0	94.7	16.31	6.805	
2,900.0	2,886.6	2,912.0	2,907.9	8.7	8.0	-177.67	0.0	36.2	116.6	99.7	16.84	6.923	
3,000.0	2,984.0	3,015.1	3,008.9	9.0	8.3	-176.45	0.0	56.6	119.6	102.2	17.40	6.871	
3,100.0	3,081.5	3,118.2	3,109.4	9.3	8.6	-175.01	0.0	79.8	120.0	102.0	17.98	6.675	
3,200.0	3,178.9	3,218.6	3,206.8	9.7	8.8	-173.42	0.0	104.1	118.8	100.2	18.58	6.395	
3,300.0	3,276.4	3,318.5	3,303.8	10.1	9.2	-171.81	0.0	128.3	117.7	98.4	19.23	6.119	
3,400.0	3,373.8	3,418.5	3,400.8	10.4	9.5	-170.17	0.0	152.4	116.6	96.7	19.90	5.863	
3,500.0	3,471.2	3,518.4	3,497.7	10.8	9.8	-168.50	0.0	176.6	115.7	95.1	20.57	5.626	
3,600.0	3,568.7	3,618.4	3,594.7	11.2	10.2	-166.80	0.0	200.8	114.9	93.6	21.24	5.409	
3,700.0	3,666.1	3,718.3	3,691.7	11.6	10.5	-165.08	0.0	225.0	114.1	92.2	21.90	5.212	
3,800.0	3,763.5	3,818.2	3,788.6	12.0	10.9	-163.34	0.0	249.2	113.5	91.0	22.56	5.032	
3,873.9	3,835.4	3,892.1	3,860.3	12.3	11.2	-159.58	0.0	267.0	113.4	90.4	23.03	4.923	
3,900.0	3,860.9	3,918.2	3,885.6	12.4	11.3	-158.26	0.0	273.3	113.3	90.1	23.20	4.884	
4,000.0	3,957.6	4,018.2	3,982.6	12.8	11.7	-154.57	0.0	297.5	114.5	90.5	23.93	4.784	
4,100.0	4,054.2	4,118.2	4,079.7	13.2	12.1	-154.94	0.0	321.7	116.1	91.3	24.73	4.692	
4,200.0	4,150.8	4,218.2	4,176.7	13.7	12.5	-155.30	0.0	345.9	117.6	92.1	25.55	4.605	
4,300.0	4,247.4	4,318.1	4,273.7	14.1	12.9	-155.65	0.0	370.1	119.2	92.9	26.37	4.521	
4,400.0	4,344.0	4,418.1	4,370.7	14.5	13.3	-155.99	0.0	394.3	120.8	93.6	27.21	4.441	
4,500.0	4,440.6	4,518.1	4,467.7	15.0	13.7	-156.32	0.0	418.5	122.4	94.4	28.05	4.364	
4,600.0	4,537.2	4,618.1	4,564.7	15.4	14.1	-156.65	0.0	442.7	124.0	95.1	28.91	4.290	
4,700.0	4,633.8	4,718.1	4,661.7	15.9	14.5	-156.96	0.0	466.8	125.6	95.8	29.77	4.219	
4,800.0	4,730.4	4,818.1	4,758.8	16.3	15.0	-157.27	0.0	491.0	127.2	96.6	30.65	4.151	
4,900.0	4,827.0	4,918.0	4,855.8	16.8	15.4	-157.57	0.0	515.2	128.8	97.3	31.53	4.086	
5,000.0	4,923.6	5,018.0	4,952.8	17.3	15.9	-157.86	0.0	539.4	130.5	98.0	32.42	4.024	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,020.1	5,118.0	5,049.8	17.7	16.3	-158.15	0.0	563.6	132.1	98.8	33.31	3.965	
5,200.0	5,116.7	5,218.0	5,146.8	18.2	16.7	-158.43	0.0	587.8	133.7	99.5	34.21	3.908	
5,300.0	5,213.3	5,318.0	5,243.8	18.6	17.2	-158.70	0.0	612.0	135.3	100.2	35.12	3.853	
5,400.0	5,309.9	5,418.0	5,340.8	19.1	17.6	-158.96	0.0	636.2	136.9	100.9	36.03	3.801	
5,500.0	5,406.5	5,518.0	5,437.9	19.6	18.1	-159.22	0.0	660.4	138.6	101.6	36.95	3.751	
5,600.0	5,503.1	5,617.9	5,534.9	20.1	18.5	-159.48	0.0	684.5	140.2	102.3	37.87	3.703	
5,700.0	5,599.7	5,717.9	5,631.9	20.5	19.0	-159.72	0.0	708.7	141.8	103.1	38.79	3.656	
5,800.0	5,696.3	5,817.9	5,728.9	21.0	19.5	-159.96	0.0	732.9	143.5	103.8	39.72	3.612	
5,900.0	5,792.9	5,917.9	5,825.9	21.5	19.9	-160.20	0.0	757.1	145.1	104.5	40.66	3.570	
6,000.0	5,889.5	6,017.9	5,922.9	21.9	20.4	-160.43	0.0	781.3	146.8	105.2	41.59	3.529	
6,100.0	5,986.1	6,117.9	6,020.0	22.4	20.8	-160.66	0.0	805.5	148.4	105.9	42.53	3.489	
6,200.0	6,082.7	6,217.9	6,117.0	22.9	21.3	-160.88	0.0	829.7	150.1	106.6	43.48	3.452	
6,300.0	6,179.3	6,317.8	6,214.0	23.4	21.8	-161.09	0.0	853.9	151.7	107.3	44.42	3.415	
6,400.0	6,275.9	6,417.8	6,311.0	23.9	22.2	-161.30	0.0	878.1	153.4	108.0	45.37	3.380	
6,500.0	6,372.4	6,517.8	6,408.0	24.3	22.7	-161.51	0.0	902.2	155.0	108.7	46.32	3.346	
6,600.0	6,469.0	6,617.8	6,505.0	24.8	23.2	-161.71	0.0	926.4	156.7	109.4	47.28	3.314	
6,700.0	6,565.6	6,717.8	6,602.0	25.3	23.6	-161.91	0.0	950.6	158.3	110.1	48.23	3.283	
6,800.0	6,662.2	6,817.8	6,699.1	25.8	24.1	-162.11	0.0	974.8	160.0	110.8	49.19	3.252	
6,900.0	6,758.8	6,917.7	6,796.1	26.3	24.6	-162.30	0.0	999.0	161.7	111.5	50.15	3.223	
7,000.0	6,855.4	7,017.7	6,893.1	26.7	25.1	-162.48	0.0	1,023.2	163.3	112.2	51.12	3.195	
7,100.0	6,952.0	7,117.7	6,990.1	27.2	25.5	-162.66	0.0	1,047.4	165.0	112.9	52.08	3.168	
7,200.0	7,048.6	7,217.7	7,087.1	27.7	26.0	-162.84	0.0	1,071.6	166.6	113.6	53.05	3.142	
7,300.0	7,145.2	7,317.7	7,184.1	28.2	26.5	-163.02	0.0	1,095.7	168.3	114.3	54.01	3.116	
7,400.0	7,241.8	7,417.7	7,281.1	28.7	26.9	-163.19	0.0	1,119.9	170.0	115.0	54.98	3.092	
7,500.0	7,338.4	7,517.7	7,378.2	29.2	27.4	-163.36	0.0	1,144.1	171.7	115.7	55.96	3.068	
7,600.0	7,435.0	7,617.6	7,475.2	29.7	27.9	-163.52	0.0	1,168.3	173.3	116.4	56.93	3.045	
7,700.0	7,531.6	7,717.6	7,572.2	30.1	28.4	-163.69	0.0	1,192.5	175.0	117.1	57.90	3.022	
7,800.0	7,628.1	7,817.6	7,669.2	30.6	28.9	-163.84	0.0	1,216.7	176.7	117.8	58.87	3.001	
7,900.0	7,724.7	7,915.2	7,764.0	31.1	29.3	-164.05	0.0	1,239.7	178.9	119.1	59.84	2.990	
8,000.0	7,821.3	8,012.1	7,858.6	31.6	29.8	-164.38	0.0	1,261.1	182.8	122.0	60.83	3.005	
8,100.0	7,917.9	8,108.9	7,953.4	32.1	30.2	-164.84	0.0	1,280.7	188.3	126.5	61.82	3.046	
8,200.0	8,014.5	8,205.5	8,048.3	32.6	30.7	-165.39	0.0	1,298.8	195.4	132.6	62.80	3.112	
8,300.0	8,111.4	8,302.0	8,143.3	33.1	31.1	-165.95	0.0	1,315.2	203.1	139.3	63.76	3.185	
8,400.0	8,208.7	8,400.0	8,240.2	33.6	31.5	-166.48	0.0	1,330.2	210.7	146.0	64.71	3.257	
8,500.0	8,306.4	8,494.5	8,333.8	34.0	31.9	-166.95	0.0	1,343.2	218.3	152.8	65.53	3.331	
8,600.0	8,404.4	8,590.6	8,429.1	34.5	32.3	-167.39	0.0	1,354.7	225.9	159.5	66.36	3.404	
8,700.0	8,502.8	8,686.5	8,524.6	34.9	32.7	-167.81	0.0	1,364.7	233.4	166.2	67.14	3.476	
8,800.0	8,601.5	8,782.3	8,620.0	35.4	33.1	-168.19	0.0	1,373.0	240.8	172.9	67.87	3.548	
8,900.0	8,700.4	8,878.1	8,715.5	35.8	33.4	-168.54	0.0	1,379.8	248.1	179.6	68.55	3.620	
9,000.0	8,799.6	8,973.7	8,811.0	36.3	33.7	-168.88	0.0	1,384.9	255.4	186.3	69.17	3.693	
9,100.0	8,899.0	9,069.1	8,906.4	36.7	34.0	-169.19	0.0	1,388.5	262.7	192.9	69.74	3.767	
9,200.0	8,998.5	9,164.5	9,001.7	37.1	34.3	-169.48	0.0	1,390.4	269.8	199.6	70.23	3.842	
9,300.0	9,098.2	9,261.0	9,098.2	37.4	34.4	-169.75	0.0	1,390.8	276.9	206.2	70.62	3.920	
9,400.0	9,198.1	9,360.8	9,198.1	37.8	34.4	-169.97	0.0	1,390.8	282.6	211.6	71.03	3.979	
9,500.0	9,298.0	9,460.8	9,298.0	38.1	34.5	-170.12	0.0	1,390.8	286.7	215.3	71.41	4.014	
9,600.0	9,398.0	9,560.7	9,398.0	38.4	34.5	-170.21	0.0	1,390.8	289.0	217.2	71.73	4.029	
9,700.0	9,498.0	9,660.7	9,498.0	38.5	34.5	-80.23	0.0	1,390.8	289.6	217.7	71.88	4.029	
9,800.0	9,598.0	9,760.7	9,598.0	38.5	34.5	-80.23	0.0	1,390.8	289.6	217.7	71.93	4.026	
9,900.0	9,698.0	9,860.7	9,698.0	38.5	34.6	-80.23	0.0	1,390.8	289.6	217.6	71.98	4.023	
10,000.0	9,798.0	9,960.7	9,798.0	38.6	34.6	-80.23	0.0	1,390.8	289.6	217.6	72.03	4.020	
10,100.0	9,898.0	10,060.7	9,898.0	38.6	34.6	-80.23	0.0	1,390.8	289.6	217.5	72.08	4.018	
10,200.0	9,998.0	10,160.7	9,998.0	38.6	34.6	-80.23	0.0	1,390.8	289.6	217.5	72.13	4.015	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,098.0	10,260.7	10,098.0	38.6	34.7	-80.23	0.0	1,390.8	289.6	217.4	72.18	4.012	
10,400.0	10,198.0	10,360.7	10,198.0	38.7	34.7	-80.23	0.0	1,390.8	289.6	217.4	72.23	4.009	
10,500.0	10,298.0	10,460.7	10,298.0	38.7	34.7	-80.23	0.0	1,390.8	289.6	217.3	72.28	4.007	
10,600.0	10,398.0	10,560.7	10,398.0	38.7	34.8	-80.23	0.0	1,390.8	289.6	217.3	72.33	4.004	
10,700.0	10,498.0	10,660.7	10,498.0	38.7	34.8	-80.23	0.0	1,390.8	289.6	217.2	72.38	4.001	
10,704.4	10,502.4	10,665.2	10,502.4	38.7	34.8	-112.83	0.0	1,390.8	289.6	217.2	72.39	4.001	
10,800.0	10,597.9	10,760.6	10,597.9	38.8	34.8	-113.23	0.0	1,390.8	290.7	218.1	72.57	4.006	
10,900.0	10,696.0	10,858.8	10,696.0	39.1	34.8	-115.73	0.0	1,390.8	298.5	225.3	73.22	4.076	
11,000.0	10,789.5	10,952.8	10,790.0	39.4	34.9	-119.70	0.2	1,390.8	315.8	241.9	73.88	4.274	
11,100.0	10,875.4	11,050.2	10,886.7	39.7	34.9	-123.14	10.6	1,391.7	343.9	269.4	74.50	4.616	
11,200.0	10,951.2	11,152.7	10,985.1	40.0	35.0	-124.92	39.0	1,394.0	380.9	305.7	75.21	5.065	
11,300.0	11,014.6	11,260.8	11,081.5	40.2	35.1	-125.02	87.3	1,397.8	424.7	348.6	76.06	5.583	
11,400.0	11,064.8	11,376.3	11,172.5	40.4	35.2	-122.05	157.9	1,403.5	471.2	394.2	77.00	6.119	
11,500.0	11,106.3	11,506.4	11,255.7	40.6	35.3	-118.04	257.3	1,411.5	509.0	431.0	77.95	6.530	
11,600.0	11,139.2	11,649.2	11,318.5	40.8	35.4	-114.38	384.6	1,421.8	534.6	455.9	78.71	6.792	
11,700.0	11,162.6	11,796.7	11,348.3	40.9	35.5	-110.83	528.3	1,433.3	546.5	467.4	79.08	6.911	
11,800.0	11,176.3	11,900.0	11,350.0	41.0	35.6	-108.51	631.2	1,441.0	547.3	467.7	79.58	6.877	
11,900.0	11,180.0	11,983.5	11,350.0	41.0	35.6	-108.19	714.6	1,444.7	544.8	464.5	80.30	6.784	
12,000.0	11,180.0	12,068.2	11,350.0	41.1	35.7	-108.25	799.3	1,446.0	542.9	462.0	80.98	6.704	
12,015.4	11,180.0	12,081.3	11,350.0	41.2	35.8	-108.25	812.4	1,446.0	542.9	461.8	81.08	6.696	
12,100.0	11,180.0	12,165.8	11,350.0	41.2	35.9	-108.25	896.9	1,445.6	542.9	461.3	81.62	6.652	
12,200.0	11,180.0	12,265.8	11,350.0	41.4	36.0	-108.25	996.9	1,445.2	542.9	460.6	82.27	6.599	
12,300.0	11,180.0	12,365.8	11,350.0	41.5	36.1	-108.25	1,096.9	1,444.8	542.9	460.0	82.94	6.546	
12,400.0	11,180.0	12,465.8	11,350.0	41.7	36.3	-108.25	1,196.9	1,444.4	542.9	459.3	83.64	6.491	
12,500.0	11,180.0	12,565.8	11,350.0	41.8	36.5	-108.25	1,296.9	1,444.0	542.9	458.6	84.36	6.436	
12,600.0	11,180.0	12,665.8	11,350.0	42.0	36.7	-108.25	1,396.9	1,443.6	542.9	457.8	85.10	6.380	
12,700.0	11,180.0	12,765.8	11,350.0	42.2	36.9	-108.25	1,496.9	1,443.2	542.9	457.1	85.86	6.324	
12,800.0	11,180.0	12,865.8	11,350.0	42.4	37.1	-108.25	1,596.9	1,442.8	542.9	456.3	86.64	6.267	
12,900.0	11,180.0	12,965.8	11,350.0	42.6	37.4	-108.25	1,696.9	1,442.4	542.9	455.5	87.44	6.209	
13,000.0	11,180.0	13,065.8	11,350.0	42.9	37.6	-108.25	1,796.9	1,442.0	542.9	454.7	88.26	6.152	
13,100.0	11,180.0	13,165.8	11,350.0	43.1	37.9	-108.25	1,896.9	1,441.6	542.9	453.8	89.09	6.094	
13,200.0	11,180.0	13,265.8	11,350.0	43.4	38.2	-108.25	1,996.9	1,441.2	542.9	453.0	89.95	6.036	
13,300.0	11,180.0	13,365.8	11,350.0	43.7	38.5	-108.25	2,096.9	1,440.8	542.9	452.1	90.82	5.978	
13,400.0	11,180.0	13,465.8	11,350.0	44.0	38.8	-108.25	2,196.9	1,440.4	542.9	451.2	91.71	5.920	
13,500.0	11,180.0	13,565.8	11,350.0	44.3	39.2	-108.25	2,296.9	1,440.0	543.0	450.3	92.61	5.863	
13,600.0	11,180.0	13,665.8	11,350.0	44.6	39.5	-108.25	2,396.9	1,439.6	543.0	449.4	93.53	5.805	
13,700.0	11,180.0	13,765.8	11,350.0	44.9	39.9	-108.25	2,496.9	1,439.2	543.0	448.5	94.47	5.747	
13,800.0	11,180.0	13,865.8	11,350.0	45.2	40.2	-108.25	2,596.9	1,438.8	543.0	447.5	95.42	5.690	
13,900.0	11,180.0	13,965.8	11,350.0	45.6	40.6	-108.25	2,696.9	1,438.4	543.0	446.6	96.39	5.633	
14,000.0	11,180.0	14,065.8	11,350.0	45.9	41.0	-108.25	2,796.9	1,438.0	543.0	445.6	97.37	5.576	
14,100.0	11,180.0	14,165.8	11,350.0	46.3	41.4	-108.25	2,896.9	1,437.6	543.0	444.6	98.36	5.520	
14,200.0	11,180.0	14,265.8	11,350.0	46.7	41.8	-108.25	2,996.9	1,437.2	543.0	443.6	99.37	5.464	
14,300.0	11,180.0	14,365.8	11,350.0	47.1	42.2	-108.25	3,096.9	1,436.8	543.0	442.6	100.39	5.409	
14,400.0	11,180.0	14,465.8	11,350.0	47.4	42.7	-108.25	3,196.9	1,436.4	543.0	441.6	101.42	5.354	
14,500.0	11,180.0	14,565.8	11,350.0	47.9	43.1	-108.25	3,296.9	1,436.0	543.0	440.5	102.47	5.299	
14,600.0	11,180.0	14,665.8	11,350.0	48.3	43.6	-108.25	3,396.9	1,435.6	543.0	439.5	103.52	5.245	
14,700.0	11,180.0	14,765.8	11,350.0	48.7	44.0	-108.25	3,496.9	1,435.2	543.0	438.4	104.59	5.192	
14,800.0	11,180.0	14,865.8	11,350.0	49.1	44.5	-108.25	3,596.9	1,434.8	543.0	437.3	105.67	5.139	
14,900.0	11,180.0	14,965.8	11,350.0	49.6	45.0	-108.25	3,696.9	1,434.4	543.0	436.2	106.76	5.086	
15,000.0	11,180.0	15,065.8	11,350.0	50.0	45.4	-108.25	3,796.9	1,434.0	543.0	435.1	107.86	5.034	
15,100.0	11,180.0	15,165.8	11,350.0	50.5	45.9	-108.24	3,896.9	1,433.6	543.0	434.0	108.97	4.983	
15,200.0	11,180.0	15,265.8	11,350.0	50.9	46.4	-108.24	3,996.9	1,433.2	543.0	432.9	110.09	4.932	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,300.0	11,180.0	15,365.8	11,350.0	51.4	46.9	-108.24	4,096.9	1,432.8	543.0	431.8	111.22	4.882	
15,400.0	11,180.0	15,465.8	11,350.0	51.9	47.5	-108.24	4,196.9	1,432.4	543.0	430.7	112.36	4.833	
15,500.0	11,180.0	15,565.8	11,350.0	52.3	48.0	-108.24	4,296.9	1,432.0	543.0	429.5	113.50	4.784	
15,600.0	11,180.0	15,665.8	11,350.0	52.8	48.5	-108.24	4,396.9	1,431.6	543.0	428.4	114.66	4.736	
15,700.0	11,180.0	15,765.8	11,350.0	53.3	49.0	-108.24	4,496.9	1,431.2	543.0	427.2	115.82	4.688	
15,800.0	11,180.0	15,865.8	11,350.0	53.8	49.6	-108.24	4,596.9	1,430.8	543.0	426.0	116.99	4.641	
15,900.0	11,180.0	15,965.8	11,350.0	54.3	50.1	-108.24	4,696.9	1,430.4	543.0	424.9	118.17	4.595	
16,000.0	11,180.0	16,065.8	11,350.0	54.8	50.7	-108.24	4,796.9	1,430.0	543.0	423.7	119.36	4.549	
16,100.0	11,180.0	16,165.8	11,350.0	55.4	51.2	-108.24	4,896.9	1,429.6	543.0	422.5	120.56	4.504	
16,200.0	11,180.0	16,265.8	11,350.0	55.9	51.8	-108.24	4,996.9	1,429.2	543.0	421.3	121.76	4.460	
16,300.0	11,180.0	16,365.8	11,350.0	56.4	52.4	-108.24	5,096.9	1,428.8	543.0	420.1	122.97	4.416	
16,400.0	11,180.0	16,465.8	11,350.0	57.0	52.9	-108.24	5,196.9	1,428.4	543.0	418.9	124.18	4.373	
16,500.0	11,180.0	16,565.8	11,350.0	57.5	53.5	-108.24	5,296.9	1,428.0	543.0	417.6	125.41	4.330	
16,600.0	11,180.0	16,665.8	11,350.0	58.0	54.1	-108.24	5,396.9	1,427.6	543.0	416.4	126.63	4.288	
16,700.0	11,180.0	16,765.8	11,350.0	58.6	54.7	-108.24	5,496.9	1,427.2	543.0	415.2	127.87	4.247	
16,800.0	11,180.0	16,865.8	11,350.0	59.2	55.3	-108.24	5,596.9	1,426.8	543.1	413.9	129.11	4.206	
16,900.0	11,180.0	16,965.8	11,350.0	59.7	55.9	-108.24	5,696.9	1,426.4	543.1	412.7	130.36	4.166	
17,000.0	11,180.0	17,065.8	11,350.0	60.3	56.5	-108.24	5,796.9	1,426.0	543.1	411.4	131.61	4.126	
17,100.0	11,180.0	17,165.8	11,350.0	60.8	57.1	-108.24	5,896.9	1,425.6	543.1	410.2	132.87	4.087	
17,200.0	11,180.0	17,265.8	11,350.0	61.4	57.7	-108.24	5,996.9	1,425.2	543.1	408.9	134.13	4.049	
17,300.0	11,180.0	17,365.8	11,350.0	62.0	58.3	-108.24	6,096.9	1,424.8	543.1	407.7	135.40	4.011	
17,400.0	11,180.0	17,465.8	11,350.0	62.6	58.9	-108.24	6,196.9	1,424.4	543.1	406.4	136.67	3.973	
17,500.0	11,180.0	17,565.8	11,350.0	63.2	59.5	-108.24	6,296.9	1,424.0	543.1	405.1	137.95	3.937	
17,600.0	11,180.0	17,665.8	11,350.0	63.8	60.1	-108.24	6,396.9	1,423.6	543.1	403.8	139.24	3.900	
17,700.0	11,180.0	17,765.8	11,350.0	64.3	60.8	-108.24	6,496.9	1,423.2	543.1	402.6	140.52	3.865	
17,800.0	11,180.0	17,865.8	11,350.0	64.9	61.4	-108.24	6,596.9	1,422.8	543.1	401.3	141.82	3.829	
17,900.0	11,180.0	17,965.8	11,350.0	65.5	62.0	-108.24	6,696.9	1,422.4	543.1	400.0	143.11	3.795	
18,000.0	11,180.0	18,065.8	11,350.0	66.1	62.6	-108.24	6,796.9	1,422.0	543.1	398.7	144.41	3.761	
18,100.0	11,180.0	18,165.8	11,350.0	66.7	63.3	-108.24	6,896.9	1,421.6	543.1	397.4	145.72	3.727	
18,200.0	11,180.0	18,265.8	11,350.0	67.4	63.9	-108.24	6,996.9	1,421.2	543.1	396.1	147.03	3.694	
18,300.0	11,180.0	18,365.8	11,350.0	68.0	64.6	-108.24	7,096.9	1,420.8	543.1	394.8	148.34	3.661	
18,400.0	11,180.0	18,465.8	11,350.0	68.6	65.2	-108.24	7,196.9	1,420.4	543.1	393.4	149.66	3.629	
18,500.0	11,180.0	18,565.8	11,350.0	69.2	65.9	-108.24	7,296.9	1,420.0	543.1	392.1	150.98	3.597	
18,600.0	11,180.0	18,665.8	11,350.0	69.8	66.5	-108.24	7,396.9	1,419.6	543.1	390.8	152.31	3.566	
18,700.0	11,180.0	18,765.8	11,350.0	70.4	67.2	-108.24	7,496.9	1,419.2	543.1	389.5	153.63	3.535	
18,800.0	11,180.0	18,865.8	11,350.0	71.1	67.8	-108.24	7,596.9	1,418.8	543.1	388.1	154.97	3.505	
18,900.0	11,180.0	18,965.8	11,350.0	71.7	68.5	-108.24	7,696.9	1,418.4	543.1	386.8	156.30	3.475	
19,000.0	11,180.0	19,065.8	11,350.0	72.3	69.1	-108.24	7,796.9	1,418.0	543.1	385.5	157.64	3.445	
19,100.0	11,180.0	19,165.8	11,350.0	73.0	69.8	-108.24	7,896.9	1,417.6	543.1	384.1	158.98	3.416	
19,200.0	11,180.0	19,265.8	11,350.0	73.6	70.4	-108.24	7,996.9	1,417.2	543.1	382.8	160.33	3.388	
19,300.0	11,180.0	19,365.8	11,350.0	74.2	71.1	-108.24	8,096.9	1,416.8	543.1	381.5	161.67	3.359	
19,400.0	11,180.0	19,465.8	11,350.0	74.9	71.8	-108.24	8,196.9	1,416.4	543.1	380.1	163.02	3.332	
19,500.0	11,180.0	19,565.8	11,350.0	75.5	72.4	-108.24	8,296.9	1,416.0	543.1	378.8	164.38	3.304	
19,600.0	11,180.0	19,665.8	11,350.0	76.2	73.1	-108.24	8,396.9	1,415.6	543.1	377.4	165.73	3.277	
19,700.0	11,180.0	19,765.8	11,350.0	76.8	73.8	-108.24	8,496.9	1,415.2	543.1	376.0	167.09	3.250	
19,800.0	11,180.0	19,865.8	11,350.0	77.5	74.5	-108.24	8,596.9	1,414.8	543.1	374.7	168.46	3.224	
19,900.0	11,180.0	19,965.8	11,350.0	78.1	75.1	-108.24	8,696.9	1,414.4	543.1	373.3	169.82	3.198	
20,000.0	11,180.0	20,065.8	11,350.0	78.8	75.8	-108.24	8,796.9	1,414.0	543.1	372.0	171.19	3.173	
20,100.0	11,180.0	20,165.8	11,350.0	79.4	76.5	-108.24	8,896.9	1,413.6	543.1	370.6	172.56	3.148	
20,200.0	11,180.0	20,265.8	11,350.0	80.1	77.2	-108.24	8,996.9	1,413.2	543.2	369.2	173.93	3.123	
20,300.0	11,180.0	20,365.8	11,350.0	80.8	77.9	-108.24	9,096.9	1,412.8	543.2	367.9	175.30	3.098	
20,400.0	11,180.0	20,465.8	11,350.0	81.4	78.5	-108.24	9,196.9	1,412.4	543.2	366.5	176.68	3.074	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #709H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,500.0	11,180.0	20,565.8	11,350.0	82.1	79.2	-108.24	9,296.9	1,412.0	543.2	365.1	178.06	3.050	
20,600.0	11,180.0	20,665.8	11,350.0	82.7	79.9	-108.24	9,396.9	1,411.6	543.2	363.7	179.44	3.027	
20,700.0	11,180.0	20,765.8	11,350.0	83.4	80.6	-108.24	9,496.9	1,411.2	543.2	362.3	180.82	3.004	
20,800.0	11,180.0	20,865.8	11,350.0	84.1	81.3	-108.24	9,596.9	1,410.8	543.2	361.0	182.21	2.981	
20,900.0	11,180.0	20,965.8	11,350.0	84.7	82.0	-108.24	9,696.9	1,410.4	543.2	359.6	183.60	2.959	
21,000.0	11,180.0	21,065.8	11,350.0	85.4	82.7	-108.24	9,796.9	1,410.0	543.2	358.2	184.99	2.936	
21,100.0	11,180.0	21,165.8	11,350.0	86.1	83.4	-108.24	9,896.9	1,409.6	543.2	356.8	186.38	2.914	
21,200.0	11,180.0	21,265.8	11,350.0	86.8	84.1	-108.24	9,996.9	1,409.2	543.2	355.4	187.77	2.893	
21,300.0	11,180.0	21,365.8	11,350.0	87.4	84.8	-108.24	10,096.9	1,408.8	543.2	354.0	189.17	2.871	
21,400.0	11,180.0	21,465.8	11,350.0	88.1	85.5	-108.24	10,196.9	1,408.4	543.2	352.6	190.56	2.850	
21,500.0	11,180.0	21,565.8	11,350.0	88.8	86.2	-108.24	10,296.9	1,408.0	543.2	351.2	191.96	2.830	
21,600.0	11,180.0	21,665.8	11,350.0	89.5	86.9	-108.24	10,396.9	1,407.6	543.2	349.8	193.36	2.809	
21,700.0	11,180.0	21,765.8	11,350.0	90.2	87.6	-108.24	10,496.9	1,407.2	543.2	348.4	194.77	2.789	
21,800.0	11,180.0	21,865.8	11,350.0	90.8	88.3	-108.24	10,596.9	1,406.8	543.2	347.0	196.17	2.769	
21,900.0	11,180.0	21,965.8	11,350.0	91.5	89.0	-108.24	10,696.9	1,406.4	543.2	345.6	197.58	2.749	
22,000.0	11,180.0	22,065.8	11,350.0	92.2	89.7	-108.24	10,796.9	1,406.0	543.2	344.2	198.98	2.730	
22,100.0	11,180.0	22,165.8	11,350.0	92.9	90.4	-108.24	10,896.9	1,405.6	543.2	342.8	200.39	2.711	
22,200.0	11,180.0	22,265.8	11,350.0	93.6	91.1	-108.24	10,996.9	1,405.2	543.2	341.4	201.80	2.692	
22,300.0	11,180.0	22,365.8	11,350.0	94.3	91.8	-108.24	11,096.9	1,404.8	543.2	340.0	203.22	2.673	
22,400.0	11,180.0	22,465.8	11,350.0	95.0	92.5	-108.24	11,196.9	1,404.4	543.2	338.6	204.63	2.655	
22,500.0	11,180.0	22,565.8	11,350.0	95.7	93.2	-108.24	11,296.9	1,404.0	543.2	337.2	206.04	2.636	
22,600.0	11,180.0	22,665.8	11,350.0	96.4	93.9	-108.24	11,396.9	1,403.6	543.2	335.8	207.46	2.618	
22,700.0	11,180.0	22,765.8	11,350.0	97.0	94.6	-108.24	11,496.9	1,403.2	543.2	334.3	208.88	2.601	
22,800.0	11,180.0	22,865.8	11,350.0	97.7	95.3	-108.24	11,596.9	1,402.8	543.2	332.9	210.30	2.583	
22,900.0	11,180.0	22,965.8	11,350.0	98.4	96.1	-108.24	11,696.9	1,402.4	543.2	331.5	211.72	2.566	
23,000.0	11,180.0	23,065.8	11,350.0	99.1	96.8	-108.24	11,796.9	1,402.0	543.2	330.1	213.14	2.549	
23,100.0	11,180.0	23,165.8	11,350.0	99.8	97.5	-108.24	11,896.9	1,401.6	543.2	328.7	214.56	2.532	
23,200.0	11,180.0	23,265.8	11,350.0	100.5	98.2	-108.24	11,996.9	1,401.2	543.2	327.3	215.99	2.515	
23,300.0	11,180.0	23,365.8	11,350.0	101.2	98.9	-108.24	12,096.9	1,400.8	543.2	325.8	217.41	2.499	
23,400.0	11,180.0	23,465.8	11,350.0	101.9	99.6	-108.24	12,196.9	1,400.4	543.2	324.4	218.84	2.482	
23,500.0	11,180.0	23,565.8	11,350.0	102.6	100.3	-108.24	12,296.8	1,400.0	543.2	323.0	220.27	2.466	
23,600.0	11,180.0	23,665.8	11,350.0	103.3	101.1	-108.24	12,396.8	1,399.6	543.3	321.6	221.70	2.450	
23,700.0	11,180.0	23,765.8	11,350.0	104.0	101.8	-108.24	12,496.8	1,399.2	543.3	320.1	223.13	2.435	
23,800.0	11,180.0	23,865.8	11,350.0	104.7	102.5	-108.24	12,596.8	1,398.8	543.3	318.7	224.56	2.419	
23,900.0	11,180.0	23,965.8	11,350.0	105.4	103.2	-108.24	12,696.8	1,398.4	543.3	317.3	225.99	2.404	
24,000.0	11,180.0	24,065.8	11,350.0	106.2	103.9	-108.24	12,796.8	1,398.0	543.3	315.8	227.43	2.389	
24,100.0	11,180.0	24,165.8	11,350.0	106.9	104.7	-108.24	12,896.8	1,397.6	543.3	314.4	228.86	2.374	
24,200.0	11,180.0	24,265.8	11,350.0	107.6	105.4	-108.24	12,996.8	1,397.2	543.3	313.0	230.30	2.359	
24,300.0	11,180.0	24,365.8	11,350.0	108.3	106.1	-108.24	13,096.8	1,396.7	543.3	311.5	231.74	2.344	
24,400.0	11,180.0	24,465.8	11,350.0	109.0	106.8	-108.24	13,196.8	1,396.3	543.3	310.1	233.17	2.330	
24,500.0	11,180.0	24,565.8	11,350.0	109.7	107.5	-108.23	13,296.8	1,395.9	543.3	308.7	234.61	2.316	
24,600.0	11,180.0	24,665.8	11,350.0	110.4	108.3	-108.23	13,396.8	1,395.5	543.3	307.2	236.05	2.302	
24,700.0	11,180.0	24,765.8	11,350.0	111.1	109.0	-108.23	13,496.8	1,395.1	543.3	305.8	237.49	2.288	
24,734.5	11,180.0	24,800.4	11,350.0	111.4	109.2	-108.23	13,531.4	1,395.0	543.3	305.3	237.99	2.283	SF

