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.
30-015-55235

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: NESW / 2210 FSL / 1492 FWL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2892802 / LONG: -103.8554778 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 2540 FNL / 330 FWL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.290767 / LONG: -103.859248 (TVD: 11349 feet, MD: 11775 feet)

PPP: SWSW / 1 FSL / 330 FWL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977488 / LONG: -103.8592888 (TVD: 11350 feet, MD: 14316 feet)

BHL: NWNW / 50 FNL / 330 FWL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3267049 / LONG: -103.8592204 (TVD: 11350 feet, MD: 24848 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- 55235	98358 96597	Los Medanos WC23S30E; Wolfcamp (Gas)

[4] Property Code	[5] Property Name	[6] Well Number
336009	THUNDERDOME FED COM	701H

[7] OGRID No.	[8] Operator Name	[9] Elevation
217817	CONOCOPHILLIPS COMPANY	3,250.67'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	23	23-S	30-E		2,210'	SOUTH	1,492'	WEST	EDDY

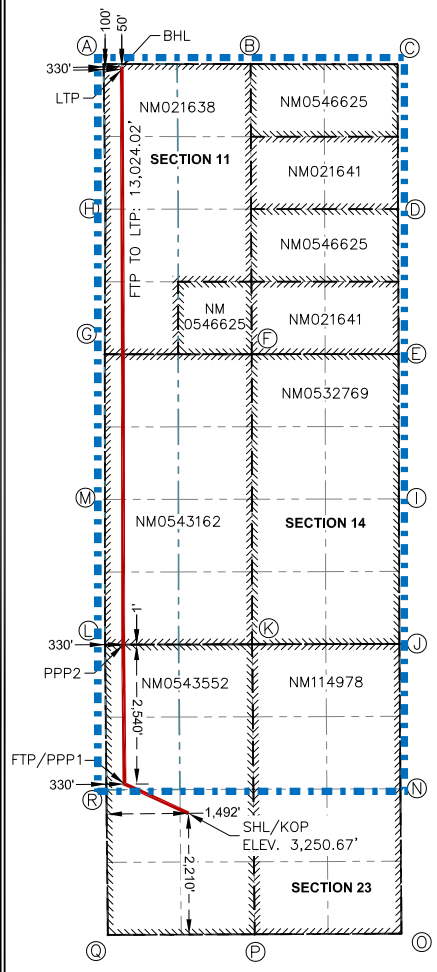
[11] Bottom Hole Location If Different From Surface

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

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

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

[16]



SURFACE HOLE LOCATION / KICK OFF POINT
2,210' FSL & 1,492' FWL
NEW MEXICO EAST-NAD 83
NORTH:469,302.44'
EAST:689,000.76'
LAT:32.28928202
LONG:-103.85547788

FIRST TAKE POINT / PENETRATION POINT 1
2,540' FNL & 330' FWL
NEW MEXICO EAST-NAD 83
NORTH:469,837.58'
EAST:687,833.31'
LAT:32.290767
LONG:-103.859248

PENETRATION POINT 2
1' FSL & 330' FWL
NEW MEXICO EAST-NAD 83
NORTH:472,377.35'
EAST:687,809.50'
LAT:32.29774880
LONG:-103.85928884

LAST TAKE POINT
100' FNL & 330' FWL
NEW MEXICO EAST-NAD 83
NORTH:482,861.44'
EAST:687,784.64'
LAT:32.32656751
LONG:-103.85921922

BOTTOM HOLE LOCATION
50' FNL & 330' FWL
NEW MEXICO EAST-NAD 83
NORTH:482,911.44'
EAST:687,784.02'
LAT:32.32670496
LONG:-103.85922049

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'
O-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

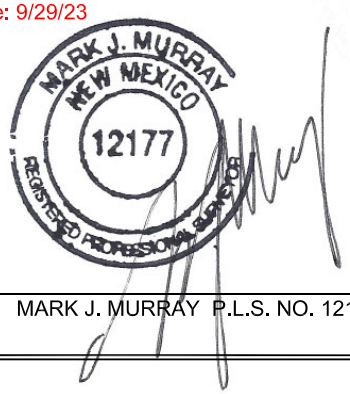
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this 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 701H	30-015-	K-23-23S-30E	2210 FSL & 1492 FWL	± 1135	± 3485	± 4339
Thunderdome Federal Com 702H	30-015-	K-23-23S-30E	2210 FSL & 1522 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 703H	30-015-	K-23-23S-30E	2210 FSL & 1552 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 704H	30-015-	K-23-23S-30E	2210 FSL & 1582 FWL	± 1091	± 3230	± 4172
Thunderdome Federal Com 705H	30-015-	K-23-23S-30E	2210 FSL & 1612 FWL	± 1091	± 3230	± 4172

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

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

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

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	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 #701H

1. Geologic Formations

TVD of target	11,259' EOL	Pilot hole depth	NA
MD at TD:	24,848'	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	486	Salt	
Base of Salt	3550	Salt	
Lamar	3771	Salt Water	
Bell Canyon	3785	Salt Water	
Brushy Canyon	5273	Oil/Gas	
Bone Spring Lime	7681	Oil/Gas	
1st Bone Spring Sand	8674	Oil/Gas	
2nd Bone Spring Sand	9334	Oil/Gas	
3rd Bone Spring Sand	10606	Oil/Gas	
Wolfcamp A	11169	Target	
Wolfcamp B	11485	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	1.18	3.30	3.34
8.750"	7400	10750	7.625"	29.7	P110 ICY	W513	1.29	1.53	2.94	1.75
6.75"	0	10250	5.5"	23	P110 CY	BTC	2.18	2.58	3.09	3.07
6.75"	10250	24,848	5.5"	23	P110 CY	W441	1.99	2.35	2.82	2.73
					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 #701H

	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 #701H

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						
	1373	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	9,750'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #701H

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 #701H

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	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7320 psi at 11259' 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

701H

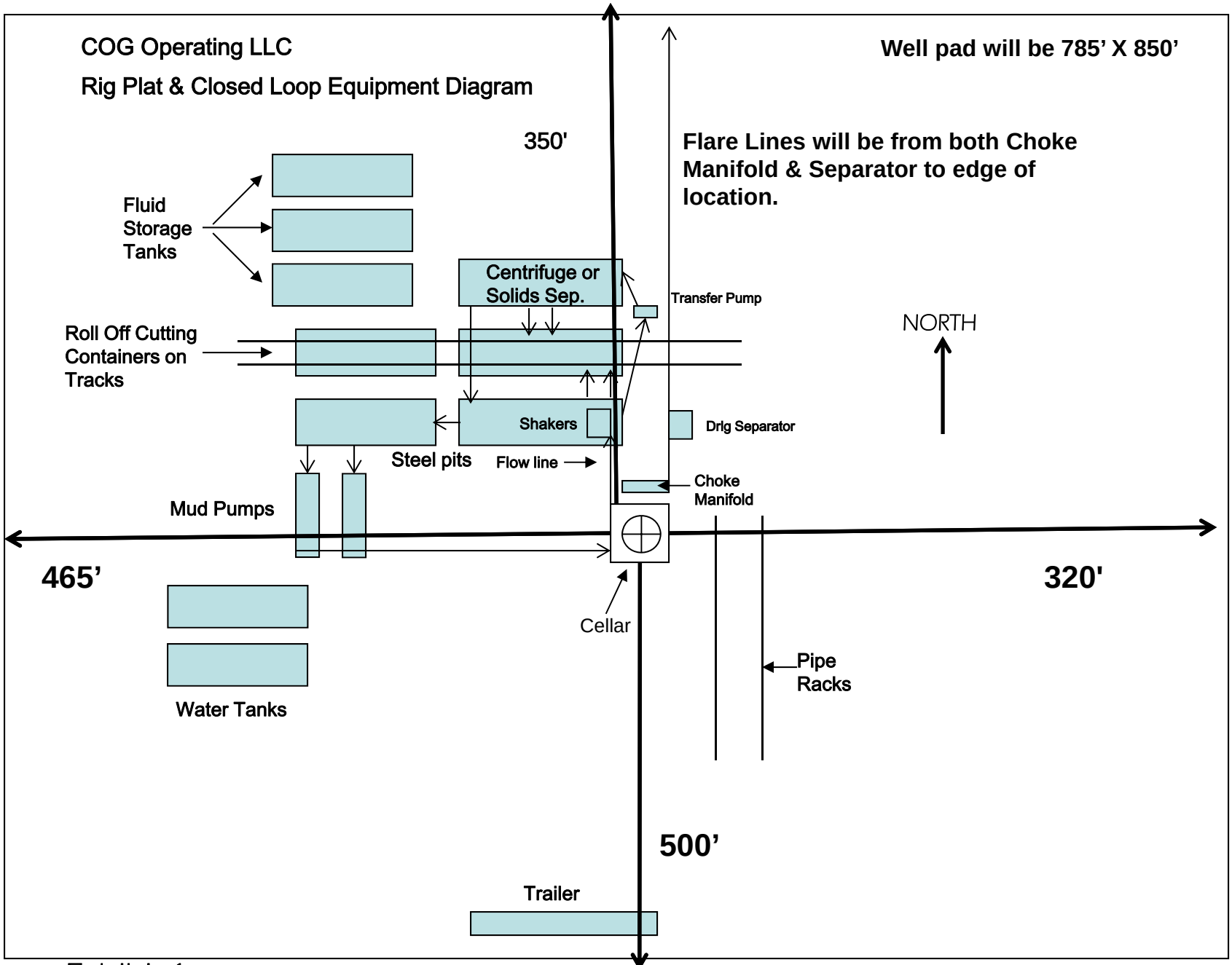


Exhibit 1

" 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 #701H**

OWB
PWP0

Anticollision Report

07 July, 2023

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 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** 7/7/2023

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	24,848.0	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	7,785.1	7,790.9	113.4	83.6	3.798	CC
*THUNDERDOME FED COM #521H - OWB - PWP0	7,900.0	7,903.7	115.5	82.5	3.500	ES
*THUNDERDOME FED COM #521H - OWB - PWP0	8,300.0	8,298.9	140.5	94.4	3.048	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	1,500.0	1,500.0	1,466.9	1,455.2	125.008	CC
*THUNDERDOME FED COM #522H - OWB - PWP0	2,800.0	2,989.9	1,467.8	1,450.6	85.390	ES
*THUNDERDOME FED COM #522H - OWB - PWP0	6,500.0	6,445.0	1,994.8	1,955.5	50.712	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	1,500.0	1,500.0	1,585.6	1,573.9	135.126	CC, ES
*THUNDERDOME FED COM #523H - OWB - PWP0	3,300.0	2,817.2	1,959.6	1,941.4	107.867	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	1,500.0	1,500.0	30.1	18.4	2.565	CC, ES, SF
*THUNDERDOME FED COM #703H - OWB - PWP0	1,500.0	1,500.0	60.0	48.3	5.117	CC, ES
*THUNDERDOME FED COM #703H - OWB - PWP0	24,848.5	24,725.4	1,026.0	814.1	4.841	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	1,500.0	1,500.0	90.0	78.3	7.670	CC, ES
*THUNDERDOME FED COM #704H - OWB - PWP0	24,848.5	24,574.2	1,548.4	1,338.3	7.370	SF
*THUNDERDOME FED COM #705H - OWB - PWP0	1,500.0	1,500.0	120.0	108.3	10.227	CC, ES
*THUNDERDOME FED COM #705H - OWB - PWP0	1,600.0	1,600.0	121.1	109.1	10.065	SF
*THUNDERDOME FED COM #706H - OWB - PWP0	1,500.0	1,500.0	1,451.8	1,440.1	123.723	CC, ES
*THUNDERDOME FED COM #706H - OWB - PWP0	5,100.0	5,053.3	1,982.3	1,953.8	69.515	SF
*THUNDERDOME FED COM #707H - OWB - PWP0	1,500.0	1,500.0	1,481.8	1,470.1	126.277	CC, ES
*THUNDERDOME FED COM #707H - OWB - PWP0	3,900.0	3,632.4	1,975.9	1,953.5	87.968	SF
*THUNDERDOME FED COM #708H - OWB - PWP0	1,500.0	1,500.0	1,511.8	1,500.0	128.830	CC, ES
*THUNDERDOME FED COM #708H - OWB - PWP0	4,000.0	3,592.6	1,988.6	1,966.7	90.749	SF
*THUNDERDOME FED COM #709H - OWB - PWP0	1,500.0	1,500.0	1,541.7	1,530.0	131.384	CC, ES
*THUNDERDOME FED COM #709H - OWB - PWP0	3,700.0	3,208.5	1,996.8	1,976.6	99.128	SF
*THUNDERDOME FED COM #710H - OWB - PWP0	1,500.0	1,500.0	1,571.7	1,560.0	133.938	CC, ES
*THUNDERDOME FED COM #710H - OWB - PWP0	3,400.0	2,959.6	1,989.2	1,970.1	104.167	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	8,198.1	8,217.8	44.6	13.0	1.414	Shut in Produces, CC
*THUNDERDOME FED COM 501H - OWB - PWP0	8,400.0	8,418.2	50.5	6.7	1.152	Shut in Produces, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	8,500.0	8,517.8	55.5	6.9	1.143	Shut in Produces, SF
*THUNDERDOME FED COM 502H - OWB - PWP0	1,500.0	1,500.0	161.7	149.9	13.778	CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	24,848.5	23,110.8	1,993.7	1,791.4	9.857	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	1,500.0	1,500.0	1,496.6	1,484.8	127.536	CC, ES
*THUNDERDOME FED COM 503H - OWB - PWP0	6,800.0	6,747.7	1,999.6	1,957.5	47.447	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,500.0	1,500.0	1,526.2	1,514.5	130.065	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	3,600.0	3,250.7	1,994.9	1,973.9	95.112	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,500.0	1,500.0	1,555.9	1,544.2	132.595	CC, ES
*THUNDERDOME FED COM 505H - OWB - PWP0	3,400.0	2,888.1	1,986.2	1,967.2	104.632	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

TD Summary

Site Name 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	24,848.5	23,546.4	1,200.0	976.0	5.356	
*THUNDERDOME FED COM #522H - OWB - PWP0	24,848.5	23,466.8				Out of Range @TD
*THUNDERDOME FED COM #523H - OWB - PWP0	24,848.5	23,558.2				Out of Range @TD
*THUNDERDOME FED COM #702H - OWB - PWP0	24,848.5	24,631.4	540.4	340.4	2.702	
*THUNDERDOME FED COM #703H - OWB - PWP0	24,848.5	24,725.4	1,026.0	814.1	4.841	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	24,848.5	24,574.2	1,548.4	1,338.3	7.370	SF
*THUNDERDOME FED COM #705H - OWB - PWP0	24,848.5	24,799.9				Out of Range @TD
*THUNDERDOME FED COM #706H - OWB - PWP0	24,848.5	24,469.4				Out of Range @TD
*THUNDERDOME FED COM #707H - OWB - PWP0	24,848.5	24,750.1				Out of Range @TD
*THUNDERDOME FED COM #708H - OWB - PWP0	24,848.5	24,486.5				Out of Range @TD
*THUNDERDOME FED COM #709H - OWB - PWP0	24,848.5	24,802.4				Out of Range @TD
*THUNDERDOME FED COM #710H - OWB - PWP0	24,848.5	24,734.5				Out of Range @TD
*THUNDERDOME FED COM 501H - OWB - PWP0	24,848.5	23,200.4	1,625.0	1,400.1	7.226	
*THUNDERDOME FED COM 502H - OWB - PWP0	24,848.5	23,110.8	1,993.7	1,791.4	9.857	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	24,848.5	23,140.7				Out of Range @TD
*THUNDERDOME FED COM 504H - OWB - PWP0	24,848.5	22,854.8				Out of Range @TD
*THUNDERDOME FED COM 505H - OWB - PWP0	24,848.5	23,061.6				Out of Range @TD

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0

Offset Site Error: 0.0 usft

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

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	150.1	0.0	150.1	143.7	6.43	23.353	
100.0	100.0	100.0	100.0	3.2	3.2	0.00	150.1	0.0	150.1	143.2	6.89	21.782	
200.0	200.0	200.0	200.0	3.5	3.5	0.00	150.1	0.0	150.1	142.8	7.33	20.487	
300.0	300.0	300.0	300.0	3.7	3.7	0.00	150.1	0.0	150.1	142.4	7.74	19.393	
400.0	400.0	400.0	400.0	3.9	3.9	0.00	150.1	0.0	150.1	142.0	8.14	18.454	
500.0	500.0	500.0	500.0	4.1	4.1	0.00	150.1	0.0	150.1	141.6	8.51	17.634	
600.0	600.0	600.0	600.0	4.2	4.2	0.00	150.1	0.0	150.1	141.3	8.88	16.911	
700.0	700.0	700.0	700.0	4.4	4.4	0.00	150.1	0.0	150.1	140.9	9.23	16.267	
800.0	800.0	800.0	800.0	4.6	4.6	0.00	150.1	0.0	150.1	140.6	9.57	15.687	
900.0	900.0	900.0	900.0	4.8	4.8	0.00	150.1	0.0	150.1	140.2	9.90	15.162	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	0.00	150.1	0.0	150.1	139.9	10.22	14.683	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	0.00	150.1	0.0	150.1	139.6	10.54	14.244	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	0.00	150.1	0.0	150.1	139.3	10.85	13.840	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	0.00	150.1	0.0	150.1	139.0	11.15	13.466	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	0.00	150.1	0.0	150.1	138.7	11.44	13.118	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	0.00	150.1	0.0	150.1	138.4	11.73	12.794	
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	125.40	150.1	0.0	150.9	138.9	12.02	12.555	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	126.57	150.1	0.0	153.2	140.9	12.29	12.465	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	128.44	150.1	0.0	157.2	144.6	12.57	12.504	
1,900.0	1,899.3	1,900.0	1,900.0	6.4	6.3	130.45	150.0	-1.3	162.8	150.0	12.85	12.667	
2,000.0	1,998.7	2,000.5	2,000.4	6.6	6.4	131.84	149.8	-5.2	169.0	155.9	13.13	12.877	
2,100.0	2,098.2	2,101.2	2,100.9	6.8	6.6	132.29	149.3	-11.8	174.8	161.4	13.40	13.039	
2,200.0	2,197.6	2,202.0	2,201.2	7.0	6.8	131.88	148.7	-21.1	180.0	166.3	13.68	13.154	
2,300.0	2,297.1	2,302.7	2,301.2	7.3	7.0	130.68	147.8	-32.9	184.8	170.8	13.96	13.234	
2,400.0	2,396.5	2,403.1	2,400.6	7.5	7.3	128.75	146.8	-47.4	189.3	175.0	14.23	13.298	
2,500.0	2,496.0	2,503.2	2,499.3	7.8	7.5	126.15	145.6	-64.4	193.7	179.2	14.49	13.370	
2,600.0	2,595.4	2,602.8	2,596.9	8.1	7.8	122.94	144.3	-83.8	198.4	183.6	14.73	13.466	
2,700.0	2,694.8	2,702.1	2,694.1	8.4	8.1	108.46	142.8	-104.4	202.9	188.0	14.96	13.562	
2,800.0	2,794.0	2,801.7	2,791.4	8.7	8.4	96.70	141.4	-125.1	206.4	191.2	15.19	13.587	
2,900.0	2,893.0	2,901.4	2,889.0	9.0	8.7	87.77	139.9	-145.8	208.6	193.1	15.42	13.528	
3,000.0	2,991.7	3,001.3	2,986.7	9.3	9.0	81.07	138.5	-166.5	209.1	193.4	15.64	13.367	
3,100.0	3,090.0	3,101.3	3,084.5	9.6	9.4	76.77	137.0	-187.2	207.9	192.1	15.85	13.124	
3,200.0	3,188.2	3,201.2	3,182.3	10.0	9.7	76.19	135.6	-208.0	206.2	190.1	16.11	12.800	
3,300.0	3,286.3	3,301.2	3,280.0	10.3	10.1	75.60	134.1	-228.7	204.5	188.1	16.36	12.499	
3,400.0	3,384.5	3,401.2	3,377.8	10.7	10.4	75.00	132.7	-249.4	202.8	186.2	16.62	12.202	
3,500.0	3,482.7	3,501.1	3,475.6	11.0	10.8	74.39	131.2	-270.2	201.1	184.3	16.89	11.908	
3,600.0	3,580.8	3,601.1	3,573.4	11.4	11.2	73.77	129.8	-290.9	199.5	182.3	17.17	11.618	
3,700.0	3,679.0	3,701.1	3,671.2	11.8	11.6	73.14	128.3	-311.6	197.9	180.4	17.47	11.330	
3,800.0	3,777.1	3,801.0	3,768.9	12.1	12.0	72.50	126.9	-332.4	196.3	178.5	17.77	11.046	
3,900.0	3,875.3	3,901.0	3,866.7	12.5	12.4	71.85	125.4	-353.1	194.7	176.6	18.09	10.765	
4,000.0	3,973.5	4,000.9	3,964.5	12.9	12.8	71.19	124.0	-373.8	193.2	174.8	18.42	10.487	
4,100.0	4,071.6	4,100.9	4,062.3	13.3	13.2	70.52	122.5	-394.6	191.7	172.9	18.77	10.211	
4,200.0	4,169.8	4,200.9	4,160.0	13.7	13.6	69.84	121.1	-415.3	190.2	171.0	19.13	9.939	
4,300.0	4,268.0	4,300.8	4,257.8	14.1	14.0	69.14	119.6	-436.0	188.7	169.2	19.51	9.670	
4,400.0	4,366.1	4,400.8	4,355.6	14.5	14.5	68.44	118.2	-456.8	187.3	167.4	19.91	9.404	
4,500.0	4,464.3	4,500.8	4,453.4	14.9	14.9	67.73	116.7	-477.5	185.9	165.5	20.33	9.142	
4,600.0	4,562.4	4,600.7	4,551.2	15.4	15.3	67.00	115.3	-498.2	184.5	163.7	20.77	8.883	
4,700.0	4,660.6	4,700.7	4,648.9	15.8	15.8	66.26	113.8	-518.9	183.1	161.9	21.23	8.627	
4,800.0	4,758.8	4,800.6	4,746.7	16.2	16.2	65.52	112.4	-539.7	181.8	160.1	21.71	8.376	
4,900.0	4,856.9	4,900.6	4,844.5	16.6	16.6	64.76	110.9	-560.4	180.5	158.3	22.21	8.129	
5,000.0	4,955.1	5,000.6	4,942.3	17.0	17.1	63.99	109.5	-581.1	179.3	156.5	22.74	7.886	
5,100.0	5,053.3	5,100.5	5,040.1	17.5	17.5	63.21	108.0	-601.9	178.1	154.8	23.28	7.647	
5,200.0	5,151.4	5,200.5	5,137.8	17.9	17.9	62.42	106.6	-622.6	176.9	153.0	23.86	7.414	
5,300.0	5,249.6	5,300.5	5,235.6	18.3	18.4	61.62	105.1	-643.3	175.7	151.3	24.46	7.185	
5,400.0	5,347.7	5,400.4	5,333.4	18.8	18.8	60.81	103.7	-664.1	174.6	149.5	25.08	6.962	
5,500.0	5,445.9	5,500.4	5,431.2	19.2	19.3	59.99	102.2	-684.8	173.5	147.8	25.73	6.744	
5,600.0	5,544.1	5,600.3	5,528.9	19.6	19.7	59.16	100.8	-705.5	172.5	146.1	26.41	6.532	
5,700.0	5,642.2	5,700.3	5,626.7	20.1	20.2	58.32	99.3	-726.3	171.5	144.4	27.11	6.325	
5,800.0	5,740.4	5,800.3	5,724.5	20.5	20.6	57.47	97.9	-747.0	170.5	142.7	27.84	6.124	
5,900.0	5,838.6	5,900.2	5,822.3	21.0	21.1	56.61	96.4	-767.7	169.6	141.0	28.60	5.929	
6,000.0	5,936.7	6,000.2	5,920.1	21.4	21.5	55.74	95.0	-788.5	168.7	139.3	29.38	5.741	
6,100.0	6,034.9	6,100.2	6,017.8	21.8	22.0	54.86	93.5	-809.2	167.8	137.6	30.19	5.558	
6,200.0	6,133.1	6,200.1	6,115.6	22.3	22.4	53.98	92.1	-829.9	167.0	136.0	31.03	5.382	
6,300.0	6,231.2	6,300.1	6,213.4	22.7	22.9	53.08	90.6	-850.7	166.2	134.3	31.89	5.211	
6,400.0	6,329.4	6,400.1	6,311.2	23.2	23.4	52.18	89.2	-871.4	165.5	132.7	32.78	5.047	

Rule Assigned:

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #521H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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
6,500.0	6,427.5	6,500.0	6,409.0	23.6	23.8	51.26	87.7	-892.1	164.8	131.1	33.70	4.889	
6,600.0	6,525.7	6,600.1	6,506.8	24.1	24.3	50.35	86.3	-912.9	164.1	129.5	34.64	4.738	
6,700.0	6,623.9	6,701.7	6,606.4	24.5	24.8	49.70	84.9	-933.0	162.9	127.4	35.53	4.586	
6,800.0	6,722.0	6,803.3	6,706.4	25.0	25.2	49.57	83.6	-951.3	160.8	124.6	36.18	4.444	
6,900.0	6,820.2	6,904.8	6,806.5	25.4	25.7	49.98	82.5	-967.8	157.6	121.0	36.58	4.308	
7,000.0	6,918.4	7,006.2	6,906.9	25.9	26.1	50.96	81.4	-982.5	153.5	116.7	36.72	4.179	
7,100.0	7,016.5	7,107.5	7,007.2	26.3	26.5	52.58	80.5	-995.5	148.4	111.9	36.55	4.061	
7,200.0	7,114.7	7,208.4	7,107.6	26.8	26.9	54.93	79.7	-1,006.6	142.7	106.6	36.02	3.961	
7,300.0	7,212.8	7,309.1	7,207.8	27.2	27.3	58.13	79.1	-1,016.0	136.4	101.3	35.08	3.888	
7,400.0	7,311.0	7,409.3	7,307.8	27.7	27.7	62.33	78.6	-1,023.5	129.9	96.1	33.71	3.852	
7,500.0	7,409.2	7,509.2	7,407.4	28.1	28.0	67.69	78.2	-1,029.3	123.6	91.6	32.00	3.862	
7,600.0	7,507.3	7,608.5	7,506.7	28.6	28.3	74.35	77.9	-1,033.4	118.2	87.9	30.29	3.903	
7,700.0	7,605.5	7,707.3	7,605.4	29.0	28.6	82.32	77.7	-1,035.7	114.5	85.2	29.33	3.906	
7,785.1	7,689.0	7,790.9	7,689.0	29.4	28.7	90.01	77.7	-1,036.3	113.4	83.6	29.86	3.798 CC	
7,800.0	7,703.7	7,805.5	7,703.7	29.5	28.7	91.42	77.7	-1,036.3	113.5	83.3	30.12	3.766	
7,900.0	7,801.8	7,903.7	7,801.8	29.9	28.8	100.74	77.7	-1,036.3	115.5	82.5	33.00	3.500 ES	
8,000.0	7,900.2	8,002.1	7,900.2	30.4	28.8	109.05	77.7	-1,036.3	120.2	83.4	36.78	3.267	
8,100.0	7,998.9	8,100.8	7,998.9	30.8	28.9	115.96	77.7	-1,036.3	126.4	86.0	40.43	3.127	
8,200.0	8,097.9	8,199.7	8,097.9	31.3	28.9	121.54	77.7	-1,036.3	133.4	89.9	43.55	3.063	
8,300.0	8,197.1	8,298.9	8,197.1	31.7	28.9	125.98	77.7	-1,036.3	140.5	94.4	46.11	3.048 SF	
8,400.0	8,296.5	8,398.3	8,296.5	32.1	28.9	129.47	77.7	-1,036.3	147.2	99.1	48.15	3.058	
8,500.0	8,396.0	8,497.9	8,396.0	32.5	29.0	132.16	77.7	-1,036.3	153.3	103.5	49.76	3.080	
8,600.0	8,495.8	8,597.6	8,495.8	32.8	29.0	134.20	77.7	-1,036.3	158.4	107.3	51.04	3.103	
8,700.0	8,595.6	8,697.4	8,595.6	33.2	29.0	135.67	77.7	-1,036.3	162.4	110.4	52.02	3.122	
8,800.0	8,695.5	8,797.4	8,695.5	33.5	29.1	136.65	77.7	-1,036.3	165.3	112.5	52.76	3.133	
8,900.0	8,795.5	8,897.3	8,795.5	33.8	29.1	137.19	77.7	-1,036.3	166.9	113.7	53.25	3.134	
9,000.0	8,895.5	8,997.3	8,895.5	33.9	29.1	49.32	77.7	-1,036.3	167.3	113.9	53.43	3.131	
9,100.0	8,995.5	9,097.3	8,995.5	33.9	29.2	49.32	77.7	-1,036.3	167.3	113.8	53.50	3.127	
9,200.0	9,095.5	9,197.3	9,095.5	33.9	29.2	49.32	77.7	-1,036.3	167.3	113.7	53.56	3.123	
9,300.0	9,195.5	9,297.3	9,195.5	34.0	29.2	49.32	77.7	-1,036.3	167.3	113.7	53.63	3.120	
9,400.0	9,295.5	9,397.3	9,295.5	34.0	29.2	49.32	77.7	-1,036.3	167.3	113.6	53.69	3.116	
9,500.0	9,395.5	9,497.3	9,395.5	34.0	29.3	49.32	77.7	-1,036.3	167.3	113.5	53.75	3.112	
9,600.0	9,495.5	9,597.3	9,495.5	34.0	29.3	49.32	77.7	-1,036.3	167.3	113.5	53.82	3.108	
9,681.5	9,577.0	9,678.8	9,577.0	34.0	29.3	49.32	77.7	-1,036.3	167.3	113.4	53.87	3.106	
9,700.0	9,595.5	9,694.9	9,593.0	34.0	29.3	49.25	77.9	-1,036.4	167.4	113.7	53.72	3.117	
9,800.0	9,695.5	9,780.6	9,678.2	34.1	29.4	46.75	86.6	-1,037.8	173.0	121.3	51.74	3.344	
9,900.0	9,795.5	9,862.0	9,757.0	34.1	29.4	41.58	106.3	-1,041.0	188.1	140.0	48.06	3.913	
10,000.0	9,895.5	9,936.4	9,826.0	34.1	29.5	35.45	133.8	-1,045.5	214.4	170.7	43.77	4.899	
10,100.0	9,995.5	10,000.0	9,881.6	34.1	29.6	29.95	164.2	-1,050.5	252.8	212.6	40.22	6.285	
10,200.0	10,095.5	10,060.3	9,930.9	34.2	29.6	24.98	198.4	-1,056.1	302.3	264.2	38.06	7.942	
10,300.0	10,195.5	10,110.2	9,968.8	34.2	29.7	21.25	230.5	-1,061.4	361.0	323.9	37.17	9.713	
10,400.0	10,295.5	10,150.0	9,996.8	34.2	29.7	18.56	258.3	-1,065.9	427.3	390.2	37.14	11.506	
10,500.0	10,395.5	10,200.0	10,029.2	34.3	29.7	15.56	295.9	-1,072.1	499.6	462.2	37.39	13.362	
10,600.0	10,495.5	10,221.8	10,042.3	34.3	29.8	14.38	313.1	-1,074.9	576.1	538.0	38.07	15.134	
10,700.0	10,595.5	10,250.0	10,058.1	34.3	29.8	12.96	336.1	-1,078.7	656.4	617.7	38.73	16.951	
10,800.0	10,695.5	10,273.4	10,070.4	34.3	29.8	11.86	355.7	-1,081.9	739.7	700.3	39.41	18.770	
10,900.0	10,795.5	10,300.0	10,083.4	34.3	29.8	10.38	378.6	-1,085.6	825.2	785.1	40.05	20.602	
11,000.0	10,894.6	10,317.0	10,091.1	34.3	29.8	7.69	393.6	-1,088.1	906.4	865.6	40.79	22.221	
11,100.0	10,990.2	10,350.0	10,104.9	34.4	29.9	5.77	423.2	-1,092.9	979.7	938.1	41.53	23.587	
11,200.0	11,079.3	10,369.4	10,112.1	34.4	29.9	4.72	441.0	-1,095.8	1,043.6	1,001.3	42.33	24.656	
11,300.0	11,159.3	10,400.0	10,122.3	34.4	29.9	3.87	469.4	-1,100.5	1,097.8	1,054.7	43.11	25.463	
11,400.0	11,227.6	10,428.3	10,130.3	34.4	29.9	3.28	496.3	-1,104.9	1,141.4	1,097.5	43.89	26.008	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
11,500.0	11,282.2	10,450.0	10,135.5	34.4	30.0	2.90	517.0	-1,108.3	1,174.0	1,129.4	44.61	26.315	
11,600.0	11,321.4	10,500.0	10,144.5	34.5	30.0	2.39	565.5	-1,116.2	1,195.2	1,149.8	45.38	26.339	
11,700.0	11,344.2	10,522.4	10,147.2	34.6	30.0	2.18	587.5	-1,119.8	1,204.6	1,158.6	46.02	26.178	
11,800.0	11,350.0	10,550.0	10,149.2	34.6	30.0	1.98	614.6	-1,124.3	1,202.7	1,156.1	46.57	25.825	
11,900.0	11,350.0	10,601.3	10,150.0	34.7	30.1	1.60	665.2	-1,132.5	1,200.5	1,153.3	47.15	25.462	
12,000.0	11,350.0	10,699.5	10,150.0	34.8	30.2	0.98	762.5	-1,145.9	1,200.2	1,152.2	47.98	25.013	
12,100.0	11,350.0	10,798.4	10,150.0	35.0	30.4	0.51	861.0	-1,156.1	1,200.0	1,151.2	48.83	24.575	
12,200.0	11,350.0	10,898.0	10,150.0	35.1	30.5	0.20	960.3	-1,162.9	1,200.0	1,150.3	49.68	24.156	
12,300.0	11,350.0	10,997.9	10,150.0	35.3	30.7	0.06	1,060.1	-1,166.2	1,200.0	1,149.5	50.50	23.763	
12,350.0	11,350.0	11,047.8	10,150.0	35.4	30.8	0.05	1,110.0	-1,166.6	1,200.0	1,149.1	50.90	23.577	
12,400.0	11,350.0	11,097.8	10,150.0	35.5	30.9	0.05	1,160.0	-1,166.8	1,200.0	1,148.7	51.30	23.394	
12,500.0	11,350.0	11,197.8	10,150.0	35.7	31.1	0.05	1,260.0	-1,167.2	1,200.0	1,147.9	52.13	23.021	
12,600.0	11,350.0	11,297.8	10,150.0	35.9	31.3	0.05	1,360.0	-1,167.6	1,200.0	1,147.0	52.99	22.645	
12,700.0	11,350.0	11,397.8	10,150.0	36.1	31.5	0.05	1,460.0	-1,168.0	1,200.0	1,146.1	53.89	22.269	
12,800.0	11,350.0	11,497.8	10,150.0	36.3	31.8	0.05	1,560.0	-1,168.4	1,200.0	1,145.2	54.81	21.893	
12,900.0	11,350.0	11,597.8	10,150.0	36.6	32.0	0.05	1,660.0	-1,168.9	1,200.0	1,144.2	55.76	21.519	
13,000.0	11,350.0	11,697.8	10,150.0	36.9	32.3	0.05	1,760.0	-1,169.3	1,200.0	1,143.3	56.74	21.148	
13,100.0	11,350.0	11,797.8	10,150.0	37.2	32.6	0.05	1,860.0	-1,169.7	1,200.0	1,142.3	57.75	20.780	
13,200.0	11,350.0	11,897.8	10,150.0	37.5	33.0	0.05	1,960.0	-1,170.1	1,200.0	1,141.2	58.78	20.417	
13,300.0	11,350.0	11,997.8	10,150.0	37.8	33.3	0.05	2,060.0	-1,170.5	1,200.0	1,140.2	59.83	20.058	
13,400.0	11,350.0	12,097.8	10,150.0	38.1	33.6	0.05	2,160.0	-1,170.9	1,200.0	1,139.1	60.90	19.705	
13,500.0	11,350.0	12,197.8	10,150.0	38.4	34.0	0.05	2,260.0	-1,171.3	1,200.0	1,138.0	61.99	19.358	
13,600.0	11,350.0	12,297.8	10,150.0	38.8	34.4	0.05	2,360.0	-1,171.7	1,200.0	1,136.9	63.10	19.016	
13,700.0	11,350.0	12,397.8	10,150.0	39.2	34.8	0.05	2,460.0	-1,172.1	1,200.0	1,135.8	64.23	18.682	
13,800.0	11,350.0	12,497.8	10,150.0	39.5	35.2	0.05	2,560.0	-1,172.5	1,200.0	1,134.6	65.38	18.354	
13,900.0	11,350.0	12,597.8	10,150.0	39.9	35.6	0.05	2,660.0	-1,172.9	1,200.0	1,133.5	66.54	18.033	
14,000.0	11,350.0	12,697.8	10,150.0	40.3	36.0	0.04	2,760.0	-1,173.3	1,200.0	1,132.3	67.72	17.719	
14,100.0	11,350.0	12,797.8	10,150.0	40.7	36.4	0.04	2,860.0	-1,173.7	1,200.0	1,131.1	68.92	17.412	
14,200.0	11,350.0	12,897.8	10,150.0	41.1	36.9	0.04	2,960.0	-1,174.1	1,200.0	1,129.9	70.13	17.112	
14,300.0	11,350.0	12,997.8	10,150.0	41.6	37.3	0.04	3,060.0	-1,174.5	1,200.0	1,128.7	71.35	16.819	
14,400.0	11,350.0	13,097.8	10,150.0	42.0	37.8	0.04	3,160.0	-1,174.9	1,200.0	1,127.4	72.58	16.533	
14,500.0	11,350.0	13,197.8	10,150.0	42.5	38.3	0.04	3,260.0	-1,175.3	1,200.0	1,126.2	73.83	16.254	
14,600.0	11,350.0	13,297.8	10,150.0	42.9	38.8	0.04	3,360.0	-1,175.7	1,200.0	1,124.9	75.08	15.982	
14,700.0	11,350.0	13,397.8	10,150.0	43.4	39.3	0.04	3,460.0	-1,176.1	1,200.0	1,123.7	76.35	15.717	
14,800.0	11,350.0	13,497.8	10,150.0	43.9	39.8	0.04	3,560.0	-1,176.5	1,200.0	1,122.4	77.63	15.458	
14,900.0	11,350.0	13,597.8	10,150.0	44.3	40.3	0.04	3,660.0	-1,176.9	1,200.0	1,121.1	78.92	15.206	
15,000.0	11,350.0	13,697.8	10,150.0	44.8	40.8	0.04	3,760.0	-1,177.3	1,200.0	1,119.8	80.21	14.960	
15,100.0	11,350.0	13,797.8	10,150.0	45.3	41.3	0.04	3,860.0	-1,177.7	1,200.0	1,118.5	81.52	14.720	
15,200.0	11,350.0	13,897.8	10,150.0	45.8	41.9	0.04	3,960.0	-1,178.1	1,200.0	1,117.2	82.83	14.487	
15,300.0	11,350.0	13,997.8	10,150.0	46.3	42.4	0.04	4,060.0	-1,178.5	1,200.0	1,115.8	84.16	14.259	
15,400.0	11,350.0	14,097.8	10,150.0	46.9	43.0	0.04	4,160.0	-1,178.9	1,200.0	1,114.5	85.49	14.037	
15,500.0	11,350.0	14,197.8	10,150.0	47.4	43.5	0.04	4,260.0	-1,179.4	1,200.0	1,113.2	86.82	13.821	
15,600.0	11,350.0	14,297.8	10,150.0	47.9	44.1	0.04	4,360.0	-1,179.8	1,200.0	1,111.8	88.17	13.610	
15,700.0	11,350.0	14,397.8	10,150.0	48.5	44.7	0.04	4,460.0	-1,180.2	1,200.0	1,110.5	89.52	13.405	
15,800.0	11,350.0	14,497.8	10,150.0	49.0	45.2	0.04	4,560.0	-1,180.6	1,200.0	1,109.1	90.88	13.205	
15,900.0	11,350.0	14,597.8	10,150.0	49.6	45.8	0.04	4,660.0	-1,181.0	1,200.0	1,107.8	92.24	13.009	
16,000.0	11,350.0	14,697.8	10,150.0	50.1	46.4	0.04	4,760.0	-1,181.4	1,200.0	1,106.4	93.61	12.819	
16,100.0	11,350.0	14,797.8	10,150.0	50.7	47.0	0.04	4,860.0	-1,181.8	1,200.0	1,105.0	94.98	12.634	
16,200.0	11,350.0	14,897.8	10,150.0	51.2	47.6	0.04	4,960.0	-1,182.2	1,200.0	1,103.6	96.36	12.453	
16,300.0	11,350.0	14,997.8	10,150.0	51.8	48.2	0.04	5,060.0	-1,182.6	1,200.0	1,102.3	97.75	12.276	
16,400.0	11,350.0	15,097.8	10,150.0	52.4	48.8	0.03	5,160.0	-1,183.0	1,200.0	1,100.9	99.14	12.104	
16,500.0	11,350.0	15,197.8	10,150.0	53.0	49.4	0.03	5,260.0	-1,183.4	1,200.0	1,099.5	100.53	11.936	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
16,600.0	11,350.0	15,297.8	10,150.0	53.6	50.0	0.03	5,360.0	-1,183.8	1,200.0	1,098.1	101.93	11.772	
16,700.0	11,350.0	15,397.8	10,150.0	54.2	50.6	0.03	5,460.0	-1,184.2	1,200.0	1,096.7	103.34	11.613	
16,800.0	11,350.0	15,497.8	10,150.0	54.8	51.2	0.03	5,560.0	-1,184.6	1,200.0	1,095.3	104.74	11.457	
16,900.0	11,350.0	15,597.8	10,150.0	55.3	51.9	0.03	5,660.0	-1,185.0	1,200.0	1,093.8	106.16	11.304	
17,000.0	11,350.0	15,697.8	10,150.0	56.0	52.5	0.03	5,760.0	-1,185.4	1,200.0	1,092.4	107.57	11.155	
17,100.0	11,350.0	15,797.8	10,150.0	56.6	53.1	0.03	5,860.0	-1,185.8	1,200.0	1,091.0	108.99	11.010	
17,200.0	11,350.0	15,897.8	10,150.0	57.2	53.8	0.03	5,960.0	-1,186.2	1,200.0	1,089.6	110.41	10.868	
17,300.0	11,350.0	15,997.8	10,150.0	57.8	54.4	0.03	6,060.0	-1,186.6	1,200.0	1,088.2	111.84	10.730	
17,400.0	11,350.0	16,097.8	10,150.0	58.4	55.0	0.03	6,160.0	-1,187.0	1,200.0	1,086.7	113.27	10.594	
17,500.0	11,350.0	16,197.8	10,150.0	59.0	55.7	0.03	6,260.0	-1,187.4	1,200.0	1,085.3	114.70	10.462	
17,600.0	11,350.0	16,297.8	10,150.0	59.7	56.3	0.03	6,360.0	-1,187.8	1,200.0	1,083.9	116.13	10.333	
17,700.0	11,350.0	16,397.8	10,150.0	60.3	57.0	0.03	6,460.0	-1,188.2	1,200.0	1,082.4	117.57	10.207	
17,800.0	11,350.0	16,497.8	10,150.0	60.9	57.6	0.03	6,560.0	-1,188.6	1,200.0	1,081.0	119.01	10.083	
17,900.0	11,350.0	16,597.8	10,150.0	61.5	58.3	0.03	6,660.0	-1,189.0	1,200.0	1,079.5	120.46	9.962	
18,000.0	11,350.0	16,697.8	10,150.0	62.2	58.9	0.03	6,760.0	-1,189.4	1,200.0	1,078.1	121.90	9.844	
18,100.0	11,350.0	16,797.8	10,150.0	62.8	59.6	0.03	6,860.0	-1,189.9	1,200.0	1,076.6	123.35	9.728	
18,200.0	11,350.0	16,897.8	10,150.0	63.5	60.3	0.03	6,960.0	-1,190.3	1,200.0	1,075.2	124.80	9.615	
18,300.0	11,350.0	16,997.8	10,150.0	64.1	60.9	0.03	7,060.0	-1,190.7	1,200.0	1,073.7	126.26	9.505	
18,400.0	11,350.0	17,097.8	10,150.0	64.8	61.6	0.03	7,160.0	-1,191.1	1,200.0	1,072.3	127.71	9.396	
18,500.0	11,350.0	17,197.8	10,150.0	65.4	62.3	0.03	7,260.0	-1,191.5	1,200.0	1,070.8	129.17	9.290	
18,600.0	11,350.0	17,297.8	10,150.0	66.1	62.9	0.03	7,360.0	-1,191.9	1,200.0	1,069.4	130.63	9.186	
18,700.0	11,350.0	17,397.8	10,150.0	66.7	63.6	0.03	7,460.0	-1,192.3	1,200.0	1,067.9	132.09	9.085	
18,800.0	11,350.0	17,497.8	10,150.0	67.4	64.3	0.03	7,560.0	-1,192.7	1,200.0	1,066.4	133.55	8.985	
18,900.0	11,350.0	17,597.8	10,150.0	68.0	65.0	0.02	7,660.0	-1,193.1	1,200.0	1,065.0	135.02	8.888	
19,000.0	11,350.0	17,697.8	10,150.0	68.7	65.7	0.02	7,760.0	-1,193.5	1,200.0	1,063.5	136.49	8.792	
19,100.0	11,350.0	17,797.8	10,150.0	69.4	66.3	0.02	7,860.0	-1,193.9	1,200.0	1,062.0	137.96	8.698	
19,200.0	11,350.0	17,897.8	10,150.0	70.0	67.0	0.02	7,960.0	-1,194.3	1,200.0	1,060.6	139.43	8.607	
19,300.0	11,350.0	17,997.8	10,150.0	70.7	67.7	0.02	8,060.0	-1,194.7	1,200.0	1,059.1	140.90	8.517	
19,400.0	11,350.0	18,097.8	10,150.0	71.4	68.4	0.02	8,160.0	-1,195.1	1,200.0	1,057.6	142.37	8.428	
19,500.0	11,350.0	18,197.8	10,150.0	72.0	69.1	0.02	8,260.0	-1,195.5	1,200.0	1,056.1	143.85	8.342	
19,600.0	11,350.0	18,297.8	10,150.0	72.7	69.8	0.02	8,360.0	-1,195.9	1,200.0	1,054.7	145.33	8.257	
19,700.0	11,350.0	18,397.8	10,150.0	73.4	70.5	0.02	8,460.0	-1,196.3	1,200.0	1,053.2	146.81	8.174	
19,800.0	11,350.0	18,497.8	10,150.0	74.1	71.2	0.02	8,560.0	-1,196.7	1,200.0	1,051.7	148.29	8.092	
19,900.0	11,350.0	18,597.8	10,150.0	74.8	71.9	0.02	8,660.0	-1,197.1	1,200.0	1,050.2	149.77	8.012	
20,000.0	11,350.0	18,697.8	10,150.0	75.4	72.6	0.02	8,760.0	-1,197.5	1,200.0	1,048.7	151.25	7.934	
20,100.0	11,350.0	18,797.8	10,150.0	76.1	73.3	0.02	8,860.0	-1,197.9	1,200.0	1,047.3	152.74	7.857	
20,200.0	11,350.0	18,897.8	10,150.0	76.8	74.0	0.02	8,960.0	-1,198.3	1,200.0	1,045.8	154.22	7.781	
20,300.0	11,350.0	18,997.8	10,150.0	77.5	74.7	0.02	9,060.0	-1,198.7	1,200.0	1,044.3	155.71	7.707	
20,400.0	11,350.0	19,097.8	10,150.0	78.2	75.4	0.02	9,160.0	-1,199.1	1,200.0	1,042.8	157.20	7.634	
20,500.0	11,350.0	19,197.8	10,150.0	78.9	76.1	0.02	9,260.0	-1,199.5	1,200.0	1,041.3	158.69	7.562	
20,600.0	11,350.0	19,297.8	10,150.0	79.6	76.8	0.02	9,360.0	-1,199.9	1,200.0	1,039.8	160.18	7.492	
20,700.0	11,350.0	19,397.8	10,150.0	80.2	77.5	0.02	9,460.0	-1,200.3	1,200.0	1,038.3	161.67	7.423	
20,800.0	11,350.0	19,497.8	10,150.0	80.9	78.2	0.02	9,560.0	-1,200.8	1,200.0	1,036.8	163.16	7.355	
20,900.0	11,350.0	19,597.8	10,150.0	81.6	78.9	0.02	9,660.0	-1,201.2	1,200.0	1,035.3	164.65	7.288	
21,000.0	11,350.0	19,697.8	10,150.0	82.3	79.6	0.02	9,760.0	-1,201.6	1,200.0	1,033.9	166.15	7.222	
21,100.0	11,350.0	19,797.8	10,150.0	83.0	80.3	0.02	9,860.0	-1,202.0	1,200.0	1,032.4	167.64	7.158	
21,200.0	11,350.0	19,897.8	10,150.0	83.7	81.0	0.02	9,960.0	-1,202.4	1,200.0	1,030.9	169.14	7.095	
21,300.0	11,350.0	19,997.8	10,150.0	84.4	81.7	0.01	10,060.0	-1,202.8	1,200.0	1,029.4	170.64	7.032	
21,400.0	11,350.0	20,097.8	10,150.0	85.1	82.4	0.01	10,160.0	-1,203.2	1,200.0	1,027.9	172.14	6.971	
21,500.0	11,350.0	20,197.8	10,150.0	85.8	83.2	0.01	10,260.0	-1,203.6	1,200.0	1,026.4	173.64	6.911	
21,600.0	11,350.0	20,297.8	10,150.0	86.5	83.9	0.01	10,360.0	-1,204.0	1,200.0	1,024.9	175.14	6.852	
21,700.0	11,350.0	20,397.8	10,150.0	87.2	84.6	0.01	10,460.0	-1,204.4	1,200.0	1,023.4	176.64	6.794	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
21,800.0	11,350.0	20,497.8	10,150.0	87.9	85.3	0.01	10,560.0	-1,204.8	1,200.0	1,021.9	178.14	6.736	
21,900.0	11,350.0	20,597.8	10,150.0	88.6	86.0	0.01	10,660.0	-1,205.2	1,200.0	1,020.4	179.64	6.680	
22,000.0	11,350.0	20,697.8	10,150.0	89.3	86.7	0.01	10,760.0	-1,205.6	1,200.0	1,018.9	181.14	6.625	
22,100.0	11,350.0	20,797.8	10,150.0	90.1	87.5	0.01	10,860.0	-1,206.0	1,200.0	1,017.4	182.65	6.570	
22,200.0	11,350.0	20,897.8	10,150.0	90.8	88.2	0.01	10,960.0	-1,206.4	1,200.0	1,015.8	184.15	6.516	
22,300.0	11,350.0	20,997.8	10,150.0	91.5	88.9	0.01	11,060.0	-1,206.8	1,200.0	1,014.3	185.66	6.463	
22,400.0	11,350.0	21,097.8	10,150.0	92.2	89.6	0.01	11,160.0	-1,207.2	1,200.0	1,012.8	187.17	6.411	
22,500.0	11,350.0	21,197.8	10,150.0	92.9	90.3	0.01	11,260.0	-1,207.6	1,200.0	1,011.3	188.67	6.360	
22,600.0	11,350.0	21,297.8	10,150.0	93.6	91.1	0.01	11,360.0	-1,208.0	1,200.0	1,009.8	190.18	6.310	
22,700.0	11,350.0	21,397.8	10,150.0	94.3	91.8	0.01	11,460.0	-1,208.4	1,200.0	1,008.3	191.69	6.260	
22,800.0	11,350.0	21,497.8	10,150.0	95.0	92.5	0.01	11,560.0	-1,208.8	1,200.0	1,006.8	193.20	6.211	
22,900.0	11,350.0	21,597.8	10,150.0	95.7	93.2	0.01	11,660.0	-1,209.2	1,200.0	1,005.3	194.71	6.163	
23,000.0	11,350.0	21,697.8	10,150.0	96.5	94.0	0.01	11,760.0	-1,209.6	1,200.0	1,003.8	196.22	6.116	
23,100.0	11,350.0	21,797.8	10,150.0	97.2	94.7	0.01	11,860.0	-1,210.0	1,200.0	1,002.3	197.73	6.069	
23,200.0	11,350.0	21,897.8	10,150.0	97.9	95.4	0.01	11,960.0	-1,210.4	1,200.0	1,000.8	199.24	6.023	
23,300.0	11,350.0	21,997.8	10,150.0	98.6	96.1	0.01	12,060.0	-1,210.8	1,200.0	999.2	200.75	5.978	
23,400.0	11,350.0	22,097.8	10,150.0	99.3	96.9	0.01	12,160.0	-1,211.3	1,200.0	997.7	202.26	5.933	
23,500.0	11,350.0	22,197.8	10,150.0	100.0	97.6	0.01	12,260.0	-1,211.7	1,200.0	996.2	203.78	5.889	
23,600.0	11,350.0	22,297.8	10,150.0	100.8	98.3	0.01	12,360.0	-1,212.1	1,200.0	994.7	205.29	5.845	
23,700.0	11,350.0	22,397.8	10,150.0	101.5	99.1	0.00	12,459.9	-1,212.5	1,200.0	993.2	206.80	5.803	
23,800.0	11,350.0	22,497.8	10,150.0	102.2	99.8	0.00	12,559.9	-1,212.9	1,200.0	991.7	208.32	5.760	
23,900.0	11,350.0	22,597.8	10,150.0	102.9	100.5	0.00	12,659.9	-1,213.3	1,200.0	990.2	209.83	5.719	
24,000.0	11,350.0	22,697.8	10,150.0	103.7	101.2	0.00	12,759.9	-1,213.7	1,200.0	988.7	211.35	5.678	
24,100.0	11,350.0	22,797.8	10,150.0	104.4	102.0	0.00	12,859.9	-1,214.1	1,200.0	987.1	212.87	5.637	
24,200.0	11,350.0	22,897.8	10,150.0	105.1	102.7	0.00	12,959.9	-1,214.5	1,200.0	985.6	214.38	5.597	
24,300.0	11,350.0	22,997.8	10,150.0	105.8	103.4	0.00	13,059.9	-1,214.9	1,200.0	984.1	215.90	5.558	
24,400.0	11,350.0	23,097.8	10,150.0	106.5	104.2	0.00	13,159.9	-1,215.3	1,200.0	982.6	217.42	5.519	
24,500.0	11,350.0	23,197.8	10,150.0	107.3	104.9	0.00	13,259.9	-1,215.7	1,200.0	981.1	218.93	5.481	
24,600.0	11,350.0	23,297.8	10,150.0	108.0	105.6	0.00	13,359.9	-1,216.1	1,200.0	979.5	220.45	5.443	
24,700.0	11,350.0	23,397.8	10,150.0	108.7	106.4	0.00	13,459.9	-1,216.5	1,200.0	978.0	221.97	5.406	
24,800.0	11,350.0	23,497.8	10,150.0	109.5	107.1	0.00	13,559.9	-1,216.9	1,200.0	976.5	223.49	5.369	
24,832.9	11,350.0	23,530.8	10,150.0	109.7	107.4	0.00	13,592.9	-1,217.0	1,200.0	976.1	223.86	5.360	
24,848.5	11,350.0	23,546.4	10,150.0	109.7	107.5	0.00	13,608.5	-1,217.1	1,200.0	976.0	224.04	5.356	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	81.31	221.7	1,450.0	1,466.9	1,460.5	6.43	228.173	
100.0	100.0	100.0	100.0	3.2	3.2	81.31	221.7	1,450.0	1,466.9	1,460.0	6.89	212.830	
200.0	200.0	200.0	200.0	3.5	3.5	81.31	221.7	1,450.0	1,466.9	1,459.6	7.33	200.173	
300.0	300.0	300.0	300.0	3.7	3.7	81.31	221.7	1,450.0	1,466.9	1,459.2	7.74	189.490	
400.0	400.0	400.0	400.0	3.9	3.9	81.31	221.7	1,450.0	1,466.9	1,458.8	8.14	180.308	
500.0	500.0	500.0	500.0	4.1	4.1	81.31	221.7	1,450.0	1,466.9	1,458.4	8.51	172.302	
600.0	600.0	600.0	600.0	4.2	4.2	81.31	221.7	1,450.0	1,466.9	1,458.0	8.88	165.236	
700.0	700.0	700.0	700.0	4.4	4.4	81.31	221.7	1,450.0	1,466.9	1,457.7	9.23	158.937	
800.0	800.0	800.0	800.0	4.6	4.6	81.31	221.7	1,450.0	1,466.9	1,457.3	9.57	153.273	
900.0	900.0	900.0	900.0	4.8	4.8	81.31	221.7	1,450.0	1,466.9	1,457.0	9.90	148.143	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.31	221.7	1,450.0	1,466.9	1,456.7	10.22	143.467	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.31	221.7	1,450.0	1,466.9	1,456.4	10.54	139.179	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.31	221.7	1,450.0	1,466.9	1,456.1	10.85	135.229	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.31	221.7	1,450.0	1,466.9	1,455.8	11.15	131.573	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.31	221.7	1,450.0	1,466.9	1,455.5	11.44	128.176	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.31	221.7	1,450.0	1,466.9	1,455.2	11.73	125.008 CC	
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-153.71	221.7	1,450.0	1,468.1	1,456.0	12.03	121.991	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-153.75	221.7	1,450.0	1,471.6	1,459.3	12.33	119.388	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-153.83	221.7	1,450.0	1,477.5	1,464.8	12.63	116.985	
1,900.0	1,899.3	1,954.6	1,954.5	6.4	6.4	-153.98	220.1	1,447.4	1,483.8	1,470.8	13.03	113.861	
2,000.0	1,998.7	2,110.3	2,109.9	6.6	6.6	-154.11	215.0	1,439.4	1,487.7	1,474.2	13.43	110.803	
2,100.0	2,098.2	2,266.2	2,265.1	6.8	6.9	-154.15	206.7	1,426.0	1,487.7	1,473.8	13.87	107.285	
2,200.0	2,197.6	2,390.2	2,388.0	7.0	7.1	-154.12	197.8	1,411.8	1,484.6	1,470.4	14.24	104.250	
2,300.0	2,297.1	2,490.2	2,486.9	7.3	7.3	-154.08	190.4	1,400.0	1,481.2	1,466.5	14.66	101.025	
2,400.0	2,396.5	2,590.1	2,585.9	7.5	7.6	-154.05	183.1	1,388.2	1,477.7	1,462.6	15.11	97.772	
2,500.0	2,496.0	2,690.1	2,684.9	7.8	7.8	-154.02	175.7	1,376.4	1,474.3	1,458.7	15.59	94.555	
2,600.0	2,595.4	2,790.0	2,783.8	8.1	8.1	-153.98	168.3	1,364.6	1,470.9	1,454.8	16.10	91.362	
2,700.0	2,694.8	2,889.9	2,882.8	8.4	8.4	-165.20	161.0	1,352.8	1,468.3	1,451.7	16.62	88.324	
2,777.8	2,772.0	2,967.7	2,959.8	8.6	8.6	-172.52	155.2	1,343.7	1,467.7	1,450.7	17.06	86.016	
2,800.0	2,794.0	2,989.9	2,981.8	8.7	8.7	-174.34	153.6	1,341.0	1,467.8	1,450.6	17.19	85.390 ES	
2,900.0	2,893.0	3,089.7	3,080.7	9.0	9.0	178.76	146.2	1,329.2	1,469.2	1,451.4	17.78	82.612	
3,000.0	2,991.7	3,189.5	3,179.4	9.3	9.3	173.56	138.9	1,317.5	1,472.7	1,454.3	18.41	80.009	
3,100.0	3,090.0	3,289.0	3,277.9	9.6	9.7	170.28	131.5	1,305.7	1,478.1	1,459.1	19.02	77.722	
3,200.0	3,188.2	3,388.4	3,376.4	10.0	10.0	170.63	124.2	1,294.0	1,484.3	1,464.6	19.68	75.406	
3,300.0	3,286.3	3,479.8	3,466.9	10.3	10.3	170.94	117.6	1,283.4	1,490.8	1,470.5	20.33	73.336	
3,400.0	3,384.5	3,568.7	3,555.0	10.7	10.6	171.23	111.5	1,273.6	1,498.0	1,477.0	20.97	71.428	
3,500.0	3,482.7	3,657.5	3,643.2	11.0	10.9	171.50	105.7	1,264.4	1,505.9	1,484.3	21.62	69.663	
3,600.0	3,580.8	3,746.2	3,731.4	11.4	11.2	171.76	100.4	1,255.9	1,514.6	1,492.3	22.27	68.020	
3,700.0	3,679.0	3,834.9	3,819.6	11.8	11.5	172.01	95.4	1,247.9	1,524.0	1,501.0	22.92	66.494	
3,800.0	3,777.1	3,923.6	3,907.8	12.1	11.8	172.24	90.7	1,240.4	1,534.1	1,510.5	23.57	65.078	
3,900.0	3,875.3	4,012.1	3,995.9	12.5	12.1	172.46	86.5	1,233.6	1,544.9	1,520.7	24.23	63.765	
4,000.0	3,973.5	4,100.0	4,083.5	12.9	12.4	172.66	82.6	1,227.4	1,556.5	1,531.6	24.88	62.553	
4,100.0	4,071.6	4,188.8	4,172.1	13.3	12.7	172.85	79.0	1,221.7	1,568.7	1,543.2	25.54	61.426	
4,200.0	4,169.8	4,277.0	4,260.1	13.7	13.0	173.03	75.8	1,216.6	1,581.7	1,555.5	26.19	60.390	
4,300.0	4,268.0	4,365.1	4,348.0	14.1	13.3	173.19	73.0	1,212.1	1,595.3	1,568.5	26.84	59.437	
4,400.0	4,366.1	4,453.0	4,435.8	14.5	13.6	173.34	70.6	1,208.2	1,609.7	1,582.2	27.49	58.560	
4,500.0	4,464.3	4,540.8	4,523.5	14.9	13.8	173.47	68.5	1,204.8	1,624.7	1,596.6	28.13	57.758	
4,600.0	4,562.4	4,628.5	4,611.1	15.4	14.1	173.59	66.8	1,202.1	1,640.4	1,611.6	28.77	57.026	
4,700.0	4,660.6	4,715.9	4,698.5	15.8	14.3	173.70	65.4	1,199.9	1,656.8	1,627.4	29.40	56.362	
4,800.0	4,758.8	4,800.0	4,782.6	16.2	14.6	173.79	64.4	1,198.3	1,673.8	1,643.8	30.00	55.786	
4,900.0	4,856.9	4,890.3	4,872.8	16.6	14.8	173.88	63.7	1,197.2	1,691.6	1,660.9	30.62	55.239	
5,000.0	4,955.1	4,977.1	4,959.7	17.0	15.0	173.95	63.4	1,196.7	1,709.9	1,678.7	31.20	54.805	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,100.0	5,053.3	5,070.7	5,053.3	17.5	15.1	174.01	63.3	1,196.6	1,728.9	1,697.1	31.73	54.486	
5,200.0	5,151.4	5,168.8	5,151.4	17.9	15.1	174.08	63.3	1,196.6	1,747.9	1,715.6	32.25	54.201	
5,300.0	5,249.6	5,267.0	5,249.6	18.3	15.2	174.14	63.3	1,196.6	1,766.8	1,734.1	32.77	53.921	
5,400.0	5,347.7	5,365.2	5,347.7	18.8	15.2	174.20	63.3	1,196.6	1,785.8	1,752.5	33.29	53.642	
5,500.0	5,445.9	5,463.3	5,445.9	19.2	15.3	174.27	63.3	1,196.6	1,804.8	1,771.0	33.82	53.364	
5,600.0	5,544.1	5,561.5	5,544.1	19.6	15.3	174.33	63.3	1,196.6	1,823.8	1,789.4	34.35	53.088	
5,700.0	5,642.2	5,659.7	5,642.2	20.1	15.4	174.38	63.3	1,196.6	1,842.8	1,807.9	34.89	52.813	
5,800.0	5,740.4	5,757.8	5,740.4	20.5	15.4	174.44	63.3	1,196.6	1,861.8	1,826.4	35.44	52.541	
5,900.0	5,838.6	5,856.0	5,838.6	21.0	15.5	174.50	63.3	1,196.6	1,880.8	1,844.8	35.98	52.271	
6,000.0	5,936.7	5,954.2	5,936.7	21.4	15.5	174.55	63.3	1,196.6	1,899.8	1,863.2	36.53	52.003	
6,100.0	6,034.9	6,052.3	6,034.9	21.8	15.6	174.61	63.3	1,196.6	1,918.8	1,881.7	37.09	51.739	
6,200.0	6,133.1	6,150.5	6,133.1	22.3	15.6	174.66	63.3	1,196.6	1,937.8	1,900.1	37.64	51.477	
6,300.0	6,231.2	6,248.6	6,231.2	22.7	15.7	174.71	63.3	1,196.6	1,956.8	1,918.6	38.20	51.219	
6,400.0	6,329.4	6,346.8	6,329.4	23.2	15.7	174.76	63.3	1,196.6	1,975.8	1,937.0	38.77	50.964	
6,500.0	6,427.5	6,445.0	6,427.5	23.6	15.8	174.81	63.3	1,196.6	1,994.8	1,955.5	39.34	50.712 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	81.96	221.7	1,570.0	1,585.6	1,579.2	6.43	246.640	
100.0	100.0	100.0	100.0	3.2	3.2	81.96	221.7	1,570.0	1,585.6	1,578.7	6.89	230.056	
200.0	200.0	200.0	200.0	3.5	3.5	81.96	221.7	1,570.0	1,585.6	1,578.3	7.33	216.374	
300.0	300.0	300.0	300.0	3.7	3.7	81.96	221.7	1,570.0	1,585.6	1,577.9	7.74	204.826	
400.0	400.0	400.0	400.0	3.9	3.9	81.96	221.7	1,570.0	1,585.6	1,577.5	8.14	194.902	
500.0	500.0	500.0	500.0	4.1	4.1	81.96	221.7	1,570.0	1,585.6	1,577.1	8.51	186.247	
600.0	600.0	600.0	600.0	4.2	4.2	81.96	221.7	1,570.0	1,585.6	1,576.7	8.88	178.610	
700.0	700.0	700.0	700.0	4.4	4.4	81.96	221.7	1,570.0	1,585.6	1,576.4	9.23	171.801	
800.0	800.0	800.0	800.0	4.6	4.6	81.96	221.7	1,570.0	1,585.6	1,576.1	9.57	165.679	
900.0	900.0	900.0	900.0	4.8	4.8	81.96	221.7	1,570.0	1,585.6	1,575.7	9.90	160.133	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.96	221.7	1,570.0	1,585.6	1,575.4	10.22	155.078	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.96	221.7	1,570.0	1,585.6	1,575.1	10.54	150.444	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.96	221.7	1,570.0	1,585.6	1,574.8	10.85	146.174	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.96	221.7	1,570.0	1,585.6	1,574.5	11.15	142.222	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.96	221.7	1,570.0	1,585.6	1,574.2	11.44	138.550	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.96	221.7	1,570.0	1,585.6	1,573.9	11.73	135.126	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-153.05	221.7	1,570.0	1,586.8	1,574.8	12.03	131.859	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-153.09	221.7	1,570.0	1,590.3	1,578.0	12.33	129.026	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-153.16	221.7	1,570.0	1,596.1	1,583.5	12.63	126.394	
1,900.0	1,899.3	1,872.5	1,872.5	6.4	6.2	-153.19	221.5	1,570.7	1,605.1	1,592.2	12.92	124.258	
2,000.0	1,998.7	1,944.9	1,944.8	6.6	6.3	-153.28	220.8	1,572.6	1,617.0	1,603.8	13.19	122.573	
2,100.0	2,098.2	2,017.0	2,016.9	6.8	6.5	-153.34	219.6	1,575.8	1,630.5	1,617.0	13.48	120.974	
2,200.0	2,197.6	2,100.0	2,099.7	7.0	6.6	-153.39	217.7	1,581.1	1,645.6	1,631.8	13.80	119.226	
2,300.0	2,297.1	2,160.2	2,159.7	7.3	6.7	-153.40	215.9	1,586.0	1,662.3	1,648.2	14.10	117.877	
2,400.0	2,396.5	2,231.2	2,230.3	7.5	6.9	-153.39	213.4	1,592.9	1,680.7	1,666.3	14.44	116.410	
2,500.0	2,496.0	2,300.0	2,298.6	7.8	7.0	-153.36	210.5	1,600.8	1,700.7	1,685.9	14.78	115.049	
2,600.0	2,595.4	2,370.6	2,368.5	8.1	7.1	-153.32	207.3	1,610.0	1,722.2	1,707.1	15.10	114.025	
2,700.0	2,694.8	2,437.8	2,434.9	8.4	7.3	-164.80	204.5	1,620.0	1,746.4	1,730.9	15.46	112.934	
2,800.0	2,794.0	2,500.0	2,496.2	8.7	7.4	-174.28	202.3	1,630.2	1,774.1	1,758.2	15.86	111.883	
2,900.0	2,893.0	2,568.9	2,564.0	9.0	7.6	178.43	200.3	1,642.6	1,805.3	1,789.0	16.31	110.693	
3,000.0	2,991.7	2,632.7	2,626.5	9.3	7.8	172.78	198.8	1,655.0	1,839.9	1,823.2	16.77	109.739	
3,100.0	3,090.0	2,700.0	2,692.3	9.6	8.0	169.07	197.6	1,669.3	1,878.0	1,860.7	17.23	108.991	
3,200.0	3,188.2	2,756.6	2,747.4	10.0	8.2	169.22	196.9	1,682.1	1,918.1	1,900.4	17.70	108.373	
3,300.0	3,286.3	2,817.2	2,806.2	10.3	8.3	169.37	196.5	1,696.7	1,959.6	1,941.4	18.17	107.867	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	89.85	0.1	30.1	30.1	23.7	6.43	4.682	
100.0	100.0	100.0	100.0	3.2	3.2	89.85	0.1	30.1	30.1	23.2	6.89	4.367	
200.0	200.0	200.0	200.0	3.5	3.5	89.85	0.1	30.1	30.1	22.8	7.33	4.107	
300.0	300.0	300.0	300.0	3.7	3.7	89.85	0.1	30.1	30.1	22.4	7.74	3.888	
400.0	400.0	400.0	400.0	3.9	3.9	89.85	0.1	30.1	30.1	22.0	8.14	3.700	
500.0	500.0	500.0	500.0	4.1	4.1	89.85	0.1	30.1	30.1	21.6	8.51	3.536	
600.0	600.0	600.0	600.0	4.2	4.2	89.85	0.1	30.1	30.1	21.2	8.88	3.391	
700.0	700.0	700.0	700.0	4.4	4.4	89.85	0.1	30.1	30.1	20.9	9.23	3.261	
800.0	800.0	800.0	800.0	4.6	4.6	89.85	0.1	30.1	30.1	20.5	9.57	3.145	
900.0	900.0	900.0	900.0	4.8	4.8	89.85	0.1	30.1	30.1	20.2	9.90	3.040	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.85	0.1	30.1	30.1	19.9	10.22	2.944	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.85	0.1	30.1	30.1	19.6	10.54	2.856	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.85	0.1	30.1	30.1	19.3	10.85	2.775	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.85	0.1	30.1	30.1	19.0	11.15	2.700	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.85	0.1	30.1	30.1	18.7	11.44	2.630	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.85	0.1	30.1	30.1	18.4	11.73	2.565	CC, ES, SF
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-146.52	0.1	30.1	31.2	19.2	12.03	2.592	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-150.09	0.1	30.1	34.5	22.2	12.32	2.802	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-154.69	0.1	30.1	40.3	27.7	12.63	3.193	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-159.24	0.1	30.1	48.8	35.8	12.96	3.761	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-162.86	0.1	30.1	58.7	45.4	13.29	4.414	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	-165.43	0.1	30.1	68.7	55.1	13.63	5.043	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	-167.34	0.1	30.1	78.9	64.9	13.98	5.641	
2,300.0	2,297.1	2,297.1	2,297.1	7.3	6.8	-168.81	0.1	30.1	89.1	74.8	14.35	6.209	
2,400.0	2,396.5	2,396.5	2,396.5	7.5	6.9	-169.98	0.1	30.1	99.4	84.7	14.74	6.744	
2,500.0	2,496.0	2,496.0	2,496.0	7.8	7.0	-170.93	0.1	30.1	109.7	94.6	15.13	7.249	
2,600.0	2,595.4	2,598.2	2,598.2	8.1	7.2	-171.98	0.0	28.8	118.9	103.3	15.57	7.639	
2,700.0	2,694.8	2,700.9	2,700.9	8.4	7.3	175.68	-0.2	24.8	126.3	110.3	16.00	7.898	
2,800.0	2,794.0	2,803.9	2,803.6	8.7	7.5	165.97	-0.6	18.0	132.6	116.2	16.45	8.064	
2,900.0	2,893.0	2,904.7	2,904.0	9.0	7.6	159.10	-1.0	9.4	138.4	121.6	16.87	8.205	
3,000.0	2,991.7	3,004.4	3,003.3	9.3	7.8	154.71	-1.5	0.7	145.4	128.1	17.36	8.377	
3,100.0	3,090.0	3,103.9	3,102.4	9.6	7.9	152.92	-1.9	-8.0	153.9	136.0	17.85	8.621	
3,200.0	3,188.2	3,203.3	3,201.5	10.0	8.1	154.83	-2.4	-16.6	163.0	144.6	18.40	8.856	
3,300.0	3,286.3	3,302.8	3,300.6	10.3	8.3	156.54	-2.8	-25.3	172.2	153.3	18.96	9.084	
3,400.0	3,384.5	3,402.2	3,399.6	10.7	8.6	158.08	-3.3	-33.9	181.6	162.1	19.54	9.294	
3,500.0	3,482.7	3,501.7	3,498.7	11.0	8.8	159.46	-3.7	-42.6	191.1	171.0	20.14	9.489	
3,600.0	3,580.8	3,601.1	3,597.8	11.4	9.0	160.71	-4.2	-51.2	200.8	180.0	20.76	9.669	
3,700.0	3,679.0	3,700.6	3,696.8	11.8	9.3	161.85	-4.6	-59.9	210.4	189.0	21.40	9.834	
3,800.0	3,777.1	3,800.0	3,795.9	12.1	9.5	162.89	-5.1	-68.6	220.2	198.2	22.05	9.985	
3,900.0	3,875.3	3,907.6	3,902.9	12.5	9.9	163.82	-5.7	-79.8	228.4	205.6	22.77	10.028	
4,000.0	3,973.5	4,016.0	4,010.2	12.9	10.3	164.51	-6.5	-95.1	232.9	209.4	23.51	9.906	
4,100.0	4,071.6	4,121.0	4,113.6	13.3	10.6	165.00	-7.4	-113.6	234.0	209.8	24.21	9.663	
4,200.0	4,169.8	4,221.0	4,211.9	13.7	10.9	165.43	-8.4	-131.8	234.5	209.5	24.96	9.393	
4,300.0	4,268.0	4,321.0	4,310.2	14.1	11.3	165.86	-9.4	-149.9	235.0	209.3	25.72	9.136	
4,400.0	4,366.1	4,421.0	4,408.5	14.5	11.6	166.29	-10.3	-168.1	235.5	209.0	26.49	8.891	
4,500.0	4,464.3	4,521.0	4,506.8	14.9	12.0	166.72	-11.3	-186.3	236.1	208.8	27.27	8.657	
4,600.0	4,562.4	4,621.0	4,605.2	15.4	12.3	167.15	-12.2	-204.5	236.6	208.6	28.06	8.434	
4,700.0	4,660.6	4,720.9	4,703.5	15.8	12.7	167.57	-13.2	-222.7	237.2	208.3	28.86	8.220	
4,800.0	4,758.8	4,820.9	4,801.8	16.2	13.1	168.00	-14.1	-240.9	237.8	208.1	29.66	8.017	
4,900.0	4,856.9	4,920.9	4,900.1	16.6	13.5	168.42	-15.1	-259.1	238.4	207.9	30.48	7.822	
5,000.0	4,955.1	5,020.9	4,998.4	17.0	13.9	168.84	-16.0	-277.3	239.0	207.7	31.30	7.637	
5,100.0	5,053.3	5,120.9	5,096.7	17.5	14.3	169.25	-17.0	-295.5	239.6	207.5	32.12	7.459	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	5,151.4	5,220.9	5,195.0	17.9	14.7	169.67	-17.9	-313.7	240.2	207.3	32.96	7.290	
5,300.0	5,249.6	5,320.8	5,293.3	18.3	15.1	170.08	-18.9	-331.9	240.9	207.1	33.79	7.128	
5,400.0	5,347.7	5,420.8	5,391.6	18.8	15.5	170.49	-19.8	-350.1	241.6	206.9	34.64	6.974	
5,500.0	5,445.9	5,520.8	5,489.9	19.2	15.9	170.89	-20.8	-368.3	242.2	206.7	35.48	6.826	
5,600.0	5,544.1	5,620.8	5,588.2	19.6	16.3	171.30	-21.8	-386.5	242.9	206.6	36.34	6.685	
5,700.0	5,642.2	5,720.8	5,686.6	20.1	16.7	171.70	-22.7	-404.7	243.6	206.4	37.19	6.550	
5,800.0	5,740.4	5,820.8	5,784.9	20.5	17.1	172.10	-23.7	-422.9	244.3	206.3	38.05	6.421	
5,900.0	5,838.6	5,920.7	5,883.2	21.0	17.5	172.50	-24.6	-441.1	245.0	206.1	38.91	6.297	
6,000.0	5,936.7	6,020.7	5,981.5	21.4	17.9	172.90	-25.6	-459.3	245.8	206.0	39.78	6.178	
6,100.0	6,034.9	6,120.7	6,079.8	21.8	18.4	173.29	-26.5	-477.5	246.5	205.9	40.65	6.065	
6,200.0	6,133.1	6,220.7	6,178.1	22.3	18.8	173.68	-27.5	-495.7	247.3	205.7	41.51	5.956	
6,300.0	6,231.2	6,320.7	6,276.4	22.7	19.2	174.07	-28.4	-513.9	248.0	205.6	42.39	5.852	
6,400.0	6,329.4	6,420.7	6,374.7	23.2	19.6	174.45	-29.4	-532.1	248.8	205.5	43.26	5.752	
6,500.0	6,427.5	6,520.6	6,473.0	23.6	20.1	174.84	-30.3	-550.3	249.6	205.5	44.13	5.656	
6,600.0	6,525.7	6,616.9	6,567.8	24.1	20.4	175.21	-31.2	-567.2	251.0	206.1	44.98	5.581	
6,700.0	6,623.9	6,712.7	6,662.3	24.5	20.8	175.56	-32.0	-582.4	254.2	208.3	45.83	5.545	
6,800.0	6,722.0	6,808.3	6,756.9	25.0	21.2	175.91	-32.7	-596.1	258.9	212.3	46.66	5.549	
6,900.0	6,820.2	6,903.7	6,851.6	25.4	21.6	176.23	-33.4	-608.1	265.4	217.9	47.47	5.591	
7,000.0	6,918.4	7,000.0	6,947.3	25.9	22.0	176.53	-33.9	-618.7	273.5	225.3	48.27	5.667	
7,100.0	7,016.5	7,093.8	7,040.7	26.3	22.4	176.80	-34.4	-627.4	283.3	234.3	49.02	5.780	
7,200.0	7,114.7	7,188.3	7,134.9	26.8	22.7	177.04	-34.8	-634.7	294.8	245.0	49.76	5.924	
7,300.0	7,212.8	7,282.5	7,229.0	27.2	23.0	177.26	-35.1	-640.4	307.9	257.4	50.47	6.100	
7,400.0	7,311.0	7,376.3	7,322.6	27.7	23.3	177.44	-35.3	-644.6	322.6	271.4	51.14	6.307	
7,500.0	7,409.2	7,469.5	7,415.9	28.1	23.6	177.60	-35.4	-647.2	338.9	287.1	51.78	6.545	
7,600.0	7,507.3	7,562.3	7,508.6	28.6	23.8	177.73	-35.5	-648.2	356.8	304.5	52.31	6.820	
7,700.0	7,605.5	7,659.2	7,605.5	29.0	23.8	177.84	-35.5	-648.3	375.8	323.0	52.83	7.114	
7,800.0	7,703.7	7,757.3	7,703.7	29.5	23.9	177.95	-35.5	-648.3	394.9	341.5	53.35	7.402	
7,900.0	7,801.8	7,855.5	7,801.8	29.9	23.9	178.04	-35.5	-648.3	413.9	360.1	53.87	7.684	
8,000.0	7,900.2	7,953.9	7,900.2	30.4	23.9	178.13	-35.5	-648.3	431.8	377.4	54.39	7.938	
8,100.0	7,998.9	8,052.6	7,998.9	30.8	24.0	178.20	-35.5	-648.3	447.9	393.0	54.91	8.157	
8,200.0	8,097.9	8,151.6	8,097.9	31.3	24.0	178.26	-35.5	-648.3	462.3	406.8	55.41	8.342	
8,300.0	8,197.1	8,250.7	8,197.1	31.7	24.0	178.31	-35.5	-648.3	474.9	419.0	55.91	8.495	
8,400.0	8,296.5	8,350.1	8,296.5	32.1	24.1	178.35	-35.5	-648.3	485.8	429.5	56.39	8.616	
8,500.0	8,396.0	8,449.7	8,396.0	32.5	24.1	178.39	-35.5	-648.3	495.0	438.2	56.85	8.707	
8,600.0	8,495.8	8,549.4	8,495.8	32.8	24.2	178.41	-35.5	-648.3	502.5	445.2	57.30	8.770	
8,700.0	8,595.6	8,649.3	8,595.6	33.2	24.2	178.43	-35.5	-648.3	508.2	450.5	57.72	8.804	
8,800.0	8,695.5	8,749.2	8,695.5	33.5	24.2	178.44	-35.5	-648.3	512.2	454.1	58.12	8.813	
8,900.0	8,795.5	8,849.2	8,795.5	33.8	24.3	178.45	-35.5	-648.3	514.4	456.0	58.47	8.799	
9,000.0	8,895.5	8,949.2	8,895.5	33.9	24.3	90.45	-35.5	-648.3	514.9	456.3	58.62	8.785	
9,100.0	8,995.5	9,049.2	8,995.5	33.9	24.4	90.45	-35.5	-648.3	514.9	456.3	58.68	8.776	
9,200.0	9,095.5	9,149.2	9,095.5	33.9	24.4	90.45	-35.5	-648.3	514.9	456.2	58.74	8.767	
9,300.0	9,195.5	9,249.2	9,195.5	34.0	24.4	90.45	-35.5	-648.3	514.9	456.1	58.80	8.758	
9,400.0	9,295.5	9,349.2	9,295.5	34.0	24.5	90.45	-35.5	-648.3	514.9	456.1	58.86	8.749	
9,500.0	9,395.5	9,449.2	9,395.5	34.0	24.5	90.45	-35.5	-648.3	514.9	456.0	58.92	8.740	
9,600.0	9,495.5	9,549.2	9,495.5	34.0	24.6	90.45	-35.5	-648.3	514.9	456.0	58.98	8.730	
9,700.0	9,595.5	9,649.2	9,595.5	34.0	24.6	90.45	-35.5	-648.3	514.9	455.9	59.04	8.721	
9,800.0	9,695.5	9,749.2	9,695.5	34.1	24.6	90.45	-35.5	-648.3	514.9	455.8	59.11	8.712	
9,900.0	9,795.5	9,849.2	9,795.5	34.1	24.7	90.45	-35.5	-648.3	514.9	455.8	59.17	8.703	
10,000.0	9,895.5	9,949.2	9,895.5	34.1	24.7	90.45	-35.5	-648.3	514.9	455.7	59.23	8.694	
10,100.0	9,995.5	10,049.2	9,995.5	34.1	24.8	90.45	-35.5	-648.3	514.9	455.6	59.30	8.684	
10,200.0	10,095.5	10,149.2	10,095.5	34.2	24.8	90.45	-35.5	-648.3	514.9	455.6	59.36	8.675	
10,300.0	10,195.5	10,249.2	10,195.5	34.2	24.9	90.45	-35.5	-648.3	514.9	455.5	59.42	8.666	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	10,295.5	10,349.2	10,295.5	34.2	24.9	90.45	-35.5	-648.3	514.9	455.5	59.49	8.656	
10,500.0	10,395.5	10,449.2	10,395.5	34.3	24.9	90.45	-35.5	-648.3	514.9	455.4	59.55	8.647	
10,600.0	10,495.5	10,549.2	10,495.5	34.3	25.0	90.45	-35.5	-648.3	514.9	455.3	59.62	8.637	
10,700.0	10,595.5	10,649.2	10,595.5	34.3	25.0	90.45	-35.5	-648.3	514.9	455.3	59.68	8.629	
10,795.4	10,690.9	10,744.9	10,690.9	34.3	25.0	89.77	-29.3	-648.3	514.9	455.2	59.75	8.618	
10,800.0	10,695.5	10,749.4	10,695.4	34.3	25.0	89.69	-28.6	-648.3	514.9	455.2	59.75	8.617	
10,900.0	10,795.5	10,844.7	10,787.9	34.3	25.0	87.43	-6.2	-648.4	515.5	455.8	59.71	8.633	
11,000.0	10,894.6	10,934.8	10,870.8	34.3	25.1	84.46	28.9	-648.5	517.5	458.1	59.38	8.715	
11,100.0	10,990.2	11,021.6	10,944.5	34.4	25.1	81.69	74.5	-648.7	520.7	461.9	58.83	8.850	
11,200.0	11,079.3	11,105.8	11,008.6	34.4	25.1	79.18	128.9	-649.0	524.7	466.5	58.16	9.021	
11,300.0	11,159.3	11,187.7	11,062.8	34.4	25.2	76.97	190.3	-649.2	529.0	471.5	57.46	9.205	
11,400.0	11,227.6	11,268.0	11,106.8	34.4	25.2	75.12	257.4	-649.5	533.2	476.3	56.81	9.385	
11,500.0	11,282.2	11,350.0	11,141.7	34.4	25.2	73.62	331.5	-649.8	536.9	480.6	56.24	9.545	
11,600.0	11,321.4	11,425.1	11,164.0	34.5	25.3	72.59	403.1	-650.1	539.7	483.9	55.82	9.668	
11,700.0	11,344.2	11,500.0	11,176.7	34.6	25.4	71.95	476.9	-650.4	541.6	486.0	55.55	9.748	
11,800.0	11,350.0	11,585.4	11,180.0	34.6	25.4	71.73	562.1	-650.7	542.2	486.8	55.39	9.788	
11,900.0	11,350.0	11,685.4	11,180.0	34.7	25.5	71.73	662.1	-651.1	542.2	486.9	55.25	9.813	
12,000.0	11,350.0	11,785.4	11,180.0	34.8	25.7	71.73	762.1	-651.5	542.1	487.0	55.15	9.830	
12,100.0	11,350.0	11,885.4	11,180.0	35.0	25.8	71.72	862.1	-651.9	542.1	487.0	55.10	9.840	
12,200.0	11,350.0	11,985.4	11,180.0	35.1	26.0	71.72	962.1	-652.4	542.1	487.0	55.08	9.842	
12,300.0	11,350.0	12,085.4	11,180.0	35.3	26.2	71.72	1,062.1	-652.8	542.1	487.0	55.11	9.837	
12,400.0	11,350.0	12,185.4	11,180.0	35.5	26.5	71.72	1,162.1	-653.2	542.1	486.9	55.18	9.824	
12,500.0	11,350.0	12,285.4	11,180.0	35.7	26.7	71.72	1,262.1	-653.6	542.1	486.8	55.29	9.804	
12,600.0	11,350.0	12,385.4	11,180.0	35.9	27.0	71.72	1,362.1	-654.0	542.1	486.6	55.44	9.777	
12,700.0	11,350.0	12,485.4	11,180.0	36.1	27.3	71.72	1,462.1	-654.4	542.0	486.4	55.64	9.742	
12,800.0	11,350.0	12,585.4	11,180.0	36.3	27.6	71.72	1,562.1	-654.8	542.0	486.2	55.87	9.701	