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-87.09	78.4	-1,540.0	1,542.0	1,535.6	6.43	239.860	
100.0	100.0	100.0	100.0	3.2	3.2	-87.09	78.4	-1,540.0	1,542.0	1,535.1	6.89	223.731	
200.0	200.0	200.0	200.0	3.5	3.5	-87.09	78.4	-1,540.0	1,542.0	1,534.7	7.33	210.426	
300.0	300.0	300.0	300.0	3.7	3.7	-87.09	78.4	-1,540.0	1,542.0	1,534.3	7.74	199.195	
400.0	400.0	400.0	400.0	3.9	3.9	-87.09	78.4	-1,540.0	1,542.0	1,533.9	8.14	189.543	
500.0	500.0	500.0	500.0	4.1	4.1	-87.09	78.4	-1,540.0	1,542.0	1,533.5	8.51	181.127	
600.0	600.0	600.0	600.0	4.2	4.2	-87.09	78.4	-1,540.0	1,542.0	1,533.2	8.88	173.699	
700.0	700.0	700.0	700.0	4.4	4.4	-87.09	78.4	-1,540.0	1,542.0	1,532.8	9.23	167.078	
800.0	800.0	800.0	800.0	4.6	4.6	-87.09	78.4	-1,540.0	1,542.0	1,532.5	9.57	161.124	
900.0	900.0	900.0	900.0	4.8	4.8	-87.09	78.4	-1,540.0	1,542.0	1,532.1	9.90	155.731	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-87.09	78.4	-1,540.0	1,542.0	1,531.8	10.22	150.815	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-87.09	78.4	-1,540.0	1,542.0	1,531.5	10.54	146.308	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-87.09	78.4	-1,540.0	1,542.0	1,531.2	10.85	142.155	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-87.09	78.4	-1,540.0	1,542.0	1,530.9	11.15	138.312	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-87.09	78.4	-1,540.0	1,542.0	1,530.6	11.44	134.741	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-87.09	78.4	-1,540.0	1,542.0	1,530.3	11.73	131.411	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-87.09	78.4	-1,540.0	1,542.0	1,530.0	12.02	128.295	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-87.09	78.4	-1,540.0	1,542.0	1,529.7	12.30	125.372	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-87.09	78.4	-1,540.0	1,542.0	1,529.5	12.58	122.621	CC, ES
1,900.0	1,900.0	1,875.8	1,875.8	6.3	6.2	175.40	78.0	-1,540.7	1,544.1	1,531.3	12.84	120.259	
2,000.0	1,999.9	1,951.4	1,951.4	6.4	6.3	175.35	76.7	-1,542.5	1,550.4	1,537.3	13.10	118.386	
2,100.0	2,099.7	2,026.6	2,026.5	6.6	6.5	175.27	74.6	-1,545.5	1,560.8	1,547.4	13.37	116.772	
2,200.0	2,199.3	2,100.0	2,099.7	6.8	6.6	175.15	71.7	-1,549.7	1,575.3	1,561.7	13.66	115.366	
2,300.0	2,298.6	2,175.1	2,174.5	7.0	6.7	175.01	67.9	-1,555.1	1,594.0	1,580.0	13.98	114.058	
2,400.0	2,397.5	2,248.0	2,247.0	7.3	6.9	174.84	63.4	-1,561.5	1,616.7	1,602.4	14.32	112.926	
2,500.0	2,496.1	2,319.8	2,318.2	7.5	7.0	174.64	58.2	-1,569.0	1,643.4	1,628.7	14.68	111.939	
2,600.0	2,594.2	2,400.0	2,397.5	7.8	7.2	174.39	51.4	-1,578.6	1,674.1	1,659.0	15.09	110.906	
2,700.0	2,691.7	2,466.7	2,463.3	8.0	7.4	174.17	45.1	-1,587.6	1,708.4	1,693.0	15.40	110.905	
2,800.0	2,789.2	2,529.0	2,524.7	8.3	7.5	174.00	39.3	-1,596.8	1,744.7	1,728.9	15.76	110.677	
2,900.0	2,886.6	2,600.0	2,594.5	8.7	7.7	173.84	33.5	-1,608.2	1,782.2	1,766.0	16.19	110.055	
3,000.0	2,984.0	2,666.7	2,660.0	9.0	7.8	173.73	28.9	-1,619.8	1,821.0	1,804.3	16.64	109.458	
3,100.0	3,081.5	2,734.5	2,726.5	9.3	8.0	173.65	25.0	-1,632.3	1,860.9	1,843.8	17.10	108.822	
3,200.0	3,178.9	2,800.0	2,790.7	9.7	8.2	173.59	22.1	-1,645.3	1,902.0	1,884.5	17.57	108.245	
3,300.0	3,276.4	2,867.9	2,857.0	10.1	8.4	173.57	20.0	-1,659.6	1,944.3	1,926.3	18.07	107.573	
3,400.0	3,373.8	2,941.8	2,929.0	10.4	8.6	173.57	18.5	-1,676.0	1,987.7	1,969.1	18.62	106.763	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 502H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-87.03	78.4	-1,510.0	1,512.1	1,505.6	6.43	235.200	
100.0	100.0	100.0	100.0	3.2	3.2	-87.03	78.4	-1,510.0	1,512.1	1,505.2	6.89	219.384	
200.0	200.0	200.0	200.0	3.5	3.5	-87.03	78.4	-1,510.0	1,512.1	1,504.7	7.33	206.337	
300.0	300.0	300.0	300.0	3.7	3.7	-87.03	78.4	-1,510.0	1,512.1	1,504.3	7.74	195.325	
400.0	400.0	400.0	400.0	3.9	3.9	-87.03	78.4	-1,510.0	1,512.1	1,503.9	8.14	185.861	
500.0	500.0	500.0	500.0	4.1	4.1	-87.03	78.4	-1,510.0	1,512.1	1,503.6	8.51	177.608	
600.0	600.0	600.0	600.0	4.2	4.2	-87.03	78.4	-1,510.0	1,512.1	1,503.2	8.88	170.324	
700.0	700.0	700.0	700.0	4.4	4.4	-87.03	78.4	-1,510.0	1,512.1	1,502.8	9.23	163.831	
800.0	800.0	800.0	800.0	4.6	4.6	-87.03	78.4	-1,510.0	1,512.1	1,502.5	9.57	157.993	
900.0	900.0	900.0	900.0	4.8	4.8	-87.03	78.4	-1,510.0	1,512.1	1,502.2	9.90	152.705	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-87.03	78.4	-1,510.0	1,512.1	1,501.8	10.22	147.885	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-87.03	78.4	-1,510.0	1,512.1	1,501.5	10.54	143.465	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-87.03	78.4	-1,510.0	1,512.1	1,501.2	10.85	139.393	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-87.03	78.4	-1,510.0	1,512.1	1,500.9	11.15	135.624	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-87.03	78.4	-1,510.0	1,512.1	1,500.6	11.44	132.123	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-87.03	78.4	-1,510.0	1,512.1	1,500.3	11.73	128.858	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-87.03	78.4	-1,510.0	1,512.1	1,500.1	12.02	125.803	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-87.03	78.4	-1,510.0	1,512.1	1,499.8	12.30	122.936	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-87.03	78.4	-1,510.0	1,512.1	1,499.5	12.58	120.239	CC, ES
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	175.47	78.4	-1,510.0	1,513.4	1,500.5	12.87	117.594	
2,000.0	1,999.9	1,999.9	1,999.9	6.4	6.4	175.48	78.4	-1,510.0	1,517.3	1,504.1	13.16	115.290	
2,100.0	2,099.7	2,099.7	2,099.7	6.6	6.5	175.49	78.4	-1,510.0	1,523.8	1,510.3	13.47	113.158	
2,200.0	2,199.3	2,199.3	2,199.3	6.8	6.7	175.51	78.4	-1,510.0	1,532.9	1,519.1	13.79	111.168	
2,300.0	2,298.6	2,298.6	2,298.6	7.0	6.8	175.53	78.4	-1,510.0	1,544.7	1,530.5	14.13	109.300	
2,400.0	2,397.5	2,397.5	2,397.5	7.3	6.9	175.55	78.4	-1,510.0	1,559.0	1,544.5	14.50	107.545	
2,500.0	2,496.1	2,496.1	2,496.1	7.5	7.0	175.58	78.4	-1,510.0	1,575.8	1,561.0	14.88	105.897	
2,600.0	2,594.2	2,583.0	2,583.0	7.8	7.2	175.58	77.6	-1,510.4	1,595.6	1,580.4	15.26	104.584	
2,700.0	2,691.7	2,668.7	2,668.6	8.0	7.3	175.51	75.0	-1,511.4	1,618.5	1,603.0	15.57	103.928	
2,800.0	2,789.2	2,753.8	2,753.7	8.3	7.4	175.41	70.6	-1,513.2	1,642.7	1,626.8	15.94	103.028	
2,900.0	2,886.6	2,838.6	2,838.1	8.7	7.5	175.24	64.5	-1,515.7	1,667.6	1,651.3	16.33	102.096	
3,000.0	2,984.0	2,922.7	2,921.9	9.0	7.6	175.02	56.7	-1,518.8	1,693.2	1,676.5	16.74	101.148	
3,100.0	3,081.5	3,006.2	3,004.8	9.3	7.8	174.74	47.3	-1,522.6	1,719.6	1,702.4	17.16	100.222	
3,200.0	3,178.9	3,097.8	3,095.5	9.7	7.9	174.40	35.6	-1,527.3	1,746.5	1,728.9	17.57	99.421	
3,300.0	3,276.4	3,193.5	3,190.3	10.1	8.1	174.05	23.3	-1,532.3	1,773.6	1,755.5	18.04	98.317	
3,400.0	3,373.8	3,289.2	3,285.0	10.4	8.3	173.71	10.9	-1,537.3	1,800.7	1,782.2	18.53	97.185	
3,500.0	3,471.2	3,385.0	3,379.8	10.8	8.5	173.38	-1.4	-1,542.3	1,827.9	1,808.8	19.03	96.038	
3,600.0	3,568.7	3,480.7	3,474.6	11.2	8.7	173.06	-13.8	-1,547.3	1,855.1	1,835.5	19.56	94.858	
3,700.0	3,666.1	3,583.4	3,576.3	11.6	9.0	172.74	-26.7	-1,552.5	1,882.2	1,862.1	20.10	93.656	
3,800.0	3,763.5	3,689.1	3,681.3	12.0	9.3	172.46	-38.7	-1,557.3	1,909.0	1,888.3	20.66	92.404	
3,900.0	3,860.9	3,795.2	3,786.8	12.4	9.5	176.07	-49.3	-1,561.7	1,935.7	1,914.5	21.20	91.292	
4,000.0	3,957.6	3,900.9	3,892.0	12.8	9.8	179.71	-58.6	-1,565.4	1,964.4	1,942.6	21.78	90.196	
4,100.0	4,054.2	4,006.9	3,997.6	13.2	10.1	179.48	-66.6	-1,568.6	1,993.2	1,970.8	22.39	89.032	SF