12,900.0	11,350.0	12,685.4	11,180.0	36.6	27.9	71.72	1,662.1	-655.2	542.0	485.9	56.15	9.653	
13,000.0	11,350.0	12,785.4	11,180.0	36.9	28.2	71.72	1,762.1	-655.6	542.0	485.5	56.47	9.599	
13,100.0	11,350.0	12,885.4	11,180.0	37.2	28.6	71.72	1,862.1	-656.0	542.0	485.2	56.82	9.539	
13,200.0	11,350.0	12,985.4	11,180.0	37.5	29.0	71.72	1,962.1	-656.4	542.0	484.8	57.21	9.473	
13,300.0	11,350.0	13,085.4	11,180.0	37.8	29.4	71.72	2,062.1	-656.9	542.0	484.3	57.65	9.402	
13,400.0	11,350.0	13,185.4	11,180.0	38.1	29.8	71.72	2,162.1	-657.3	542.0	483.8	58.11	9.326	
13,500.0	11,350.0	13,285.4	11,180.0	38.4	30.2	71.72	2,262.1	-657.7	541.9	483.3	58.62	9.246	
13,600.0	11,350.0	13,385.4	11,180.0	38.8	30.6	71.72	2,362.1	-658.1	541.9	482.8	59.15	9.161	
13,700.0	11,350.0	13,485.4	11,180.0	39.2	31.1	71.72	2,462.1	-658.5	541.9	482.2	59.73	9.073	
13,800.0	11,350.0	13,585.4	11,180.0	39.5	31.5	71.72	2,562.1	-658.9	541.9	481.6	60.33	8.982	
13,900.0	11,350.0	13,685.4	11,180.0	39.9	32.0	71.72	2,662.1	-659.3	541.9	480.9	60.97	8.888	
14,000.0	11,350.0	13,785.4	11,180.0	40.3	32.5	71.72	2,762.1	-659.7	541.9	480.2	61.64	8.792	
14,100.0	11,350.0	13,885.4	11,180.0	40.7	33.0	71.72	2,862.1	-660.1	541.9	479.5	62.33	8.693	
14,200.0	11,350.0	13,985.4	11,180.0	41.1	33.5	71.72	2,962.1	-660.5	541.8	478.8	63.06	8.593	
14,300.0	11,350.0	14,085.4	11,180.0	41.6	34.0	71.71	3,062.1	-660.9	541.8	478.0	63.82	8.491	
14,400.0	11,350.0	14,185.4	11,180.0	42.0	34.5	71.71	3,162.1	-661.4	541.8	477.2	64.60	8.388	
14,500.0	11,350.0	14,285.4	11,180.0	42.5	35.1	71.71	3,262.1	-661.8	541.8	476.4	65.40	8.284	
14,600.0	11,350.0	14,385.4	11,180.0	42.9	35.6	71.71	3,362.1	-662.2	541.8	475.6	66.24	8.180	
14,700.0	11,350.0	14,485.4	11,180.0	43.4	36.1	71.71	3,462.1	-662.6	541.8	474.7	67.09	8.075	
14,800.0	11,350.0	14,585.4	11,180.0	43.9	36.7	71.71	3,562.1	-663.0	541.8	473.8	67.97	7.970	
14,900.0	11,350.0	14,685.4	11,180.0	44.3	37.3	71.71	3,662.1	-663.4	541.8	472.9	68.88	7.866	
15,000.0	11,350.0	14,785.4	11,180.0	44.8	37.8	71.71	3,762.1	-663.8	541.7	471.9	69.80	7.761	
15,100.0	11,350.0	14,885.4	11,180.0	45.3	38.4	71.71	3,862.1	-664.2	541.7	471.0	70.75	7.657	
15,200.0	11,350.0	14,985.4	11,180.0	45.8	39.0	71.71	3,962.1	-664.6	541.7	470.0	71.71	7.554	
15,300.0	11,350.0	15,085.4	11,180.0	46.3	39.6	71.71	4,062.1	-665.0	541.7	469.0	72.69	7.452	
15,400.0	11,350.0	15,185.4	11,180.0	46.9	40.2	71.71	4,162.1	-665.4	541.7	468.0	73.69	7.350	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	11,350.0	15,285.4	11,180.0	47.4	40.8	71.71	4,262.1	-665.9	541.7	467.0	74.71	7.250	
15,600.0	11,350.0	15,385.4	11,180.0	47.9	41.4	71.71	4,362.1	-666.3	541.7	465.9	75.75	7.151	
15,700.0	11,350.0	15,485.4	11,180.0	48.5	42.0	71.71	4,462.1	-666.7	541.6	464.8	76.80	7.053	
15,800.0	11,350.0	15,585.4	11,180.0	49.0	42.6	71.71	4,562.1	-667.1	541.6	463.8	77.87	6.956	
15,900.0	11,350.0	15,685.4	11,180.0	49.6	43.3	71.71	4,662.1	-667.5	541.6	462.7	78.95	6.860	
16,000.0	11,350.0	15,785.4	11,180.0	50.1	43.9	71.71	4,762.1	-667.9	541.6	461.6	80.05	6.766	
16,100.0	11,350.0	15,885.4	11,180.0	50.7	44.5	71.71	4,862.1	-668.3	541.6	460.4	81.16	6.674	
16,200.0	11,350.0	15,985.4	11,180.0	51.2	45.1	71.71	4,962.1	-668.7	541.6	459.3	82.28	6.582	
16,300.0	11,350.0	16,085.4	11,180.0	51.8	45.8	71.71	5,062.1	-669.1	541.6	458.2	83.41	6.493	
16,400.0	11,350.0	16,185.4	11,180.0	52.4	46.4	71.70	5,162.1	-669.5	541.6	457.0	84.56	6.404	
16,500.0	11,350.0	16,285.4	11,180.0	53.0	47.1	71.70	5,262.1	-669.9	541.5	455.8	85.72	6.318	
16,600.0	11,350.0	16,385.4	11,180.0	53.6	47.7	71.70	5,362.1	-670.4	541.5	454.6	86.89	6.232	
16,700.0	11,350.0	16,485.4	11,180.0	54.2	48.4	71.70	5,462.1	-670.8	541.5	453.4	88.07	6.149	
16,800.0	11,350.0	16,585.4	11,180.0	54.8	49.0	71.70	5,562.1	-671.2	541.5	452.2	89.26	6.067	
16,900.0	11,350.0	16,685.4	11,180.0	55.3	49.7	71.70	5,662.1	-671.6	541.5	451.0	90.46	5.986	
17,000.0	11,350.0	16,785.4	11,180.0	56.0	50.4	71.70	5,762.1	-672.0	541.5	449.8	91.67	5.907	
17,100.0	11,350.0	16,885.4	11,180.0	56.6	51.0	71.70	5,862.1	-672.4	541.5	448.6	92.89	5.829	
17,200.0	11,350.0	16,985.4	11,180.0	57.2	51.7	71.70	5,962.1	-672.8	541.5	447.3	94.12	5.753	
17,300.0	11,350.0	17,085.4	11,180.0	57.8	52.4	71.70	6,062.1	-673.2	541.4	446.1	95.35	5.678	
17,400.0	11,350.0	17,185.4	11,180.0	58.4	53.0	71.70	6,162.1	-673.6	541.4	444.8	96.60	5.605	
17,500.0	11,350.0	17,285.4	11,180.0	59.0	53.7	71.70	6,262.1	-674.0	541.4	443.6	97.85	5.533	
17,600.0	11,350.0	17,385.4	11,180.0	59.7	54.4	71.70	6,362.1	-674.4	541.4	442.3	99.11	5.463	
17,700.0	11,350.0	17,485.4	11,180.0	60.3	55.1	71.70	6,462.1	-674.9	541.4	441.0	100.37	5.394	
17,800.0	11,350.0	17,585.4	11,180.0	60.9	55.8	71.70	6,562.1	-675.3	541.4	439.7	101.65	5.326	
17,900.0	11,350.0	17,685.4	11,180.0	61.5	56.5	71.70	6,662.1	-675.7	541.4	438.4	102.93	5.260	
18,000.0	11,350.0	17,785.4	11,180.0	62.2	57.1	71.70	6,762.1	-676.1	541.3	437.1	104.21	5.195	
18,100.0	11,350.0	17,885.4	11,180.0	62.8	57.8	71.70	6,862.1	-676.5	541.3	435.8	105.51	5.131	
18,200.0	11,350.0	17,985.4	11,180.0	63.5	58.5	71.70	6,962.1	-676.9	541.3	434.5	106.80	5.068	
18,300.0	11,350.0	18,085.4	11,180.0	64.1	59.2	71.70	7,062.1	-677.3	541.3	433.2	108.11	5.007	
18,400.0	11,350.0	18,185.4	11,180.0	64.8	59.9	71.70	7,162.1	-677.7	541.3	431.9	109.42	4.947	
18,500.0	11,350.0	18,285.4	11,180.0	65.4	60.6	71.70	7,262.1	-678.1	541.3	430.5	110.73	4.888	
18,600.0	11,350.0	18,385.4	11,180.0	66.1	61.3	71.69	7,362.1	-678.5	541.3	429.2	112.05	4.831	
18,700.0	11,350.0	18,485.4	11,180.0	66.7	62.0	71.69	7,462.1	-678.9	541.3	427.9	113.38	4.774	
18,800.0	11,350.0	18,585.4	11,180.0	67.4	62.7	71.69	7,562.1	-679.4	541.2	426.5	114.71	4.719	
18,900.0	11,350.0	18,685.4	11,180.0	68.0	63.4	71.69	7,662.1	-679.8	541.2	425.2	116.04	4.664	
19,000.0	11,350.0	18,785.4	11,180.0	68.7	64.1	71.69	7,762.1	-680.2	541.2	423.8	117.38	4.611	
19,100.0	11,350.0	18,885.4	11,180.0	69.4	64.8	71.69	7,862.1	-680.6	541.2	422.5	118.72	4.559	
19,200.0	11,350.0	18,985.4	11,180.0	70.0	65.5	71.69	7,962.1	-681.0	541.2	421.1	120.07	4.507	
19,300.0	11,350.0	19,085.4	11,180.0	70.7	66.2	71.69	8,062.1	-681.4	541.2	419.8	121.42	4.457	
19,400.0	11,350.0	19,185.4	11,180.0	71.4	66.9	71.69	8,162.1	-681.8	541.2	418.4	122.77	4.408	
19,500.0	11,350.0	19,285.4	11,180.0	72.0	67.7	71.69	8,262.1	-682.2	541.1	417.0	124.13	4.359	
19,600.0	11,350.0	19,385.4	11,180.0	72.7	68.4	71.69	8,362.1	-682.6	541.1	415.6	125.49	4.312	
19,700.0	11,350.0	19,485.4	11,180.0	73.4	69.1	71.69	8,462.1	-683.0	541.1	414.3	126.86	4.265	
19,800.0	11,350.0	19,585.4	11,180.0	74.1	69.8	71.69	8,562.1	-683.4	541.1	412.9	128.23	4.220	
19,900.0	11,350.0	19,685.4	11,180.0	74.8	70.5	71.69	8,662.1	-683.9	541.1	411.5	129.60	4.175	
20,000.0	11,350.0	19,785.4	11,180.0	75.4	71.2	71.69	8,762.1	-684.3	541.1	410.1	130.98	4.131	
20,100.0	11,350.0	19,885.4	11,180.0	76.1	71.9	71.69	8,862.1	-684.7	541.1	408.7	132.36	4.088	
20,200.0	11,350.0	19,985.4	11,180.0	76.8	72.7	71.69	8,962.1	-685.1	541.1	407.3	133.74	4.046	
20,300.0	11,350.0	20,085.4	11,180.0	77.5	73.4	71.69	9,062.1	-685.5	541.0	405.9	135.12	4.004	
20,400.0	11,350.0	20,185.4	11,180.0	78.2	74.1	71.69	9,162.1	-685.9	541.0	404.5	136.51	3.963	
20,500.0	11,350.0	20,285.4	11,180.0	78.9	74.8	71.69	9,262.1	-686.3	541.0	403.1	137.90	3.923	
20,600.0	11,350.0	20,385.4	11,180.0	79.6	75.6	71.69	9,362.1	-686.7	541.0	401.7	139.29	3.884	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,700.0	11,350.0	20,485.4	11,180.0	80.2	76.3	71.69	9,462.1	-687.1	541.0	400.3	140.69	3.845	
20,800.0	11,350.0	20,585.4	11,180.0	80.9	77.0	71.68	9,562.1	-687.5	541.0	398.9	142.08	3.807	
20,900.0	11,350.0	20,685.4	11,180.0	81.6	77.7	71.68	9,662.1	-687.9	541.0	397.5	143.48	3.770	
21,000.0	11,350.0	20,785.4	11,180.0	82.3	78.4	71.68	9,762.1	-688.4	540.9	396.1	144.89	3.734	
21,100.0	11,350.0	20,885.4	11,180.0	83.0	79.2	71.68	9,862.1	-688.8	540.9	394.6	146.29	3.698	
21,200.0	11,350.0	20,985.4	11,180.0	83.7	79.9	71.68	9,962.1	-689.2	540.9	393.2	147.70	3.662	
21,300.0	11,350.0	21,085.4	11,180.0	84.4	80.6	71.68	10,062.1	-689.6	540.9	391.8	149.11	3.628	
21,400.0	11,350.0	21,185.4	11,180.0	85.1	81.4	71.68	10,162.1	-690.0	540.9	390.4	150.52	3.594	
21,500.0	11,350.0	21,285.4	11,180.0	85.8	82.1	71.68	10,262.1	-690.4	540.9	388.9	151.93	3.560	
21,600.0	11,350.0	21,385.4	11,180.0	86.5	82.8	71.68	10,362.1	-690.8	540.9	387.5	153.35	3.527	
21,700.0	11,350.0	21,485.4	11,180.0	87.2	83.5	71.68	10,462.1	-691.2	540.9	386.1	154.77	3.495	
21,800.0	11,350.0	21,585.4	11,180.0	87.9	84.3	71.68	10,562.1	-691.6	540.8	384.7	156.18	3.463	
21,900.0	11,350.0	21,685.4	11,180.0	88.6	85.0	71.68	10,662.1	-692.0	540.8	383.2	157.60	3.432	
22,000.0	11,350.0	21,785.4	11,180.0	89.3	85.7	71.68	10,762.1	-692.4	540.8	381.8	159.03	3.401	
22,100.0	11,350.0	21,885.4	11,180.0	90.1	86.5	71.68	10,862.1	-692.9	540.8	380.4	160.45	3.370	
22,200.0	11,350.0	21,985.4	11,180.0	90.8	87.2	71.68	10,962.1	-693.3	540.8	378.9	161.88	3.341	
22,300.0	11,350.0	22,085.4	11,180.0	91.5	87.9	71.68	11,062.1	-693.7	540.8	377.5	163.31	3.311	
22,400.0	11,350.0	22,185.4	11,180.0	92.2	88.7	71.68	11,162.1	-694.1	540.8	376.0	164.73	3.283	
22,500.0	11,350.0	22,285.4	11,180.0	92.9	89.4	71.68	11,262.1	-694.5	540.7	374.6	166.17	3.254	
22,600.0	11,350.0	22,385.4	11,180.0	93.6	90.1	71.68	11,362.1	-694.9	540.7	373.1	167.60	3.226	
22,700.0	11,350.0	22,485.4	11,180.0	94.3	90.9	71.68	11,462.1	-695.3	540.7	371.7	169.03	3.199	
22,800.0	11,350.0	22,585.4	11,180.0	95.0	91.6	71.68	11,562.1	-695.7	540.7	370.2	170.47	3.172	
22,900.0	11,350.0	22,685.4	11,180.0	95.7	92.4	71.67	11,662.1	-696.1	540.7	368.8	171.90	3.145	
23,000.0	11,350.0	22,785.4	11,180.0	96.5	93.1	71.67	11,762.1	-696.5	540.7	367.3	173.34	3.119	
23,100.0	11,350.0	22,885.4	11,180.0	97.2	93.8	71.67	11,862.0	-696.9	540.7	365.9	174.78	3.093	
23,200.0	11,350.0	22,985.4	11,180.0	97.9	94.6	71.67	11,962.0	-697.4	540.7	364.4	176.22	3.068	
23,300.0	11,350.0	23,085.4	11,180.0	98.6	95.3	71.67	12,062.0	-697.8	540.6	363.0	177.66	3.043	
23,400.0	11,350.0	23,185.4	11,180.0	99.3	96.1	71.67	12,162.0	-698.2	540.6	361.5	179.11	3.019	
23,500.0	11,350.0	23,285.4	11,180.0	100.0	96.8	71.67	12,262.0	-698.6	540.6	360.1	180.55	2.994	
23,600.0	11,350.0	23,385.4	11,180.0	100.8	97.5	71.67	12,362.0	-699.0	540.6	358.6	182.00	2.970	
23,700.0	11,350.0	23,485.4	11,180.0	101.5	98.3	71.67	12,462.0	-699.4	540.6	357.1	183.44	2.947	
23,800.0	11,350.0	23,585.4	11,180.0	102.2	99.0	71.67	12,562.0	-699.8	540.6	355.7	184.89	2.924	
23,900.0	11,350.0	23,685.4	11,180.0	102.9	99.8	71.67	12,662.0	-700.2	540.6	354.2	186.34	2.901	
24,000.0	11,350.0	23,785.4	11,180.0	103.7	100.5	71.67	12,762.0	-700.6	540.6	352.8	187.79	2.879	
24,100.0	11,350.0	23,885.4	11,180.0	104.4	101.2	71.67	12,862.0	-701.0	540.5	351.3	189.24	2.856	
24,200.0	11,350.0	23,985.4	11,180.0	105.1	102.0	71.67	12,962.0	-701.4	540.5	349.8	190.69	2.835	
24,300.0	11,350.0	24,085.4	11,180.0	105.8	102.7	71.67	13,062.0	-701.9	540.5	348.4	192.14	2.813	
24,400.0	11,350.0	24,185.4	11,180.0	106.5	103.5	71.67	13,162.0	-702.3	540.5	346.9	193.60	2.792	
24,500.0	11,350.0	24,285.4	11,180.0	107.3	104.2	71.67	13,262.0	-702.7	540.5	345.4	195.05	2.771	
24,600.0	11,350.0	24,385.4	11,180.0	108.0	105.0	71.67	13,362.0	-703.1	540.5	344.0	196.51	2.750	
24,700.0	11,350.0	24,485.4	11,180.0	108.7	105.7	71.67	13,462.0	-703.5	540.5	342.5	197.96	2.730	
24,800.0	11,350.0	24,585.4	11,180.0	109.5	106.4	71.67	13,562.0	-703.9	540.4	341.0	199.42	2.710	
24,846.5	11,350.0	24,631.4	11,180.0	109.7	106.8	71.67	13,608.1	-704.1	540.4	340.4	200.01	2.702	
24,848.5	11,350.0	24,631.4	11,180.0	109.7	106.8	71.67	13,608.1	-704.1	540.4	340.4	200.00	2.702	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	89.93	0.1	60.0	60.0	53.6	6.43	9.339	
100.0	100.0	100.0	100.0	3.2	3.2	89.93	0.1	60.0	60.0	53.1	6.89	8.711	
200.0	200.0	200.0	200.0	3.5	3.5	89.93	0.1	60.0	60.0	52.7	7.33	8.193	
300.0	300.0	300.0	300.0	3.7	3.7	89.93	0.1	60.0	60.0	52.3	7.74	7.756	
400.0	400.0	400.0	400.0	3.9	3.9	89.93	0.1	60.0	60.0	51.9	8.14	7.380	
500.0	500.0	500.0	500.0	4.1	4.1	89.93	0.1	60.0	60.0	51.5	8.51	7.052	
600.0	600.0	600.0	600.0	4.2	4.2	89.93	0.1	60.0	60.0	51.2	8.88	6.763	
700.0	700.0	700.0	700.0	4.4	4.4	89.93	0.1	60.0	60.0	50.8	9.23	6.505	
800.0	800.0	800.0	800.0	4.6	4.6	89.93	0.1	60.0	60.0	50.5	9.57	6.273	
900.0	900.0	900.0	900.0	4.8	4.8	89.93	0.1	60.0	60.0	50.1	9.90	6.063	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.93	0.1	60.0	60.0	49.8	10.22	5.872	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.93	0.1	60.0	60.0	49.5	10.54	5.697	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.93	0.1	60.0	60.0	49.2	10.85	5.535	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.93	0.1	60.0	60.0	48.9	11.15	5.385	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.93	0.1	60.0	60.0	48.6	11.44	5.246	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.93	0.1	60.0	60.0	48.3	11.73	5.117	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-145.76	0.1	60.0	61.1	49.1	12.03	5.080	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-147.70	0.1	60.0	64.4	52.1	12.32	5.228	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-150.52	0.1	60.0	70.0	57.4	12.62	5.547	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-153.77	0.1	60.0	78.1	65.2	12.95	6.034	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-156.79	0.1	60.0	87.6	74.4	13.27	6.605	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	-159.21	0.1	60.0	97.3	83.7	13.60	7.155	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	-161.19	0.1	60.0	107.2	93.2	13.95	7.680	
2,300.0	2,297.1	2,297.1	2,297.1	7.3	6.8	-162.84	0.1	60.0	117.1	102.8	14.32	8.178	
2,400.0	2,396.5	2,396.5	2,396.5	7.5	6.9	-164.23	0.1	60.0	127.1	112.4	14.70	8.648	
2,500.0	2,496.0	2,496.0	2,496.0	7.8	7.0	-165.42	0.1	60.0	137.2	122.1	15.10	9.090	
2,600.0	2,595.4	2,595.4	2,595.4	8.1	7.2	-166.44	0.1	60.0	147.4	131.9	15.51	9.502	
2,700.0	2,694.8	2,694.8	2,694.8	8.4	7.3	-178.41	0.1	60.0	158.3	142.3	15.93	9.937	
2,800.0	2,794.0	2,794.0	2,794.0	8.7	7.4	172.41	0.1	60.0	170.7	154.3	16.36	10.432	
2,900.0	2,893.0	2,893.0	2,893.0	9.0	7.5	166.03	0.1	60.0	184.6	167.8	16.81	10.987	
3,000.0	2,991.7	2,991.7	2,991.7	9.3	7.7	161.77	0.1	60.0	200.2	183.0	17.26	11.600	
3,100.0	3,090.0	3,095.2	3,095.2	9.6	7.8	159.73	0.1	58.9	216.4	198.7	17.72	12.216	
3,200.0	3,188.2	3,199.9	3,199.8	10.0	7.9	161.17	0.0	54.8	230.8	212.6	18.23	12.664	
3,300.0	3,286.3	3,305.4	3,305.1	10.3	8.1	162.26	-0.1	47.8	242.6	223.9	18.74	12.950	
3,400.0	3,384.5	3,411.6	3,410.8	10.7	8.3	163.10	-0.3	37.9	251.9	232.6	19.27	13.069	
3,500.0	3,482.7	3,518.3	3,516.7	11.0	8.4	163.73	-0.5	24.9	258.4	238.6	19.81	13.043	
3,600.0	3,580.8	3,619.1	3,616.6	11.4	8.6	164.21	-0.8	10.9	263.3	242.9	20.36	12.931	
3,700.0	3,679.0	3,719.0	3,715.4	11.8	8.8	164.66	-1.0	-3.0	268.2	247.2	20.96	12.794	
3,800.0	3,777.1	3,818.8	3,814.3	12.1	9.0	165.10	-1.3	-16.9	273.0	251.5	21.58	12.655	
3,900.0	3,875.3	3,917.7	3,912.2	12.5	9.2	165.52	-1.5	-30.5	278.0	255.8	22.19	12.528	
4,000.0	3,973.5	4,015.2	4,008.9	12.9	9.4	165.95	-1.7	-43.3	283.7	260.9	22.85	12.416	
4,100.0	4,071.6	4,112.5	4,105.5	13.3	9.7	166.40	-1.9	-55.3	290.3	266.7	23.52	12.343	
4,200.0	4,169.8	4,209.8	4,202.1	13.7	9.9	166.85	-2.1	-66.4	297.7	273.5	24.19	12.305	
4,300.0	4,268.0	4,306.9	4,298.6	14.1	10.2	167.30	-2.3	-76.7	305.9	281.0	24.87	12.300	
4,400.0	4,366.1	4,403.8	4,395.1	14.5	10.5	167.76	-2.5	-86.2	315.0	289.4	25.56	12.326	
4,500.0	4,464.3	4,500.0	4,490.9	14.9	10.7	168.21	-2.6	-94.7	324.9	298.7	26.24	12.382	
4,600.0	4,562.4	4,597.3	4,587.9	15.4	11.0	168.66	-2.8	-102.6	335.7	308.8	26.94	12.464	
4,700.0	4,660.6	4,693.7	4,684.1	15.8	11.3	169.09	-2.9	-109.6	347.4	319.8	27.63	12.574	
4,800.0	4,758.8	4,789.9	4,780.1	16.2	11.5	169.52	-3.0	-115.7	359.9	331.6	28.32	12.708	
4,900.0	4,856.9	4,886.0	4,876.0	16.6	11.8	169.93	-3.1	-121.0	373.2	344.2	29.01	12.867	
5,000.0	4,955.1	4,981.8	4,971.7	17.0	12.0	170.32	-3.2	-125.6	387.4	357.7	29.69	13.048	
5,100.0	5,053.3	5,077.3	5,067.1	17.5	12.3	170.70	-3.2	-129.3	402.4	372.1	30.37	13.252	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,200.0	5,151.4	5,172.6	5,162.4	17.9	12.5	171.07	-3.3	-132.2	418.3	387.2	31.04	13.477	
5,300.0	5,249.6	5,267.7	5,257.4	18.3	12.8	171.42	-3.3	-134.3	435.0	403.3	31.69	13.724	
5,400.0	5,347.7	5,362.4	5,352.2	18.8	13.0	171.75	-3.3	-135.6	452.5	420.1	32.34	13.993	
5,500.0	5,445.9	5,456.9	5,446.7	19.2	13.1	172.06	-3.4	-136.2	470.8	437.9	32.93	14.299	
5,600.0	5,544.1	5,554.3	5,544.1	19.6	13.2	172.37	-3.4	-136.2	489.7	456.2	33.48	14.626	
5,700.0	5,642.2	5,652.5	5,642.2	20.1	13.3	172.65	-3.4	-136.2	508.6	474.6	34.05	14.939	
5,800.0	5,740.4	5,750.7	5,740.4	20.5	13.3	172.92	-3.4	-136.2	527.6	493.0	34.61	15.241	
5,900.0	5,838.6	5,848.8	5,838.6	21.0	13.4	173.16	-3.4	-136.2	546.5	511.3	35.18	15.533	
6,000.0	5,936.7	5,947.0	5,936.7	21.4	13.5	173.39	-3.4	-136.2	565.5	529.7	35.76	15.814	
6,100.0	6,034.9	6,045.1	6,034.9	21.8	13.5	173.61	-3.4	-136.2	584.4	548.1	36.34	16.085	
6,200.0	6,133.1	6,143.3	6,133.1	22.3	13.6	173.81	-3.4	-136.2	603.4	566.5	36.91	16.346	
6,300.0	6,231.2	6,241.5	6,231.2	22.7	13.7	174.00	-3.4	-136.2	622.4	584.9	37.50	16.598	
6,400.0	6,329.4	6,339.6	6,329.4	23.2	13.7	174.18	-3.4	-136.2	641.4	603.3	38.08	16.842	
6,500.0	6,427.5	6,437.8	6,427.5	23.6	13.8	174.35	-3.4	-136.2	660.4	621.7	38.67	17.077	
6,600.0	6,525.7	6,536.0	6,525.7	24.1	13.9	174.51	-3.4	-136.2	679.3	640.1	39.26	17.305	
6,700.0	6,623.9	6,634.1	6,623.9	24.5	14.0	174.65	-3.4	-136.2	698.3	658.5	39.85	17.524	
6,800.0	6,722.0	6,732.3	6,722.0	25.0	14.0	174.80	-3.4	-136.2	717.4	676.9	40.44	17.737	
6,900.0	6,820.2	6,830.4	6,820.2	25.4	14.1	174.93	-3.4	-136.2	736.4	695.3	41.04	17.942	
7,000.0	6,918.4	6,928.6	6,918.4	25.9	14.2	175.06	-3.4	-136.2	755.4	713.7	41.64	18.141	
7,100.0	7,016.5	7,026.8	7,016.5	26.3	14.2	175.18	-3.4	-136.2	774.4	732.1	42.24	18.333	
7,200.0	7,114.7	7,124.9	7,114.7	26.8	14.3	175.30	-3.4	-136.2	793.4	750.6	42.84	18.520	
7,300.0	7,212.8	7,223.1	7,212.8	27.2	14.4	175.41	-3.4	-136.2	812.4	769.0	43.44	18.700	
7,400.0	7,311.0	7,321.3	7,311.0	27.7	14.5	175.51	-3.4	-136.2	831.4	787.4	44.05	18.875	
7,500.0	7,409.2	7,419.4	7,409.2	28.1	14.5	175.61	-3.4	-136.2	850.5	805.8	44.66	19.044	
7,600.0	7,507.3	7,517.6	7,507.3	28.6	14.6	175.71	-3.4	-136.2	869.5	824.2	45.27	19.209	
7,700.0	7,605.5	7,615.7	7,605.5	29.0	14.7	175.80	-3.4	-136.2	888.5	842.7	45.88	19.368	
7,800.0	7,703.7	7,713.9	7,703.7	29.5	14.7	175.89	-3.4	-136.2	907.6	861.1	46.49	19.522	
7,900.0	7,801.8	7,812.1	7,801.8	29.9	14.8	175.98	-3.4	-136.2	926.6	879.5	47.09	19.677	
8,000.0	7,900.2	7,910.5	7,900.2	30.4	14.9	176.07	-3.4	-136.2	944.4	896.7	47.70	19.798	
8,100.0	7,998.9	8,009.2	7,998.9	30.8	15.0	176.14	-3.4	-136.2	960.4	912.1	48.29	19.887	
8,200.0	8,097.9	8,108.1	8,097.9	31.3	15.0	176.21	-3.4	-136.2	974.8	925.9	48.88	19.944	
8,300.0	8,197.1	8,207.3	8,197.1	31.7	15.1	176.27	-3.4	-136.2	987.4	938.0	49.45	19.970	
8,400.0	8,296.5	8,306.7	8,296.5	32.1	15.2	176.31	-3.4	-136.2	998.4	948.4	50.00	19.967	
8,500.0	8,396.0	8,406.3	8,396.0	32.5	15.3	176.35	-3.4	-136.2	1,007.5	957.0	50.53	19.938	
8,600.0	8,495.8	8,506.0	8,495.8	32.8	15.3	176.38	-3.4	-136.2	1,015.0	963.9	51.04	19.884	
8,700.0	8,595.6	8,605.8	8,595.6	33.2	15.4	176.41	-3.4	-136.2	1,020.7	969.2	51.53	19.808	
8,800.0	8,695.5	8,705.8	8,695.5	33.5	15.5	176.42	-3.4	-136.2	1,024.7	972.7	51.98	19.714	
8,900.0	8,795.5	8,805.7	8,795.5	33.8	15.5	176.43	-3.4	-136.2	1,026.9	974.5	52.37	19.607	
9,000.0	8,895.5	8,905.7	8,895.5	33.9	15.6	88.44	-3.4	-136.2	1,027.4	974.9	52.55	19.552	
9,100.0	8,995.5	9,005.7	8,995.5	33.9	15.7	88.44	-3.4	-136.2	1,027.4	974.8	52.62	19.524	
9,200.0	9,095.5	9,105.7	9,095.5	33.9	15.8	88.44	-3.4	-136.2	1,027.4	974.7	52.70	19.496	
9,300.0	9,195.5	9,205.7	9,195.5	34.0	15.8	88.44	-3.4	-136.2	1,027.4	974.6	52.77	19.469	
9,400.0	9,295.5	9,305.7	9,295.5	34.0	15.9	88.44	-3.4	-136.2	1,027.4	974.6	52.85	19.442	
9,500.0	9,395.5	9,405.7	9,395.5	34.0	16.0	88.44	-3.4	-136.2	1,027.4	974.5	52.92	19.414	
9,600.0	9,495.5	9,505.7	9,495.5	34.0	16.1	88.44	-3.4	-136.2	1,027.4	974.4	53.00	19.387	
9,700.0	9,595.5	9,605.7	9,595.5	34.0	16.1	88.44	-3.4	-136.2	1,027.4	974.3	53.07	19.359	
9,800.0	9,695.5	9,705.7	9,695.5	34.1	16.2	88.44	-3.4	-136.2	1,027.4	974.3	53.15	19.331	
9,900.0	9,795.5	9,805.7	9,795.5	34.1	16.3	88.44	-3.4	-136.2	1,027.4	974.2	53.22	19.304	
10,000.0	9,895.5	9,905.7	9,895.5	34.1	16.4	88.44	-3.4	-136.2	1,027.4	974.1	53.30	19.276	
10,100.0	9,995.5	10,005.7	9,995.5	34.1	16.4	88.44	-3.4	-136.2	1,027.4	974.0	53.38	19.248	
10,200.0	10,095.5	10,105.7	10,095.5	34.2	16.5	88.44	-3.4	-136.2	1,027.4	974.0	53.45	19.220	
10,300.0	10,195.5	10,205.7	10,195.5	34.2	16.6	88.44	-3.4	-136.2	1,027.4	973.9	53.53	19.192	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	10,295.5	10,305.7	10,295.5	34.2	16.7	88.44	-3.4	-136.2	1,027.4	973.8	53.61	19.164	
10,500.0	10,395.5	10,405.7	10,395.5	34.3	16.7	88.44	-3.4	-136.2	1,027.4	973.7	53.69	19.136	
10,600.0	10,495.5	10,505.7	10,495.5	34.3	16.8	88.44	-3.4	-136.2	1,027.4	973.6	53.77	19.108	
10,700.0	10,595.5	10,605.7	10,595.5	34.3	16.9	88.44	-3.4	-136.2	1,027.4	973.6	53.85	19.080	
10,800.0	10,695.5	10,705.7	10,695.5	34.3	17.0	88.44	-3.4	-136.2	1,027.4	973.5	53.93	19.052	
10,900.0	10,795.5	10,805.0	10,794.7	34.3	17.0	88.66	-3.1	-136.2	1,027.4	973.4	53.98	19.031	
11,000.0	10,894.6	10,901.0	10,890.0	34.3	17.1	88.69	7.9	-136.2	1,027.4	973.4	54.00	19.027	
11,100.0	10,990.2	10,997.2	10,982.3	34.4	17.1	88.75	34.7	-136.3	1,027.4	973.4	54.00	19.026	
11,200.0	11,079.3	11,093.6	11,068.9	34.4	17.2	88.86	76.6	-136.5	1,027.3	973.3	54.00	19.024	
11,300.0	11,159.3	11,190.3	11,147.6	34.4	17.3	88.99	132.6	-136.7	1,027.3	973.3	54.01	19.019	
11,400.0	11,227.6	11,287.4	11,216.0	34.4	17.4	89.16	201.4	-137.0	1,027.2	973.2	54.05	19.005	
11,500.0	11,282.2	11,385.1	11,272.1	34.4	17.5	89.35	281.2	-137.3	1,027.2	973.0	54.12	18.979	
11,600.0	11,321.4	11,483.3	11,314.0	34.5	17.6	89.56	370.0	-137.7	1,027.1	972.9	54.24	18.938	
11,700.0	11,344.2	11,582.2	11,340.4	34.6	17.7	89.78	465.2	-138.1	1,027.1	972.7	54.40	18.881	
11,800.0	11,350.0	11,681.8	11,349.9	34.6	17.8	90.00	564.2	-138.5	1,027.1	972.5	54.60	18.809	
11,900.0	11,350.0	11,781.8	11,350.0	34.7	17.9	90.00	664.2	-138.9	1,027.1	972.2	54.83	18.731	
12,000.0	11,350.0	11,881.8	11,350.0	34.8	18.1	90.00	764.2	-139.3	1,027.1	972.0	55.10	18.639	
12,100.0	11,350.0	11,981.8	11,350.0	35.0	18.3	90.00	864.2	-139.7	1,027.1	971.6	55.41	18.535	
12,200.0	11,350.0	12,081.8	11,350.0	35.1	18.5	90.00	964.2	-140.1	1,027.0	971.3	55.76	18.419	
12,300.0	11,350.0	12,181.8	11,350.0	35.3	18.8	90.00	1,064.2	-140.5	1,027.0	970.9	56.15	18.292	
12,400.0	11,350.0	12,281.8	11,350.0	35.5	19.0	90.00	1,164.2	-140.9	1,027.0	970.5	56.57	18.154	
12,500.0	11,350.0	12,381.8	11,350.0	35.7	19.4	90.00	1,264.2	-141.3	1,027.0	970.0	57.04	18.006	
12,600.0	11,350.0	12,481.8	11,350.0	35.9	19.7	90.00	1,364.2	-141.7	1,027.0	969.5	57.54	17.850	
12,700.0	11,350.0	12,581.8	11,350.0	36.1	20.1	90.00	1,464.2	-142.1	1,027.0	968.9	58.07	17.685	
12,800.0	11,350.0	12,681.8	11,350.0	36.3	20.4	90.00	1,564.2	-142.5	1,027.0	968.4	58.64	17.513	
12,900.0	11,350.0	12,781.8	11,350.0	36.6	20.9	90.00	1,664.2	-142.9	1,027.0	967.7	59.24	17.335	
13,000.0	11,350.0	12,881.8	11,350.0	36.9	21.3	90.00	1,764.2	-143.3	1,027.0	967.1	59.88	17.151	
13,100.0	11,350.0	12,981.8	11,350.0	37.2	21.8	90.00	1,864.2	-143.7	1,027.0	966.4	60.55	16.962	
13,200.0	11,350.0	13,081.8	11,350.0	37.5	22.2	90.00	1,964.2	-144.1	1,027.0	965.7	61.24	16.769	
13,300.0	11,350.0	13,181.8	11,350.0	37.8	22.7	90.00	2,064.2	-144.5	1,027.0	965.0	61.97	16.572	
13,400.0	11,350.0	13,281.8	11,350.0	38.1	23.2	90.00	2,164.2	-144.9	1,026.9	964.2	62.72	16.373	
13,500.0	11,350.0	13,381.8	11,350.0	38.4	23.7	90.00	2,264.2	-145.3	1,026.9	963.4	63.50	16.171	
13,600.0	11,350.0	13,481.8	11,350.0	38.8	24.3	90.00	2,364.2	-145.7	1,026.9	962.6	64.31	15.968	
13,700.0	11,350.0	13,581.8	11,350.0	39.2	24.8	90.00	2,464.2	-146.1	1,026.9	961.8	65.15	15.764	
13,800.0	11,350.0	13,681.8	11,350.0	39.5	25.4	90.00	2,564.2	-146.5	1,026.9	960.9	66.00	15.559	
13,900.0	11,350.0	13,781.8	11,350.0	39.9	25.9	90.00	2,664.2	-146.9	1,026.9	960.0	66.88	15.354	
14,000.0	11,350.0	13,881.8	11,350.0	40.3	26.5	90.00	2,764.2	-147.3	1,026.9	959.1	67.79	15.149	
14,100.0	11,350.0	13,981.8	11,350.0	40.7	27.1	90.00	2,864.2	-147.7	1,026.9	958.2	68.71	14.945	
14,200.0	11,350.0	14,081.8	11,350.0	41.1	27.7	90.00	2,964.2	-148.2	1,026.9	957.2	69.66	14.742	
14,300.0	11,350.0	14,181.8	11,350.0	41.6	28.3	90.00	3,064.2	-148.6	1,026.9	956.3	70.62	14.540	
14,400.0	11,350.0	14,281.8	11,350.0	42.0	28.9	90.00	3,164.2	-149.0	1,026.9	955.3	71.61	14.340	
14,500.0	11,350.0	14,381.8	11,350.0	42.5	29.5	90.00	3,264.2	-149.4	1,026.9	954.2	72.61	14.142	
14,600.0	11,350.0	14,481.8	11,350.0	42.9	30.2	90.00	3,364.2	-149.8	1,026.9	953.2	73.63	13.946	
14,700.0	11,350.0	14,581.8	11,350.0	43.4	30.8	90.00	3,464.2	-150.2	1,026.8	952.2	74.67	13.752	
14,800.0	11,350.0	14,681.8	11,350.0	43.9	31.4	90.00	3,564.2	-150.6	1,026.8	951.1	75.72	13.561	
14,900.0	11,350.0	14,781.8	11,350.0	44.3	32.1	90.00	3,664.2	-151.0	1,026.8	950.0	76.79	13.372	
15,000.0	11,350.0	14,881.8	11,350.0	44.8	32.7	90.00	3,764.2	-151.4	1,026.8	948.9	77.87	13.186	
15,100.0	11,350.0	14,981.8	11,350.0	45.3	33.4	90.00	3,864.2	-151.8	1,026.8	947.8	78.97	13.003	
15,200.0	11,350.0	15,081.8	11,350.0	45.8	34.0	90.00	3,964.2	-152.2	1,026.8	946.7	80.08	12.822	
15,300.0	11,350.0	15,181.8	11,350.0	46.3	34.7	90.00	4,064.2	-152.6	1,026.8	945.6	81.20	12.645	
15,400.0	11,350.0	15,281.8	11,350.0	46.9	35.4	90.00	4,164.2	-153.0	1,026.8	944.4	82.34	12.470	
15,500.0	11,350.0	15,381.8	11,350.0	47.4	36.0	90.00	4,264.2	-153.4	1,026.8	943.3	83.49	12.298	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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
15,600.0	11,350.0	15,481.8	11,350.0	47.9	36.7	90.00	4,364.1	-153.8	1,026.8	942.1	84.65	12.130	
15,700.0	11,350.0	15,581.8	11,350.0	48.5	37.4	90.00	4,464.1	-154.2	1,026.8	940.9	85.82	11.964	
15,800.0	11,350.0	15,681.8	11,350.0	49.0	38.1	90.00	4,564.1	-154.6	1,026.8	939.8	87.00	11.802	
15,900.0	11,350.0	15,781.8	11,350.0	49.6	38.8	90.00	4,664.1	-155.0	1,026.7	938.6	88.19	11.642	
16,000.0	11,350.0	15,881.8	11,350.0	50.1	39.4	90.00	4,764.1	-155.4	1,026.7	937.3	89.39	11.486	
16,100.0	11,350.0	15,981.8	11,350.0	50.7	40.1	90.00	4,864.1	-155.8	1,026.7	936.1	90.60	11.332	
16,200.0	11,350.0	16,081.8	11,350.0	51.2	40.8	90.00	4,964.1	-156.2	1,026.7	934.9	91.82	11.181	
16,300.0	11,350.0	16,181.8	11,350.0	51.8	41.5	90.00	5,064.1	-156.6	1,026.7	933.7	93.05	11.034	
16,400.0	11,350.0	16,281.8	11,350.0	52.4	42.2	90.00	5,164.1	-157.0	1,026.7	932.4	94.29	10.889	
16,500.0	11,350.0	16,381.8	11,350.0	53.0	42.9	90.00	5,264.1	-157.4	1,026.7	931.2	95.53	10.747	
16,600.0	11,350.0	16,481.8	11,350.0	53.6	43.6	90.00	5,364.1	-157.8	1,026.7	929.9	96.79	10.608	
16,700.0	11,350.0	16,581.8	11,350.0	54.2	44.3	90.00	5,464.1	-158.2	1,026.7	928.6	98.05	10.471	
16,800.0	11,350.0	16,681.8	11,350.0	54.8	45.0	90.00	5,564.1	-158.6	1,026.7	927.4	99.31	10.338	
16,900.0	11,350.0	16,781.8	11,350.0	55.3	45.7	90.00	5,664.1	-159.0	1,026.7	926.1	100.59	10.207	
17,000.0	11,350.0	16,881.8	11,350.0	56.0	46.5	90.00	5,764.1	-159.4	1,026.7	924.8	101.87	10.079	
17,100.0	11,350.0	16,981.8	11,350.0	56.6	47.2	90.00	5,864.1	-159.8	1,026.6	923.5	103.15	9.953	
17,200.0	11,350.0	17,081.8	11,350.0	57.2	47.9	90.00	5,964.1	-160.3	1,026.6	922.2	104.44	9.830	
17,300.0	11,350.0	17,181.8	11,350.0	57.8	48.6	90.00	6,064.1	-160.7	1,026.6	920.9	105.74	9.709	
17,400.0	11,350.0	17,281.8	11,350.0	58.4	49.3	90.00	6,164.1	-161.1	1,026.6	919.6	107.05	9.590	
17,500.0	11,350.0	17,381.8	11,350.0	59.0	50.0	90.00	6,264.1	-161.5	1,026.6	918.3	108.36	9.474	
17,600.0	11,350.0	17,481.8	11,350.0	59.7	50.8	90.00	6,364.1	-161.9	1,026.6	916.9	109.67	9.361	
17,700.0	11,350.0	17,581.8	11,350.0	60.3	51.5	90.00	6,464.1	-162.3	1,026.6	915.6	110.99	9.249	
17,800.0	11,350.0	17,681.8	11,350.0	60.9	52.2	90.00	6,564.1	-162.7	1,026.6	914.3	112.31	9.140	
17,900.0	11,350.0	17,781.8	11,350.0	61.5	52.9	90.00	6,664.1	-163.1	1,026.6	912.9	113.64	9.033	
18,000.0	11,350.0	17,881.8	11,350.0	62.2	53.7	90.00	6,764.1	-163.5	1,026.6	911.6	114.98	8.929	
18,100.0	11,350.0	17,981.8	11,350.0	62.8	54.4	90.00	6,864.1	-163.9	1,026.6	910.2	116.31	8.826	
18,200.0	11,350.0	18,081.8	11,350.0	63.5	55.1	90.00	6,964.1	-164.3	1,026.6	908.9	117.66	8.725	
18,300.0	11,350.0	18,181.8	11,350.0	64.1	55.8	90.00	7,064.1	-164.7	1,026.5	907.5	119.00	8.626	
18,400.0	11,350.0	18,281.8	11,350.0	64.8	56.6	90.00	7,164.1	-165.1	1,026.5	906.2	120.35	8.529	
18,500.0	11,350.0	18,381.8	11,350.0	65.4	57.3	90.00	7,264.1	-165.5	1,026.5	904.8	121.71	8.434	
18,600.0	11,350.0	18,481.8	11,350.0	66.1	58.0	90.00	7,364.1	-165.9	1,026.5	903.5	123.07	8.341	
18,700.0	11,350.0	18,581.8	11,350.0	66.7	58.8	90.00	7,464.1	-166.3	1,026.5	902.1	124.43	8.250	
18,800.0	11,350.0	18,681.8	11,350.0	67.4	59.5	90.00	7,564.1	-166.7	1,026.5	900.7	125.79	8.160	
18,900.0	11,350.0	18,781.8	11,350.0	68.0	60.2	90.00	7,664.1	-167.1	1,026.5	899.3	127.16	8.073	
19,000.0	11,350.0	18,881.8	11,350.0	68.7	61.0	90.00	7,764.1	-167.5	1,026.5	898.0	128.53	7.986	
19,100.0	11,350.0	18,981.8	11,350.0	69.4	61.7	90.00	7,864.1	-167.9	1,026.5	896.6	129.91	7.902	
19,200.0	11,350.0	19,081.8	11,350.0	70.0	62.4	90.00	7,964.1	-168.3	1,026.5	895.2	131.28	7.819	
19,300.0	11,350.0	19,181.8	11,350.0	70.7	63.2	90.00	8,064.1	-168.7	1,026.5	893.8	132.66	7.737	
19,400.0	11,350.0	19,281.8	11,350.0	71.4	63.9	90.00	8,164.1	-169.1	1,026.5	892.4	134.05	7.657	
19,500.0	11,350.0	19,381.8	11,350.0	72.0	64.6	90.00	8,264.1	-169.5	1,026.4	891.0	135.43	7.579	
19,600.0	11,350.0	19,481.8	11,350.0	72.7	65.4	90.00	8,364.1	-169.9	1,026.4	889.6	136.82	7.502	
19,700.0	11,350.0	19,581.8	11,350.0	73.4	66.1	90.00	8,464.1	-170.3	1,026.4	888.2	138.21	7.426	
19,800.0	11,350.0	19,681.8	11,350.0	74.1	66.9	90.00	8,564.1	-170.7	1,026.4	886.8	139.61	7.352	
19,900.0	11,350.0	19,781.8	11,350.0	74.8	67.6	90.00	8,664.1	-171.1	1,026.4	885.4	141.00	7.279	
20,000.0	11,350.0	19,881.8	11,350.0	75.4	68.3	90.00	8,764.1	-171.5	1,026.4	884.0	142.40	7.208	
20,100.0	11,350.0	19,981.8	11,350.0	76.1	69.1	90.00	8,864.1	-171.9	1,026.4	882.6	143.80	7.138	
20,200.0	11,350.0	20,081.8	11,350.0	76.8	69.8	90.00	8,964.1	-172.4	1,026.4	881.2	145.21	7.069	
20,300.0	11,350.0	20,181.8	11,350.0	77.5	70.6	90.00	9,064.1	-172.8	1,026.4	879.8	146.61	7.001	
20,400.0	11,350.0	20,281.8	11,350.0	78.2	71.3	90.00	9,164.1	-173.2	1,026.4	878.4	148.02	6.934	
20,500.0	11,350.0	20,381.8	11,350.0	78.9	72.1	90.00	9,264.1	-173.6	1,026.4	876.9	149.43	6.869	
20,600.0	11,350.0	20,481.8	11,350.0	79.6	72.8	90.00	9,364.1	-174.0	1,026.4	875.5	150.84	6.804	
20,700.0	11,350.0	20,581.8	11,350.0	80.2	73.6	90.00	9,464.1	-174.4	1,026.3	874.1	152.25	6.741	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,800.0	11,350.0	20,681.8	11,350.0	80.9	74.3	90.00	9,564.1	-174.8	1,026.3	872.7	153.67	6.679	
20,900.0	11,350.0	20,781.8	11,350.0	81.6	75.0	90.00	9,664.1	-175.2	1,026.3	871.2	155.08	6.618	
21,000.0	11,350.0	20,881.8	11,350.0	82.3	75.8	90.00	9,764.1	-175.6	1,026.3	869.8	156.50	6.558	
21,100.0	11,350.0	20,981.8	11,350.0	83.0	76.5	90.00	9,864.1	-176.0	1,026.3	868.4	157.92	6.499	
21,200.0	11,350.0	21,081.8	11,350.0	83.7	77.3	90.00	9,964.1	-176.4	1,026.3	867.0	159.35	6.441	
21,300.0	11,350.0	21,181.8	11,350.0	84.4	78.0	90.00	10,064.1	-176.8	1,026.3	865.5	160.77	6.384	
21,400.0	11,350.0	21,281.8	11,350.0	85.1	78.8	90.00	10,164.1	-177.2	1,026.3	864.1	162.20	6.327	
21,500.0	11,350.0	21,381.8	11,350.0	85.8	79.5	90.00	10,264.1	-177.6	1,026.3	862.7	163.62	6.272	
21,600.0	11,350.0	21,481.8	11,350.0	86.5	80.3	90.00	10,364.1	-178.0	1,026.3	861.2	165.05	6.218	
21,700.0	11,350.0	21,581.8	11,350.0	87.2	81.0	90.00	10,464.1	-178.4	1,026.3	859.8	166.48	6.164	
21,800.0	11,350.0	21,681.8	11,350.0	87.9	81.8	90.00	10,564.1	-178.8	1,026.3	858.3	167.91	6.112	
21,900.0	11,350.0	21,781.8	11,350.0	88.6	82.5	90.00	10,664.1	-179.2	1,026.3	856.9	169.35	6.060	
22,000.0	11,350.0	21,881.8	11,350.0	89.3	83.3	90.00	10,764.1	-179.6	1,026.2	855.5	170.78	6.009	
22,100.0	11,350.0	21,981.8	11,350.0	90.1	84.0	90.00	10,864.1	-180.0	1,026.2	854.0	172.22	5.959	
22,200.0	11,350.0	22,081.8	11,350.0	90.8	84.8	90.00	10,964.1	-180.4	1,026.2	852.6	173.65	5.910	
22,300.0	11,350.0	22,181.8	11,350.0	91.5	85.5	90.00	11,064.1	-180.8	1,026.2	851.1	175.09	5.861	
22,400.0	11,350.0	22,281.8	11,350.0	92.2	86.3	90.00	11,164.1	-181.2	1,026.2	849.7	176.53	5.813	
22,500.0	11,350.0	22,381.8	11,350.0	92.9	87.0	90.00	11,264.1	-181.6	1,026.2	848.2	177.97	5.766	
22,600.0	11,350.0	22,481.8	11,350.0	93.6	87.8	90.00	11,364.1	-182.0	1,026.2	846.8	179.41	5.720	
22,700.0	11,350.0	22,581.8	11,350.0	94.3	88.5	90.00	11,464.1	-182.4	1,026.2	845.3	180.85	5.674	
22,800.0	11,350.0	22,681.8	11,350.0	95.0	89.3	90.00	11,564.1	-182.8	1,026.2	843.9	182.30	5.629	
22,900.0	11,350.0	22,781.8	11,350.0	95.7	90.0	90.00	11,664.1	-183.2	1,026.2	842.4	183.74	5.585	
23,000.0	11,350.0	22,881.8	11,350.0	96.5	90.8	90.00	11,764.1	-183.6	1,026.2	841.0	185.19	5.541	
23,100.0	11,350.0	22,981.8	11,350.0	97.2	91.5	90.00	11,864.1	-184.0	1,026.2	839.5	186.64	5.498	
23,200.0	11,350.0	23,081.8	11,350.0	97.9	92.3	90.00	11,964.1	-184.5	1,026.1	838.1	188.09	5.456	
23,300.0	11,350.0	23,181.8	11,350.0	98.6	93.0	90.00	12,064.1	-184.9	1,026.1	836.6	189.53	5.414	
23,400.0	11,350.0	23,281.8	11,350.0	99.3	93.8	90.00	12,164.1	-185.3	1,026.1	835.1	190.98	5.373	
23,500.0	11,350.0	23,381.8	11,350.0	100.0	94.5	90.00	12,264.1	-185.7	1,026.1	833.7	192.44	5.332	
23,600.0	11,350.0	23,481.8	11,350.0	100.8	95.3	90.00	12,364.1	-186.1	1,026.1	832.2	193.89	5.292	
23,700.0	11,350.0	23,581.8	11,350.0	101.5	96.1	90.00	12,464.1	-186.5	1,026.1	830.8	195.34	5.253	
23,800.0	11,350.0	23,681.8	11,350.0	102.2	96.8	90.00	12,564.1	-186.9	1,026.1	829.3	196.79	5.214	
23,900.0	11,350.0	23,781.8	11,350.0	102.9	97.6	90.00	12,664.1	-187.3	1,026.1	827.8	198.25	5.176	
24,000.0	11,350.0	23,881.8	11,350.0	103.7	98.3	90.00	12,764.1	-187.7	1,026.1	826.4	199.70	5.138	
24,100.0	11,350.0	23,981.8	11,350.0	104.4	99.1	90.00	12,864.1	-188.1	1,026.1	824.9	201.16	5.101	
24,200.0	11,350.0	24,081.8	11,350.0	105.1	99.8	90.00	12,964.1	-188.5	1,026.1	823.4	202.62	5.064	
24,300.0	11,350.0	24,181.8	11,350.0	105.8	100.6	90.00	13,064.1	-188.9	1,026.1	822.0	204.08	5.028	
24,400.0	11,350.0	24,281.8	11,350.0	106.5	101.3	90.00	13,164.1	-189.3	1,026.0	820.5	205.54	4.992	
24,500.0	11,350.0	24,381.8	11,350.0	107.3	102.1	90.00	13,264.1	-189.7	1,026.0	819.0	206.99	4.957	
24,600.0	11,350.0	24,481.8	11,350.0	108.0	102.8	90.00	13,364.1	-190.1	1,026.0	817.6	208.46	4.922	
24,700.0	11,350.0	24,581.8	11,350.0	108.7	103.6	90.00	13,464.1	-190.5	1,026.0	816.1	209.92	4.888	
24,800.0	11,350.0	24,681.8	11,350.0	109.5	104.4	90.00	13,564.1	-190.9	1,026.0	814.6	211.38	4.854	
24,842.7	11,350.0	24,724.5	11,350.0	109.7	104.7	90.00	13,606.7	-191.1	1,026.0	814.1	211.93	4.841	
24,848.5	11,350.0	24,725.4	11,350.0	109.7	104.7	90.00	13,607.7	-191.1	1,026.0	814.1	211.94	4.841 SF	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	89.92	0.1	90.0	90.0	83.6	6.43	13.999	
100.0	100.0	100.0	100.0	3.2	3.2	89.92	0.1	90.0	90.0	83.1	6.89	13.058	
200.0	200.0	200.0	200.0	3.5	3.5	89.92	0.1	90.0	90.0	82.7	7.33	12.281	
300.0	300.0	300.0	300.0	3.7	3.7	89.92	0.1	90.0	90.0	82.3	7.74	11.626	
400.0	400.0	400.0	400.0	3.9	3.9	89.92	0.1	90.0	90.0	81.9	8.14	11.063	
500.0	500.0	500.0	500.0	4.1	4.1	89.92	0.1	90.0	90.0	81.5	8.51	10.571	
600.0	600.0	600.0	600.0	4.2	4.2	89.92	0.1	90.0	90.0	81.1	8.88	10.138	
700.0	700.0	700.0	700.0	4.4	4.4	89.92	0.1	90.0	90.0	80.8	9.23	9.751	
800.0	800.0	800.0	800.0	4.6	4.6	89.92	0.1	90.0	90.0	80.4	9.57	9.404	
900.0	900.0	900.0	900.0	4.8	4.8	89.92	0.1	90.0	90.0	80.1	9.90	9.089	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.92	0.1	90.0	90.0	79.8	10.22	8.802	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.92	0.1	90.0	90.0	79.5	10.54	8.539	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.92	0.1	90.0	90.0	79.2	10.85	8.297	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.92	0.1	90.0	90.0	78.9	11.15	8.072	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.92	0.1	90.0	90.0	78.6	11.44	7.864	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.92	0.1	90.0	90.0	78.3	11.73	7.670	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-145.54	0.1	90.0	91.1	79.0	12.03	7.571	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-146.86	0.1	90.0	94.3	82.0	12.32	7.659	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-148.87	0.1	90.0	99.9	87.3	12.62	7.915	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-151.32	0.1	90.0	107.8	94.9	12.94	8.333	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-153.78	0.1	90.0	117.1	103.9	13.25	8.836	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	-155.86	0.1	90.0	126.6	113.0	13.59	9.317	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	-157.66	0.1	90.0	136.2	122.3	13.93	9.775	
2,300.0	2,297.1	2,297.1	2,297.1	7.3	6.8	-159.22	0.1	90.0	145.9	131.6	14.30	10.207	
2,400.0	2,396.5	2,396.5	2,396.5	7.5	6.9	-160.58	0.1	90.0	155.8	141.1	14.67	10.614	
2,500.0	2,496.0	2,496.0	2,496.0	7.8	7.0	-161.79	0.1	90.0	165.7	150.6	15.07	10.995	
2,600.0	2,595.4	2,591.5	2,591.5	8.1	7.2	-162.68	0.1	91.1	176.7	161.2	15.47	11.419	
2,700.0	2,694.8	2,686.2	2,686.2	8.4	7.3	-174.40	-0.1	94.5	190.8	174.9	15.87	12.024	
2,800.0	2,794.0	2,780.0	2,779.7	8.7	7.5	176.65	-0.4	100.2	208.9	192.6	16.28	12.827	
2,900.0	2,893.0	2,872.4	2,871.8	9.0	7.6	170.44	-0.8	108.1	230.9	214.2	16.71	13.814	
3,000.0	2,991.7	2,963.2	2,962.1	9.3	7.8	166.22	-1.3	118.0	256.9	239.8	17.16	14.974	
3,100.0	3,090.0	3,053.6	3,051.6	9.6	7.9	164.12	-2.0	129.9	286.9	269.4	17.56	16.343	
3,200.0	3,188.2	3,148.1	3,145.3	10.0	8.1	165.76	-2.7	143.1	318.4	300.4	18.07	17.625	
3,300.0	3,286.3	3,242.7	3,238.9	10.3	8.3	167.11	-3.3	156.2	350.1	331.5	18.60	18.823	
3,400.0	3,384.5	3,337.2	3,332.5	10.7	8.5	168.23	-4.0	169.4	382.0	362.8	19.16	19.935	
3,500.0	3,482.7	3,431.8	3,426.2	11.0	8.8	169.18	-4.7	182.5	413.9	394.2	19.74	20.966	
3,600.0	3,580.8	3,526.3	3,519.8	11.4	9.0	169.99	-5.4	195.6	445.9	425.6	20.34	21.920	
3,700.0	3,679.0	3,620.9	3,613.4	11.8	9.3	170.70	-6.1	208.8	478.0	457.1	20.96	22.803	
3,800.0	3,777.1	3,715.4	3,707.1	12.1	9.5	171.32	-6.8	221.9	510.2	488.6	21.60	23.619	
3,900.0	3,875.3	3,810.0	3,800.7	12.5	9.8	171.86	-7.5	235.1	542.4	520.2	22.25	24.373	
4,000.0	3,973.5	3,904.5	3,894.3	12.9	10.1	172.34	-8.2	248.2	574.7	551.7	22.92	25.071	
4,100.0	4,071.6	3,999.1	3,988.0	13.3	10.4	172.78	-8.9	261.3	606.9	583.3	23.60	25.718	
4,200.0	4,169.8	4,093.6	4,081.6	13.7	10.7	173.16	-9.5	274.5	639.3	615.0	24.29	26.316	
4,300.0	4,268.0	4,188.2	4,175.2	14.1	11.0	173.51	-10.2	287.6	671.6	646.6	24.99	26.871	
4,400.0	4,366.1	4,282.7	4,268.8	14.5	11.3	173.83	-10.9	300.8	703.9	678.2	25.70	27.386	
4,500.0	4,464.3	4,377.3	4,362.5	14.9	11.6	174.12	-11.6	313.9	736.3	709.9	26.42	27.865	
4,600.0	4,562.4	4,479.0	4,463.2	15.4	12.0	174.41	-12.3	327.8	768.5	741.3	27.19	28.261	
4,700.0	4,660.6	4,589.1	4,572.6	15.8	12.3	174.67	-13.0	341.0	799.1	771.1	28.04	28.499	
4,800.0	4,758.8	4,700.6	4,683.5	16.2	12.7	174.90	-13.6	352.3	827.9	799.0	28.89	28.658	
4,900.0	4,856.9	4,813.4	4,795.8	16.6	13.1	175.10	-14.1	361.5	854.8	825.1	29.73	28.753	
5,000.0	4,955.1	4,927.3	4,909.6	17.0	13.4	175.27	-14.5	368.5	879.8	849.3	30.56	28.794	
5,100.0	5,053.3	5,042.4	5,024.6	17.5	13.8	175.42	-14.7	373.3	902.9	871.6	31.36	28.791	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