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-30.97	150.0	-90.0	174.9	168.5	6.43	27.208	
100.0	100.0	100.0	100.0	3.2	3.2	-30.97	150.0	-90.0	174.9	168.0	6.89	25.379	
200.0	200.0	200.0	200.0	3.5	3.5	-30.97	150.0	-90.0	174.9	167.6	7.33	23.869	
300.0	300.0	300.0	300.0	3.7	3.7	-30.97	150.0	-90.0	174.9	167.2	7.74	22.595	
400.0	400.0	400.0	400.0	3.9	3.9	-30.97	150.0	-90.0	174.9	166.8	8.14	21.501	
500.0	500.0	500.0	500.0	4.1	4.1	-30.97	150.0	-90.0	174.9	166.4	8.51	20.546	
600.0	600.0	600.0	600.0	4.2	4.2	-30.97	150.0	-90.0	174.9	166.0	8.88	19.703	
700.0	700.0	700.0	700.0	4.4	4.4	-30.97	150.0	-90.0	174.9	165.7	9.23	18.952	
800.0	800.0	800.0	800.0	4.6	4.6	-30.97	150.0	-90.0	174.9	165.3	9.57	18.277	
900.0	900.0	900.0	900.0	4.8	4.8	-30.97	150.0	-90.0	174.9	165.0	9.90	17.665	
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	17.107	
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	16.596	
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	16.125	
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	15.689	
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	15.284	
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	14.906	
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	14.553	
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	14.221	
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	13.909	CC, ES
1,900.0	1,900.0	1,900.4	1,900.4	6.3	6.3	-129.22	149.2	-91.1	175.6	162.8	12.84	13.682	
2,000.0	1,999.9	2,000.5	2,000.4	6.4	6.4	-131.44	146.8	-94.2	177.9	164.8	13.07	13.605	SF
2,100.0	2,099.7	2,099.9	2,099.6	6.6	6.6	-134.97	142.9	-99.4	182.2	168.9	13.33	13.673	
2,200.0	2,199.3	2,198.2	2,197.5	6.8	6.8	-139.54	137.5	-106.6	189.4	175.8	13.60	13.925	
2,300.0	2,298.6	2,295.1	2,293.8	7.0	7.0	-144.80	130.7	-115.6	200.4	186.4	13.91	14.399	
2,400.0	2,397.5	2,391.3	2,389.0	7.3	7.1	-150.29	122.8	-126.1	215.7	201.5	14.22	15.168	
2,500.0	2,496.1	2,487.3	2,484.0	7.5	7.3	-155.33	114.7	-136.8	235.3	220.7	14.62	16.093	
2,600.0	2,594.2	2,582.4	2,578.3	7.8	7.6	-159.76	106.8	-147.4	258.9	243.9	15.07	17.181	
2,700.0	2,691.7	2,676.9	2,671.8	8.0	7.8	-163.62	98.8	-157.9	286.2	270.7	15.50	18.469	
2,800.0	2,789.2	2,771.1	2,765.1	8.3	8.1	-166.92	90.9	-168.3	315.1	299.1	15.99	19.704	
2,900.0	2,886.6	2,865.4	2,858.5	8.7	8.3	-169.66	83.1	-178.8	344.8	328.3	16.51	20.880	
3,000.0	2,984.0	2,959.6	2,951.8	9.0	8.6	-171.98	75.2	-189.3	375.1	358.0	17.06	21.988	
3,100.0	3,081.5	3,053.9	3,045.2	9.3	8.9	-173.96	67.3	-199.8	405.9	388.3	17.63	23.026	
3,200.0	3,178.9	3,148.2	3,138.5	9.7	9.2	-175.66	59.4	-210.3	437.1	418.9	18.22	23.994	
3,300.0	3,276.4	3,242.4	3,231.8	10.1	9.5	-177.13	51.5	-220.7	468.6	449.8	18.82	24.893	
3,400.0	3,373.8	3,336.7	3,325.2	10.4	9.8	-178.43	43.6	-231.2	500.3	480.9	19.45	25.728	
3,500.0	3,471.2	3,430.9	3,418.5	10.8	10.1	-179.56	35.7	-241.7	532.3	512.2	20.08	26.501	
3,600.0	3,568.7	3,525.2	3,511.9	11.2	10.4	179.43	27.8	-252.2	564.4	543.6	20.74	27.218	
3,700.0	3,666.1	3,619.4	3,605.2	11.6	10.8	178.52	19.9	-262.6	596.6	575.2	21.40	27.881	
3,800.0	3,763.5	3,713.7	3,698.5	12.0	11.1	177.71	12.0	-273.1	629.0	606.9	22.07	28.497	
3,900.0	3,860.9	3,807.7	3,791.7	12.4	11.5	-179.12	4.1	-283.6	662.0	639.2	22.73	29.120	
4,000.0	3,957.6	3,900.8	3,883.8	12.8	11.8	-175.99	-3.7	-293.9	697.2	673.7	23.42	29.768	
4,100.0	4,054.2	3,993.6	3,975.7	13.2	12.1	-176.84	-11.4	-304.2	733.1	709.0	24.14	30.373	
4,200.0	4,150.8	4,086.4	4,067.6	13.7	12.5	-177.61	-19.2	-314.5	769.2	744.4	24.86	30.940	
4,300.0	4,247.4	4,179.1	4,159.5	14.1	12.8	-178.31	-27.0	-324.8	805.5	779.9	25.59	31.470	
4,400.0	4,344.0	4,272.6	4,252.0	14.5	13.2	-178.95	-34.8	-335.2	841.8	815.4	26.32	31.985	
4,500.0	4,440.6	4,371.5	4,350.0	15.0	13.5	-179.56	-42.8	-345.8	877.8	850.7	27.09	32.398	
4,600.0	4,537.2	4,470.9	4,448.6	15.4	13.9	179.92	-50.3	-355.7	913.2	885.3	27.88	32.750	
4,700.0	4,633.8	4,571.0	4,548.0	15.9	14.3	179.47	-57.3	-365.1	948.0	919.3	28.68	33.059	
4,800.0	4,730.4	4,671.6	4,648.1	16.3	14.7	179.09	-63.8	-373.7	982.2	952.7	29.47	33.328	
4,900.0	4,827.0	4,772.8	4,748.8	16.8	15.0	178.76	-69.9	-381.8	1,015.8	985.5	30.27	33.560	
5,000.0	4,923.6	4,874.6	4,850.2	17.3	15.4	178.48	-75.4	-389.1	1,048.7	1,017.6	31.06	33.759	
5,100.0	5,020.1	4,977.0	4,952.2	17.7	15.8	178.25	-80.4	-395.8	1,080.9	1,049.0	31.86	33.929	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,079.9	5,054.8	18.2	16.1	178.06	-84.9	-401.7	1,112.5	1,079.8	32.65	34.071	
5,300.0	5,213.3	5,183.3	5,158.0	18.6	16.5	177.91	-88.9	-407.0	1,143.3	1,109.9	33.44	34.190	
5,400.0	5,309.9	5,287.2	5,261.8	19.1	16.8	177.79	-92.3	-411.5	1,173.5	1,139.2	34.23	34.287	
5,500.0	5,406.5	5,391.7	5,366.1	19.6	17.2	177.71	-95.1	-415.3	1,202.9	1,167.9	35.00	34.365	
5,600.0	5,503.1	5,496.6	5,471.0	20.1	17.5	177.66	-97.4	-418.3	1,231.7	1,195.9	35.78	34.427	
5,700.0	5,599.7	5,602.0	5,576.4	20.5	17.8	177.63	-99.2	-420.6	1,259.7	1,223.1	36.54	34.478	
5,800.0	5,696.3	5,707.9	5,682.2	21.0	18.1	177.63	-100.3	-422.1	1,287.0	1,249.7	37.28	34.521	
5,900.0	5,792.9	5,814.2	5,788.5	21.5	18.3	177.66	-100.9	-422.9	1,313.5	1,275.5	37.99	34.574	
6,000.0	5,889.5	5,915.2	5,889.5	21.9	18.3	177.71	-100.9	-423.0	1,339.4	1,300.9	38.57	34.725	
6,100.0	5,986.1	6,011.8	5,986.1	22.4	18.4	177.75	-100.9	-423.0	1,365.3	1,326.2	39.14	34.884	
6,200.0	6,082.7	6,108.3	6,082.7	22.9	18.4	177.79	-100.9	-423.0	1,391.2	1,351.5	39.71	35.033	
6,300.0	6,179.3	6,204.9	6,179.3	23.4	18.4	177.83	-100.9	-423.0	1,417.0	1,376.7	40.28	35.175	
6,400.0	6,275.9	6,301.5	6,275.9	23.9	18.5	177.87	-100.9	-423.0	1,442.9	1,402.0	40.86	35.309	
6,500.0	6,372.4	6,398.1	6,372.4	24.3	18.5	177.91	-100.9	-423.0	1,468.8	1,427.3	41.45	35.436	
6,600.0	6,469.0	6,494.7	6,469.0	24.8	18.6	177.94	-100.9	-423.0	1,494.6	1,452.6	42.04	35.556	
6,700.0	6,565.6	6,591.3	6,565.6	25.3	18.6	177.98	-100.9	-423.0	1,520.5	1,477.9	42.63	35.669	
6,800.0	6,662.2	6,687.9	6,662.2	25.8	18.6	178.01	-100.9	-423.0	1,546.4	1,503.1	43.22	35.777	
6,900.0	6,758.8	6,784.5	6,758.8	26.3	18.7	178.05	-100.9	-423.0	1,572.2	1,528.4	43.82	35.878	
7,000.0	6,855.4	6,881.1	6,855.4	26.7	18.7	178.08	-100.9	-423.0	1,598.1	1,553.7	44.42	35.974	
7,100.0	6,952.0	6,977.7	6,952.0	27.2	18.8	178.11	-100.9	-423.0	1,624.0	1,578.9	45.03	36.065	
7,200.0	7,048.6	7,074.3	7,048.6	27.7	18.8	178.14	-100.9	-423.0	1,649.8	1,604.2	45.64	36.152	
7,300.0	7,145.2	7,170.9	7,145.2	28.2	18.8	178.17	-100.9	-423.0	1,675.7	1,629.4	46.25	36.233	
7,400.0	7,241.8	7,267.5	7,241.8	28.7	18.9	178.19	-100.9	-423.0	1,701.6	1,654.7	46.86	36.311	
7,500.0	7,338.4	7,364.1	7,338.4	29.2	18.9	178.22	-100.9	-423.0	1,727.4	1,680.0	47.48	36.384	
7,600.0	7,435.0	7,460.6	7,435.0	29.7	19.0	178.25	-100.9	-423.0	1,753.3	1,705.2	48.10	36.453	
7,700.0	7,531.6	7,557.2	7,531.6	30.1	19.0	178.27	-100.9	-423.0	1,779.2	1,730.5	48.72	36.519	
7,800.0	7,628.1	7,653.8	7,628.1	30.6	19.0	178.30	-100.9	-423.0	1,805.0	1,755.7	49.34	36.581	
7,900.0	7,724.7	7,750.4	7,724.7	31.1	19.1	178.32	-100.9	-423.0	1,830.9	1,781.0	49.97	36.641	
8,000.0	7,821.3	7,847.0	7,821.3	31.6	19.1	178.35	-100.9	-423.0	1,856.8	1,806.2	50.60	36.696	
8,100.0	7,917.9	7,943.6	7,917.9	32.1	19.2	178.37	-100.9	-423.0	1,882.7	1,831.4	51.23	36.749	
8,200.0	8,014.5	8,040.2	8,014.5	32.6	19.2	178.39	-100.9	-423.0	1,908.5	1,856.7	51.86	36.805	
8,300.0	8,111.4	8,137.1	8,111.4	33.1	19.3	178.42	-100.9	-423.0	1,933.3	1,880.8	52.49	36.829	
8,400.0	8,208.7	8,234.4	8,208.7	33.6	19.3	178.44	-100.9	-423.0	1,956.4	1,903.3	53.12	36.832	
8,500.0	8,306.4	8,332.1	8,306.4	34.0	19.3	178.47	-100.9	-423.0	1,977.8	1,924.0	53.73	36.808	
8,600.0	8,404.4	8,430.1	8,404.4	34.5	19.4	178.49	-100.9	-423.0	1,997.4	1,943.1	54.34	36.759	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-21.80	150.0	-60.0	161.6	155.1	6.43	25.132	
100.0	100.0	100.0	100.0	3.2	3.2	-21.80	150.0	-60.0	161.6	154.7	6.89	23.442	
200.0	200.0	200.0	200.0	3.5	3.5	-21.80	150.0	-60.0	161.6	154.2	7.33	22.048	
300.0	300.0	300.0	300.0	3.7	3.7	-21.80	150.0	-60.0	161.6	153.8	7.74	20.871	
400.0	400.0	400.0	400.0	3.9	3.9	-21.80	150.0	-60.0	161.6	153.4	8.14	19.860	
500.0	500.0	500.0	500.0	4.1	4.1	-21.80	150.0	-60.0	161.6	153.1	8.51	18.978	
600.0	600.0	600.0	600.0	4.2	4.2	-21.80	150.0	-60.0	161.6	152.7	8.88	18.200	
700.0	700.0	700.0	700.0	4.4	4.4	-21.80	150.0	-60.0	161.6	152.3	9.23	17.506	
800.0	800.0	800.0	800.0	4.6	4.6	-21.80	150.0	-60.0	161.6	152.0	9.57	16.882	
900.0	900.0	900.0	900.0	4.8	4.8	-21.80	150.0	-60.0	161.6	151.7	9.90	16.317	
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	15.802	
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	15.330	
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	14.895	
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	14.492	
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	14.118	
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	13.769	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-21.80	150.0	-60.0	161.6	149.6	12.02	13.443	
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	13.136	
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	12.848	CC, ES
1,900.0	1,900.0	1,899.8	1,899.7	6.3	6.3	-119.23	150.6	-58.8	162.3	149.4	12.84	12.640	
2,000.0	1,999.9	1,999.5	1,999.4	6.4	6.5	-119.04	152.2	-55.3	164.4	151.3	13.09	12.564	
2,100.0	2,099.7	2,099.1	2,098.8	6.6	6.6	-118.72	155.0	-49.4	168.0	154.7	13.34	12.596	
2,200.0	2,199.3	2,198.7	2,198.0	6.8	6.8	-118.30	158.8	-41.2	173.0	159.4	13.59	12.728	
2,300.0	2,298.6	2,298.2	2,296.8	7.0	7.1	-117.79	163.7	-30.6	179.4	165.6	13.85	12.954	
2,400.0	2,397.5	2,400.7	2,398.3	7.3	7.2	-117.29	169.3	-17.4	186.7	172.7	14.07	13.274	
2,500.0	2,496.1	2,505.2	2,501.5	7.5	7.5	-117.16	173.1	-1.9	192.9	178.6	14.36	13.440	
2,600.0	2,594.2	2,608.8	2,603.7	7.8	7.7	-117.40	175.0	15.4	197.9	183.3	14.62	13.542	
2,700.0	2,691.7	2,708.7	2,702.0	8.0	8.0	-118.16	176.2	32.7	203.3	188.4	14.90	13.645	
2,800.0	2,789.2	2,808.4	2,800.3	8.3	8.3	-119.06	177.4	50.0	209.0	193.8	15.21	13.740	
2,900.0	2,886.6	2,908.2	2,898.6	8.7	8.6	-119.91	178.6	67.3	214.8	199.3	15.54	13.820	
3,000.0	2,984.0	3,008.0	2,996.8	9.0	8.9	-120.71	179.8	84.6	220.6	204.7	15.89	13.884	
3,100.0	3,081.5	3,107.8	3,095.1	9.3	9.2	-121.48	181.1	101.9	226.5	210.2	16.25	13.933	
3,200.0	3,178.9	3,207.6	3,193.4	9.7	9.6	-122.20	182.3	119.2	232.3	215.7	16.63	13.967	
3,300.0	3,276.4	3,307.4	3,291.6	10.1	9.9	-122.89	183.5	136.4	238.3	221.2	17.03	13.988	
3,400.0	3,373.8	3,407.2	3,389.9	10.4	10.3	-123.55	184.7	153.7	244.2	226.8	17.45	13.997	
3,500.0	3,471.2	3,506.9	3,488.2	10.8	10.6	-124.18	185.9	171.0	250.2	232.3	17.88	13.994	
3,600.0	3,568.7	3,606.7	3,586.4	11.2	11.0	-124.77	187.1	188.3	256.2	237.9	18.32	13.982	
3,700.0	3,666.1	3,706.5	3,684.7	11.6	11.4	-125.34	188.3	205.6	262.2	243.5	18.79	13.960	
3,800.0	3,763.5	3,806.3	3,783.0	12.0	11.7	-125.88	189.5	222.9	268.3	249.0	19.26	13.929	
3,900.0	3,860.9	3,906.1	3,881.2	12.4	12.1	-122.83	190.7	240.2	274.3	254.5	19.73	13.904	
4,000.0	3,957.6	4,005.7	3,979.4	12.8	12.5	-120.37	191.9	257.4	279.8	259.5	20.28	13.801	
4,100.0	4,054.2	4,105.3	4,077.5	13.2	12.9	-121.76	193.1	274.7	285.4	264.5	20.90	13.654	
4,200.0	4,150.8	4,204.9	4,175.6	13.7	13.3	-123.10	194.3	291.9	291.1	269.6	21.55	13.507	
4,300.0	4,247.4	4,304.5	4,273.7	14.1	13.7	-124.38	195.5	309.2	297.0	274.8	22.23	13.361	
4,400.0	4,344.0	4,404.2	4,371.7	14.5	14.1	-125.62	196.8	326.4	303.0	280.1	22.93	13.217	
4,500.0	4,440.6	4,503.8	4,469.8	15.0	14.5	-126.80	198.0	343.7	309.2	285.6	23.65	13.074	
4,600.0	4,537.2	4,603.4	4,567.9	15.4	14.9	-127.94	199.2	360.9	315.5	291.1	24.39	12.935	
4,700.0	4,633.8	4,703.0	4,666.0	15.9	15.3	-129.04	200.4	378.2	321.9	296.8	25.15	12.798	
4,800.0	4,730.4	4,802.6	4,764.1	16.3	15.8	-130.09	201.6	395.5	328.4	302.5	25.93	12.666	
4,900.0	4,827.0	4,902.2	4,862.2	16.8	16.2	-131.10	202.8	412.7	335.1	308.3	26.72	12.538	
5,000.0	4,923.6	5,001.8	4,960.3	17.3	16.6	-132.07	204.0	430.0	341.8	314.3	27.53	12.414	
5,100.0	5,020.1	5,101.4	5,058.4	17.7	17.0	-133.00	205.2	447.2	348.6	320.3	28.35	12.295	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,201.0	5,156.5	18.2	17.4	-133.90	206.4	464.5	355.5	326.3	29.19	12.181	
5,300.0	5,213.3	5,300.6	5,254.6	18.6	17.9	-134.77	207.6	481.7	362.5	332.5	30.03	12.071	
5,400.0	5,309.9	5,400.2	5,352.7	19.1	18.3	-135.60	208.8	499.0	369.6	338.7	30.89	11.966	
5,500.0	5,406.5	5,499.8	5,450.8	19.6	18.7	-136.40	210.0	516.2	376.7	345.0	31.75	11.866	
5,600.0	5,503.1	5,599.5	5,548.9	20.1	19.1	-137.16	211.2	533.5	384.0	351.3	32.62	11.770	
5,700.0	5,599.7	5,699.1	5,647.0	20.5	19.6	-137.91	212.4	550.7	391.2	357.7	33.50	11.678	
5,800.0	5,696.3	5,798.7	5,745.1	21.0	20.0	-138.62	213.6	568.0	398.6	364.2	34.39	11.591	
5,900.0	5,792.9	5,898.3	5,843.2	21.5	20.4	-139.31	214.9	585.3	406.0	370.7	35.28	11.507	
6,000.0	5,889.5	5,997.9	5,941.3	21.9	20.9	-139.97	216.1	602.5	413.5	377.3	36.18	11.428	
6,100.0	5,986.1	6,097.5	6,039.4	22.4	21.3	-140.61	217.3	619.8	421.0	383.9	37.09	11.352	
6,200.0	6,082.7	6,197.1	6,137.5	22.9	21.7	-141.23	218.5	637.0	428.6	390.6	38.00	11.279	
6,300.0	6,179.3	6,296.7	6,235.6	23.4	22.2	-141.82	219.7	654.3	436.2	397.3	38.91	11.210	
6,400.0	6,275.9	6,396.3	6,333.7	23.9	22.6	-142.40	220.9	671.5	443.8	404.0	39.83	11.145	
6,500.0	6,372.4	6,495.9	6,431.7	24.3	23.0	-142.95	222.1	688.8	451.5	410.8	40.75	11.082	
6,600.0	6,469.0	6,595.5	6,529.8	24.8	23.5	-143.49	223.3	706.0	459.3	417.6	41.67	11.022	
6,700.0	6,565.6	6,695.1	6,627.9	25.3	23.9	-144.01	224.5	723.3	467.1	424.5	42.60	10.965	
6,800.0	6,662.2	6,788.9	6,720.4	25.8	24.4	-144.54	225.6	738.8	475.5	431.9	43.58	10.910	
6,900.0	6,758.8	6,882.2	6,812.6	26.3	24.8	-145.16	226.6	752.8	485.2	440.7	44.53	10.897	
7,000.0	6,855.4	6,975.1	6,904.7	26.7	25.2	-145.87	227.4	765.2	496.3	450.8	45.49	10.911	
7,100.0	6,952.0	7,067.6	6,996.6	27.2	25.6	-146.64	228.2	776.0	508.7	462.3	46.46	10.950	
7,200.0	7,048.6	7,159.7	7,088.1	27.7	25.9	-147.48	228.8	785.4	522.6	475.1	47.44	11.015	
7,300.0	7,145.2	7,251.2	7,179.4	28.2	26.3	-148.36	229.4	793.2	537.8	489.4	48.42	11.106	
7,400.0	7,241.8	7,342.3	7,270.2	28.7	26.6	-149.27	229.8	799.5	554.4	505.0	49.40	11.223	
7,500.0	7,338.4	7,432.7	7,360.5	29.2	26.9	-150.22	230.2	804.4	572.5	522.2	50.36	11.368	
7,600.0	7,435.0	7,522.5	7,450.2	29.7	27.2	-151.17	230.4	807.8	592.1	540.8	51.31	11.541	
7,700.0	7,531.6	7,611.7	7,539.4	30.1	27.4	-152.14	230.6	809.9	613.2	561.0	52.21	11.745	
7,800.0	7,628.1	7,700.5	7,628.1	30.6	27.5	-153.10	230.6	810.5	635.7	582.7	53.01	11.992	
7,900.0	7,724.7	7,797.1	7,724.7	31.1	27.6	-154.11	230.6	810.5	659.1	605.1	53.92	12.224	
8,000.0	7,821.3	7,893.6	7,821.3	31.6	27.7	-155.06	230.6	810.5	682.6	627.9	54.73	12.473	
8,100.0	7,917.9	7,990.2	7,917.9	32.1	27.7	-155.94	230.6	810.5	706.3	650.8	55.51	12.722	
8,200.0	8,014.5	8,086.8	8,014.5	32.6	27.7	-156.77	230.6	810.5	730.1	673.8	56.28	12.973	
8,300.0	8,111.4	8,183.7	8,111.4	33.1	27.8	-157.60	230.6	810.5	753.0	696.0	57.03	13.205	
8,400.0	8,208.7	8,281.0	8,208.7	33.6	27.8	-158.33	230.6	810.5	774.5	716.8	57.74	13.415	
8,500.0	8,306.4	8,378.7	8,306.4	34.0	27.8	-158.98	230.6	810.5	794.5	736.1	58.41	13.601	
8,600.0	8,404.4	8,476.7	8,404.4	34.5	27.9	-159.54	230.6	810.5	813.0	753.9	59.07	13.763	
8,700.0	8,502.8	8,575.1	8,502.8	34.9	27.9	-160.03	230.6	810.5	829.8	770.2	59.69	13.902	
8,800.0	8,601.5	8,673.8	8,601.5	35.4	27.9	-160.46	230.6	810.5	845.2	784.9	60.30	14.017	
8,900.0	8,700.4	8,772.7	8,700.4	35.8	28.0	-160.83	230.6	810.5	858.9	798.0	60.87	14.109	
9,000.0	8,799.6	8,871.9	8,799.6	36.3	28.0	-161.14	230.6	810.5	871.0	809.6	61.43	14.179	
9,100.0	8,899.0	8,971.3	8,899.0	36.7	28.0	-161.41	230.6	810.5	881.5	819.5	61.96	14.227	
9,200.0	8,998.5	9,070.8	8,998.5	37.1	28.1	-161.63	230.6	810.5	890.3	827.9	62.46	14.254	
9,300.0	9,098.2	9,170.6	9,098.2	37.4	28.1	-161.80	230.6	810.5	897.5	834.6	62.93	14.262	
9,400.0	9,198.1	9,250.0	9,177.7	37.8	28.1	-161.88	231.2	810.5	903.5	840.4	63.09	14.320	
9,500.0	9,298.0	9,321.1	9,248.3	38.1	28.2	-161.51	238.8	810.5	910.9	848.0	62.91	14.479	
9,600.0	9,398.0	9,384.6	9,310.2	38.4	28.2	-160.73	252.9	810.4	920.6	858.2	62.38	14.758	
9,700.0	9,498.0	9,450.0	9,371.9	38.5	28.3	-69.51	274.5	810.3	933.0	871.5	61.46	15.180	
9,800.0	9,598.0	9,500.0	9,417.2	38.5	28.3	-68.29	295.7	810.2	949.5	889.4	60.11	15.795	
9,900.0	9,698.0	9,550.0	9,460.4	38.5	28.4	-66.88	320.7	810.1	971.3	912.7	58.59	16.577	
10,000.0	9,798.0	9,600.0	9,501.3	38.6	28.4	-65.29	349.4	810.0	998.6	941.6	56.94	17.538	
10,100.0	9,898.0	9,634.9	9,528.4	38.6	28.5	-64.10	371.6	809.9	1,031.5	976.4	55.15	18.706	
10,200.0	9,998.0	9,670.9	9,554.7	38.6	28.5	-62.81	396.0	809.8	1,070.2	1,016.8	53.36	20.055	
10,300.0	10,098.0	9,700.0	9,574.9	38.6	28.5	-61.72	417.0	809.7	1,114.3	1,062.7	51.62	21.587	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,198.0	9,731.3	9,595.4	38.7	28.6	-60.53	440.6	809.6	1,163.6	1,113.6	49.99	23.275	
10,500.0	10,298.0	9,750.0	9,607.0	38.7	28.6	-59.80	455.3	809.6	1,217.8	1,169.3	48.51	25.106	
10,600.0	10,398.0	9,779.3	9,624.2	38.7	28.6	-58.64	479.1	809.5	1,276.3	1,229.1	47.20	27.041	
10,700.0	10,498.0	9,800.0	9,635.6	38.7	28.6	-57.82	496.3	809.4	1,338.9	1,292.8	46.07	29.061	
10,800.0	10,597.9	9,818.7	9,645.3	38.8	28.7	-84.66	512.2	809.3	1,404.9	1,359.8	45.16	31.112	
10,900.0	10,696.0	9,850.0	9,660.5	39.1	28.7	-74.71	539.6	809.2	1,473.0	1,428.4	44.56	33.055	
11,000.0	10,789.5	9,850.0	9,660.5	39.4	28.7	-66.13	539.6	809.2	1,540.4	1,496.1	44.30	34.775	
11,100.0	10,875.4	9,900.0	9,681.6	39.7	28.7	-58.28	584.9	809.0	1,605.1	1,560.9	44.17	36.339	
11,200.0	10,951.2	9,900.0	9,681.6	40.0	28.7	-52.12	584.9	809.0	1,665.1	1,620.8	44.30	37.587	
11,300.0	11,014.6	9,950.0	9,698.6	40.2	28.8	-47.51	631.9	808.8	1,719.6	1,675.1	44.46	38.679	
11,400.0	11,064.8	9,950.0	9,698.6	40.4	28.8	-44.07	631.9	808.8	1,766.3	1,721.6	44.78	39.446	
11,500.0	11,106.3	10,000.0	9,711.5	40.6	28.8	-42.02	680.2	808.6	1,804.5	1,759.6	44.93	40.167	
11,600.0	11,139.2	10,000.0	9,711.5	40.8	28.8	-40.23	680.2	808.6	1,832.8	1,787.7	45.11	40.630	
11,700.0	11,162.6	10,050.0	9,720.1	40.9	28.9	-39.21	729.5	808.4	1,851.6	1,806.5	45.11	41.050	
11,800.0	11,176.3	10,050.0	9,720.1	41.0	28.9	-38.51	729.5	808.4	1,860.4	1,815.2	45.16	41.197	
11,900.0	11,180.0	10,100.0	9,724.4	41.0	28.9	-38.40	779.3	808.2	1,859.1	1,814.1	45.02	41.295	
12,000.0	11,180.0	10,124.3	9,725.0	41.1	28.9	-38.41	803.6	808.1	1,856.8	1,811.9	44.90	41.356	
12,009.1	11,180.0	10,124.3	9,725.0	41.1	28.9	-38.41	803.6	808.1	1,856.7	1,811.9	44.89	41.359	
12,100.0	11,180.0	10,215.0	9,725.0	41.2	29.0	-38.41	894.3	807.8	1,856.8	1,812.2	44.57	41.655	
12,200.0	11,180.0	10,315.0	9,725.0	41.4	29.1	-38.41	994.3	807.4	1,856.8	1,812.5	44.27	41.938	
12,300.0	11,180.0	10,415.0	9,725.0	41.5	29.3	-38.41	1,094.3	807.0	1,856.8	1,812.7	44.03	42.175	
12,400.0	11,180.0	10,515.0	9,725.0	41.7	29.4	-38.41	1,194.3	806.5	1,856.8	1,812.9	43.83	42.363	
12,500.0	11,180.0	10,615.0	9,725.0	41.8	29.6	-38.41	1,294.3	806.1	1,856.8	1,813.1	43.69	42.501	
12,600.0	11,180.0	10,715.0	9,725.0	42.0	29.8	-38.41	1,394.3	805.7	1,856.8	1,813.2	43.60	42.587	
12,700.0	11,180.0	10,815.0	9,725.0	42.2	30.0	-38.41	1,494.3	805.3	1,856.8	1,813.2	43.57	42.620	
12,800.0	11,180.0	10,915.0	9,725.0	42.4	30.3	-38.41	1,594.3	804.9	1,856.8	1,813.2	43.59	42.599	
12,900.0	11,180.0	11,015.0	9,725.0	42.6	30.5	-38.41	1,694.3	804.5	1,856.8	1,813.1	43.66	42.526	
13,000.0	11,180.0	11,115.0	9,725.0	42.9	30.8	-38.41	1,794.3	804.1	1,856.8	1,813.0	43.79	42.400	
13,100.0	11,180.0	11,215.0	9,725.0	43.1	31.1	-38.41	1,894.3	803.7	1,856.8	1,812.9	43.98	42.224	
13,200.0	11,180.0	11,315.0	9,725.0	43.4	31.4	-38.41	1,994.3	803.3	1,856.8	1,812.6	44.21	41.998	
13,300.0	11,180.0	11,415.0	9,725.0	43.7	31.7	-38.41	2,094.3	802.9	1,856.8	1,812.3	44.50	41.726	
13,400.0	11,180.0	11,515.0	9,725.0	44.0	32.1	-38.41	2,194.3	802.4	1,856.8	1,812.0	44.84	41.410	
13,500.0	11,180.0	11,615.0	9,725.0	44.3	32.4	-38.41	2,294.3	802.0	1,856.9	1,811.6	45.23	41.054	
13,600.0	11,180.0	11,715.0	9,725.0	44.6	32.8	-38.41	2,394.3	801.6	1,856.9	1,811.2	45.67	40.660	
13,700.0	11,180.0	11,815.0	9,725.0	44.9	33.2	-38.41	2,494.3	801.2	1,856.9	1,810.7	46.15	40.232	
13,800.0	11,180.0	11,915.0	9,725.0	45.2	33.6	-38.41	2,594.3	800.8	1,856.9	1,810.2	46.68	39.775	
13,900.0	11,180.0	12,015.0	9,725.0	45.6	34.0	-38.41	2,694.3	800.4	1,856.9	1,809.6	47.26	39.291	
14,000.0	11,180.0	12,115.0	9,725.0	45.9	34.4	-38.41	2,794.3	800.0	1,856.9	1,809.0	47.88	38.783	
14,100.0	11,180.0	12,215.0	9,725.0	46.3	34.8	-38.41	2,894.3	799.6	1,856.9	1,808.4	48.54	38.257	
14,200.0	11,180.0	12,315.0	9,725.0	46.7	35.3	-38.41	2,994.3	799.2	1,856.9	1,807.7	49.24	37.715	
14,300.0	11,180.0	12,415.0	9,725.0	47.1	35.7	-38.41	3,094.3	798.8	1,856.9	1,806.9	49.97	37.159	
14,400.0	11,180.0	12,515.0	9,725.0	47.4	36.2	-38.41	3,194.3	798.4	1,856.9	1,806.2	50.74	36.594	
14,500.0	11,180.0	12,615.0	9,725.0	47.9	36.7	-38.41	3,294.3	797.9	1,856.9	1,805.4	51.55	36.022	
14,600.0	11,180.0	12,715.0	9,725.0	48.3	37.2	-38.41	3,394.3	797.5	1,856.9	1,804.6	52.39	35.445	
14,700.0	11,180.0	12,815.0	9,725.0	48.7	37.7	-38.41	3,494.3	797.1	1,856.9	1,803.7	53.26	34.866	
14,800.0	11,180.0	12,915.0	9,725.0	49.1	38.2	-38.41	3,594.3	796.7	1,857.0	1,802.8	54.16	34.287	
14,900.0	11,180.0	13,015.0	9,725.0	49.6	38.7	-38.41	3,694.3	796.3	1,857.0	1,801.9	55.09	33.709	
15,000.0	11,180.0	13,115.0	9,725.0	50.0	39.3	-38.41	3,794.3	795.9	1,857.0	1,800.9	56.04	33.135	
15,100.0	11,180.0	13,215.0	9,725.0	50.5	39.8	-38.42	3,894.3	795.5	1,857.0	1,800.0	57.02	32.565	
15,200.0	11,180.0	13,315.0	9,725.0	50.9	40.3	-38.42	3,994.3	795.1	1,857.0	1,799.0	58.03	32.002	
15,300.0	11,180.0	13,415.0	9,725.0	51.4	40.9	-38.42	4,094.3	794.7	1,857.0	1,797.9	59.05	31.445	
15,400.0	11,180.0	13,515.0	9,725.0	51.9	41.4	-38.42	4,194.3	794.3	1,857.0	1,796.9	60.10	30.897	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	11,180.0	13,615.0	9,725.0	52.3	42.0	-38.42	4,294.3	793.8	1,857.0	1,795.8	61.17	30.356	
15,600.0	11,180.0	13,715.0	9,725.0	52.8	42.6	-38.42	4,394.3	793.4	1,857.0	1,794.8	62.26	29.826	
15,700.0	11,180.0	13,815.0	9,725.0	53.3	43.2	-38.42	4,494.3	793.0	1,857.0	1,793.7	63.37	29.304	
15,800.0	11,180.0	13,915.0	9,725.0	53.8	43.8	-38.42	4,594.3	792.6	1,857.0	1,792.5	64.50	28.793	
15,900.0	11,180.0	14,015.0	9,725.0	54.3	44.3	-38.42	4,694.3	792.2	1,857.0	1,791.4	65.64	28.293	
16,000.0	11,180.0	14,115.0	9,725.0	54.8	44.9	-38.42	4,794.3	791.8	1,857.0	1,790.2	66.79	27.802	
16,100.0	11,180.0	14,215.0	9,725.0	55.4	45.5	-38.42	4,894.3	791.4	1,857.1	1,789.1	67.97	27.323	
16,200.0	11,180.0	14,315.0	9,725.0	55.9	46.1	-38.42	4,994.3	791.0	1,857.1	1,787.9	69.15	26.854	
16,300.0	11,180.0	14,415.0	9,725.0	56.4	46.8	-38.42	5,094.3	790.6	1,857.1	1,786.7	70.35	26.396	
16,400.0	11,180.0	14,515.0	9,725.0	57.0	47.4	-38.42	5,194.3	790.2	1,857.1	1,785.5	71.57	25.949	
16,500.0	11,180.0	14,615.0	9,725.0	57.5	48.0	-38.42	5,294.3	789.7	1,857.1	1,784.3	72.79	25.512	
16,600.0	11,180.0	14,715.0	9,725.0	58.0	48.6	-38.42	5,394.3	789.3	1,857.1	1,783.1	74.03	25.086	
16,700.0	11,180.0	14,815.0	9,725.0	58.6	49.2	-38.42	5,494.2	788.9	1,857.1	1,781.8	75.28	24.670	
16,800.0	11,180.0	14,915.0	9,725.0	59.2	49.9	-38.42	5,594.2	788.5	1,857.1	1,780.6	76.53	24.265	
16,900.0	11,180.0	15,015.0	9,725.0	59.7	50.5	-38.42	5,694.2	788.1	1,857.1	1,779.3	77.80	23.870	
17,000.0	11,180.0	15,115.0	9,725.0	60.3	51.1	-38.42	5,794.2	787.7	1,857.1	1,778.0	79.08	23.484	
17,100.0	11,180.0	15,215.0	9,725.0	60.8	51.8	-38.42	5,894.2	787.3	1,857.1	1,776.8	80.37	23.109	
17,200.0	11,180.0	15,315.0	9,725.0	61.4	52.4	-38.42	5,994.2	786.9	1,857.1	1,775.5	81.66	22.742	
17,300.0	11,180.0	15,415.0	9,725.0	62.0	53.1	-38.42	6,094.2	786.5	1,857.1	1,774.2	82.96	22.385	
17,400.0	11,180.0	15,515.0	9,725.0	62.6	53.7	-38.42	6,194.2	786.1	1,857.1	1,772.9	84.27	22.037	
17,500.0	11,180.0	15,615.0	9,725.0	63.2	54.4	-38.42	6,294.2	785.7	1,857.2	1,771.6	85.59	21.698	
17,600.0	11,180.0	15,715.0	9,725.0	63.8	55.1	-38.42	6,394.2	785.2	1,857.2	1,770.2	86.92	21.367	
17,700.0	11,180.0	15,815.0	9,725.0	64.3	55.7	-38.42	6,494.2	784.8	1,857.2	1,768.9	88.25	21.045	
17,800.0	11,180.0	15,915.0	9,725.0	64.9	56.4	-38.42	6,594.2	784.4	1,857.2	1,767.6	89.59	20.730	
17,900.0	11,180.0	16,015.0	9,725.0	65.5	57.0	-38.42	6,694.2	784.0	1,857.2	1,766.3	90.93	20.424	
18,000.0	11,180.0	16,115.0	9,725.0	66.1	57.7	-38.42	6,794.2	783.6	1,857.2	1,764.9	92.28	20.125	
18,100.0	11,180.0	16,215.0	9,725.0	66.7	58.4	-38.42	6,894.2	783.2	1,857.2	1,763.6	93.64	19.834	
18,200.0	11,180.0	16,315.0	9,725.0	67.4	59.1	-38.42	6,994.2	782.8	1,857.2	1,762.2	95.00	19.549	
18,300.0	11,180.0	16,415.0	9,725.0	68.0	59.7	-38.42	7,094.2	782.4	1,857.2	1,760.8	96.37	19.272	
18,400.0	11,180.0	16,515.0	9,725.0	68.6	60.4	-38.42	7,194.2	782.0	1,857.2	1,759.5	97.74	19.002	
18,500.0	11,180.0	16,615.0	9,725.0	69.2	61.1	-38.42	7,294.2	781.6	1,857.2	1,758.1	99.12	18.738	
18,600.0	11,180.0	16,715.0	9,725.0	69.8	61.8	-38.43	7,394.2	781.1	1,857.2	1,756.7	100.50	18.481	
18,700.0	11,180.0	16,815.0	9,725.0	70.4	62.5	-38.43	7,494.2	780.7	1,857.2	1,755.4	101.88	18.230	
18,800.0	11,180.0	16,915.0	9,725.0	71.1	63.1	-38.43	7,594.2	780.3	1,857.3	1,754.0	103.27	17.984	
18,900.0	11,180.0	17,015.0	9,725.0	71.7	63.8	-38.43	7,694.2	779.9	1,857.3	1,752.6	104.66	17.745	
19,000.0	11,180.0	17,115.0	9,725.0	72.3	64.5	-38.43	7,794.2	779.5	1,857.3	1,751.2	106.06	17.511	
19,100.0	11,180.0	17,215.0	9,725.0	73.0	65.2	-38.43	7,894.2	779.1	1,857.3	1,749.8	107.46	17.283	
19,200.0	11,180.0	17,315.0	9,725.0	73.6	65.9	-38.43	7,994.2	778.7	1,857.3	1,748.4	108.87	17.060	
19,300.0	11,180.0	17,415.0	9,725.0	74.2	66.6	-38.43	8,094.2	778.3	1,857.3	1,747.0	110.27	16.842	
19,400.0	11,180.0	17,515.0	9,725.0	74.9	67.3	-38.43	8,194.2	777.9	1,857.3	1,745.6	111.69	16.630	
19,500.0	11,180.0	17,615.0	9,725.0	75.5	68.0	-38.43	8,294.2	777.5	1,857.3	1,744.2	113.10	16.422	
19,600.0	11,180.0	17,715.0	9,725.0	76.2	68.7	-38.43	8,394.2	777.1	1,857.3	1,742.8	114.52	16.219	
19,700.0	11,180.0	17,815.0	9,725.0	76.8	69.4	-38.43	8,494.2	776.6	1,857.3	1,741.4	115.94	16.020	
19,800.0	11,180.0	17,915.0	9,725.0	77.5	70.1	-38.43	8,594.2	776.2	1,857.3	1,740.0	117.36	15.826	
19,900.0	11,180.0	18,015.0	9,725.0	78.1	70.8	-38.43	8,694.2	775.8	1,857.3	1,738.5	118.79	15.636	
20,000.0	11,180.0	18,115.0	9,725.0	78.8	71.5	-38.43	8,794.2	775.4	1,857.3	1,737.1	120.22	15.450	
20,100.0	11,180.0	18,215.0	9,725.0	79.4	72.2	-38.43	8,894.2	775.0	1,857.4	1,735.7	121.65	15.268	
20,200.0	11,180.0	18,315.0	9,725.0	80.1	72.9	-38.43	8,994.2	774.6	1,857.4	1,734.3	123.08	15.091	
20,300.0	11,180.0	18,415.0	9,725.0	80.8	73.6	-38.43	9,094.2	774.2	1,857.4	1,732.8	124.52	14.917	
20,400.0	11,180.0	18,515.0	9,725.0	81.4	74.3	-38.43	9,194.2	773.8	1,857.4	1,731.4	125.96	14.746	
20,500.0	11,180.0	18,615.0	9,725.0	82.1	75.0	-38.43	9,294.2	773.4	1,857.4	1,730.0	127.40	14.580	
20,600.0	11,180.0	18,715.0	9,725.0	82.7	75.8	-38.43	9,394.2	773.0	1,857.4	1,728.6	128.84	14.416	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,700.0	11,180.0	18,815.0	9,725.0	83.4	76.5	-38.43	9,494.2	772.5	1,857.4	1,727.1	130.28	14.257	
20,800.0	11,180.0	18,915.0	9,725.0	84.1	77.2	-38.43	9,594.2	772.1	1,857.4	1,725.7	131.73	14.100	
20,900.0	11,180.0	19,015.0	9,725.0	84.7	77.9	-38.43	9,694.2	771.7	1,857.4	1,724.2	133.18	13.947	
21,000.0	11,180.0	19,115.0	9,725.0	85.4	78.6	-38.43	9,794.2	771.3	1,857.4	1,722.8	134.63	13.797	
21,100.0	11,180.0	19,215.0	9,725.0	86.1	79.3	-38.43	9,894.2	770.9	1,857.4	1,721.3	136.08	13.649	
21,200.0	11,180.0	19,315.0	9,725.0	86.8	80.0	-38.43	9,994.2	770.5	1,857.4	1,719.9	137.53	13.505	
21,300.0	11,180.0	19,415.0	9,725.0	87.4	80.8	-38.43	10,094.2	770.1	1,857.4	1,718.5	138.99	13.364	
21,400.0	11,180.0	19,515.0	9,725.0	88.1	81.5	-38.43	10,194.2	769.7	1,857.4	1,717.0	140.45	13.225	
21,500.0	11,180.0	19,615.0	9,725.0	88.8	82.2	-38.43	10,294.2	769.3	1,857.5	1,715.5	141.91	13.089	
21,600.0	11,180.0	19,715.0	9,725.0	89.5	82.9	-38.43	10,394.2	768.9	1,857.5	1,714.1	143.37	12.956	
21,700.0	11,180.0	19,815.0	9,725.0	90.2	83.6	-38.43	10,494.2	768.5	1,857.5	1,712.6	144.83	12.825	
21,800.0	11,180.0	19,915.0	9,725.0	90.8	84.4	-38.43	10,594.2	768.0	1,857.5	1,711.2	146.29	12.697	
21,900.0	11,180.0	20,015.0	9,725.0	91.5	85.1	-38.43	10,694.2	767.6	1,857.5	1,709.7	147.76	12.571	
22,000.0	11,180.0	20,115.0	9,725.0	92.2	85.8	-38.44	10,794.2	767.2	1,857.5	1,708.3	149.22	12.448	
22,100.0	11,180.0	20,215.0	9,725.0	92.9	86.5	-38.44	10,894.2	766.8	1,857.5	1,706.8	150.69	12.327	
22,200.0	11,180.0	20,315.0	9,725.0	93.6	87.3	-38.44	10,994.2	766.4	1,857.5	1,705.3	152.16	12.208	
22,300.0	11,180.0	20,415.0	9,725.0	94.3	88.0	-38.44	11,094.2	766.0	1,857.5	1,703.9	153.63	12.091	
22,400.0	11,180.0	20,515.0	9,725.0	95.0	88.7	-38.44	11,194.2	765.6	1,857.5	1,702.4	155.10	11.976	
22,500.0	11,180.0	20,615.0	9,725.0	95.7	89.4	-38.44	11,294.2	765.2	1,857.5	1,701.0	156.57	11.864	
22,600.0	11,180.0	20,715.0	9,725.0	96.4	90.2	-38.44	11,394.2	764.8	1,857.5	1,699.5	158.05	11.753	
22,700.0	11,180.0	20,815.0	9,725.0	97.0	90.9	-38.44	11,494.2	764.4	1,857.5	1,698.0	159.52	11.645	
22,800.0	11,180.0	20,915.0	9,725.0	97.7	91.6	-38.44	11,594.2	763.9	1,857.6	1,696.6	161.00	11.538	
22,900.0	11,180.0	21,015.0	9,725.0	98.4	92.4	-38.44	11,694.2	763.5	1,857.6	1,695.1	162.47	11.433	
23,000.0	11,180.0	21,115.0	9,725.0	99.1	93.1	-38.44	11,794.2	763.1	1,857.6	1,693.6	163.95	11.330	
23,100.0	11,180.0	21,215.0	9,725.0	99.8	93.8	-38.44	11,894.2	762.7	1,857.6	1,692.1	165.43	11.229	
23,200.0	11,180.0	21,315.0	9,725.0	100.5	94.6	-38.44	11,994.2	762.3	1,857.6	1,690.7	166.91	11.129	
23,300.0	11,180.0	21,415.0	9,725.0	101.2	95.3	-38.44	12,094.2	761.9	1,857.6	1,689.2	168.39	11.031	
23,400.0	11,180.0	21,515.0	9,725.0	101.9	96.0	-38.44	12,194.2	761.5	1,857.6	1,687.7	169.87	10.935	
23,500.0	11,180.0	21,615.0	9,725.0	102.6	96.8	-38.44	12,294.2	761.1	1,857.6	1,686.3	171.35	10.841	
23,600.0	11,180.0	21,715.0	9,725.0	103.3	97.5	-38.44	12,394.2	760.7	1,857.6	1,684.8	172.84	10.748	
23,700.0	11,180.0	21,815.0	9,725.0	104.0	98.2	-38.44	12,494.2	760.3	1,857.6	1,683.3	174.32	10.656	
23,800.0	11,180.0	21,915.0	9,725.0	104.7	99.0	-38.44	12,594.2	759.8	1,857.6	1,681.8	175.81	10.566	
23,900.0	11,180.0	22,015.0	9,725.0	105.4	99.7	-38.44	12,694.2	759.4	1,857.6	1,680.3	177.29	10.478	
24,000.0	11,180.0	22,115.0	9,725.0	106.2	100.4	-38.44	12,794.2	759.0	1,857.6	1,678.9	178.78	10.391	
24,100.0	11,180.0	22,215.0	9,725.0	106.9	101.2	-38.44	12,894.2	758.6	1,857.7	1,677.4	180.27	10.305	
24,200.0	11,180.0	22,315.0	9,725.0	107.6	101.9	-38.44	12,994.2	758.2	1,857.7	1,675.9	181.76	10.221	
24,300.0	11,180.0	22,415.0	9,725.0	108.3	102.6	-38.44	13,094.2	757.8	1,857.7	1,674.4	183.24	10.138	
24,400.0	11,180.0	22,515.0	9,725.0	109.0	103.4	-38.44	13,194.2	757.4	1,857.7	1,672.9	184.73	10.056	
24,500.0	11,180.0	22,615.0	9,725.0	109.7	104.1	-38.44	13,294.2	757.0	1,857.7	1,671.5	186.22	9.975	
24,600.0	11,180.0	22,715.0	9,725.0	110.4	104.9	-38.44	13,394.2	756.6	1,857.7	1,670.0	187.72	9.896	
24,700.0	11,180.0	22,815.0	9,725.0	111.1	105.6	-38.44	13,494.2	756.2	1,857.7	1,668.5	189.21	9.818	
24,734.5	11,180.0	22,849.6	9,725.0	111.4	105.8	-38.44	13,528.7	756.0	1,857.7	1,668.0	189.72	9.792	SF