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
5,200.0	5,151.4	5,158.6	5,140.7	17.9	14.0	175.55	-14.9	375.9	924.1	892.0	32.13	28.762	
5,300.0	5,249.6	5,267.5	5,249.6	18.3	14.2	175.65	-14.9	376.3	943.4	910.7	32.75	28.811	
5,400.0	5,347.7	5,365.6	5,347.7	18.8	14.2	175.74	-14.9	376.3	962.5	929.2	33.28	28.922	
5,500.0	5,445.9	5,463.8	5,445.9	19.2	14.3	175.82	-14.9	376.3	981.5	947.7	33.82	29.022	
5,600.0	5,544.1	5,561.9	5,544.1	19.6	14.4	175.90	-14.9	376.3	1,000.5	966.2	34.36	29.116	
5,700.0	5,642.2	5,660.1	5,642.2	20.1	14.4	175.98	-14.9	376.3	1,019.6	984.7	34.91	29.203	
5,800.0	5,740.4	5,758.3	5,740.4	20.5	14.5	176.05	-14.9	376.3	1,038.6	1,003.1	35.47	29.284	
5,900.0	5,838.6	5,856.4	5,838.6	21.0	14.6	176.12	-14.9	376.3	1,057.6	1,021.6	36.02	29.360	
6,000.0	5,936.7	5,954.6	5,936.7	21.4	14.6	176.19	-14.9	376.3	1,076.7	1,040.1	36.58	29.431	
6,100.0	6,034.9	6,052.8	6,034.9	21.8	14.7	176.26	-14.9	376.3	1,095.7	1,058.6	37.15	29.497	
6,200.0	6,133.1	6,150.9	6,133.1	22.3	14.7	176.32	-14.9	376.3	1,114.8	1,077.1	37.71	29.559	
6,300.0	6,231.2	6,249.1	6,231.2	22.7	14.8	176.38	-14.9	376.3	1,133.8	1,095.5	38.28	29.617	
6,400.0	6,329.4	6,347.3	6,329.4	23.2	14.9	176.44	-14.9	376.3	1,152.9	1,114.0	38.86	29.670	
6,500.0	6,427.5	6,445.4	6,427.5	23.6	14.9	176.50	-14.9	376.3	1,171.9	1,132.5	39.43	29.720	
6,600.0	6,525.7	6,543.6	6,525.7	24.1	15.0	176.56	-14.9	376.3	1,190.9	1,150.9	40.01	29.767	
6,700.0	6,623.9	6,641.7	6,623.9	24.5	15.1	176.61	-14.9	376.3	1,210.0	1,169.4	40.59	29.810	
6,800.0	6,722.0	6,739.9	6,722.0	25.0	15.1	176.66	-14.9	376.3	1,229.0	1,187.9	41.17	29.851	
6,900.0	6,820.2	6,838.1	6,820.2	25.4	15.2	176.71	-14.9	376.3	1,248.1	1,206.3	41.76	29.889	
7,000.0	6,918.4	6,936.2	6,918.4	25.9	15.3	176.76	-14.9	376.3	1,267.1	1,224.8	42.35	29.924	
7,100.0	7,016.5	7,034.4	7,016.5	26.3	15.3	176.81	-14.9	376.3	1,286.2	1,243.3	42.94	29.956	
7,200.0	7,114.7	7,132.6	7,114.7	26.8	15.4	176.86	-14.9	376.3	1,305.2	1,261.7	43.53	29.986	
7,300.0	7,212.8	7,230.7	7,212.8	27.2	15.5	176.90	-14.9	376.3	1,324.3	1,280.2	44.12	30.014	
7,400.0	7,311.0	7,328.9	7,311.0	27.7	15.5	176.95	-14.9	376.3	1,343.4	1,298.6	44.72	30.041	
7,500.0	7,409.2	7,427.0	7,409.2	28.1	15.6	176.99	-14.9	376.3	1,362.4	1,317.1	45.32	30.065	
7,600.0	7,507.3	7,525.2	7,507.3	28.6	15.6	177.03	-14.9	376.3	1,381.5	1,335.6	45.92	30.087	
7,700.0	7,605.5	7,623.4	7,605.5	29.0	15.7	177.07	-14.9	376.3	1,400.5	1,354.0	46.52	30.108	
7,800.0	7,703.7	7,721.5	7,703.7	29.5	15.8	177.11	-14.9	376.3	1,419.6	1,372.5	47.12	30.127	
7,900.0	7,801.8	7,819.7	7,801.8	29.9	15.8	177.15	-14.9	376.3	1,438.6	1,390.9	47.71	30.151	
8,000.0	7,900.2	7,918.1	7,900.2	30.4	15.9	177.20	-14.9	376.3	1,456.4	1,408.1	48.31	30.145	
8,100.0	7,998.9	8,016.8	7,998.9	30.8	16.0	177.23	-14.9	376.3	1,472.5	1,423.6	48.90	30.112	
8,200.0	8,097.9	8,115.7	8,097.9	31.3	16.0	177.27	-14.9	376.3	1,486.9	1,437.4	49.48	30.052	
8,300.0	8,197.1	8,214.9	8,197.1	31.7	16.1	177.30	-14.9	376.3	1,499.6	1,449.5	50.04	29.968	
8,400.0	8,296.5	8,314.3	8,296.5	32.1	16.2	177.32	-14.9	376.3	1,510.5	1,459.9	50.58	29.861	
8,500.0	8,396.0	8,413.9	8,396.0	32.5	16.2	177.34	-14.9	376.3	1,519.7	1,468.6	51.11	29.733	
8,600.0	8,495.8	8,513.6	8,495.8	32.8	16.3	177.36	-14.9	376.3	1,527.1	1,475.5	51.62	29.586	
8,700.0	8,595.6	8,613.5	8,595.6	33.2	16.4	177.37	-14.9	376.3	1,532.8	1,480.7	52.09	29.424	
8,800.0	8,695.5	8,713.4	8,695.5	33.5	16.4	177.38	-14.9	376.3	1,536.8	1,484.3	52.54	29.252	
8,900.0	8,795.5	8,813.4	8,795.5	33.8	16.5	177.38	-14.9	376.3	1,539.0	1,486.1	52.93	29.078	
9,000.0	8,895.5	8,913.4	8,895.5	33.9	16.6	89.39	-14.9	376.3	1,539.6	1,486.5	53.10	28.994	
9,100.0	8,995.5	9,013.4	8,995.5	33.9	16.7	89.39	-14.9	376.3	1,539.6	1,486.4	53.17	28.953	
9,200.0	9,095.5	9,113.4	9,095.5	33.9	16.7	89.39	-14.9	376.3	1,539.6	1,486.3	53.25	28.913	
9,300.0	9,195.5	9,213.4	9,195.5	34.0	16.8	89.39	-14.9	376.3	1,539.6	1,486.2	53.32	28.874	
9,400.0	9,295.5	9,313.4	9,295.5	34.0	16.9	89.39	-14.9	376.3	1,539.6	1,486.2	53.39	28.835	
9,500.0	9,395.5	9,413.4	9,395.5	34.0	16.9	89.39	-14.9	376.3	1,539.6	1,486.1	53.47	28.795	
9,600.0	9,495.5	9,513.4	9,495.5	34.0	17.0	89.39	-14.9	376.3	1,539.6	1,486.0	53.54	28.756	
9,700.0	9,595.5	9,613.4	9,595.5	34.0	17.1	89.39	-14.9	376.3	1,539.6	1,485.9	53.61	28.716	
9,800.0	9,695.5	9,713.4	9,695.5	34.1	17.1	89.39	-14.9	376.3	1,539.6	1,485.9	53.69	28.676	
9,900.0	9,795.5	9,813.4	9,795.5	34.1	17.2	89.39	-14.9	376.3	1,539.6	1,485.8	53.76	28.636	
10,000.0	9,895.5	9,913.4	9,895.5	34.1	17.3	89.39	-14.9	376.3	1,539.6	1,485.7	53.84	28.596	
10,100.0	9,995.5	10,013.4	9,995.5	34.1	17.3	89.39	-14.9	376.3	1,539.6	1,485.6	53.91	28.556	
10,200.0	10,095.5	10,113.4	10,095.5	34.2	17.4	89.39	-14.9	376.3	1,539.6	1,485.6	53.99	28.516	
10,300.0	10,195.5	10,213.4	10,195.5	34.2	17.5	89.39	-14.9	376.3	1,539.6	1,485.5	54.07	28.476	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
10,400.0	10,295.5	10,313.4	10,295.5	34.2	17.6	89.39	-14.9	376.3	1,539.6	1,485.4	54.14	28.436	
10,500.0	10,395.5	10,413.4	10,395.5	34.3	17.6	89.39	-14.9	376.3	1,539.6	1,485.3	54.22	28.395	
10,600.0	10,495.5	10,513.4	10,495.5	34.3	17.7	89.39	-14.9	376.3	1,539.6	1,485.3	54.30	28.355	
10,700.0	10,595.5	10,613.4	10,595.5	34.3	17.8	89.39	-14.9	376.3	1,539.6	1,485.2	54.37	28.316	
10,800.0	10,695.5	10,711.1	10,692.9	34.3	17.8	89.14	-8.4	376.2	1,539.6	1,485.2	54.43	28.288	
10,900.0	10,795.5	10,804.0	10,783.2	34.3	17.8	88.58	12.9	376.2	1,540.0	1,485.6	54.45	28.282	
11,000.0	10,894.6	10,892.2	10,864.7	34.3	17.9	87.61	46.4	376.0	1,541.0	1,486.5	54.42	28.315	
11,100.0	10,990.2	10,977.4	10,937.7	34.4	17.9	86.71	90.2	375.8	1,542.2	1,487.9	54.35	28.375	
11,200.0	11,079.3	11,060.3	11,001.7	34.4	18.0	85.90	142.7	375.6	1,543.6	1,489.4	54.26	28.451	
11,300.0	11,159.3	11,141.2	11,056.2	34.4	18.0	85.19	202.4	375.4	1,545.1	1,491.0	54.16	28.529	
11,400.0	11,227.6	11,220.7	11,101.1	34.4	18.1	84.61	268.0	375.1	1,546.5	1,492.4	54.08	28.598	
11,500.0	11,282.2	11,300.0	11,136.4	34.4	18.2	84.15	338.9	374.9	1,547.6	1,493.6	54.02	28.647	
11,600.0	11,321.4	11,376.8	11,160.9	34.5	18.3	83.85	411.6	374.6	1,548.4	1,494.4	54.01	28.668	
11,700.0	11,344.2	11,450.0	11,175.1	34.6	18.3	83.71	483.4	374.3	1,548.9	1,494.8	54.05	28.655	
11,800.0	11,350.0	11,533.0	11,180.0	34.6	18.4	83.70	566.2	373.9	1,548.9	1,494.7	54.16	28.599	
11,900.0	11,350.0	11,633.0	11,180.0	34.7	18.6	83.70	666.2	373.5	1,548.9	1,494.5	54.33	28.508	
12,000.0	11,350.0	11,733.0	11,180.0	34.8	18.7	83.70	766.2	373.1	1,548.8	1,494.3	54.55	28.395	
12,100.0	11,350.0	11,833.0	11,180.0	35.0	18.9	83.70	866.2	372.7	1,548.8	1,494.0	54.81	28.261	
12,200.0	11,350.0	11,933.0	11,180.0	35.1	19.2	83.70	966.2	372.3	1,548.8	1,493.7	55.10	28.108	
12,300.0	11,350.0	12,033.0	11,180.0	35.3	19.4	83.70	1,066.2	371.9	1,548.8	1,493.4	55.44	27.936	
12,400.0	11,350.0	12,133.0	11,180.0	35.5	19.7	83.70	1,166.2	371.6	1,548.8	1,493.0	55.82	27.747	
12,500.0	11,350.0	12,233.0	11,180.0	35.7	20.0	83.70	1,266.2	371.2	1,548.8	1,492.6	56.24	27.541	
12,600.0	11,350.0	12,333.0	11,180.0	35.9	20.3	83.70	1,366.2	370.8	1,548.8	1,492.1	56.69	27.320	
12,700.0	11,350.0	12,433.0	11,180.0	36.1	20.7	83.70	1,466.2	370.4	1,548.8	1,491.6	57.18	27.086	
12,800.0	11,350.0	12,533.0	11,180.0	36.3	21.1	83.70	1,566.2	370.0	1,548.8	1,491.1	57.71	26.838	
12,900.0	11,350.0	12,633.0	11,180.0	36.6	21.5	83.70	1,666.2	369.6	1,548.8	1,490.5	58.27	26.580	
13,000.0	11,350.0	12,733.0	11,180.0	36.9	21.9	83.70	1,766.2	369.2	1,548.8	1,489.9	58.87	26.311	
13,100.0	11,350.0	12,833.0	11,180.0	37.2	22.4	83.70	1,866.2	368.8	1,548.8	1,489.3	59.49	26.033	
13,200.0	11,350.0	12,933.0	11,180.0	37.5	22.8	83.70	1,966.2	368.4	1,548.8	1,488.7	60.15	25.747	
13,300.0	11,350.0	13,033.0	11,180.0	37.8	23.3	83.70	2,066.2	368.0	1,548.8	1,488.0	60.84	25.455	
13,400.0	11,350.0	13,133.0	11,180.0	38.1	23.8	83.70	2,166.2	367.6	1,548.8	1,487.2	61.56	25.157	
13,500.0	11,350.0	13,233.0	11,180.0	38.4	24.3	83.70	2,266.2	367.2	1,548.8	1,486.5	62.31	24.855	
13,600.0	11,350.0	13,333.0	11,180.0	38.8	24.9	83.70	2,366.2	366.8	1,548.8	1,485.7	63.09	24.549	
13,700.0	11,350.0	13,433.0	11,180.0	39.2	25.4	83.70	2,466.2	366.4	1,548.8	1,484.9	63.89	24.240	
13,800.0	11,350.0	13,533.0	11,180.0	39.5	25.9	83.70	2,566.2	366.0	1,548.8	1,484.1	64.72	23.930	
13,900.0	11,350.0	13,633.0	11,180.0	39.9	26.5	83.70	2,666.2	365.6	1,548.8	1,483.2	65.57	23.618	
14,000.0	11,350.0	13,733.0	11,180.0	40.3	27.1	83.70	2,766.2	365.2	1,548.8	1,482.3	66.45	23.307	
14,100.0	11,350.0	13,833.0	11,180.0	40.7	27.6	83.70	2,866.2	364.8	1,548.8	1,481.4	67.35	22.995	
14,200.0	11,350.0	13,933.0	11,180.0	41.1	28.2	83.70	2,966.2	364.4	1,548.8	1,480.5	68.27	22.685	
14,300.0	11,350.0	14,033.0	11,180.0	41.6	28.8	83.70	3,066.2	364.0	1,548.8	1,479.5	69.22	22.376	
14,400.0	11,350.0	14,133.0	11,180.0	42.0	29.4	83.70	3,166.2	363.6	1,548.8	1,478.6	70.18	22.069	
14,500.0	11,350.0	14,233.0	11,180.0	42.5	30.0	83.70	3,266.2	363.2	1,548.8	1,477.6	71.16	21.765	
14,600.0	11,350.0	14,333.0	11,180.0	42.9	30.7	83.70	3,366.2	362.8	1,548.8	1,476.6	72.16	21.463	
14,700.0	11,350.0	14,433.0	11,180.0	43.4	31.3	83.70	3,466.2	362.4	1,548.7	1,475.6	73.18	21.164	
14,800.0	11,350.0	14,533.0	11,180.0	43.9	31.9	83.70	3,566.2	362.0	1,548.7	1,474.5	74.21	20.869	
14,900.0	11,350.0	14,633.0	11,180.0	44.3	32.6	83.70	3,666.2	361.6	1,548.7	1,473.5	75.26	20.577	
15,000.0	11,350.0	14,733.0	11,180.0	44.8	33.2	83.70	3,766.2	361.2	1,548.7	1,472.4	76.33	20.290	
15,100.0	11,350.0	14,833.0	11,180.0	45.3	33.8	83.70	3,866.2	360.8	1,548.7	1,471.3	77.41	20.006	
15,200.0	11,350.0	14,933.0	11,180.0	45.8	34.5	83.70	3,966.2	360.4	1,548.7	1,470.2	78.51	19.727	
15,300.0	11,350.0	15,033.0	11,180.0	46.3	35.2	83.70	4,066.2	360.0	1,548.7	1,469.1	79.62	19.452	
15,400.0	11,350.0	15,133.0	11,180.0	46.9	35.8	83.70	4,166.1	359.6	1,548.7	1,468.0	80.74	19.181	
15,500.0	11,350.0	15,233.0	11,180.0	47.4	36.5	83.70	4,266.1	359.2	1,548.7	1,466.8	81.88	18.915	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
15,600.0	11,350.0	15,333.0	11,180.0	47.9	37.2	83.70	4,366.1	358.8	1,548.7	1,465.7	83.02	18.654	
15,700.0	11,350.0	15,433.0	11,180.0	48.5	37.8	83.70	4,466.1	358.4	1,548.7	1,464.5	84.18	18.397	
15,800.0	11,350.0	15,533.0	11,180.0	49.0	38.5	83.70	4,566.1	358.0	1,548.7	1,463.4	85.35	18.144	
15,900.0	11,350.0	15,633.0	11,180.0	49.6	39.2	83.70	4,666.1	357.6	1,548.7	1,462.2	86.54	17.897	
16,000.0	11,350.0	15,733.0	11,180.0	50.1	39.9	83.70	4,766.1	357.2	1,548.7	1,461.0	87.73	17.654	
16,100.0	11,350.0	15,833.0	11,180.0	50.7	40.6	83.70	4,866.1	356.8	1,548.7	1,459.8	88.93	17.415	
16,200.0	11,350.0	15,933.0	11,180.0	51.2	41.2	83.70	4,966.1	356.4	1,548.7	1,458.6	90.14	17.181	
16,300.0	11,350.0	16,033.0	11,180.0	51.8	41.9	83.70	5,066.1	356.0	1,548.7	1,457.3	91.36	16.952	
16,400.0	11,350.0	16,133.0	11,180.0	52.4	42.6	83.70	5,166.1	355.6	1,548.7	1,456.1	92.59	16.727	
16,500.0	11,350.0	16,233.0	11,180.0	53.0	43.3	83.70	5,266.1	355.2	1,548.7	1,454.9	93.82	16.506	
16,600.0	11,350.0	16,333.0	11,180.0	53.6	44.0	83.70	5,366.1	354.8	1,548.7	1,453.6	95.07	16.290	
16,700.0	11,350.0	16,433.0	11,180.0	54.2	44.7	83.70	5,466.1	354.4	1,548.7	1,452.4	96.32	16.078	
16,800.0	11,350.0	16,533.0	11,180.0	54.8	45.4	83.70	5,566.1	354.0	1,548.7	1,451.1	97.58	15.871	
16,900.0	11,350.0	16,633.0	11,180.0	55.3	46.1	83.70	5,666.1	353.6	1,548.7	1,449.8	98.85	15.667	
17,000.0	11,350.0	16,733.0	11,180.0	56.0	46.8	83.70	5,766.1	353.2	1,548.7	1,448.5	100.12	15.468	
17,100.0	11,350.0	16,833.0	11,180.0	56.6	47.5	83.70	5,866.1	352.8	1,548.7	1,447.3	101.40	15.273	
17,200.0	11,350.0	16,933.0	11,180.0	57.2	48.3	83.70	5,966.1	352.4	1,548.7	1,446.0	102.69	15.081	
17,300.0	11,350.0	17,033.0	11,180.0	57.8	49.0	83.70	6,066.1	352.0	1,548.7	1,444.7	103.98	14.894	
17,400.0	11,350.0	17,133.0	11,180.0	58.4	49.7	83.70	6,166.1	351.6	1,548.6	1,443.4	105.28	14.710	
17,500.0	11,350.0	17,233.0	11,180.0	59.0	50.4	83.70	6,266.1	351.2	1,548.6	1,442.1	106.58	14.530	
17,600.0	11,350.0	17,333.0	11,180.0	59.7	51.1	83.70	6,366.1	350.8	1,548.6	1,440.7	107.89	14.353	
17,700.0	11,350.0	17,433.0	11,180.0	60.3	51.8	83.70	6,466.1	350.4	1,548.6	1,439.4	109.21	14.181	
17,800.0	11,350.0	17,533.0	11,180.0	60.9	52.6	83.70	6,566.1	350.0	1,548.6	1,438.1	110.53	14.011	
17,900.0	11,350.0	17,633.0	11,180.0	61.5	53.3	83.70	6,666.1	349.6	1,548.6	1,436.8	111.85	13.845	
18,000.0	11,350.0	17,733.0	11,180.0	62.2	54.0	83.70	6,766.1	349.2	1,548.6	1,435.4	113.18	13.682	
18,100.0	11,350.0	17,833.0	11,180.0	62.8	54.7	83.70	6,866.1	348.8	1,548.6	1,434.1	114.52	13.523	
18,200.0	11,350.0	17,933.0	11,180.0	63.5	55.4	83.70	6,966.1	348.4	1,548.6	1,432.8	115.86	13.367	
18,300.0	11,350.0	18,033.0	11,180.0	64.1	56.2	83.70	7,066.1	348.0	1,548.6	1,431.4	117.20	13.213	
18,400.0	11,350.0	18,133.0	11,180.0	64.8	56.9	83.70	7,166.1	347.6	1,548.6	1,430.1	118.55	13.063	
18,500.0	11,350.0	18,233.0	11,180.0	65.4	57.6	83.70	7,266.1	347.2	1,548.6	1,428.7	119.90	12.916	
18,600.0	11,350.0	18,333.0	11,180.0	66.1	58.4	83.70	7,366.1	346.8	1,548.6	1,427.4	121.25	12.772	
18,700.0	11,350.0	18,433.0	11,180.0	66.7	59.1	83.70	7,466.1	346.4	1,548.6	1,426.0	122.61	12.630	
18,800.0	11,350.0	18,533.0	11,180.0	67.4	59.8	83.70	7,566.1	346.0	1,548.6	1,424.6	123.97	12.491	
18,900.0	11,350.0	18,633.0	11,180.0	68.0	60.6	83.70	7,666.1	345.6	1,548.6	1,423.3	125.34	12.355	
19,000.0	11,350.0	18,733.0	11,180.0	68.7	61.3	83.70	7,766.1	345.2	1,548.6	1,421.9	126.71	12.222	
19,100.0	11,350.0	18,833.0	11,180.0	69.4	62.0	83.70	7,866.1	344.8	1,548.6	1,420.5	128.08	12.091	
19,200.0	11,350.0	18,933.0	11,180.0	70.0	62.8	83.70	7,966.1	344.4	1,548.6	1,419.1	129.46	11.962	
19,300.0	11,350.0	19,033.0	11,180.0	70.7	63.5	83.70	8,066.1	344.0	1,548.6	1,417.7	130.83	11.836	
19,400.0	11,350.0	19,133.0	11,180.0	71.4	64.2	83.70	8,166.1	343.6	1,548.6	1,416.4	132.22	11.712	
19,500.0	11,350.0	19,233.0	11,180.0	72.0	65.0	83.70	8,266.1	343.2	1,548.6	1,415.0	133.60	11.591	
19,600.0	11,350.0	19,333.0	11,180.0	72.7	65.7	83.70	8,366.1	342.8	1,548.6	1,413.6	134.99	11.472	
19,700.0	11,350.0	19,433.0	11,180.0	73.4	66.4	83.70	8,466.1	342.4	1,548.6	1,412.2	136.38	11.355	
19,800.0	11,350.0	19,533.0	11,180.0	74.1	67.2	83.70	8,566.1	342.0	1,548.6	1,410.8	137.77	11.240	
19,900.0	11,350.0	19,633.0	11,180.0	74.8	67.9	83.70	8,666.1	341.6	1,548.6	1,409.4	139.16	11.128	
20,000.0	11,350.0	19,733.0	11,180.0	75.4	68.6	83.70	8,766.1	341.2	1,548.6	1,408.0	140.56	11.017	
20,100.0	11,350.0	19,833.0	11,180.0	76.1	69.4	83.70	8,866.1	340.8	1,548.5	1,406.6	141.96	10.908	
20,200.0	11,350.0	19,933.0	11,180.0	76.8	70.1	83.70	8,966.1	340.4	1,548.5	1,405.2	143.36	10.802	
20,300.0	11,350.0	20,033.0	11,180.0	77.5	70.9	83.70	9,066.1	340.0	1,548.5	1,403.8	144.77	10.697	
20,400.0	11,350.0	20,133.0	11,180.0	78.2	71.6	83.70	9,166.1	339.6	1,548.5	1,402.4	146.17	10.594	
20,500.0	11,350.0	20,233.0	11,180.0	78.9	72.4	83.70	9,266.1	339.2	1,548.5	1,401.0	147.58	10.493	
20,600.0	11,350.0	20,333.0	11,180.0	79.6	73.1	83.70	9,366.1	338.8	1,548.5	1,399.5	148.99	10.393	
20,700.0	11,350.0	20,433.0	11,180.0	80.2	73.8	83.70	9,466.1	338.4	1,548.5	1,398.1	150.40	10.296	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,800.0	11,350.0	20,533.0	11,180.0	80.9	74.6	83.70	9,566.1	338.0	1,548.5	1,396.7	151.82	10.200	
20,900.0	11,350.0	20,633.0	11,180.0	81.6	75.3	83.70	9,666.1	337.6	1,548.5	1,395.3	153.23	10.106	
21,000.0	11,350.0	20,733.0	11,180.0	82.3	76.1	83.70	9,766.1	337.3	1,548.5	1,393.9	154.65	10.013	
21,100.0	11,350.0	20,833.0	11,180.0	83.0	76.8	83.70	9,866.1	336.9	1,548.5	1,392.4	156.07	9.922	
21,200.0	11,350.0	20,933.0	11,180.0	83.7	77.6	83.70	9,966.1	336.5	1,548.5	1,391.0	157.49	9.832	
21,300.0	11,350.0	21,033.0	11,180.0	84.4	78.3	83.70	10,066.1	336.1	1,548.5	1,389.6	158.92	9.744	
21,400.0	11,350.0	21,133.0	11,180.0	85.1	79.1	83.70	10,166.1	335.7	1,548.5	1,388.2	160.34	9.657	
21,500.0	11,350.0	21,233.0	11,180.0	85.8	79.8	83.70	10,266.1	335.3	1,548.5	1,386.7	161.77	9.572	
21,600.0	11,350.0	21,333.0	11,180.0	86.5	80.5	83.70	10,366.1	334.9	1,548.5	1,385.3	163.20	9.489	
21,700.0	11,350.0	21,433.0	11,180.0	87.2	81.3	83.70	10,466.1	334.5	1,548.5	1,383.9	164.63	9.406	
21,800.0	11,350.0	21,533.0	11,180.0	87.9	82.0	83.70	10,566.1	334.1	1,548.5	1,382.4	166.06	9.325	
21,900.0	11,350.0	21,633.0	11,180.0	88.6	82.8	83.70	10,666.1	333.7	1,548.5	1,381.0	167.49	9.245	
22,000.0	11,350.0	21,733.0	11,180.0	89.3	83.5	83.70	10,766.1	333.3	1,548.5	1,379.6	168.92	9.167	
22,100.0	11,350.0	21,833.0	11,180.0	90.1	84.3	83.70	10,866.1	332.9	1,548.5	1,378.1	170.36	9.090	
22,200.0	11,350.0	21,933.0	11,180.0	90.8	85.0	83.70	10,966.1	332.5	1,548.5	1,376.7	171.80	9.013	
22,300.0	11,350.0	22,033.0	11,180.0	91.5	85.8	83.70	11,066.1	332.1	1,548.5	1,375.2	173.23	8.939	
22,400.0	11,350.0	22,133.0	11,180.0	92.2	86.5	83.70	11,166.1	331.7	1,548.5	1,373.8	174.67	8.865	
22,500.0	11,350.0	22,233.0	11,180.0	92.9	87.3	83.70	11,266.1	331.3	1,548.5	1,372.3	176.11	8.792	
22,600.0	11,350.0	22,333.0	11,180.0	93.6	88.0	83.70	11,366.1	330.9	1,548.5	1,370.9	177.55	8.721	
22,700.0	11,350.0	22,433.0	11,180.0	94.3	88.8	83.70	11,466.1	330.5	1,548.5	1,369.5	179.00	8.651	
22,800.0	11,350.0	22,533.0	11,180.0	95.0	89.5	83.70	11,566.1	330.1	1,548.4	1,368.0	180.44	8.581	
22,900.0	11,350.0	22,633.0	11,180.0	95.7	90.3	83.70	11,666.1	329.7	1,548.4	1,366.6	181.89	8.513	
23,000.0	11,350.0	22,733.0	11,180.0	96.5	91.0	83.70	11,766.1	329.3	1,548.4	1,365.1	183.33	8.446	
23,100.0	11,350.0	22,833.0	11,180.0	97.2	91.8	83.70	11,866.1	328.9	1,548.4	1,363.7	184.78	8.380	
23,200.0	11,350.0	22,933.0	11,180.0	97.9	92.5	83.70	11,966.1	328.5	1,548.4	1,362.2	186.23	8.315	
23,300.0	11,350.0	23,033.0	11,180.0	98.6	93.3	83.70	12,066.1	328.1	1,548.4	1,360.8	187.68	8.251	
23,400.0	11,350.0	23,133.0	11,180.0	99.3	94.0	83.70	12,166.1	327.7	1,548.4	1,359.3	189.13	8.187	