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-11.31	150.0	-30.0	153.0	146.6	6.43	23.797	
100.0	100.0	100.0	100.0	3.2	3.2	-11.31	150.0	-30.0	153.0	146.1	6.89	22.197	
200.0	200.0	200.0	200.0	3.5	3.5	-11.31	150.0	-30.0	153.0	145.7	7.33	20.877	
300.0	300.0	300.0	300.0	3.7	3.7	-11.31	150.0	-30.0	153.0	145.2	7.74	19.763	
400.0	400.0	400.0	400.0	3.9	3.9	-11.31	150.0	-30.0	153.0	144.9	8.14	18.805	
500.0	500.0	500.0	500.0	4.1	4.1	-11.31	150.0	-30.0	153.0	144.5	8.51	17.970	
600.0	600.0	600.0	600.0	4.2	4.2	-11.31	150.0	-30.0	153.0	144.1	8.88	17.233	
700.0	700.0	700.0	700.0	4.4	4.4	-11.31	150.0	-30.0	153.0	143.8	9.23	16.576	
800.0	800.0	800.0	800.0	4.6	4.6	-11.31	150.0	-30.0	153.0	143.4	9.57	15.985	
900.0	900.0	900.0	900.0	4.8	4.8	-11.31	150.0	-30.0	153.0	143.1	9.90	15.450	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-11.31	150.0	-30.0	153.0	142.8	10.22	14.963	
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	14.516	
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	14.104	
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	13.722	
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	13.368	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-11.31	150.0	-30.0	153.0	141.3	11.73	13.038	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-11.31	150.0	-30.0	153.0	141.0	12.02	12.728	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-11.31	150.0	-30.0	153.0	140.7	12.30	12.438	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-11.31	150.0	-30.0	153.0	140.4	12.58	12.166 CC	
1,900.0	1,900.0	1,900.7	1,900.6	6.3	6.3	-108.78	150.1	-28.7	153.2	140.4	12.83	11.938 ES	
2,000.0	1,999.9	2,001.3	2,001.2	6.4	6.4	-108.71	150.2	-24.7	153.8	140.8	13.07	11.769	
2,100.0	2,099.7	2,101.9	2,101.6	6.6	6.6	-108.58	150.4	-18.1	154.9	141.6	13.31	11.637	
2,200.0	2,199.3	2,202.6	2,201.8	6.8	6.8	-108.40	150.8	-8.8	156.3	142.8	13.55	11.538	
2,300.0	2,298.6	2,303.2	2,301.7	7.0	7.0	-108.18	151.2	3.1	158.2	144.4	13.79	11.470	
2,400.0	2,397.5	2,403.8	2,401.3	7.3	7.3	-107.92	151.7	17.6	160.5	146.5	14.04	11.430	
2,500.0	2,496.1	2,504.4	2,500.4	7.5	7.6	-107.61	152.3	34.7	163.2	148.9	14.30	11.417	
2,600.0	2,594.2	2,604.9	2,599.0	7.8	7.8	-107.28	153.0	54.4	166.4	151.8	14.56	11.427	
2,700.0	2,691.7	2,705.5	2,697.0	8.0	8.2	-106.88	153.7	76.8	169.9	155.1	14.77	11.497	
2,800.0	2,789.2	2,805.9	2,794.3	8.3	8.5	-105.85	154.6	101.6	173.2	158.2	15.04	11.517	
2,900.0	2,886.6	2,905.8	2,890.8	8.7	8.8	-104.49	155.5	127.4	176.5	161.2	15.31	11.531	
3,000.0	2,984.0	3,005.6	2,987.2	9.0	9.1	-103.18	156.4	153.3	179.9	164.3	15.58	11.549	
3,100.0	3,081.5	3,105.5	3,083.7	9.3	9.5	-101.92	157.3	179.1	183.4	167.6	15.86	11.568	
3,200.0	3,178.9	3,205.3	3,180.1	9.7	9.8	-100.71	158.2	204.9	187.0	170.9	16.14	11.589	
3,300.0	3,276.4	3,305.2	3,276.6	10.1	10.2	-99.54	159.1	230.7	190.6	174.2	16.42	11.610	
3,400.0	3,373.8	3,405.1	3,373.1	10.4	10.6	-98.42	160.0	256.6	194.4	177.7	16.71	11.631	
3,500.0	3,471.2	3,504.9	3,469.5	10.8	11.0	-97.34	160.9	282.4	198.2	181.2	17.01	11.651	
3,600.0	3,568.7	3,604.8	3,566.0	11.2	11.4	-96.30	161.8	308.2	202.1	184.7	17.32	11.669	
3,700.0	3,666.1	3,704.6	3,662.4	11.6	11.8	-95.31	162.7	334.1	206.0	188.4	17.63	11.685	
3,800.0	3,763.5	3,804.5	3,758.9	12.0	12.2	-94.34	163.6	359.9	210.0	192.0	17.95	11.699	
3,900.0	3,860.9	3,904.4	3,855.4	12.4	12.6	-89.88	164.5	385.7	213.6	195.3	18.24	11.710	
4,000.0	3,957.6	4,004.4	3,951.9	12.8	13.1	-86.07	165.4	411.6	215.1	196.5	18.54	11.601	
4,100.0	4,054.2	4,104.4	4,048.5	13.2	13.5	-86.09	166.3	437.5	216.0	197.1	18.88	11.439	
4,200.0	4,150.8	4,204.4	4,145.1	13.7	13.9	-86.11	167.2	463.3	216.9	197.7	19.22	11.282	
4,300.0	4,247.4	4,304.4	4,241.7	14.1	14.4	-86.13	168.1	489.2	217.8	198.2	19.57	11.128	
4,400.0	4,344.0	4,404.3	4,338.3	14.5	14.8	-86.15	169.1	515.1	218.7	198.8	19.92	10.977	
4,500.0	4,440.6	4,504.3	4,434.9	15.0	15.3	-86.17	170.0	540.9	219.6	199.3	20.28	10.830	
4,600.0	4,537.2	4,604.3	4,531.5	15.4	15.7	-86.19	170.9	566.8	220.5	199.9	20.63	10.687	
4,700.0	4,633.8	4,704.3	4,628.1	15.9	16.2	-86.21	171.8	592.7	221.4	200.4	20.99	10.546	
4,800.0	4,730.4	4,804.3	4,724.6	16.3	16.6	-86.22	172.7	618.5	222.3	200.9	21.35	10.409	
4,900.0	4,827.0	4,904.3	4,821.2	16.8	17.1	-86.24	173.6	644.4	223.2	201.5	21.72	10.276	
5,000.0	4,923.6	5,004.3	4,917.8	17.3	17.5	-86.26	174.5	670.2	224.1	202.0	22.09	10.145	
5,100.0	5,020.1	5,104.3	5,014.4	17.7	18.0	-86.28	175.4	696.1	225.0	202.5	22.46	10.018	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,116.7	5,204.3	5,111.0	18.2	18.5	-86.30	176.3	722.0	225.9	203.1	22.83	9.894	
5,300.0	5,213.3	5,304.3	5,207.6	18.6	18.9	-86.32	177.2	747.8	226.8	203.6	23.21	9.773	
5,400.0	5,309.9	5,404.3	5,304.2	19.1	19.4	-86.34	178.1	773.7	227.7	204.1	23.58	9.655	
5,500.0	5,406.5	5,504.3	5,400.8	19.6	19.9	-86.36	179.0	799.6	228.6	204.6	23.96	9.540	
5,600.0	5,503.1	5,604.3	5,497.4	20.1	20.3	-86.37	179.9	825.4	229.5	205.2	24.34	9.428	
5,700.0	5,599.7	5,704.3	5,593.9	20.5	20.8	-86.39	180.8	851.3	230.4	205.7	24.72	9.319	
5,800.0	5,696.3	5,804.3	5,690.5	21.0	21.3	-86.41	181.7	877.2	231.3	206.2	25.11	9.212	
5,900.0	5,792.9	5,904.3	5,787.1	21.5	21.7	-86.43	182.6	903.0	232.2	206.7	25.49	9.108	
6,000.0	5,889.5	6,004.3	5,883.7	21.9	22.2	-86.44	183.5	928.9	233.1	207.2	25.88	9.007	
6,100.0	5,986.1	6,104.3	5,980.3	22.4	22.7	-86.46	184.4	954.8	234.0	207.7	26.27	8.908	
6,200.0	6,082.7	6,204.3	6,076.9	22.9	23.2	-86.48	185.3	980.6	234.9	208.2	26.66	8.812	
6,300.0	6,179.3	6,304.3	6,173.5	23.4	23.7	-86.50	186.2	1,006.5	235.8	208.7	27.05	8.718	
6,400.0	6,275.9	6,404.3	6,270.1	23.9	24.1	-86.51	187.1	1,032.4	236.7	209.3	27.44	8.626	
6,500.0	6,372.4	6,504.3	6,366.7	24.3	24.6	-86.53	188.0	1,058.2	237.6	209.8	27.83	8.536	
6,600.0	6,469.0	6,604.3	6,463.2	24.8	25.1	-86.55	188.9	1,084.1	238.5	210.3	28.23	8.449	
6,700.0	6,565.6	6,704.3	6,559.8	25.3	25.6	-86.56	189.8	1,110.0	239.4	210.8	28.62	8.364	
6,800.0	6,662.2	6,804.2	6,656.4	25.8	26.1	-86.58	190.7	1,135.8	240.3	211.3	29.02	8.280	
6,900.0	6,758.8	6,904.2	6,753.0	26.3	26.5	-86.60	191.6	1,161.7	241.2	211.8	29.42	8.199	
7,000.0	6,855.4	7,004.2	6,849.6	26.7	27.0	-86.61	192.5	1,187.5	242.1	212.3	29.82	8.120	
7,100.0	6,952.0	7,104.2	6,946.2	27.2	27.5	-86.63	193.4	1,213.4	243.0	212.8	30.22	8.042	
7,200.0	7,048.6	7,204.2	7,042.8	27.7	28.0	-86.65	194.3	1,239.3	243.9	213.3	30.62	7.966	
7,300.0	7,145.2	7,304.2	7,139.4	28.2	28.5	-86.66	195.2	1,265.1	244.8	213.8	31.02	7.892	
7,400.0	7,241.8	7,404.2	7,236.0	28.7	29.0	-86.68	196.1	1,291.0	245.7	214.3	31.42	7.820	
7,500.0	7,338.4	7,504.2	7,332.5	29.2	29.5	-86.69	197.1	1,316.9	246.6	214.8	31.82	7.749	
7,600.0	7,435.0	7,604.2	7,429.1	29.7	29.9	-86.71	198.0	1,342.7	247.5	215.3	32.23	7.680	
7,700.0	7,531.6	7,704.2	7,525.7	30.1	30.4	-86.72	198.9	1,368.6	248.4	215.8	32.63	7.613	
7,800.0	7,628.1	7,804.2	7,622.3	30.6	30.9	-86.74	199.8	1,394.5	249.3	216.3	33.04	7.547	
7,900.0	7,724.7	7,904.2	7,718.9	31.1	31.4	-86.75	200.7	1,420.3	250.2	216.8	33.44	7.482	
8,000.0	7,821.3	8,004.2	7,815.5	31.6	31.9	-86.77	201.6	1,446.2	251.1	217.3	33.85	7.419	
8,100.0	7,917.9	8,104.2	7,912.1	32.1	32.4	-86.78	202.5	1,472.1	252.0	217.8	34.25	7.357	
8,200.0	8,014.5	8,204.2	8,008.7	32.6	32.9	-86.80	203.4	1,497.9	252.9	218.3	34.65	7.299	
8,300.0	8,111.4	8,304.2	8,105.2	33.1	33.4	-86.57	204.3	1,523.8	253.9	218.8	35.09	7.234	
8,400.0	8,208.7	8,404.4	8,202.2	33.6	33.8	-86.00	205.2	1,549.5	254.9	219.4	35.54	7.173	
8,500.0	8,306.4	8,505.1	8,300.0	34.0	34.3	-85.54	206.0	1,573.1	255.9	219.9	35.99	7.111	
8,600.0	8,404.4	8,605.9	8,398.6	34.5	34.8	-85.28	206.7	1,594.2	256.7	220.4	36.39	7.056	
8,700.0	8,502.8	8,706.7	8,497.6	34.9	35.3	-85.22	207.4	1,612.7	257.4	220.7	36.73	7.009	
8,800.0	8,601.5	8,807.5	8,597.2	35.4	35.7	-85.35	207.9	1,628.5	257.9	220.9	37.01	6.969	
8,900.0	8,700.4	8,908.2	8,697.1	35.8	36.2	-85.68	208.4	1,641.7	258.3	221.0	37.23	6.937	
9,000.0	8,799.6	9,008.9	8,797.2	36.3	36.6	-86.20	208.8	1,652.3	258.5	221.1	37.40	6.911	
9,100.0	8,899.0	9,109.5	8,897.5	36.7	37.0	-86.92	209.0	1,660.2	258.5	221.0	37.52	6.890	
9,200.0	8,998.5	9,210.0	8,997.8	37.1	37.3	-87.83	209.2	1,665.5	258.5	220.9	37.62	6.873	
9,300.0	9,098.2	9,310.3	9,098.1	37.4	37.6	-88.93	209.3	1,668.1	258.5	220.8	37.70	6.857	
9,350.2	9,148.4	9,360.6	9,148.4	37.6	37.7	-89.56	209.3	1,668.4	258.5	220.7	37.74	6.849	
9,400.0	9,198.1	9,400.0	9,187.7	37.8	37.7	-89.88	210.6	1,669.2	259.9	222.1	37.83	6.871	
9,500.0	9,298.0	9,465.7	9,252.8	38.1	37.9	-89.63	218.1	1,673.5	271.0	232.9	38.13	7.106	
9,600.0	9,398.0	9,532.5	9,317.4	38.4	38.0	-88.48	232.6	1,681.9	293.1	254.4	38.72	7.570	
9,700.0	9,498.0	9,600.0	9,380.1	38.5	38.3	3.41	254.1	1,694.3	325.8	286.1	39.73	8.200	
9,800.0	9,598.0	9,650.0	9,424.4	38.5	38.4	5.25	274.3	1,705.9	368.2	327.3	40.91	9.001	
9,900.0	9,698.0	9,700.0	9,466.3	38.5	38.6	7.12	297.9	1,719.6	419.5	377.3	42.14	9.953	
10,000.0	9,798.0	9,750.0	9,505.5	38.6	38.7	8.94	324.7	1,735.0	478.2	434.9	43.36	11.029	
10,100.0	9,898.0	9,783.4	9,530.1	38.6	38.8	10.11	344.2	1,746.3	543.1	499.0	44.18	12.294	
10,200.0	9,998.0	9,817.5	9,553.7	38.6	38.9	11.24	365.5	1,758.6	613.3	568.4	44.93	13.650	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,098.0	9,850.0	9,574.7	38.6	39.0	12.26	387.0	1,771.0	687.7	642.2	45.59	15.086	
10,400.0	10,198.0	9,873.8	9,589.2	38.7	39.1	12.98	403.4	1,780.5	765.7	719.7	46.03	16.636	
10,500.0	10,298.0	9,900.0	9,604.1	38.7	39.1	13.72	422.0	1,791.3	846.6	800.1	46.49	18.210	
10,600.0	10,398.0	9,917.7	9,613.6	38.7	39.2	14.20	435.0	1,798.8	929.8	883.1	46.77	19.883	
10,700.0	10,498.0	9,932.0	9,620.9	38.7	39.2	14.58	445.6	1,804.9	1,015.2	968.2	46.99	21.605	
10,800.0	10,597.9	9,950.0	9,629.7	38.8	39.2	-15.05	459.3	1,812.6	1,100.7	1,053.5	47.28	23.281	
10,900.0	10,696.0	9,982.0	9,644.5	39.1	39.3	-11.79	484.3	1,825.8	1,179.2	1,131.6	47.69	24.728	
11,000.0	10,789.5	10,000.0	9,652.3	39.4	39.3	-9.91	498.9	1,833.0	1,248.8	1,201.1	47.73	26.165	
11,100.0	10,875.4	10,050.0	9,672.1	39.7	39.4	-8.81	540.7	1,852.0	1,308.2	1,260.1	48.09	27.202	
11,200.0	10,951.2	10,069.9	9,679.2	40.0	39.5	-8.10	557.9	1,859.1	1,356.3	1,308.4	47.91	28.310	
11,300.0	11,014.6	10,100.0	9,688.9	40.2	39.5	-7.74	584.5	1,869.4	1,392.9	1,345.1	47.76	29.167	
11,400.0	11,064.8	10,150.0	9,702.5	40.4	39.6	-6.77	629.9	1,885.0	1,418.7	1,371.0	47.73	29.725	
11,500.0	11,106.3	10,167.7	9,706.6	40.6	39.6	-5.15	646.4	1,890.2	1,438.0	1,390.5	47.46	30.297	
11,600.0	11,139.2	10,200.0	9,713.0	40.8	39.6	-3.93	676.8	1,898.9	1,451.8	1,404.3	47.52	30.549	
11,700.0	11,162.6	10,250.0	9,720.2	40.9	39.7	-2.91	724.8	1,910.8	1,460.1	1,412.2	47.92	30.467	
11,800.0	11,176.3	10,267.2	9,722.0	41.0	39.7	-2.17	741.5	1,914.5	1,462.0	1,413.8	48.17	30.348	
11,900.0	11,180.0	10,300.0	9,724.2	41.0	39.7	-1.61	773.6	1,920.8	1,458.3	1,409.5	48.74	29.918	
12,000.0	11,180.0	10,334.3	9,725.0	41.1	39.7	-1.38	807.5	1,926.5	1,455.5	1,406.1	49.37	29.480	
12,100.0	11,180.0	10,429.4	9,725.0	41.2	39.8	-0.86	901.6	1,939.3	1,455.2	1,404.7	50.52	28.806	
12,200.0	11,180.0	10,528.2	9,725.0	41.4	39.9	-0.45	1,000.0	1,949.3	1,455.1	1,403.4	51.67	28.159	
12,300.0	11,180.0	10,627.7	9,725.0	41.5	40.0	-0.18	1,099.2	1,955.9	1,455.0	1,402.2	52.79	27.562	
12,400.0	11,180.0	10,727.5	9,725.0	41.7	40.2	-0.04	1,199.0	1,959.1	1,455.0	1,401.2	53.85	27.019	
12,458.2	11,180.0	10,785.8	9,725.0	41.8	40.3	-0.02	1,257.2	1,959.4	1,455.0	1,400.6	54.44	26.728	
12,500.0	11,180.0	10,827.5	9,725.0	41.8	40.3	-0.02	1,299.0	1,959.2	1,455.0	1,400.2	54.85	26.526	
12,600.0	11,180.0	10,927.5	9,725.0	42.0	40.5	-0.02	1,399.0	1,958.8	1,455.0	1,399.1	55.87	26.045	
12,700.0	11,180.0	11,027.5	9,725.0	42.2	40.6	-0.02	1,499.0	1,958.4	1,455.0	1,398.1	56.90	25.569	
12,800.0	11,180.0	11,127.5	9,725.0	42.4	40.8	-0.02	1,599.0	1,958.0	1,455.0	1,397.0	57.97	25.101	
12,900.0	11,180.0	11,227.5	9,725.0	42.6	41.0	-0.02	1,699.0	1,957.7	1,455.0	1,396.0	59.05	24.641	
13,000.0	11,180.0	11,327.5	9,725.0	42.9	41.2	-0.02	1,799.0	1,957.3	1,455.0	1,394.9	60.15	24.188	
13,100.0	11,180.0	11,427.5	9,725.0	43.1	41.5	-0.02	1,899.0	1,956.9	1,455.0	1,393.7	61.28	23.745	
13,200.0	11,180.0	11,527.5	9,725.0	43.4	41.7	-0.02	1,999.0	1,956.5	1,455.0	1,392.6	62.42	23.311	
13,300.0	11,180.0	11,627.5	9,725.0	43.7	42.0	-0.02	2,099.0	1,956.1	1,455.0	1,391.4	63.58	22.886	
13,400.0	11,180.0	11,727.5	9,725.0	44.0	42.2	-0.02	2,199.0	1,955.7	1,455.0	1,390.3	64.75	22.470	
13,500.0	11,180.0	11,827.5	9,725.0	44.3	42.5	-0.02	2,299.0	1,955.3	1,455.0	1,389.1	65.94	22.065	
13,600.0	11,180.0	11,927.5	9,725.0	44.6	42.8	-0.02	2,399.0	1,954.9	1,455.0	1,387.9	67.15	21.668	
13,700.0	11,180.0	12,027.5	9,725.0	44.9	43.1	-0.01	2,499.0	1,954.5	1,455.0	1,386.6	68.37	21.282	
13,800.0	11,180.0	12,127.5	9,725.0	45.2	43.4	-0.01	2,599.0	1,954.1	1,455.0	1,385.4	69.60	20.905	
13,900.0	11,180.0	12,227.5	9,725.0	45.6	43.8	-0.01	2,699.0	1,953.7	1,455.0	1,384.2	70.85	20.538	
14,000.0	11,180.0	12,327.5	9,725.0	45.9	44.1	-0.01	2,799.0	1,953.3	1,455.0	1,382.9	72.10	20.180	
14,100.0	11,180.0	12,427.5	9,725.0	46.3	44.4	-0.01	2,899.0	1,952.9	1,455.0	1,381.6	73.37	19.831	
14,200.0	11,180.0	12,527.5	9,725.0	46.7	44.8	-0.01	2,999.0	1,952.5	1,455.0	1,380.4	74.65	19.491	
14,300.0	11,180.0	12,627.5	9,725.0	47.1	45.2	-0.01	3,099.0	1,952.1	1,455.0	1,379.1	75.94	19.160	
14,400.0	11,180.0	12,727.5	9,725.0	47.4	45.6	-0.01	3,199.0	1,951.7	1,455.0	1,377.8	77.24	18.838	
14,500.0	11,180.0	12,827.5	9,725.0	47.9	46.0	-0.01	3,299.0	1,951.3	1,455.0	1,376.5	78.55	18.524	
14,600.0	11,180.0	12,927.5	9,725.0	48.3	46.4	-0.01	3,399.0	1,951.0	1,455.0	1,375.1	79.86	18.219	
14,700.0	11,180.0	13,027.5	9,725.0	48.7	46.8	-0.01	3,499.0	1,950.6	1,455.0	1,373.8	81.19	17.922	
14,800.0	11,180.0	13,127.5	9,725.0	49.1	47.2	-0.01	3,599.0	1,950.2	1,455.0	1,372.5	82.52	17.632	
14,900.0	11,180.0	13,227.5	9,725.0	49.6	47.6	-0.01	3,699.0	1,949.8	1,455.0	1,371.1	83.86	17.351	
15,000.0	11,180.0	13,327.5	9,725.0	50.0	48.1	-0.01	3,799.0	1,949.4	1,455.0	1,369.8	85.21	17.076	
15,100.0	11,180.0	13,427.5	9,725.0	50.5	48.5	-0.01	3,899.0	1,949.0	1,455.0	1,368.4	86.56	16.809	
15,200.0	11,180.0	13,527.5	9,725.0	50.9	49.0	-0.01	3,999.0	1,948.6	1,455.0	1,367.1	87.92	16.549	
15,300.0	11,180.0	13,627.5	9,725.0	51.4	49.5	-0.01	4,099.0	1,948.2	1,455.0	1,365.7	89.29	16.296	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 505H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.0	11,180.0	13,727.5	9,725.0	51.9	49.9	-0.01	4,199.0	1,947.8	1,455.0	1,364.3	90.66	16.049	
15,500.0	11,180.0	13,827.5	9,725.0	52.3	50.4	-0.01	4,299.0	1,947.4	1,455.0	1,363.0	92.04	15.809	
15,600.0	11,180.0	13,927.5	9,725.0	52.8	50.9	-0.01	4,399.0	1,947.0	1,455.0	1,361.6	93.42	15.575	
15,700.0	11,180.0	14,027.5	9,725.0	53.3	51.4	-0.01	4,499.0	1,946.6	1,455.0	1,360.2	94.81	15.347	
15,800.0	11,180.0	14,127.5	9,725.0	53.8	51.9	-0.01	4,599.0	1,946.2	1,455.0	1,358.8	96.20	15.125	
15,900.0	11,180.0	14,227.5	9,725.0	54.3	52.4	-0.01	4,699.0	1,945.8	1,455.0	1,357.4	97.60	14.908	
16,000.0	11,180.0	14,327.5	9,725.0	54.8	52.9	-0.01	4,799.0	1,945.4	1,455.0	1,356.0	99.00	14.697	
16,100.0	11,180.0	14,427.5	9,725.0	55.4	53.4	-0.01	4,899.0	1,945.0	1,455.0	1,354.6	100.41	14.491	
16,200.0	11,180.0	14,527.5	9,725.0	55.9	54.0	-0.01	4,999.0	1,944.6	1,455.0	1,353.2	101.82	14.290	
16,300.0	11,180.0	14,627.5	9,725.0	56.4	54.5	-0.01	5,099.0	1,944.3	1,455.0	1,351.8	103.23	14.094	
16,400.0	11,180.0	14,727.5	9,725.0	57.0	55.0	-0.01	5,199.0	1,943.9	1,455.0	1,350.3	104.65	13.903	
16,500.0	11,180.0	14,827.5	9,725.0	57.5	55.6	-0.01	5,299.0	1,943.5	1,455.0	1,348.9	106.08	13.717	
16,600.0	11,180.0	14,927.5	9,725.0	58.0	56.1	-0.01	5,399.0	1,943.1	1,455.0	1,347.5	107.50	13.535	
16,700.0	11,180.0	15,027.5	9,725.0	58.6	56.7	-0.01	5,499.0	1,942.7	1,455.0	1,346.1	108.93	13.357	
16,800.0	11,180.0	15,127.5	9,725.0	59.2	57.2	-0.01	5,599.0	1,942.3	1,455.0	1,344.6	110.36	13.184	
16,900.0	11,180.0	15,227.5	9,725.0	59.7	57.8	-0.01	5,699.0	1,941.9	1,455.0	1,343.2	111.80	13.014	
17,000.0	11,180.0	15,327.5	9,725.0	60.3	58.4	-0.01	5,799.0	1,941.5	1,455.0	1,341.8	113.24	12.849	
17,100.0	11,180.0	15,427.5	9,725.0	60.8	58.9	-0.01	5,899.0	1,941.1	1,455.0	1,340.3	114.68	12.688	
17,200.0	11,180.0	15,527.5	9,725.0	61.4	59.5	-0.01	5,999.0	1,940.7	1,455.0	1,338.9	116.12	12.530	
17,300.0	11,180.0	15,627.5	9,725.0	62.0	60.1	-0.01	6,099.0	1,940.3	1,455.0	1,337.4	117.57	12.376	
17,400.0	11,180.0	15,727.5	9,725.0	62.6	60.7	-0.01	6,199.0	1,939.9	1,455.0	1,336.0	119.02	12.225	
17,500.0	11,180.0	15,827.5	9,725.0	63.2	61.3	-0.01	6,299.0	1,939.5	1,455.0	1,334.5	120.47	12.078	
17,600.0	11,180.0	15,927.5	9,725.0	63.8	61.9	-0.01	6,399.0	1,939.1	1,455.0	1,333.1	121.93	11.934	
17,700.0	11,180.0	16,027.5	9,725.0	64.3	62.4	-0.01	6,499.0	1,938.7	1,455.0	1,331.6	123.38	11.793	
17,800.0	11,180.0	16,127.5	9,725.0	64.9	63.0	-0.01	6,599.0	1,938.3	1,455.0	1,330.2	124.84	11.655	
17,900.0	11,180.0	16,227.5	9,725.0	65.5	63.6	-0.01	6,699.0	1,937.9	1,455.0	1,328.7	126.30	11.520	
18,000.0	11,180.0	16,327.5	9,725.0	66.1	64.3	-0.01	6,799.0	1,937.6	1,455.0	1,327.2	127.77	11.388	
18,100.0	11,180.0	16,427.5	9,725.0	66.7	64.9	-0.01	6,899.0	1,937.2	1,455.0	1,325.8	129.23	11.259	
18,200.0	11,180.0	16,527.5	9,725.0	67.4	65.5	-0.01	6,999.0	1,936.8	1,455.0	1,324.3	130.70	11.133	
18,300.0	11,180.0	16,627.5	9,725.0	68.0	66.1	-0.01	7,099.0	1,936.4	1,455.0	1,322.8	132.17	11.009	
18,400.0	11,180.0	16,727.5	9,725.0	68.6	66.7	-0.01	7,199.0	1,936.0	1,455.0	1,321.4	133.64	10.888	
18,500.0	11,180.0	16,827.5	9,725.0	69.2	67.3	-0.01	7,299.0	1,935.6	1,455.0	1,319.9	135.11	10.769	
18,600.0	11,180.0	16,927.5	9,725.0	69.8	68.0	-0.01	7,399.0	1,935.2	1,455.0	1,318.4	136.58	10.653	
18,700.0	11,180.0	17,027.5	9,725.0	70.4	68.6	-0.01	7,499.0	1,934.8	1,455.0	1,316.9	138.06	10.539	
18,800.0	11,180.0	17,127.5	9,725.0	71.1	69.2	-0.01	7,599.0	1,934.4	1,455.0	1,315.5	139.54	10.427	
18,900.0	11,180.0	17,227.5	9,725.0	71.7	69.8	-0.01	7,699.0	1,934.0	1,455.0	1,314.0	141.01	10.318	
19,000.0	11,180.0	17,327.5	9,725.0	72.3	70.5	-0.01	7,799.0	1,933.6	1,455.0	1,312.5	142.50	10.211	
19,100.0	11,180.0	17,427.5	9,725.0	73.0	71.1	-0.01	7,899.0	1,933.2	1,455.0	1,311.0	143.98	10.106	
19,200.0	11,180.0	17,527.5	9,725.0	73.6	71.8	-0.01	7,999.0	1,932.8	1,455.0	1,309.5	145.46	10.003	
19,300.0	11,180.0	17,627.5	9,725.0	74.2	72.4	-0.01	8,099.0	1,932.4	1,455.0	1,308.1	146.94	9.902	
19,400.0	11,180.0	17,727.5	9,725.0	74.9	73.0	-0.01	8,199.0	1,932.0	1,455.0	1,306.6	148.43	9.803	
19,500.0	11,180.0	17,827.5	9,725.0	75.5	73.7	-0.01	8,299.0	1,931.6	1,455.0	1,305.1	149.92	9.705	
19,600.0	11,180.0	17,927.5	9,725.0	76.2	74.3	-0.01	8,399.0	1,931.2	1,455.0	1,303.6	151.41	9.610	
19,700.0	11,180.0	18,027.5	9,725.0	76.8	75.0	-0.01	8,499.0	1,930.9	1,455.0	1,302.1	152.90	9.516	
19,800.0	11,180.0	18,127.5	9,725.0	77.5	75.6	-0.01	8,599.0	1,930.5	1,455.0	1,300.6	154.39	9.424	
19,900.0	11,180.0	18,227.5	9,725.0	78.1	76.3	-0.01	8,699.0	1,930.1	1,455.0	1,299.1	155.88	9.334	
20,000.0	11,180.0	18,327.5	9,725.0	78.8	77.0	-0.01	8,799.0	1,929.7	1,455.0	1,297.6	157.37	9.246	
20,100.0	11,180.0	18,427.5	9,725.0	79.4	77.6	-0.01	8,899.0	1,929.3	1,455.0	1,296.1	158.86	9.159	
20,200.0	11,180.0	18,527.5	9,725.0	80.1	78.3	-0.01	8,998.9	1,928.9	1,455.0	1,294.6	160.36	9.073	
20,300.0	11,180.0	18,627.5	9,725.0	80.8	78.9	-0.01	9,098.9	1,928.5	1,455.0	1,293.1	161.86	8.990	
20,400.0	11,180.0	18,727.5	9,725.0	81.4	79.6	-0.01	9,198.9	1,928.1	1,455.0	1,291.6	163.35	8.907	
20,500.0	11,180.0	18,827.5	9,725.0	82.1	80.3	-0.01	9,298.9	1,927.7	1,455.0	1,290.2	164.85	8.826	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 505H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-r.5 MWD+IFR1+MS