23,500.0	11,350.0	23,233.0	11,180.0	100.0	94.8	83.70	12,266.1	327.3	1,548.4	1,357.8	190.58	8.125	
23,600.0	11,350.0	23,333.0	11,180.0	100.8	95.6	83.70	12,366.1	326.9	1,548.4	1,356.4	192.03	8.063	
23,700.0	11,350.0	23,433.0	11,180.0	101.5	96.3	83.70	12,466.1	326.5	1,548.4	1,354.9	193.48	8.003	
23,800.0	11,350.0	23,533.0	11,180.0	102.2	97.1	83.70	12,566.1	326.1	1,548.4	1,353.5	194.94	7.943	
23,900.0	11,350.0	23,633.0	11,180.0	102.9	97.8	83.70	12,666.1	325.7	1,548.4	1,352.0	196.39	7.884	
24,000.0	11,350.0	23,733.0	11,180.0	103.7	98.6	83.70	12,766.1	325.3	1,548.4	1,350.6	197.85	7.826	
24,100.0	11,350.0	23,833.0	11,180.0	104.4	99.3	83.70	12,866.1	324.9	1,548.4	1,349.1	199.30	7.769	
24,200.0	11,350.0	23,933.0	11,180.0	105.1	100.1	83.70	12,966.1	324.5	1,548.4	1,347.6	200.76	7.713	
24,300.0	11,350.0	24,033.0	11,180.0	105.8	100.8	83.70	13,066.1	324.1	1,548.4	1,346.2	202.22	7.657	
24,400.0	11,350.0	24,133.0	11,180.0	106.5	101.6	83.70	13,166.1	323.7	1,548.4	1,344.7	203.68	7.602	
24,500.0	11,350.0	24,233.0	11,180.0	107.3	102.3	83.70	13,266.1	323.3	1,548.4	1,343.2	205.14	7.548	
24,600.0	11,350.0	24,333.0	11,180.0	108.0	103.1	83.70	13,366.1	322.9	1,548.4	1,341.8	206.60	7.495	
24,700.0	11,350.0	24,433.0	11,180.0	108.7	103.8	83.70	13,466.1	322.5	1,548.4	1,340.3	208.06	7.442	
24,800.0	11,350.0	24,533.0	11,180.0	109.5	104.6	83.70	13,566.1	322.1	1,548.4	1,338.9	209.52	7.390	
24,841.4	11,350.0	24,574.2	11,180.0	109.7	104.9	83.70	13,607.3	321.9	1,548.4	1,338.3	210.06	7.371	
24,848.5	11,350.0	24,574.2	11,180.0	109.7	104.9	83.70	13,607.3	321.9	1,548.4	1,338.3	210.08	7.370	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	89.94	0.1	120.0	120.0	113.6	6.43	18.667	
100.0	100.0	100.0	100.0	3.2	3.2	89.94	0.1	120.0	120.0	113.1	6.89	17.412	
200.0	200.0	200.0	200.0	3.5	3.5	89.94	0.1	120.0	120.0	112.7	7.33	16.377	
300.0	300.0	300.0	300.0	3.7	3.7	89.94	0.1	120.0	120.0	112.3	7.74	15.503	
400.0	400.0	400.0	400.0	3.9	3.9	89.94	0.1	120.0	120.0	111.9	8.14	14.751	
500.0	500.0	500.0	500.0	4.1	4.1	89.94	0.1	120.0	120.0	111.5	8.51	14.096	
600.0	600.0	600.0	600.0	4.2	4.2	89.94	0.1	120.0	120.0	111.1	8.88	13.518	
700.0	700.0	700.0	700.0	4.4	4.4	89.94	0.1	120.0	120.0	110.8	9.23	13.003	
800.0	800.0	800.0	800.0	4.6	4.6	89.94	0.1	120.0	120.0	110.4	9.57	12.540	
900.0	900.0	900.0	900.0	4.8	4.8	89.94	0.1	120.0	120.0	110.1	9.90	12.120	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	89.94	0.1	120.0	120.0	109.8	10.22	11.737	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	89.94	0.1	120.0	120.0	109.5	10.54	11.387	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	89.94	0.1	120.0	120.0	109.2	10.85	11.063	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	89.94	0.1	120.0	120.0	108.9	11.15	10.764	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	89.94	0.1	120.0	120.0	108.6	11.44	10.486	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	89.94	0.1	120.0	120.0	108.3	11.73	10.227	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-145.41	0.1	120.0	121.1	109.1	12.03	10.065	SF
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-146.41	0.1	120.0	124.3	112.0	12.32	10.095	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-147.96	0.1	120.0	129.8	117.2	12.62	10.291	
1,900.0	1,899.3	1,897.0	1,897.0	6.4	6.3	-149.48	-0.7	120.9	138.5	125.6	12.93	10.715	
2,000.0	1,998.7	1,994.0	1,993.9	6.6	6.4	-150.38	-3.4	123.5	150.0	136.8	13.21	11.354	
2,100.0	2,098.2	2,090.6	2,090.3	6.8	6.6	-150.47	-7.7	127.8	163.1	149.6	13.51	12.073	
2,200.0	2,197.6	2,186.8	2,186.1	7.0	6.7	-149.94	-13.7	133.8	177.8	164.0	13.82	12.864	
2,300.0	2,297.1	2,285.1	2,283.9	7.3	6.9	-149.12	-21.0	141.1	193.5	179.4	14.15	13.674	
2,400.0	2,396.5	2,383.8	2,382.1	7.5	7.1	-148.41	-28.3	148.4	209.3	194.8	14.50	14.429	
2,500.0	2,496.0	2,482.5	2,480.2	7.8	7.3	-147.81	-35.5	155.7	225.1	210.2	14.87	15.133	
2,600.0	2,595.4	2,581.2	2,578.4	8.1	7.5	-147.28	-42.8	163.0	240.9	225.7	15.27	15.779	
2,700.0	2,694.8	2,679.8	2,676.4	8.4	7.8	-158.11	-50.1	170.3	257.7	242.1	15.68	16.436	
2,800.0	2,794.0	2,772.6	2,768.8	8.7	8.0	-166.87	-56.5	177.8	277.4	261.3	16.12	17.215	
2,900.0	2,893.0	2,862.5	2,858.1	9.0	8.3	-173.67	-60.8	187.2	301.7	285.1	16.58	18.192	
3,000.0	2,991.7	2,950.8	2,945.5	9.3	8.5	-179.00	-63.3	198.5	330.3	313.2	17.09	19.334	
3,100.0	3,090.0	3,037.1	3,030.9	9.6	8.7	177.42	-64.1	211.6	363.3	345.7	17.58	20.668	
3,200.0	3,188.2	3,126.6	3,119.0	10.0	8.9	177.45	-63.4	226.8	398.9	380.7	18.14	21.984	
3,300.0	3,286.3	3,219.9	3,210.9	10.3	9.2	177.45	-62.5	243.0	434.7	415.9	18.78	23.152	
3,400.0	3,384.5	3,313.3	3,302.9	10.7	9.5	177.45	-61.5	259.2	470.5	451.1	19.42	24.229	
3,500.0	3,482.7	3,406.7	3,394.8	11.0	9.8	177.45	-60.6	275.4	506.3	486.2	20.08	25.215	
3,600.0	3,580.8	3,500.0	3,486.8	11.4	10.0	177.45	-59.7	291.6	542.1	521.3	20.75	26.119	
3,700.0	3,679.0	3,593.4	3,578.8	11.8	10.4	177.45	-58.8	307.8	577.9	556.4	21.44	26.948	
3,800.0	3,777.1	3,686.8	3,670.7	12.1	10.7	177.46	-57.9	324.0	613.7	591.5	22.15	27.710	
3,900.0	3,875.3	3,780.2	3,762.7	12.5	11.0	177.46	-57.0	340.2	649.5	626.6	22.86	28.410	
4,000.0	3,973.5	3,873.5	3,854.6	12.9	11.3	177.46	-56.0	356.3	685.3	661.7	23.59	29.056	
4,100.0	4,071.6	3,966.9	3,946.6	13.3	11.6	177.46	-55.1	372.5	721.1	696.8	24.32	29.651	
4,200.0	4,169.8	4,060.3	4,038.5	13.7	12.0	177.46	-54.2	388.7	756.9	731.8	25.06	30.201	
4,300.0	4,268.0	4,153.7	4,130.5	14.1	12.3	177.46	-53.3	404.9	792.7	766.9	25.81	30.710	
4,400.0	4,366.1	4,247.0	4,222.4	14.5	12.7	177.46	-52.4	421.1	828.5	801.9	26.57	31.182	
4,500.0	4,464.3	4,340.4	4,314.4	14.9	13.0	177.46	-51.4	437.3	864.3	837.0	27.33	31.620	
4,600.0	4,562.4	4,433.8	4,406.3	15.4	13.4	177.46	-50.5	453.5	900.1	872.0	28.10	32.027	
4,700.0	4,660.6	4,527.1	4,498.3	15.8	13.7	177.46	-49.6	469.7	935.9	907.0	28.88	32.406	
4,800.0	4,758.8	4,620.5	4,590.2	16.2	14.1	177.46	-48.7	485.8	971.7	942.0	29.66	32.760	
4,900.0	4,856.9	4,713.9	4,682.2	16.6	14.5	177.46	-47.8	502.0	1,007.5	977.0	30.45	33.091	
5,000.0	4,955.1	4,807.3	4,774.1	17.0	14.8	177.46	-46.8	518.2	1,043.3	1,012.1	31.24	33.400	
5,100.0	5,053.3	4,900.6	4,866.1	17.5	15.2	177.46	-45.9	534.4	1,079.1	1,047.1	32.03	33.689	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	5,151.4	4,994.0	4,958.1	17.9	15.6	177.46	-45.0	550.6	1,114.9	1,082.1	32.83	33.961	
5,300.0	5,249.6	5,087.4	5,050.0	18.3	16.0	177.46	-44.1	566.8	1,150.7	1,117.1	33.63	34.216	
5,400.0	5,347.7	5,180.7	5,142.0	18.8	16.4	177.46	-43.2	583.0	1,186.5	1,152.1	34.44	34.456	
5,500.0	5,445.9	5,274.1	5,233.9	19.2	16.7	177.46	-42.2	599.2	1,222.3	1,187.1	35.24	34.682	
5,600.0	5,544.1	5,367.5	5,325.9	19.6	17.1	177.46	-41.3	615.4	1,258.1	1,222.0	36.05	34.895	
5,700.0	5,642.2	5,460.9	5,417.8	20.1	17.5	177.46	-40.4	631.5	1,293.9	1,257.0	36.87	35.096	
5,800.0	5,740.4	5,554.2	5,509.8	20.5	17.9	177.46	-39.5	647.7	1,329.7	1,292.0	37.68	35.286	
5,900.0	5,838.6	5,647.6	5,601.7	21.0	18.3	177.46	-38.6	663.9	1,365.5	1,327.0	38.50	35.465	
6,000.0	5,936.7	5,741.0	5,693.7	21.4	18.7	177.46	-37.6	680.1	1,401.3	1,362.0	39.32	35.636	
6,100.0	6,034.9	5,834.3	5,785.6	21.8	19.1	177.46	-36.7	696.3	1,437.1	1,397.0	40.15	35.797	
6,200.0	6,133.1	5,927.7	5,877.6	22.3	19.5	177.46	-35.8	712.5	1,472.9	1,431.9	40.97	35.950	
6,300.0	6,231.2	6,021.1	5,969.5	22.7	19.9	177.46	-34.9	728.7	1,508.7	1,466.9	41.80	36.096	
6,400.0	6,329.4	6,114.5	6,061.5	23.2	20.3	177.46	-34.0	744.9	1,544.5	1,501.9	42.63	36.234	
6,500.0	6,427.5	6,207.8	6,153.4	23.6	20.7	177.46	-33.1	761.0	1,580.3	1,536.8	43.46	36.366	
6,600.0	6,525.7	6,301.2	6,245.4	24.1	21.1	177.46	-32.1	777.2	1,616.1	1,571.8	44.29	36.492	
6,700.0	6,623.9	6,394.6	6,337.4	24.5	21.5	177.46	-31.2	793.4	1,651.9	1,606.8	45.12	36.611	
6,800.0	6,722.0	6,504.6	6,445.7	25.0	21.9	177.46	-30.1	812.2	1,687.5	1,641.4	46.08	36.625	
6,900.0	6,820.2	6,638.5	6,578.1	25.4	22.5	177.46	-29.0	832.6	1,721.3	1,674.1	47.22	36.451	
7,000.0	6,918.4	6,774.6	6,713.1	25.9	23.1	177.47	-28.0	850.1	1,752.9	1,704.5	48.35	36.256	
7,100.0	7,016.5	6,912.8	6,850.5	26.3	23.6	177.49	-27.2	864.6	1,782.1	1,732.7	49.44	36.044	
7,200.0	7,114.7	7,053.0	6,990.2	26.8	24.1	177.51	-26.5	876.0	1,809.1	1,758.6	50.50	35.826	
7,300.0	7,212.8	7,195.0	7,132.0	27.2	24.6	177.53	-26.1	884.0	1,833.7	1,782.2	51.50	35.602	
7,400.0	7,311.0	7,338.8	7,275.7	27.7	25.0	177.56	-25.8	888.6	1,855.8	1,803.4	52.43	35.395	
7,500.0	7,409.2	7,472.3	7,409.2	28.1	25.2	177.59	-25.8	889.6	1,875.6	1,822.5	53.14	35.297	
7,600.0	7,507.3	7,570.4	7,507.3	28.6	25.3	177.62	-25.8	889.6	1,894.7	1,841.0	53.64	35.323	
7,700.0	7,605.5	7,668.6	7,605.5	29.0	25.3	177.64	-25.8	889.6	1,913.7	1,859.6	54.15	35.344	
7,800.0	7,703.7	7,766.8	7,703.7	29.5	25.3	177.67	-25.8	889.6	1,932.8	1,878.1	54.66	35.363	
7,900.0	7,801.8	7,864.9	7,801.8	29.9	25.4	177.69	-25.8	889.6	1,951.8	1,896.6	55.16	35.384	
8,000.0	7,900.2	7,963.3	7,900.2	30.4	25.4	177.72	-25.8	889.6	1,969.6	1,914.0	55.67	35.378	
8,100.0	7,998.9	8,062.0	7,998.9	30.8	25.4	177.74	-25.8	889.6	1,985.7	1,929.6	56.18	35.348	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	87.17	71.7	1,450.0	1,451.8	1,445.4	6.43	225.828	
100.0	100.0	100.0	100.0	3.2	3.2	87.17	71.7	1,450.0	1,451.8	1,444.9	6.89	210.642	
200.0	200.0	200.0	200.0	3.5	3.5	87.17	71.7	1,450.0	1,451.8	1,444.5	7.33	198.115	
300.0	300.0	300.0	300.0	3.7	3.7	87.17	71.7	1,450.0	1,451.8	1,444.1	7.74	187.542	
400.0	400.0	400.0	400.0	3.9	3.9	87.17	71.7	1,450.0	1,451.8	1,443.7	8.14	178.455	
500.0	500.0	500.0	500.0	4.1	4.1	87.17	71.7	1,450.0	1,451.8	1,443.3	8.51	170.531	
600.0	600.0	600.0	600.0	4.2	4.2	87.17	71.7	1,450.0	1,451.8	1,442.9	8.88	163.538	
700.0	700.0	700.0	700.0	4.4	4.4	87.17	71.7	1,450.0	1,451.8	1,442.6	9.23	157.303	
800.0	800.0	800.0	800.0	4.6	4.6	87.17	71.7	1,450.0	1,451.8	1,442.3	9.57	151.698	
900.0	900.0	900.0	900.0	4.8	4.8	87.17	71.7	1,450.0	1,451.8	1,441.9	9.90	146.621	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.17	71.7	1,450.0	1,451.8	1,441.6	10.22	141.992	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.17	71.7	1,450.0	1,451.8	1,441.3	10.54	137.748	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.17	71.7	1,450.0	1,451.8	1,441.0	10.85	133.839	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.17	71.7	1,450.0	1,451.8	1,440.7	11.15	130.220	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.17	71.7	1,450.0	1,451.8	1,440.4	11.44	126.858	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.17	71.7	1,450.0	1,451.8	1,440.1	11.73	123.723	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-147.85	71.7	1,450.0	1,452.9	1,440.9	12.03	120.764	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-147.91	71.7	1,450.0	1,456.3	1,443.9	12.32	118.214	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-148.00	71.7	1,450.0	1,461.8	1,449.2	12.62	115.863	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-148.13	71.7	1,450.0	1,469.6	1,456.7	12.93	113.678	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-148.34	71.7	1,450.0	1,478.5	1,465.2	13.23	111.757	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	-148.55	71.7	1,450.0	1,487.4	1,473.9	13.54	109.824	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	-148.76	71.7	1,450.0	1,496.3	1,482.5	13.87	107.883	
2,300.0	2,297.1	2,297.1	2,297.1	7.3	6.8	-148.96	71.7	1,450.0	1,505.3	1,491.1	14.21	105.946	
2,400.0	2,396.5	2,396.5	2,396.5	7.5	6.9	-149.17	71.7	1,450.0	1,514.3	1,499.7	14.56	104.021	
2,500.0	2,496.0	2,496.0	2,496.0	7.8	7.0	-149.37	71.7	1,450.0	1,523.3	1,508.4	14.92	102.116	
2,600.0	2,595.4	2,595.4	2,595.4	8.1	7.2	-149.57	71.7	1,450.0	1,532.3	1,517.0	15.29	100.194	
2,700.0	2,694.8	2,694.8	2,694.8	8.4	7.3	-161.13	71.7	1,450.0	1,542.3	1,526.6	15.68	98.371	
2,800.0	2,794.0	2,794.0	2,794.0	8.7	7.4	-170.63	71.7	1,450.0	1,554.4	1,538.3	16.10	96.566	
2,900.0	2,893.0	2,893.0	2,893.0	9.0	7.5	-177.89	71.7	1,450.0	1,568.5	1,552.0	16.54	94.831	
3,000.0	2,991.7	2,991.7	2,991.7	9.3	7.7	176.54	71.7	1,450.0	1,584.7	1,567.7	17.01	93.183	
3,100.0	3,090.0	3,090.0	3,090.0	9.6	7.8	172.91	71.7	1,450.0	1,603.0	1,585.5	17.46	91.811	
3,200.0	3,188.2	3,188.2	3,188.2	10.0	7.9	172.99	71.7	1,450.0	1,621.9	1,603.9	17.96	90.289	
3,300.0	3,286.3	3,286.3	3,286.3	10.3	8.0	173.07	71.7	1,450.0	1,640.9	1,622.4	18.46	88.894	
3,400.0	3,384.5	3,384.5	3,384.5	10.7	8.1	173.15	71.7	1,450.0	1,659.8	1,640.8	18.96	87.527	
3,500.0	3,482.7	3,482.7	3,482.7	11.0	8.2	173.23	71.7	1,450.0	1,678.8	1,659.3	19.48	86.190	
3,600.0	3,580.8	3,580.8	3,580.8	11.4	8.4	173.31	71.7	1,450.0	1,697.7	1,677.7	20.00	84.887	
3,700.0	3,679.0	3,679.0	3,679.0	11.8	8.5	173.38	71.7	1,450.0	1,716.7	1,696.1	20.53	83.618	
3,800.0	3,777.1	3,777.1	3,777.1	12.1	8.6	173.45	71.7	1,450.0	1,735.6	1,714.6	21.07	82.385	
3,900.0	3,875.3	3,875.3	3,875.3	12.5	8.7	173.52	71.7	1,450.0	1,754.6	1,733.0	21.61	81.189	
4,000.0	3,973.5	3,973.5	3,973.5	12.9	8.8	173.59	71.7	1,450.0	1,773.6	1,751.4	22.16	80.029	
4,100.0	4,071.6	4,071.6	4,071.6	13.3	8.9	173.66	71.7	1,450.0	1,792.5	1,769.8	22.72	78.906	
4,200.0	4,169.8	4,169.8	4,169.8	13.7	9.0	173.73	71.7	1,450.0	1,811.5	1,788.2	23.28	77.819	
4,300.0	4,268.0	4,268.0	4,268.0	14.1	9.1	173.79	71.7	1,450.0	1,830.5	1,806.6	23.84	76.767	
4,400.0	4,366.1	4,366.1	4,366.1	14.5	9.2	173.86	71.7	1,450.0	1,849.4	1,825.0	24.42	75.750	
4,500.0	4,464.3	4,464.3	4,464.3	14.9	9.3	173.92	71.7	1,450.0	1,868.4	1,843.4	24.99	74.766	
4,600.0	4,562.4	4,562.4	4,562.4	15.4	9.5	173.98	71.7	1,450.0	1,887.4	1,861.8	25.57	73.815	
4,700.0	4,660.6	4,660.6	4,660.6	15.8	9.6	174.04	71.7	1,450.0	1,906.4	1,880.2	26.15	72.896	
4,800.0	4,758.8	4,758.8	4,758.8	16.2	9.7	174.10	71.7	1,450.0	1,925.4	1,898.6	26.74	72.007	
4,900.0	4,856.9	4,856.9	4,856.9	16.6	9.8	174.16	71.7	1,450.0	1,944.3	1,917.0	27.33	71.148	
5,000.0	4,955.1	4,955.1	4,955.1	17.0	9.9	174.22	71.7	1,450.0	1,963.3	1,935.4	27.92	70.318	
5,100.0	5,053.3	5,053.3	5,053.3	17.5	10.0	174.27	71.7	1,450.0	1,982.3	1,953.8	28.52	69.515	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	87.22	71.7	1,480.0	1,481.8	1,475.4	6.43	230.489	
100.0	100.0	100.0	100.0	3.2	3.2	87.22	71.7	1,480.0	1,481.8	1,474.9	6.89	214.990	
200.0	200.0	200.0	200.0	3.5	3.5	87.22	71.7	1,480.0	1,481.8	1,474.5	7.33	202.204	
300.0	300.0	300.0	300.0	3.7	3.7	87.22	71.7	1,480.0	1,481.8	1,474.0	7.74	191.412	
400.0	400.0	400.0	400.0	3.9	3.9	87.22	71.7	1,480.0	1,481.8	1,473.7	8.14	182.138	
500.0	500.0	500.0	500.0	4.1	4.1	87.22	71.7	1,480.0	1,481.8	1,473.3	8.51	174.050	
600.0	600.0	600.0	600.0	4.2	4.2	87.22	71.7	1,480.0	1,481.8	1,472.9	8.88	166.913	
700.0	700.0	700.0	700.0	4.4	4.4	87.22	71.7	1,480.0	1,481.8	1,472.6	9.23	160.550	
800.0	800.0	800.0	800.0	4.6	4.6	87.22	71.7	1,480.0	1,481.8	1,472.2	9.57	154.829	
900.0	900.0	900.0	900.0	4.8	4.8	87.22	71.7	1,480.0	1,481.8	1,471.9	9.90	149.647	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.22	71.7	1,480.0	1,481.8	1,471.6	10.22	144.922	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.22	71.7	1,480.0	1,481.8	1,471.2	10.54	140.591	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.22	71.7	1,480.0	1,481.8	1,470.9	10.85	136.601	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.22	71.7	1,480.0	1,481.8	1,470.6	11.15	132.908	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.22	71.7	1,480.0	1,481.8	1,470.3	11.44	129.477	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.22	71.7	1,480.0	1,481.8	1,470.1	11.73	126.277	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-147.79	71.7	1,480.0	1,482.9	1,470.9	12.03	123.255	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-147.85	71.7	1,480.0	1,486.2	1,473.9	12.32	120.646	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-147.94	71.7	1,480.0	1,491.8	1,479.1	12.62	118.239	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-148.06	71.7	1,480.0	1,499.5	1,486.6	12.93	115.997	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-148.27	71.7	1,480.0	1,508.4	1,495.2	13.23	114.024	
2,100.0	2,098.2	2,072.0	2,072.0	6.8	6.5	-148.41	71.5	1,480.7	1,518.2	1,504.7	13.52	112.326	
2,200.0	2,197.6	2,144.7	2,144.6	7.0	6.6	-148.53	70.8	1,482.6	1,529.7	1,515.9	13.81	110.776	
2,300.0	2,297.1	2,217.1	2,217.0	7.3	6.7	-148.63	69.6	1,485.8	1,542.9	1,528.8	14.11	109.344	
2,400.0	2,396.5	2,300.0	2,299.7	7.5	6.9	-148.71	67.7	1,491.1	1,558.0	1,543.5	14.45	107.823	
2,500.0	2,496.0	2,360.9	2,360.4	7.8	7.0	-148.76	65.9	1,496.1	1,574.6	1,559.8	14.76	106.681	
2,600.0	2,595.4	2,432.2	2,431.3	8.1	7.1	-148.79	63.4	1,503.0	1,592.9	1,577.8	15.11	105.421	
2,700.0	2,694.8	2,500.0	2,498.6	8.4	7.2	-160.26	60.6	1,510.8	1,613.9	1,598.4	15.46	104.367	
2,800.0	2,794.0	2,588.0	2,585.8	8.7	7.4	-169.69	56.4	1,522.1	1,638.3	1,622.4	15.86	103.320	
2,900.0	2,893.0	2,684.4	2,681.2	9.0	7.6	-176.87	51.8	1,534.7	1,664.9	1,648.5	16.35	101.821	
3,000.0	2,991.7	2,780.0	2,775.9	9.3	7.8	177.63	47.3	1,547.2	1,693.5	1,676.7	16.88	100.304	
3,100.0	3,090.0	2,875.0	2,869.9	9.6	8.0	174.07	42.8	1,559.7	1,724.2	1,706.8	17.42	99.004	
3,200.0	3,188.2	2,969.6	2,963.7	10.0	8.3	174.32	38.3	1,572.0	1,755.6	1,737.6	18.00	97.514	
3,300.0	3,286.3	3,064.3	3,057.4	10.3	8.6	174.55	33.8	1,584.4	1,787.0	1,768.4	18.59	96.113	
3,400.0	3,384.5	3,159.0	3,151.2	10.7	8.8	174.78	29.2	1,596.8	1,818.4	1,799.2	19.20	94.708	
3,500.0	3,482.7	3,253.7	3,244.9	11.0	9.1	175.01	24.7	1,609.2	1,849.9	1,830.1	19.82	93.312	
3,600.0	3,580.8	3,348.4	3,338.7	11.4	9.4	175.22	20.2	1,621.6	1,881.4	1,860.9	20.46	91.934	
3,700.0	3,679.0	3,443.0	3,432.5	11.8	9.7	175.43	15.7	1,634.0	1,912.9	1,891.7	21.12	90.581	
3,800.0	3,777.1	3,537.7	3,526.2	12.1	10.0	175.63	11.2	1,646.3	1,944.4	1,922.6	21.78	89.258	
3,900.0	3,875.3	3,632.4	3,620.0	12.5	10.3	175.82	6.7	1,658.7	1,975.9	1,953.5	22.46	87.968	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	87.28	71.7	1,510.0	1,511.8	1,505.3	6.43	235.150	
100.0	100.0	100.0	100.0	3.2	3.2	87.28	71.7	1,510.0	1,511.8	1,504.9	6.89	219.338	