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,600.0	11,180.0	18,927.5	9,725.0	82.7	80.9	-0.01	9,398.9	1,927.3	1,455.0	1,288.7	166.35	8.747	
20,700.0	11,180.0	19,027.5	9,725.0	83.4	81.6	-0.01	9,498.9	1,926.9	1,455.0	1,287.2	167.85	8.669	
20,800.0	11,180.0	19,127.5	9,725.0	84.1	82.3	-0.01	9,598.9	1,926.5	1,455.0	1,285.7	169.35	8.592	
20,900.0	11,180.0	19,227.5	9,725.0	84.7	83.0	-0.01	9,698.9	1,926.1	1,455.0	1,284.2	170.85	8.516	
21,000.0	11,180.0	19,327.5	9,725.0	85.4	83.6	-0.01	9,798.9	1,925.7	1,455.0	1,282.6	172.35	8.442	
21,100.0	11,180.0	19,427.5	9,725.0	86.1	84.3	0.00	9,898.9	1,925.3	1,455.0	1,281.1	173.86	8.369	
21,200.0	11,180.0	19,527.5	9,725.0	86.8	85.0	0.00	9,998.9	1,924.9	1,455.0	1,279.6	175.36	8.297	
21,300.0	11,180.0	19,627.5	9,725.0	87.4	85.7	0.00	10,098.9	1,924.5	1,455.0	1,278.1	176.86	8.227	
21,400.0	11,180.0	19,727.5	9,725.0	88.1	86.3	0.00	10,198.9	1,924.2	1,455.0	1,276.6	178.37	8.157	
21,500.0	11,180.0	19,827.5	9,725.0	88.8	87.0	0.00	10,298.9	1,923.8	1,455.0	1,275.1	179.88	8.089	
21,600.0	11,180.0	19,927.5	9,725.0	89.5	87.7	0.00	10,398.9	1,923.4	1,455.0	1,273.6	181.38	8.022	
21,700.0	11,180.0	20,027.5	9,725.0	90.2	88.4	0.00	10,498.9	1,923.0	1,455.0	1,272.1	182.89	7.956	
21,800.0	11,180.0	20,127.5	9,725.0	90.8	89.1	0.00	10,598.9	1,922.6	1,455.0	1,270.6	184.40	7.890	
21,900.0	11,180.0	20,227.5	9,725.0	91.5	89.8	0.00	10,698.9	1,922.2	1,455.0	1,269.1	185.91	7.826	
22,000.0	11,180.0	20,327.5	9,725.0	92.2	90.5	0.00	10,798.9	1,921.8	1,455.0	1,267.6	187.42	7.763	
22,100.0	11,180.0	20,427.5	9,725.0	92.9	91.2	0.00	10,898.9	1,921.4	1,455.0	1,266.1	188.93	7.701	
22,200.0	11,180.0	20,527.5	9,725.0	93.6	91.8	0.00	10,998.9	1,921.0	1,455.0	1,264.6	190.44	7.640	
22,300.0	11,180.0	20,627.5	9,725.0	94.3	92.5	0.00	11,098.9	1,920.6	1,455.0	1,263.1	191.95	7.580	
22,400.0	11,180.0	20,727.5	9,725.0	95.0	93.2	0.00	11,198.9	1,920.2	1,455.0	1,261.5	193.46	7.521	
22,500.0	11,180.0	20,827.5	9,725.0	95.7	93.9	0.00	11,298.9	1,919.8	1,455.0	1,260.0	194.97	7.463	
22,600.0	11,180.0	20,927.5	9,725.0	96.4	94.6	0.00	11,398.9	1,919.4	1,455.0	1,258.5	196.49	7.405	
22,700.0	11,180.0	21,027.5	9,725.0	97.0	95.3	0.00	11,498.9	1,919.0	1,455.0	1,257.0	198.00	7.348	
22,800.0	11,180.0	21,127.5	9,725.0	97.7	96.0	0.00	11,598.9	1,918.6	1,455.0	1,255.5	199.52	7.293	
22,900.0	11,180.0	21,227.5	9,725.0	98.4	96.7	0.00	11,698.9	1,918.2	1,455.0	1,254.0	201.03	7.238	
23,000.0	11,180.0	21,327.5	9,725.0	99.1	97.4	0.00	11,798.9	1,917.8	1,455.0	1,252.5	202.55	7.184	
23,100.0	11,180.0	21,427.5	9,725.0	99.8	98.1	0.00	11,898.9	1,917.5	1,455.0	1,250.9	204.06	7.130	
23,200.0	11,180.0	21,527.5	9,725.0	100.5	98.8	0.00	11,998.9	1,917.1	1,455.0	1,249.4	205.58	7.078	
23,300.0	11,180.0	21,627.5	9,725.0	101.2	99.5	0.00	12,098.9	1,916.7	1,455.0	1,247.9	207.09	7.026	
23,400.0	11,180.0	21,727.5	9,725.0	101.9	100.2	0.00	12,198.9	1,916.3	1,455.0	1,246.4	208.61	6.975	
23,500.0	11,180.0	21,827.5	9,725.0	102.6	100.9	0.00	12,298.9	1,915.9	1,455.0	1,244.9	210.13	6.924	
23,600.0	11,180.0	21,927.5	9,725.0	103.3	101.6	0.00	12,398.9	1,915.5	1,455.0	1,243.4	211.65	6.875	
23,700.0	11,180.0	22,027.5	9,725.0	104.0	102.3	0.00	12,498.9	1,915.1	1,455.0	1,241.8	213.17	6.826	
23,800.0	11,180.0	22,127.5	9,725.0	104.7	103.0	0.00	12,598.9	1,914.7	1,455.0	1,240.3	214.68	6.777	
23,900.0	11,180.0	22,227.5	9,725.0	105.4	103.7	0.00	12,698.9	1,914.3	1,455.0	1,238.8	216.20	6.730	
24,000.0	11,180.0	22,327.5	9,725.0	106.2	104.5	0.00	12,798.9	1,913.9	1,455.0	1,237.3	217.72	6.683	
24,100.0	11,180.0	22,427.5	9,725.0	106.9	105.2	0.00	12,898.9	1,913.5	1,455.0	1,235.8	219.24	6.636	
24,200.0	11,180.0	22,527.5	9,725.0	107.6	105.9	0.00	12,998.9	1,913.1	1,455.0	1,234.2	220.76	6.591	
24,300.0	11,180.0	22,627.5	9,725.0	108.3	106.6	0.00	13,098.9	1,912.7	1,455.0	1,232.7	222.29	6.546	
24,400.0	11,180.0	22,727.5	9,725.0	109.0	107.3	0.00	13,198.9	1,912.3	1,455.0	1,231.2	223.81	6.501	
24,500.0	11,180.0	22,827.5	9,725.0	109.7	108.0	0.00	13,298.9	1,911.9	1,455.0	1,229.7	225.33	6.457	
24,600.0	11,180.0	22,927.5	9,725.0	110.4	108.7	0.00	13,398.9	1,911.5	1,455.0	1,228.1	226.85	6.414	
24,700.0	11,180.0	23,027.5	9,725.0	111.1	109.4	0.00	13,498.9	1,911.1	1,455.0	1,226.6	228.37	6.371	
24,733.3	11,180.0	23,060.8	9,725.0	111.4	109.7	0.00	13,532.2	1,911.0	1,455.0	1,226.1	228.88	6.357	
24,734.5	11,180.0	23,061.6	9,725.0	111.4	109.7	0.00	13,533.0	1,911.0	1,455.0	1,226.1	228.90	6.357	SF

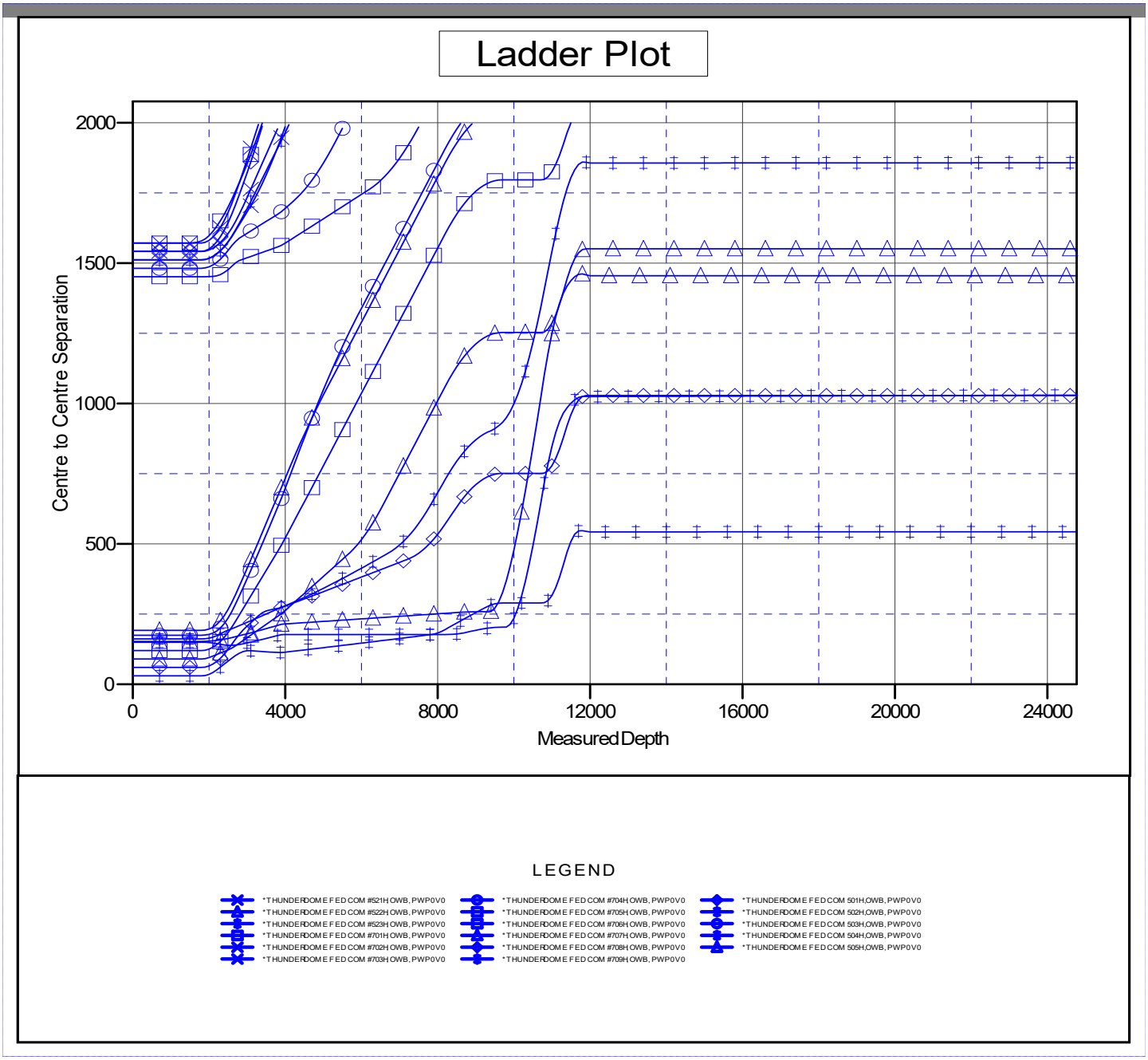
ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 #710H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°



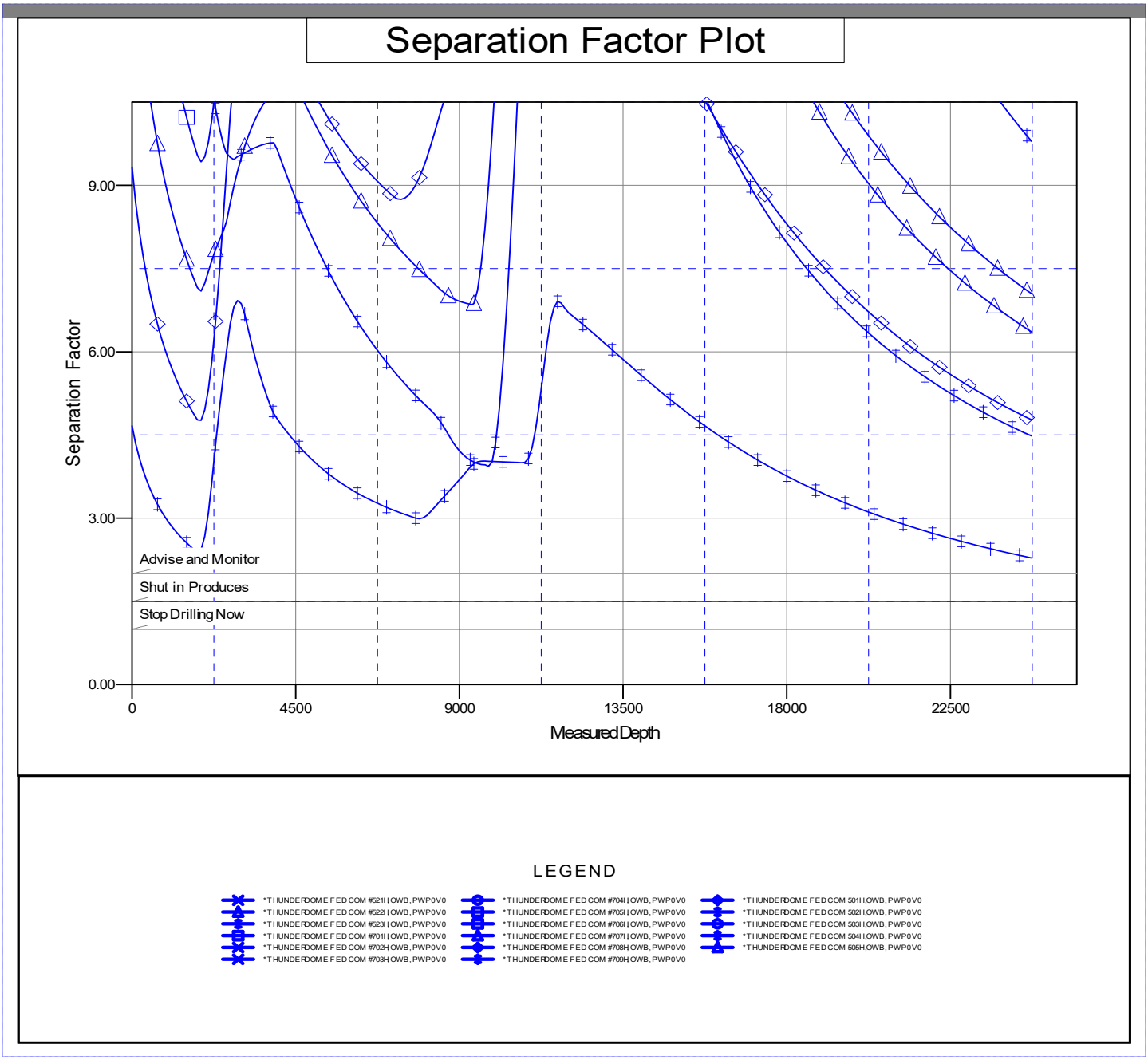
ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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 #710H
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 #710H**

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 #710H
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 #710H	**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 #710H						
Well Position	**+N/-S**	0.0 usft	**Northing:**	469,314.61 usft	**Latitude:**	32° 17' 21.613 N
	+E/-W	0.0 usft	**Easting:**	649,387.41 usft	**Longitude:**	103° 50' 59.671 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	47,541.46973442

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	8.04

Plan Survey Tool Program **Date** 7/10/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	24,734.1	PWP0 (OWB)	r.5 MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St	

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Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,666.7	13.00	97.50	2,659.2	-12.8	97.1	1.50	1.50	0.00	97.50	
3,837.4	13.00	97.50	3,800.0	-47.2	358.2	0.00	0.00	0.00	0.00	
3,972.2	15.00	90.00	3,930.8	-49.1	390.7	2.00	1.48	-5.56	-45.90	
8,185.0	15.00	90.00	8,000.0	-49.1	1,481.0	0.00	0.00	0.00	0.00	
9,685.0	0.00	0.00	9,482.9	-49.1	1,676.2	1.00	-1.00	0.00	180.00	
10,725.2	0.00	0.00	10,523.2	-49.1	1,676.2	0.00	0.00	0.00	0.00	
10,743.6	0.00	0.00	10,541.6	-49.1	1,676.2	0.00	0.00	0.00	0.00	
11,343.6	60.00	32.60	11,037.8	192.2	1,830.6	10.00	10.00	0.00	32.60	
11,884.9	90.00	359.77	11,180.0	684.0	1,962.1	8.00	5.54	-6.06	-52.22	
24,734.1	90.00	359.77	11,180.0	13,533.0	1,911.0	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 #710H
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 #710H	**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	1.50	97.50	1,900.0	-0.2	1.3	0.0	1.50	1.50	0.00
2,000.0	3.00	97.50	1,999.9	-0.7	5.2	0.0	1.50	1.50	0.00
2,100.0	4.50	97.50	2,099.7	-1.5	11.7	0.1	1.50	1.50	0.00
2,200.0	6.00	97.50	2,199.3	-2.7	20.7	0.2	1.50	1.50	0.00
2,300.0	7.50	97.50	2,298.6	-4.3	32.4	0.3	1.50	1.50	0.00
2,400.0	9.00	97.50	2,397.5	-6.1	46.6	0.4	1.50	1.50	0.00
2,500.0	10.50	97.50	2,496.1	-8.3	63.4	0.6	1.50	1.50	0.00
2,600.0	12.00	97.50	2,594.2	-10.9	82.8	0.8	1.50	1.50	0.00
2,666.7	13.00	97.50	2,659.2	-12.8	97.1	0.9	1.50	1.50	0.00
2,700.0	13.00	97.50	2,691.7	-13.8	104.5	1.0	0.00	0.00	0.00
2,800.0	13.00	97.50	2,789.2	-16.7	126.8	1.2	0.00	0.00	0.00
2,900.0	13.00	97.50	2,886.6	-19.6	149.1	1.4	0.00	0.00	0.00
3,000.0	13.00	97.50	2,984.0	-22.6	171.4	1.6	0.00	0.00	0.00
3,100.0	13.00	97.50	3,081.5	-25.5	193.7	1.8	0.00	0.00	0.00
3,200.0	13.00	97.50	3,178.9	-28.4	216.0	2.0	0.00	0.00	0.00
3,300.0	13.00	97.50	3,276.4	-31.4	238.3	2.3	0.00	0.00	0.00
3,400.0	13.00	97.50	3,373.8	-34.3	260.6	2.5	0.00	0.00	0.00
3,500.0	13.00	97.50	3,471.2	-37.2	282.9	2.7	0.00	0.00	0.00
3,600.0	13.00	97.50	3,568.7	-40.2	305.2	2.9	0.00	0.00	0.00
3,700.0	13.00	97.50	3,666.1	-43.1	327.5	3.1	0.00	0.00	0.00
3,800.0	13.00	97.50	3,763.5	-46.1	349.8	3.3	0.00	0.00	0.00
3,837.4	13.00	97.50	3,800.0	-47.2	358.2	3.4	0.00	0.00	0.00
3,900.0	13.90	93.76	3,860.9	-48.6	372.7	4.0	2.00	1.44	-5.98
3,972.2	15.00	90.00	3,930.8	-49.1	390.7	6.0	2.00	1.52	-5.20
4,000.0	15.00	90.00	3,957.6	-49.1	397.8	7.0	0.00	0.00	0.00
4,100.0	15.00	90.00	4,054.2	-49.1	423.7	10.6	0.00	0.00	0.00
4,200.0	15.00	90.00	4,150.8	-49.1	449.6	14.2	0.00	0.00	0.00
4,300.0	15.00	90.00	4,247.4	-49.1	475.5	17.8	0.00	0.00	0.00
4,400.0	15.00	90.00	4,344.0	-49.1	501.4	21.5	0.00	0.00	0.00
4,500.0	15.00	90.00	4,440.6	-49.1	527.3	25.1	0.00	0.00	0.00
4,600.0	15.00	90.00	4,537.2	-49.1	553.1	28.7	0.00	0.00	0.00
4,700.0	15.00	90.00	4,633.8	-49.1	579.0	32.3	0.00	0.00	0.00
4,800.0	15.00	90.00	4,730.4	-49.1	604.9	35.9	0.00	0.00	0.00
4,900.0	15.00	90.00	4,827.0	-49.1	630.8	39.5	0.00	0.00	0.00
5,000.0	15.00	90.00	4,923.6	-49.1	656.7	43.2	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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	15.00	90.00	5,020.1	-49.1	682.5	46.8	0.00	0.00	0.00
5,200.0	15.00	90.00	5,116.7	-49.1	708.4	50.4	0.00	0.00	0.00
5,300.0	15.00	90.00	5,213.3	-49.1	734.3	54.0	0.00	0.00	0.00
5,400.0	15.00	90.00	5,309.9	-49.1	760.2	57.6	0.00	0.00	0.00
5,500.0	15.00	90.00	5,406.5	-49.1	786.1	61.3	0.00	0.00	0.00
5,600.0	15.00	90.00	5,503.1	-49.1	812.0	64.9	0.00	0.00	0.00
5,700.0	15.00	90.00	5,599.7	-49.1	837.8	68.5	0.00	0.00	0.00
5,800.0	15.00	90.00	5,696.3	-49.1	863.7	72.1	0.00	0.00	0.00
5,900.0	15.00	90.00	5,792.9	-49.1	889.6	75.7	0.00	0.00	0.00
6,000.0	15.00	90.00	5,889.5	-49.1	915.5	79.4	0.00	0.00	0.00
6,100.0	15.00	90.00	5,986.1	-49.1	941.4	83.0	0.00	0.00	0.00
6,200.0	15.00	90.00	6,082.7	-49.1	967.2	86.6	0.00	0.00	0.00
6,300.0	15.00	90.00	6,179.3	-49.1	993.1	90.2	0.00	0.00	0.00
6,400.0	15.00	90.00	6,275.9	-49.1	1,019.0	93.8	0.00	0.00	0.00
6,500.0	15.00	90.00	6,372.4	-49.1	1,044.9	97.4	0.00	0.00	0.00
6,600.0	15.00	90.00	6,469.0	-49.1	1,070.8	101.1	0.00	0.00	0.00
6,700.0	15.00	90.00	6,565.6	-49.1	1,096.7	104.7	0.00	0.00	0.00
6,800.0	15.00	90.00	6,662.2	-49.1	1,122.5	108.3	0.00	0.00	0.00
6,900.0	15.00	90.00	6,758.8	-49.1	1,148.4	111.9	0.00	0.00	0.00
7,000.0	15.00	90.00	6,855.4	-49.1	1,174.3	115.5	0.00	0.00	0.00
7,100.0	15.00	90.00	6,952.0	-49.1	1,200.2	119.2	0.00	0.00	0.00
7,200.0	15.00	90.00	7,048.6	-49.1	1,226.1	122.8	0.00	0.00	0.00
7,300.0	15.00	90.00	7,145.2	-49.1	1,251.9	126.4	0.00	0.00	0.00
7,400.0	15.00	90.00	7,241.8	-49.1	1,277.8	130.0	0.00	0.00	0.00
7,500.0	15.00	90.00	7,338.4	-49.1	1,303.7	133.6	0.00	0.00	0.00
7,600.0	15.00	90.00	7,435.0	-49.1	1,329.6	137.3	0.00	0.00	0.00
7,700.0	15.00	90.00	7,531.6	-49.1	1,355.5	140.9	0.00	0.00	0.00
7,800.0	15.00	90.00	7,628.1	-49.1	1,381.4	144.5	0.00	0.00	0.00
7,900.0	15.00	90.00	7,724.7	-49.1	1,407.2	148.1	0.00	0.00	0.00
8,000.0	15.00	90.00	7,821.3	-49.1	1,433.1	151.7	0.00	0.00	0.00
8,100.0	15.00	90.00	7,917.9	-49.1	1,459.0	155.4	0.00	0.00	0.00
8,185.0	15.00	90.00	8,000.0	-49.1	1,481.0	158.4	0.00	0.00	0.00
8,200.0	14.85	90.00	8,014.5	-49.1	1,484.9	159.0	1.00	-1.00	0.00
8,300.0	13.85	90.00	8,111.4	-49.1	1,509.6	162.4	1.00	-1.00	0.00
8,400.0	12.85	90.00	8,208.7	-49.1	1,532.7	165.7	1.00	-1.00	0.00
8,500.0	11.85	90.00	8,306.4	-49.1	1,554.1	168.7	1.00	-1.00	0.00
8,600.0	10.85	90.00	8,404.4	-49.1	1,573.8	171.4	1.00	-1.00	0.00
8,700.0	9.85	90.00	8,502.8	-49.1	1,591.8	173.9	1.00	-1.00	0.00
8,800.0	8.85	90.00	8,601.5	-49.1	1,608.0	176.2	1.00	-1.00	0.00
8,900.0	7.85	90.00	8,700.4	-49.1	1,622.5	178.2	1.00	-1.00	0.00
9,000.0	6.85	90.00	8,799.6	-49.1	1,635.3	180.0	1.00	-1.00	0.00
9,100.0	5.85	90.00	8,899.0	-49.1	1,646.4	181.6	1.00	-1.00	0.00
9,200.0	4.85	90.00	8,998.5	-49.1	1,655.7	182.9	1.00	-1.00	0.00
9,300.0	3.85	90.00	9,098.2	-49.1	1,663.3	183.9	1.00	-1.00	0.00
9,400.0	2.85	90.00	9,198.1	-49.1	1,669.1	184.7	1.00	-1.00	0.00
9,500.0	1.85	90.00	9,298.0	-49.1	1,673.2	185.3	1.00	-1.00	0.00
9,600.0	0.85	90.00	9,398.0	-49.1	1,675.6	185.6	1.00	-1.00	0.00
9,685.0	0.00	0.00	9,482.9	-49.1	1,676.2	185.7	1.00	-1.00	0.00
9,700.0	0.00	0.00	9,498.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,598.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,698.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,798.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,100.0	0.00	0.00	9,898.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,200.0	0.00	0.00	9,998.0	-49.1	1,676.2	185.7	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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	10,098.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,400.0	0.00	0.00	10,198.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,500.0	0.00	0.00	10,298.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,600.0	0.00	0.00	10,398.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,700.0	0.00	0.00	10,498.0	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,725.2	0.00	0.00	10,523.2	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,743.6	0.00	0.00	10,541.6	-49.1	1,676.2	185.7	0.00	0.00	0.00
10,750.0	0.64	32.60	10,548.0	-49.1	1,676.2	185.8	10.00	10.00	0.00
10,800.0	5.64	32.60	10,597.9	-46.8	1,677.7	188.2	10.00	10.00	0.00
10,850.0	10.64	32.60	10,647.3	-40.8	1,681.5	194.7	10.00	10.00	0.00
10,900.0	15.64	32.60	10,696.0	-31.3	1,687.6	205.0	10.00	10.00	0.00
10,950.0	20.64	32.60	10,743.5	-18.2	1,696.0	219.2	10.00	10.00	0.00
11,000.0	25.64	32.60	10,789.5	-1.6	1,706.6	237.0	10.00	10.00	0.00
11,050.0	30.64	32.60	10,833.6	18.2	1,719.3	258.5	10.00	10.00	0.00
11,100.0	35.64	32.60	10,875.4	41.3	1,734.0	283.3	10.00	10.00	0.00
11,150.0	40.64	32.60	10,914.7	67.3	1,750.7	311.4	10.00	10.00	0.00
11,200.0	45.64	32.60	10,951.2	96.0	1,769.1	342.5	10.00	10.00	0.00
11,250.0	50.64	32.60	10,984.6	127.4	1,789.1	376.3	10.00	10.00	0.00
11,300.0	55.64	32.60	11,014.6	161.1	1,810.7	412.7	10.00	10.00	0.00
11,343.6	60.00	32.60	11,037.8	192.2	1,830.6	446.3	10.00	10.00	0.00
11,350.0	60.31	32.14	11,041.0	196.9	1,833.5	451.3	8.00	4.91	-7.28
11,400.0	62.82	28.60	11,064.8	234.8	1,855.7	492.0	8.00	5.02	-7.08
11,450.0	65.42	25.21	11,086.6	274.9	1,876.1	534.5	8.00	5.19	-6.77
11,500.0	68.08	21.97	11,106.3	317.0	1,894.4	578.8	8.00	5.34	-6.49
11,550.0	70.81	18.84	11,123.9	360.9	1,910.7	624.5	8.00	5.46	-6.25
11,600.0	73.59	15.82	11,139.2	406.3	1,924.9	671.5	8.00	5.56	-6.04
11,650.0	76.42	12.89	11,152.1	453.1	1,936.9	719.5	8.00	5.64	-5.87
11,700.0	79.27	10.02	11,162.6	501.0	1,946.6	768.3	8.00	5.71	-5.73
11,750.0	82.15	7.21	11,170.7	549.8	1,954.0	817.6	8.00	5.76	-5.62
11,800.0	85.05	4.44	11,176.3	599.2	1,959.0	867.2	8.00	5.80	-5.55
11,850.0	87.96	1.69	11,179.3	649.0	1,961.7	916.9	8.00	5.82	-5.50
11,884.9	90.00	359.77	11,180.0	684.0	1,962.1	951.6	8.00	5.83	-5.48
11,900.0	90.00	359.77	11,180.0	699.0	1,962.0	966.5	0.00	0.00	0.00
12,000.0	90.00	359.77	11,180.0	799.0	1,961.6	1,065.4	0.00	0.00	0.00
12,100.0	90.00	359.77	11,180.0	899.0	1,961.2	1,164.4	0.00	0.00	0.00
12,200.0	90.00	359.77	11,180.0	999.0	1,960.8	1,263.4	0.00	0.00	0.00
12,300.0	90.00	359.77	11,180.0	1,099.0	1,960.4	1,362.3	0.00	0.00	0.00
12,400.0	90.00	359.77	11,180.0	1,199.0	1,960.0	1,461.3	0.00	0.00	0.00
12,500.0	90.00	359.77	11,180.0	1,299.0	1,959.7	1,560.2	0.00	0.00	0.00
12,600.0	90.00	359.77	11,180.0	1,399.0	1,959.3	1,659.2	0.00	0.00	0.00
12,700.0	90.00	359.77	11,180.0	1,499.0	1,958.9	1,758.2	0.00	0.00	0.00
12,800.0	90.00	359.77	11,180.0	1,599.0	1,958.5	1,857.1	0.00	0.00	0.00
12,900.0	90.00	359.77	11,180.0	1,699.0	1,958.1	1,956.1	0.00	0.00	0.00
13,000.0	90.00	359.77	11,180.0	1,799.0	1,957.7	2,055.1	0.00	0.00	0.00
13,100.0	90.00	359.77	11,180.0	1,899.0	1,957.3	2,154.0	0.00	0.00	0.00
13,200.0	90.00	359.77	11,180.0	1,999.0	1,956.9	2,253.0	0.00	0.00	0.00
13,300.0	90.00	359.77	11,180.0	2,099.0	1,956.5	2,351.9	0.00	0.00	0.00
13,400.0	90.00	359.77	11,180.0	2,199.0	1,956.1	2,450.9	0.00	0.00	0.00
13,500.0	90.00	359.77	11,180.0	2,299.0	1,955.7	2,549.9	0.00	0.00	0.00
13,600.0	90.00	359.77	11,180.0	2,399.0	1,955.3	2,648.8	0.00	0.00	0.00
13,700.0	90.00	359.77	11,180.0	2,499.0	1,954.9	2,747.8	0.00	0.00	0.00
13,800.0	90.00	359.77	11,180.0	2,599.0	1,954.5	2,846.7	0.00	0.00	0.00
13,900.0	90.00	359.77	11,180.0	2,699.0	1,954.1	2,945.7	0.00	0.00	0.00
14,000.0	90.00	359.77	11,180.0	2,799.0	1,953.7	3,044.7	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 #710H
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 #710H	**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)
14,100.0	90.00	359.77	11,180.0	2,899.0	1,953.3	3,143.6	0.00	0.00	0.00
14,200.0	90.00	359.77	11,180.0	2,999.0	1,952.9	3,242.6	0.00	0.00	0.00
14,300.0	90.00	359.77	11,180.0	3,099.0	1,952.5	3,341.6	0.00	0.00	0.00
14,400.0	90.00	359.77	11,180.0	3,199.0	1,952.1	3,440.5	0.00	0.00	0.00
14,500.0	90.00	359.77	11,180.0	3,299.0	1,951.7	3,539.5	0.00	0.00	0.00
14,600.0	90.00	359.77	11,180.0	3,399.0	1,951.3	3,638.4	0.00	0.00	0.00
14,700.0	90.00	359.77	11,180.0	3,499.0	1,950.9	3,737.4	0.00	0.00	0.00
14,800.0	90.00	359.77	11,180.0	3,599.0	1,950.5	3,836.4	0.00	0.00	0.00
14,900.0	90.00	359.77	11,180.0	3,699.0	1,950.1	3,935.3	0.00	0.00	0.00
15,000.0	90.00	359.77	11,180.0	3,799.0	1,949.7	4,034.3	0.00	0.00	0.00
15,100.0	90.00	359.77	11,180.0	3,899.0	1,949.3	4,133.2	0.00	0.00	0.00
15,200.0	90.00	359.77	11,180.0	3,999.0	1,948.9	4,232.2	0.00	0.00	0.00
15,300.0	90.00	359.77	11,180.0	4,099.0	1,948.5	4,331.2	0.00	0.00	0.00
15,400.0	90.00	359.77	11,180.0	4,199.0	1,948.1	4,430.1	0.00	0.00	0.00
15,500.0	90.00	359.77	11,180.0	4,299.0	1,947.7	4,529.1	0.00	0.00	0.00
15,600.0	90.00	359.77	11,180.0	4,399.0	1,947.3	4,628.0	0.00	0.00	0.00
15,700.0	90.00	359.77	11,180.0	4,499.0	1,946.9	4,727.0	0.00	0.00	0.00
15,800.0	90.00	359.77	11,180.0	4,599.0	1,946.5	4,826.0	0.00	0.00	0.00
15,900.0	90.00	359.77	11,180.0	4,699.0	1,946.1	4,924.9	0.00	0.00	0.00
16,000.0	90.00	359.77	11,180.0	4,799.0	1,945.7	5,023.9	0.00	0.00	0.00
16,100.0	90.00	359.77	11,180.0	4,899.0	1,945.3	5,122.9	0.00	0.00	0.00
16,200.0	90.00	359.77	11,180.0	4,999.0	1,944.9	5,221.8	0.00	0.00	0.00
16,300.0	90.00	359.77	11,180.0	5,099.0	1,944.5	5,320.8	0.00	0.00	0.00
16,400.0	90.00	359.77	11,180.0	5,199.0	1,944.1	5,419.7	0.00	0.00	0.00
16,500.0	90.00	359.77	11,180.0	5,299.0	1,943.7	5,518.7	0.00	0.00	0.00
16,600.0	90.00	359.77	11,180.0	5,399.0	1,943.4	5,617.7	0.00	0.00	0.00
16,700.0	90.00	359.77	11,180.0	5,499.0	1,943.0	5,716.6	0.00	0.00	0.00
16,800.0	90.00	359.77	11,180.0	5,599.0	1,942.6	5,815.6	0.00	0.00	0.00
16,900.0	90.00	359.77	11,180.0	5,699.0	1,942.2	5,914.5	0.00	0.00	0.00
17,000.0	90.00	359.77	11,180.0	5,799.0	1,941.8	6,013.5	0.00	0.00	0.00
17,100.0	90.00	359.77	11,180.0	5,899.0	1,941.4	6,112.5	0.00	0.00	0.00
17,200.0	90.00	359.77	11,180.0	5,999.0	1,941.0	6,211.4	0.00	0.00	0.00
17,300.0	90.00	359.77	11,180.0	6,099.0	1,940.6	6,310.4	0.00	0.00	0.00
17,400.0	90.00	359.77	11,180.0	6,199.0	1,940.2	6,409.4	0.00	0.00	0.00
17,500.0	90.00	359.77	11,180.0	6,299.0	1,939.8	6,508.3	0.00	0.00	0.00
17,600.0	90.00	359.77	11,180.0	6,399.0	1,939.4	6,607.3	0.00	0.00	0.00
17,700.0	90.00	359.77	11,180.0	6,499.0	1,939.0	6,706.2	0.00	0.00	0.00
17,800.0	90.00	359.77	11,180.0	6,599.0	1,938.6	6,805.2	0.00	0.00	0.00
17,900.0	90.00	359.77	11,180.0	6,699.0	1,938.2	6,904.2	0.00	0.00	0.00
18,000.0	90.00	359.77	11,180.0	6,799.0	1,937.8	7,003.1	0.00	0.00	0.00
18,100.0	90.00	359.77	11,180.0	6,899.0	1,937.4	7,102.1	0.00	0.00	0.00
18,200.0	90.00	359.77	11,180.0	6,999.0	1,937.0	7,201.0	0.00	0.00	0.00
18,300.0	90.00	359.77	11,180.0	7,099.0	1,936.6	7,300.0	0.00	0.00	0.00
18,400.0	90.00	359.77	11,180.0	7,199.0	1,936.2	7,399.0	0.00	0.00	0.00
18,500.0	90.00	359.77	11,180.0	7,299.0	1,935.8	7,497.9	0.00	0.00	0.00
18,600.0	90.00	359.77	11,180.0	7,399.0	1,935.4	7,596.9	0.00	0.00	0.00
18,700.0	90.00	359.77	11,180.0	7,499.0	1,935.0	7,695.8	0.00	0.00	0.00
18,800.0	90.00	359.77	11,180.0	7,599.0	1,934.6	7,794.8	0.00	0.00	0.00
18,900.0	90.00	359.77	11,180.0	7,699.0	1,934.2	7,893.8	0.00	0.00	0.00
19,000.0	90.00	359.77	11,180.0	7,799.0	1,933.8	7,992.7	0.00	0.00	0.00
19,100.0	90.00	359.77	11,180.0	7,899.0	1,933.4	8,091.7	0.00	0.00	0.00
19,200.0	90.00	359.77	11,180.0	7,999.0	1,933.0	8,190.7	0.00	0.00	0.00
19,300.0	90.00	359.77	11,180.0	8,099.0	1,932.6	8,289.6	0.00	0.00	0.00
19,400.0	90.00	359.77	11,180.0	8,199.0	1,932.2	8,388.6	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**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)
19,500.0	90.00	359.77	11,180.0	8,298.9	1,931.8	8,487.5	0.00	0.00	0.00
19,600.0	90.00	359.77	11,180.0	8,398.9	1,931.4	8,586.5	0.00	0.00	0.00
19,700.0	90.00	359.77	11,180.0	8,498.9	1,931.0	8,685.5	0.00	0.00	0.00
19,800.0	90.00	359.77	11,180.0	8,598.9	1,930.6	8,784.4	0.00	0.00	0.00
19,900.0	90.00	359.77	11,180.0	8,698.9	1,930.2	8,883.4	0.00	0.00	0.00
20,000.0	90.00	359.77	11,180.0	8,798.9	1,929.8	8,982.3	0.00	0.00	0.00
20,100.0	90.00	359.77	11,180.0	8,898.9	1,929.4	9,081.3	0.00	0.00	0.00
20,200.0	90.00	359.77	11,180.0	8,998.9	1,929.0	9,180.3	0.00	0.00	0.00
20,300.0	90.00	359.77	11,180.0	9,098.9	1,928.6	9,279.2	0.00	0.00	0.00
20,400.0	90.00	359.77	11,180.0	9,198.9	1,928.2	9,378.2	0.00	0.00	0.00
20,500.0	90.00	359.77	11,180.0	9,298.9	1,927.8	9,477.2	0.00	0.00	0.00
20,600.0	90.00	359.77	11,180.0	9,398.9	1,927.4	9,576.1	0.00	0.00	0.00
20,700.0	90.00	359.77	11,180.0	9,498.9	1,927.0	9,675.1	0.00	0.00	0.00
20,800.0	90.00	359.77	11,180.0	9,598.9	1,926.7	9,774.0	0.00	0.00	0.00
20,900.0	90.00	359.77	11,180.0	9,698.9	1,926.3	9,873.0	0.00	0.00	0.00
21,000.0	90.00	359.77	11,180.0	9,798.9	1,925.9	9,972.0	0.00	0.00	0.00
21,100.0	90.00	359.77	11,180.0	9,898.9	1,925.5	10,070.9	0.00	0.00	0.00
21,200.0	90.00	359.77	11,180.0	9,998.9	1,925.1	10,169.9	0.00	0.00	0.00
21,300.0	90.00	359.77	11,180.0	10,098.9	1,924.7	10,268.8	0.00	0.00	0.00
21,400.0	90.00	359.77	11,180.0	10,198.9	1,924.3	10,367.8	0.00	0.00	0.00
21,500.0	90.00	359.77	11,180.0	10,298.9	1,923.9	10,466.8	0.00	0.00	0.00
21,600.0	90.00	359.77	11,180.0	10,398.9	1,923.5	10,565.7	0.00	0.00	0.00
21,700.0	90.00	359.77	11,180.0	10,498.9	1,923.1	10,664.7	0.00	0.00	0.00
21,800.0	90.00	359.77	11,180.0	10,598.9	1,922.7	10,763.6	0.00	0.00	0.00
21,900.0	90.00	359.77	11,180.0	10,698.9	1,922.3	10,862.6	0.00	0.00	0.00
22,000.0	90.00	359.77	11,180.0	10,798.9	1,921.9	10,961.6	0.00	0.00	0.00
22,100.0	90.00	359.77	11,180.0	10,898.9	1,921.5	11,060.5	0.00	0.00	0.00
22,200.0	90.00	359.77	11,180.0	10,998.9	1,921.1	11,159.5	0.00	0.00	0.00
22,300.0	90.00	359.77	11,180.0	11,098.9	1,920.7	11,258.5	0.00	0.00	0.00
22,400.0	90.00	359.77	11,180.0	11,198.9	1,920.3	11,357.4	0.00	0.00	0.00
22,500.0	90.00	359.77	11,180.0	11,298.9	1,919.9	11,456.4	0.00	0.00	0.00
22,600.0	90.00	359.77	11,180.0	11,398.9	1,919.5	11,555.3	0.00	0.00	0.00
22,700.0	90.00	359.77	11,180.0	11,498.9	1,919.1	11,654.3	0.00	0.00	0.00
22,800.0	90.00	359.77	11,180.0	11,598.9	1,918.7	11,753.3	0.00	0.00	0.00
22,900.0	90.00	359.77	11,180.0	11,698.9	1,918.3	11,852.2	0.00	0.00	0.00
23,000.0	90.00	359.77	11,180.0	11,798.9	1,917.9	11,951.2	0.00	0.00	0.00
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23,300.0	90.00	359.77	11,180.0	12,098.9	1,916.7	12,248.1	0.00	0.00	0.00
23,400.0	90.00	359.77	11,180.0	12,198.9	1,916.3	12,347.0	0.00	0.00	0.00
23,500.0	90.00	359.77	11,180.0	12,298.9	1,915.9	12,446.0	0.00	0.00	0.00
23,600.0	90.00	359.77	11,180.0	12,398.9	1,915.5	12,545.0	0.00	0.00	0.00
23,700.0	90.00	359.77	11,180.0	12,498.9	1,915.1	12,643.9	0.00	0.00	0.00
23,800.0	90.00	359.77	11,180.0	12,598.9	1,914.7	12,742.9	0.00	0.00	0.00
23,900.0	90.00	359.77	11,180.0	12,698.9	1,914.3	12,841.8	0.00	0.00	0.00
24,000.0	90.00	359.77	11,180.0	12,798.9	1,913.9	12,940.8	0.00	0.00	0.00
24,100.0	90.00	359.77	11,180.0	12,898.9	1,913.5	13,039.8	0.00	0.00	0.00
24,200.0	90.00	359.77	11,180.0	12,998.9	1,913.1	13,138.7	0.00	0.00	0.00
24,300.0	90.00	359.77	11,180.0	13,098.9	1,912.7	13,237.7	0.00	0.00	0.00
24,400.0	90.00	359.77	11,180.0	13,198.9	1,912.3	13,336.6	0.00	0.00	0.00
24,500.0	90.00	359.77	11,180.0	13,298.9	1,911.9	13,435.6	0.00	0.00	0.00
24,600.0	90.00	359.77	11,180.0	13,398.9	1,911.5	13,534.6	0.00	0.00	0.00
24,700.0	90.00	359.77	11,180.0	13,498.9	1,911.1	13,633.5	0.00	0.00	0.00
24,734.1	90.00	359.77	11,180.0	13,533.0	1,911.0	13,667.3	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #710H
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 #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Design Targets

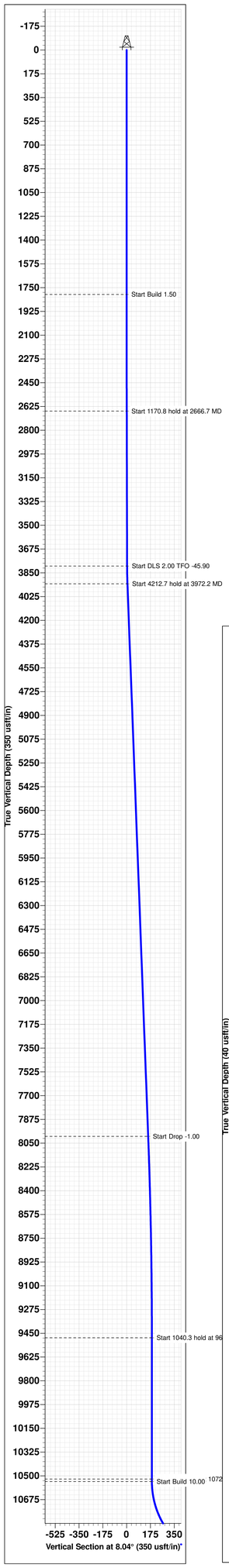
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (THUNDERDOME - plan misses target center by 28.3usft at 11682.3usft MD (11159.2 TVD, 483.9 N, 1943.4 E) - Circle (radius 50.0)	0.00	0.01	11,180.0	475.8	1,960.9	469,790.43	651,348.27	32° 17' 26.234 N	103° 50' 36.802 W
LTP (THUNDERDOME - plan misses target center by 0.2usft at 24684.1usft MD (11180.0 TVD, 13483.0 N, 1911.2 E) - Circle (radius 50.0)	90.00	359.77	11,180.0	13,483.0	1,911.0	482,797.64	651,298.38	32° 19' 34.954 N	103° 50' 36.691 W
PBHL (THUNDERDOME - plan hits target center - Rectangle (sides W100.0 H13,069.8 D20.0)	0.00	179.78	11,180.0	13,533.0	1,911.0	482,847.64	651,298.42	32° 19' 35.449 N	103° 50' 36.688 W

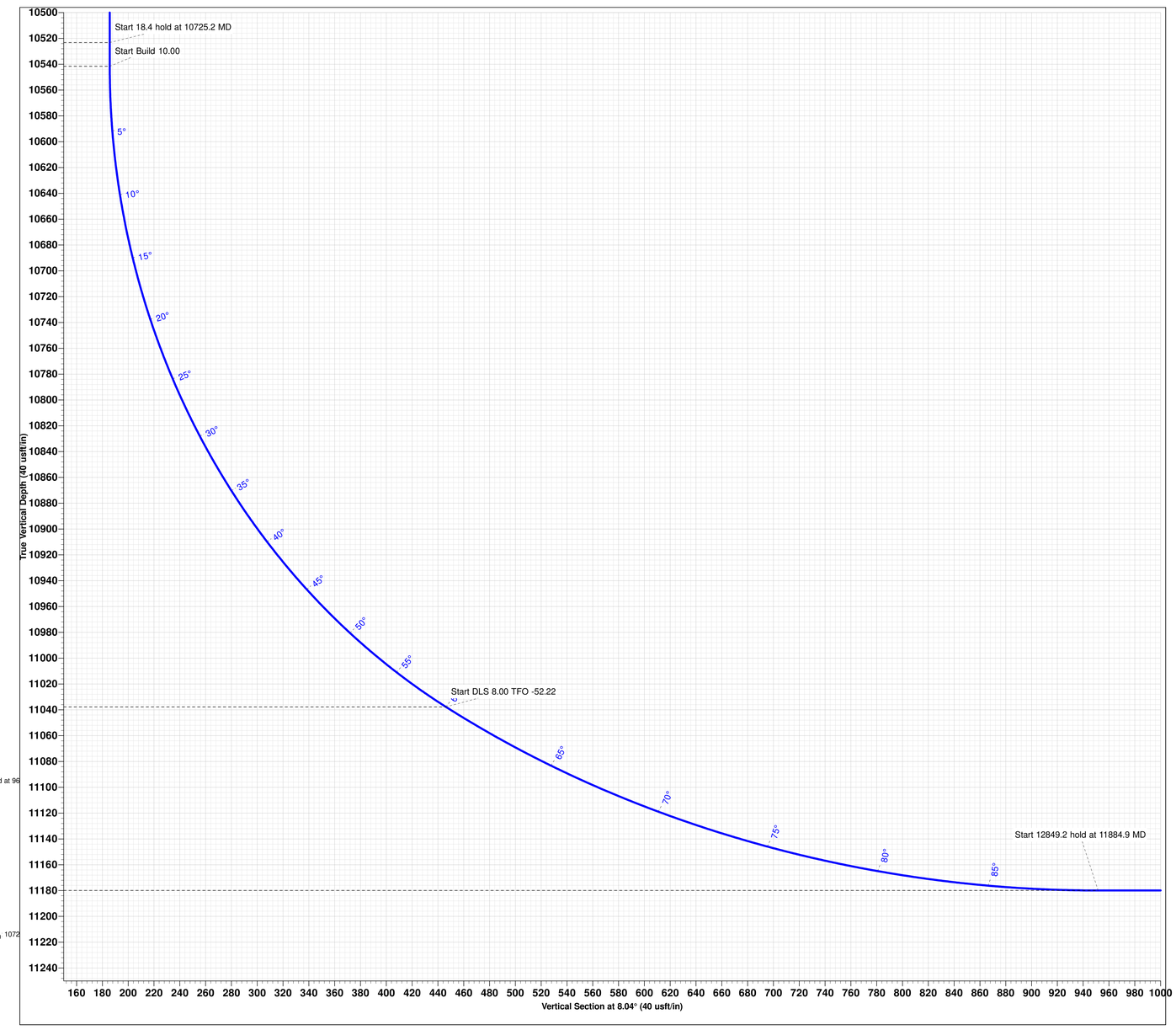
ConocoPhillips

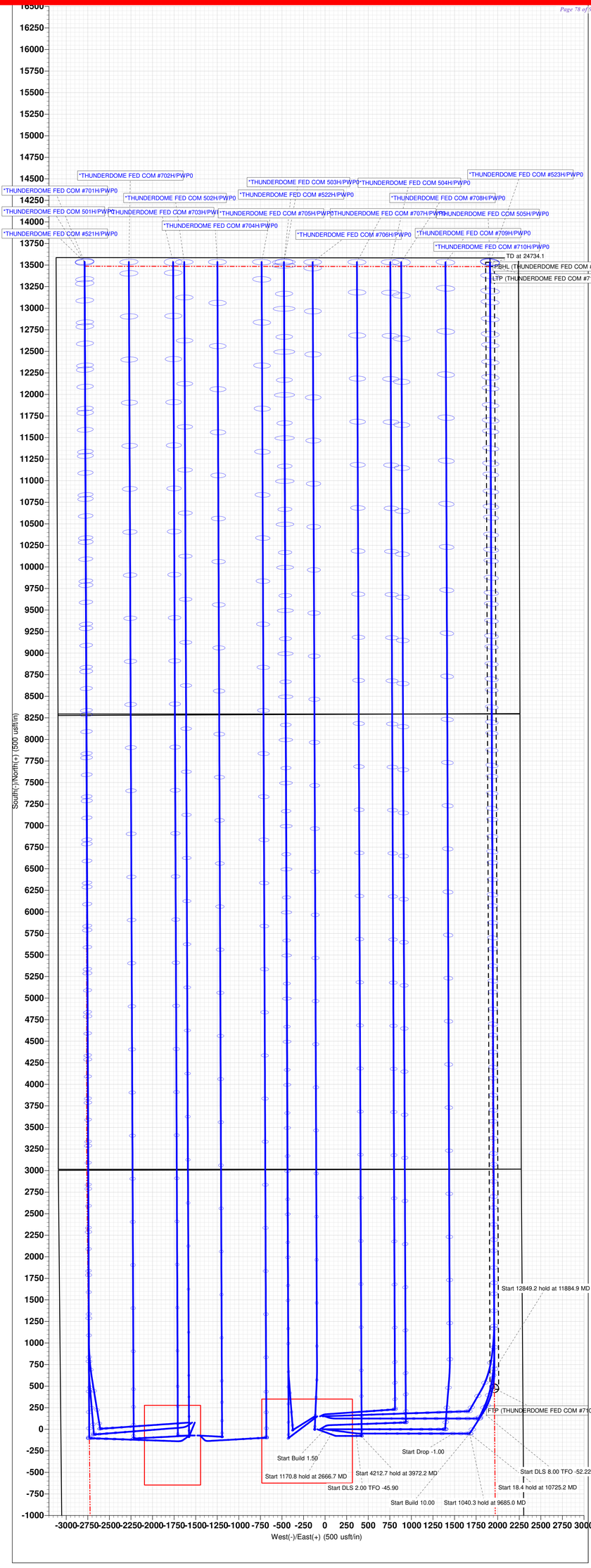
Site:	THUNDERDOME PROJECT
Well:	*THUNDERDOME FED COM #710H
Wellbore:	OWB
Design:	PWP0

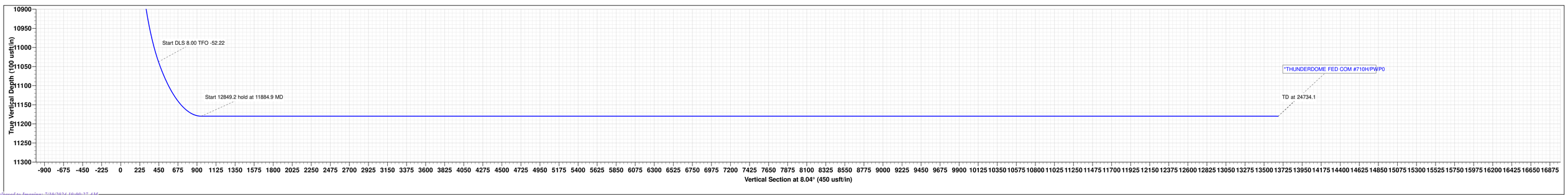
SECTION DETAILS

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
1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0
2666.7	13.00	97.50	2659.2	-12.8	97.1	1.50	97.50	0.9
3837.4	13.00	97.50	3800.0	-47.2	358.2	0.00	0.00	3.4
3972.2	15.00	90.00	3930.8	-49.1	390.7	2.00	-45.90	6.0
8185.0	15.00	90.00	8000.0	-49.1	1481.0	0.00	0.00	158.4
9685.0	0.00	0.00	9482.9	-49.1	1676.2	1.00	180.00	185.7
10725.2	0.00	0.00	10523.2	-49.1	1676.2	0.00	0.00	185.7
10743.6	0.00	0.00	10541.6	-49.1	1676.2	0.00	0.00	185.7
11343.6	60.00	32.60	11037.8	192.2	1830.6	10.00	32.60	446.3
11884.9	90.00	359.77	11180.0	684.0	1962.1	8.00	-52.22	951.6
24734.1	90.00	359.77	11180.0	13533.0	1911.0	0.00	0.00	13667.3









PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 710H
SURFACE HOLE FOOTAGE:	2275'/S & 2294'/E
BOTTOM HOLE FOOTAGE	50'/N & 330'/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.

Approval Date: 06/07/2024

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 **10,600** 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 **24,734** 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:

 Approval Date: 06/07/2024

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

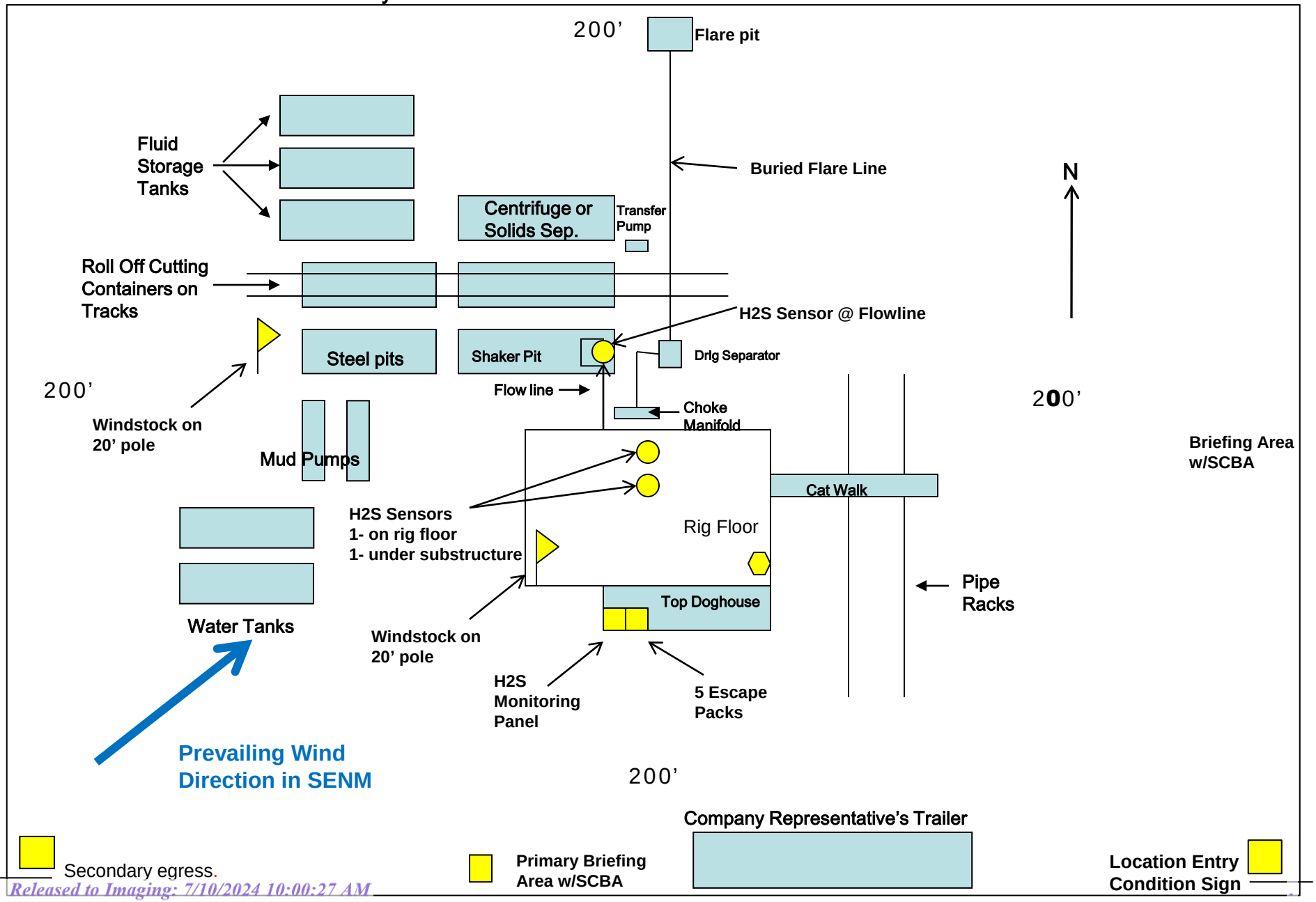
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location 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
H_2S 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 (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S 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 H_2S 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. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S 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 H_2S 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

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

EMERGENCY RESPONSE NUMBERS

	OFFICE
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 352724

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 352724
	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