200.0	200.0	200.0	200.0	3.5	3.5	87.28	71.7	1,510.0	1,511.8	1,504.4	7.33	206.293	
300.0	300.0	300.0	300.0	3.7	3.7	87.28	71.7	1,510.0	1,511.8	1,504.0	7.74	195.283	
400.0	400.0	400.0	400.0	3.9	3.9	87.28	71.7	1,510.0	1,511.8	1,503.6	8.14	185.821	
500.0	500.0	500.0	500.0	4.1	4.1	87.28	71.7	1,510.0	1,511.8	1,503.2	8.51	177.570	
600.0	600.0	600.0	600.0	4.2	4.2	87.28	71.7	1,510.0	1,511.8	1,502.9	8.88	170.288	
700.0	700.0	700.0	700.0	4.4	4.4	87.28	71.7	1,510.0	1,511.8	1,502.5	9.23	163.797	
800.0	800.0	800.0	800.0	4.6	4.6	87.28	71.7	1,510.0	1,511.8	1,502.2	9.57	157.960	
900.0	900.0	900.0	900.0	4.8	4.8	87.28	71.7	1,510.0	1,511.8	1,501.9	9.90	152.673	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.28	71.7	1,510.0	1,511.8	1,501.5	10.22	147.853	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.28	71.7	1,510.0	1,511.8	1,501.2	10.54	143.435	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.28	71.7	1,510.0	1,511.8	1,500.9	10.85	139.363	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.28	71.7	1,510.0	1,511.8	1,500.6	11.15	135.596	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.28	71.7	1,510.0	1,511.8	1,500.3	11.44	132.095	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.28	71.7	1,510.0	1,511.8	1,500.0	11.73	128.830	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-147.74	71.7	1,510.0	1,512.9	1,500.8	12.03	125.746	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-147.79	71.7	1,510.0	1,516.2	1,503.9	12.32	123.080	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-147.88	71.7	1,510.0	1,521.7	1,509.1	12.62	120.615	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-148.00	71.7	1,510.0	1,529.5	1,516.6	12.93	118.316	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-148.20	71.7	1,510.0	1,538.4	1,525.1	13.23	116.290	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	-148.41	71.7	1,510.0	1,547.3	1,533.7	13.54	114.253	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	-148.61	71.7	1,510.0	1,556.2	1,542.3	13.87	112.209	
2,300.0	2,297.1	2,297.1	2,297.1	7.3	6.8	-148.81	71.7	1,510.0	1,565.2	1,550.9	14.21	110.170	
2,400.0	2,396.5	2,396.5	2,396.5	7.5	6.9	-149.00	71.7	1,510.0	1,574.1	1,559.6	14.56	108.146	
2,500.0	2,496.0	2,496.0	2,496.0	7.8	7.0	-149.20	71.7	1,510.0	1,583.1	1,568.2	14.91	106.144	
2,600.0	2,595.4	2,569.3	2,569.3	8.1	7.1	-149.35	72.1	1,510.6	1,592.9	1,577.6	15.27	104.346	
2,700.0	2,694.8	2,641.2	2,641.2	8.4	7.3	-160.91	73.0	1,512.3	1,605.3	1,589.7	15.62	102.763	
2,800.0	2,794.0	2,700.0	2,699.9	8.7	7.3	-170.45	74.4	1,514.6	1,621.6	1,605.6	15.98	101.454	
2,900.0	2,893.0	2,783.1	2,782.8	9.0	7.5	-177.84	77.0	1,519.1	1,641.5	1,625.1	16.42	99.943	
3,000.0	2,991.7	2,852.8	2,852.3	9.3	7.6	176.43	79.9	1,524.2	1,665.1	1,648.2	16.86	98.742	
3,100.0	3,090.0	2,921.6	2,920.7	9.6	7.7	172.60	83.4	1,530.2	1,692.3	1,675.0	17.29	97.887	
3,200.0	3,188.2	3,000.0	2,998.6	10.0	7.9	172.53	88.1	1,538.4	1,721.8	1,704.0	17.79	96.775	
3,300.0	3,286.3	3,066.6	3,064.5	10.3	8.0	172.46	92.6	1,546.2	1,752.6	1,734.4	18.21	96.224	
3,400.0	3,384.5	3,161.5	3,158.5	10.7	8.2	172.35	99.2	1,557.7	1,783.8	1,765.1	18.76	95.093	
3,500.0	3,482.7	3,256.5	3,252.6	11.0	8.4	172.25	105.9	1,569.1	1,815.0	1,795.7	19.32	93.926	
3,600.0	3,580.8	3,329.1	3,324.4	11.4	8.6	172.18	110.7	1,578.2	1,846.7	1,826.8	19.83	93.115	
3,700.0	3,679.0	3,400.0	3,394.5	11.8	8.8	172.15	114.5	1,588.4	1,879.8	1,859.5	20.37	92.298	
3,800.0	3,777.1	3,454.7	3,448.4	12.1	8.9	172.15	116.7	1,597.2	1,914.5	1,893.7	20.84	91.872	
3,900.0	3,875.3	3,516.3	3,509.1	12.5	9.1	172.18	118.5	1,608.2	1,950.8	1,929.4	21.34	91.414	
4,000.0	3,973.5	3,592.6	3,583.9	12.9	9.3	172.25	119.6	1,623.2	1,988.6	1,966.7	21.91	90.749	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	87.33	71.7	1,540.0	1,541.7	1,535.3	6.43	239.811	
100.0	100.0	100.0	100.0	3.2	3.2	87.33	71.7	1,540.0	1,541.7	1,534.8	6.89	223.685	
200.0	200.0	200.0	200.0	3.5	3.5	87.33	71.7	1,540.0	1,541.7	1,534.4	7.33	210.383	
300.0	300.0	300.0	300.0	3.7	3.7	87.33	71.7	1,540.0	1,541.7	1,534.0	7.74	199.154	
400.0	400.0	400.0	400.0	3.9	3.9	87.33	71.7	1,540.0	1,541.7	1,533.6	8.14	189.505	
500.0	500.0	500.0	500.0	4.1	4.1	87.33	71.7	1,540.0	1,541.7	1,533.2	8.51	181.090	
600.0	600.0	600.0	600.0	4.2	4.2	87.33	71.7	1,540.0	1,541.7	1,532.8	8.88	173.664	
700.0	700.0	700.0	700.0	4.4	4.4	87.33	71.7	1,540.0	1,541.7	1,532.5	9.23	167.043	
800.0	800.0	800.0	800.0	4.6	4.6	87.33	71.7	1,540.0	1,541.7	1,532.1	9.57	161.091	
900.0	900.0	900.0	900.0	4.8	4.8	87.33	71.7	1,540.0	1,541.7	1,531.8	9.90	155.699	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	87.33	71.7	1,540.0	1,541.7	1,531.5	10.22	150.784	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	87.33	71.7	1,540.0	1,541.7	1,531.2	10.54	146.278	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	87.33	71.7	1,540.0	1,541.7	1,530.9	10.85	142.126	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	87.33	71.7	1,540.0	1,541.7	1,530.6	11.15	138.284	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	87.33	71.7	1,540.0	1,541.7	1,530.3	11.44	134.713	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	87.33	71.7	1,540.0	1,541.7	1,530.0	11.73	131.384	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-147.68	71.7	1,540.0	1,542.8	1,530.8	12.03	128.237	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-147.74	71.7	1,540.0	1,546.1	1,533.8	12.32	125.513	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-147.82	71.7	1,540.0	1,551.7	1,539.1	12.62	122.991	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	-147.94	71.7	1,540.0	1,559.4	1,546.5	12.93	120.635	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	-148.14	71.7	1,540.0	1,568.3	1,555.1	13.23	118.557	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	-148.34	71.7	1,540.0	1,577.2	1,563.7	13.54	116.467	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	-148.54	71.7	1,540.0	1,586.1	1,572.3	13.87	114.372	
2,300.0	2,297.1	2,268.5	2,268.5	7.3	6.8	-148.68	71.7	1,540.7	1,596.0	1,581.8	14.18	112.555	
2,400.0	2,396.5	2,338.5	2,338.4	7.5	6.9	-148.81	71.7	1,542.6	1,607.6	1,593.1	14.50	110.895	
2,500.0	2,496.0	2,400.0	2,399.9	7.8	7.0	-148.92	71.7	1,545.3	1,621.1	1,606.3	14.80	109.502	
2,600.0	2,595.4	2,477.3	2,477.1	8.1	7.1	-149.06	71.7	1,550.1	1,636.3	1,621.2	15.17	107.894	
2,700.0	2,694.8	2,546.1	2,545.6	8.4	7.2	-160.61	71.7	1,555.7	1,654.3	1,638.8	15.52	106.569	
2,800.0	2,794.0	2,600.0	2,599.3	8.7	7.3	-170.14	71.7	1,561.0	1,676.2	1,660.4	15.88	105.588	
2,900.0	2,893.0	2,681.2	2,679.9	9.0	7.5	-177.48	71.7	1,570.3	1,701.7	1,685.4	16.34	104.177	
3,000.0	2,991.7	2,747.2	2,745.4	9.3	7.6	176.85	71.7	1,579.2	1,731.0	1,714.2	16.78	103.167	
3,100.0	3,090.0	2,800.0	2,797.5	9.6	7.7	173.08	71.7	1,587.1	1,763.9	1,746.8	17.16	102.771	
3,200.0	3,188.2	2,875.9	2,872.4	10.0	7.9	173.18	71.7	1,599.7	1,799.0	1,781.3	17.68	101.734	
3,300.0	3,286.3	2,939.0	2,934.4	10.3	8.1	173.26	71.7	1,611.3	1,835.7	1,817.5	18.15	101.145	
3,400.0	3,384.5	3,000.0	2,994.2	10.7	8.3	173.33	71.7	1,623.5	1,873.8	1,855.2	18.61	100.669	
3,500.0	3,482.7	3,062.6	3,055.3	11.0	8.4	173.41	71.7	1,637.0	1,913.5	1,894.4	19.10	100.185	
3,600.0	3,580.8	3,123.1	3,114.1	11.4	8.6	173.49	71.7	1,651.1	1,954.7	1,935.1	19.56	99.907	
3,700.0	3,679.0	3,208.5	3,197.0	11.8	8.8	173.60	71.7	1,671.7	1,996.8	1,976.6	20.14	99.128	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #710H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference 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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	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	87.38	71.7	1,570.0	1,571.7	1,560.0	11.73	133.938	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-147.63	71.7	1,570.0	1,572.8	1,560.8	12.03	130.728	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-147.68	71.7	1,570.0	1,576.1	1,563.8	12.32	127.946	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-147.76	71.7	1,570.0	1,581.6	1,569.0	12.62	125.367	
1,900.0	1,899.3	1,870.4	1,870.4	6.4	6.2	-147.82	71.6	1,570.7	1,590.3	1,577.4	12.90	123.268	
2,000.0	1,998.7	1,940.8	1,940.7	6.6	6.3	-147.94	71.4	1,572.6	1,601.9	1,588.7	13.17	121.595	
2,100.0	2,098.2	2,000.0	1,999.9	6.8	6.4	-148.04	71.0	1,575.2	1,615.3	1,601.9	13.43	120.235	
2,200.0	2,197.6	2,080.5	2,080.2	7.0	6.6	-148.17	70.4	1,580.3	1,630.4	1,616.7	13.76	118.511	
2,300.0	2,297.1	2,149.8	2,149.3	7.3	6.7	-148.27	69.6	1,585.9	1,647.4	1,633.3	14.07	117.041	
2,400.0	2,396.5	2,218.6	2,217.8	7.5	6.8	-148.35	68.7	1,592.8	1,666.0	1,651.6	14.41	115.650	
2,500.0	2,496.0	2,300.0	2,298.6	7.8	7.0	-148.44	67.5	1,602.4	1,686.5	1,671.7	14.79	114.032	
2,600.0	2,595.4	2,355.0	2,353.0	8.1	7.2	-148.49	66.5	1,609.9	1,708.6	1,693.5	15.12	112.998	
2,700.0	2,694.8	2,422.2	2,419.4	8.4	7.3	-160.05	65.1	1,620.2	1,733.4	1,717.9	15.50	111.832	
2,800.0	2,794.0	2,500.0	2,496.1	8.7	7.5	-169.58	63.4	1,633.5	1,761.9	1,745.9	15.96	110.412	
2,900.0	2,893.0	2,553.4	2,548.5	9.0	7.7	-176.92	62.1	1,643.5	1,793.9	1,777.6	16.36	109.687	
3,000.0	2,991.7	2,617.1	2,610.9	9.3	7.9	177.40	60.4	1,656.4	1,829.6	1,812.8	16.80	108.874	
3,100.0	3,090.0	2,685.5	2,677.6	9.6	8.0	173.67	58.4	1,671.3	1,868.6	1,851.4	17.24	108.405	
3,200.0	3,188.2	2,776.9	2,766.6	10.0	8.3	173.87	55.7	1,691.7	1,908.8	1,891.0	17.84	106.986	
3,300.0	3,286.3	2,868.3	2,855.7	10.3	8.6	174.06	53.0	1,712.1	1,949.0	1,930.5	18.46	105.586	
3,400.0	3,384.5	2,959.6	2,944.7	10.7	8.9	174.24	50.3	1,732.4	1,989.2	1,970.1	19.10	104.167	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	11.30	150.1	30.0	153.1	146.7	6.43	23.814	
100.0	100.0	100.0	100.0	3.2	3.2	11.30	150.1	30.0	153.1	146.2	6.89	22.213	
200.0	200.0	200.0	200.0	3.5	3.5	11.30	150.1	30.0	153.1	145.8	7.33	20.892	
300.0	300.0	300.0	300.0	3.7	3.7	11.30	150.1	30.0	153.1	145.4	7.74	19.777	
400.0	400.0	400.0	400.0	3.9	3.9	11.30	150.1	30.0	153.1	145.0	8.14	18.819	
500.0	500.0	500.0	500.0	4.1	4.1	11.30	150.1	30.0	153.1	144.6	8.51	17.983	
600.0	600.0	600.0	600.0	4.2	4.2	11.30	150.1	30.0	153.1	144.2	8.88	17.246	
700.0	700.0	700.0	700.0	4.4	4.4	11.30	150.1	30.0	153.1	143.9	9.23	16.588	
800.0	800.0	800.0	800.0	4.6	4.6	11.30	150.1	30.0	153.1	143.5	9.57	15.997	
900.0	900.0	900.0	900.0	4.8	4.8	11.30	150.1	30.0	153.1	143.2	9.90	15.462	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	11.30	150.1	30.0	153.1	142.9	10.22	14.974	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	11.30	150.1	30.0	153.1	142.6	10.54	14.526	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	11.30	150.1	30.0	153.1	142.3	10.85	14.114	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	11.30	150.1	30.0	153.1	142.0	11.15	13.732	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	11.30	150.1	30.0	153.1	141.7	11.44	13.378	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	11.30	150.1	30.0	153.1	141.4	11.73	13.047	
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	136.63	150.1	30.0	154.1	142.0	12.02	12.811	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	137.59	150.1	30.0	156.9	144.6	12.31	12.752	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	139.10	150.1	30.0	161.8	149.2	12.60	12.845	
1,900.0	1,899.3	1,902.8	1,902.8	6.4	6.3	140.84	149.3	28.9	167.8	154.9	12.91	12.997	
2,000.0	1,998.7	2,006.2	2,006.1	6.6	6.4	142.24	146.9	25.5	172.8	159.6	13.21	13.084	
2,100.0	2,098.2	2,109.9	2,109.6	6.8	6.6	143.01	142.9	19.7	175.8	162.3	13.53	12.992	
2,200.0	2,197.6	2,213.7	2,212.9	7.0	6.8	143.21	137.3	11.7	176.6	162.7	13.87	12.732	
2,300.0	2,297.1	2,317.5	2,315.9	7.3	7.0	142.86	130.1	1.3	175.2	161.0	14.23	12.317	
2,400.0	2,396.5	2,421.2	2,418.4	7.5	7.3	141.93	121.2	-11.3	171.7	157.1	14.58	11.778	
2,500.0	2,496.0	2,521.4	2,517.2	7.8	7.5	140.39	111.7	-25.6	166.7	151.8	14.91	11.182	
2,600.0	2,595.4	2,619.0	2,613.1	8.1	7.7	138.04	103.8	-41.4	162.7	147.5	15.28	10.651	
2,700.0	2,694.8	2,716.4	2,708.8	8.4	8.0	123.97	97.7	-58.8	160.1	144.5	15.60	10.261	
2,800.0	2,794.0	2,813.7	2,804.1	8.7	8.3	111.95	93.3	-78.1	158.3	142.4	15.87	9.972	
2,900.0	2,893.0	2,910.9	2,899.0	9.0	8.5	102.20	90.7	-99.0	157.3	141.2	16.07	9.788	
3,000.0	2,991.7	3,010.7	2,996.2	9.3	8.9	94.48	89.0	-121.4	156.3	140.0	16.27	9.609	
3,100.0	3,090.0	3,110.6	3,093.5	9.6	9.2	89.43	87.2	-143.8	154.2	137.8	16.42	9.389	
3,200.0	3,188.2	3,210.5	3,190.9	10.0	9.5	88.16	85.5	-166.2	151.7	135.1	16.63	9.120	
3,300.0	3,286.3	3,310.4	3,288.2	10.3	9.9	86.84	83.7	-188.6	149.3	132.5	16.82	8.877	
3,400.0	3,384.5	3,410.3	3,385.6	10.7	10.2	85.49	81.9	-211.0	147.0	130.0	17.00	8.646	
3,500.0	3,482.7	3,510.2	3,482.9	11.0	10.6	84.09	80.2	-233.4	144.8	127.6	17.18	8.425	
3,600.0	3,580.8	3,610.1	3,580.3	11.4	11.0	82.64	78.4	-255.8	142.6	125.2	17.36	8.212	
3,700.0	3,679.0	3,710.1	3,677.6	11.8	11.4	81.16	76.6	-278.2	140.6	123.0	17.55	8.007	
3,800.0	3,777.1	3,810.0	3,775.0	12.1	11.8	79.63	74.9	-300.6	138.6	120.8	17.75	7.807	
3,900.0	3,875.3	3,909.9	3,872.3	12.5	12.2	78.06	73.1	-323.0	136.8	118.8	17.97	7.611	
4,000.0	3,973.5	4,009.8	3,969.7	12.9	12.6	76.44	71.4	-345.4	135.0	116.8	18.20	7.416	
4,100.0	4,071.6	4,109.7	4,067.0	13.3	13.0	74.79	69.6	-367.8	133.4	114.9	18.47	7.222	
4,200.0	4,169.8	4,209.6	4,164.4	13.7	13.4	73.10	67.8	-390.2	131.8	113.1	18.76	7.027	
4,300.0	4,268.0	4,309.5	4,261.7	14.1	13.8	71.37	66.1	-412.6	130.4	111.3	19.10	6.830	
4,400.0	4,366.1	4,409.4	4,359.1	14.5	14.3	69.60	64.3	-435.1	129.2	109.7	19.48	6.631	
4,500.0	4,464.3	4,509.3	4,456.4	14.9	14.7	67.80	62.5	-457.5	128.0	108.1	19.91	6.428	
4,600.0	4,562.4	4,609.3	4,553.8	15.4	15.1	65.97	60.8	-479.9	127.0	106.6	20.40	6.223	
4,700.0	4,660.6	4,709.2	4,651.1	15.8	15.6	64.11	59.0	-502.3	126.1	105.1	20.96	6.016	
4,800.0	4,758.8	4,809.1	4,748.5	16.2	16.0	62.22	57.2	-524.7	125.3	103.7	21.57	5.808	
4,900.0	4,856.9	4,909.0	4,845.8	16.6	16.4	60.32	55.5	-547.1	124.7	102.4	22.26	5.601	
5,000.0	4,955.1	5,008.9	4,943.2	17.0	16.9	58.40	53.7	-569.5	124.2	101.2	23.02	5.395	
5,100.0	5,053.3	5,108.8	5,040.5	17.5	17.3	56.46	52.0	-591.9	123.9	100.0	23.85	5.194	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,200.0	5,151.4	5,208.7	5,137.9	17.9	17.8	54.52	50.2	-614.3	123.7	98.9	24.74	4.998	
5,291.1	5,240.8	5,299.7	5,226.6	18.3	18.2	52.74	48.6	-634.7	123.6	98.0	25.62	4.825	
5,300.0	5,249.6	5,308.6	5,235.2	18.3	18.2	52.57	48.4	-636.7	123.6	97.9	25.70	4.809	
5,400.0	5,347.7	5,408.6	5,332.6	18.8	18.7	50.62	46.7	-659.1	123.7	97.0	26.73	4.628	
5,500.0	5,445.9	5,508.5	5,429.9	19.2	19.1	48.68	44.9	-681.5	123.9	96.1	27.81	4.456	
5,600.0	5,544.1	5,608.4	5,527.3	19.6	19.6	46.75	43.1	-703.9	124.3	95.3	28.94	4.295	
5,700.0	5,642.2	5,708.3	5,624.6	20.1	20.0	44.83	41.4	-726.3	124.8	94.7	30.12	4.144	
5,800.0	5,740.4	5,808.2	5,722.0	20.5	20.5	42.93	39.6	-748.7	125.4	94.1	31.34	4.003	
5,900.0	5,838.6	5,908.1	5,819.3	21.0	20.9	41.05	37.8	-771.1	126.2	93.6	32.59	3.873	
6,000.0	5,936.7	6,008.0	5,916.7	21.4	21.4	39.19	36.1	-793.5	127.1	93.3	33.87	3.754	
6,100.0	6,034.9	6,107.9	6,014.0	21.8	21.9	37.36	34.3	-816.0	128.2	93.0	35.18	3.644	
6,200.0	6,133.1	6,207.8	6,111.4	22.3	22.3	35.57	32.6	-838.4	129.4	92.9	36.50	3.544	
6,300.0	6,231.2	6,307.8	6,208.7	22.7	22.8	33.81	30.8	-860.8	130.7	92.8	37.84	3.454	
6,400.0	6,329.4	6,407.7	6,306.1	23.2	23.3	32.08	29.0	-883.2	132.1	92.9	39.19	3.371	
6,500.0	6,427.5	6,507.6	6,403.4	23.6	23.7	30.40	27.3	-905.6	133.7	93.1	40.53	3.297	
6,600.0	6,525.7	6,607.5	6,500.8	24.1	24.2	28.75	25.5	-928.0	135.3	93.4	41.88	3.231	
6,700.0	6,623.9	6,707.4	6,598.1	24.5	24.6	27.15	23.7	-950.4	137.1	93.8	43.23	3.171	
6,800.0	6,722.0	6,808.3	6,696.5	25.0	25.1	25.61	22.0	-972.8	138.8	94.2	44.55	3.115	
6,900.0	6,820.2	6,910.4	6,796.3	25.4	25.6	24.42	20.3	-994.0	139.3	93.5	45.78	3.042	
7,000.0	6,918.4	7,012.5	6,896.6	25.9	26.0	23.61	18.8	-1,013.4	138.3	91.4	46.87	2.950	
7,100.0	7,016.5	7,114.6	6,997.1	26.3	26.5	23.17	17.4	-1,031.0	135.7	87.9	47.82	2.838	
7,200.0	7,114.7	7,216.6	7,097.9	26.8	26.9	23.09	16.1	-1,046.9	131.7	83.0	48.64	2.707	
7,300.0	7,212.8	7,318.4	7,198.7	27.2	27.4	23.41	15.0	-1,060.9	126.1	76.8	49.29	2.557	
7,400.0	7,311.0	7,420.0	7,299.6	27.7	27.8	24.20	14.1	-1,073.1	118.9	69.2	49.76	2.390	
7,500.0	7,409.2	7,521.3	7,400.4	28.1	28.2	25.58	13.3	-1,083.4	110.3	60.3	49.96	2.208	
7,600.0	7,507.3	7,622.3	7,501.0	28.6	28.6	27.76	12.6	-1,092.0	100.3	50.5	49.80	2.014	
7,700.0	7,605.5	7,722.9	7,601.3	29.0	28.9	31.10	12.1	-1,098.8	89.1	40.0	49.05	1.816	Advise and Monitor
7,800.0	7,703.7	7,823.0	7,701.3	29.5	29.3	36.23	11.7	-1,103.8	76.9	29.6	47.33	1.625	Advise and Monitor
7,900.0	7,801.8	7,922.6	7,800.8	29.9	29.6	44.32	11.4	-1,107.1	64.5	20.6	43.88	1.470	Shut in Produces
8,000.0	7,900.2	8,021.8	7,900.1	30.4	29.8	56.30	11.3	-1,108.6	53.8	15.6	38.19	1.409	Shut in Produces
8,100.0	7,998.9	8,120.7	7,998.9	30.8	29.9	72.58	11.3	-1,108.7	46.7	14.8	31.95	1.463	Shut in Produces
8,198.1	8,096.0	8,217.8	8,096.0	31.2	29.9	90.00	11.3	-1,108.7	44.6	13.0	31.51	1.414	Shut in Produces, CC
8,200.0	8,097.9	8,219.6	8,097.9	31.3	29.9	90.32	11.3	-1,108.7	44.6	13.0	31.58	1.411	Shut in Produces
8,300.0	8,197.1	8,318.8	8,197.1	31.7	29.9	106.07	11.3	-1,108.7	46.4	8.9	37.46	1.238	Shut in Produces
8,400.0	8,296.5	8,418.2	8,296.5	32.1	29.9	118.05	11.3	-1,108.7	50.5	6.7	43.85	1.152	Shut in Produces, ES
8,500.0	8,396.0	8,517.8	8,396.0	32.5	30.0	126.48	11.3	-1,108.7	55.5	6.9	48.55	1.143	Shut in Produces, SF
8,600.0	8,495.8	8,617.5	8,495.8	32.8	30.0	132.22	11.3	-1,108.7	60.2	8.5	51.70	1.165	Shut in Produces
8,700.0	8,595.6	8,717.3	8,595.6	33.2	30.0	136.03	11.3	-1,108.7	64.2	10.4	53.77	1.194	Shut in Produces
8,800.0	8,695.5	8,817.3	8,695.5	33.5	30.0	138.40	11.3	-1,108.7	67.1	12.0	55.11	1.218	Shut in Produces
8,900.0	8,795.5	8,917.2	8,795.5	33.8	30.1	139.64	11.3	-1,108.7	68.8	12.9	55.90	1.231	Shut in Produces
9,000.0	8,895.5	9,017.2	8,895.5	33.9	30.1	51.93	11.3	-1,108.7	69.2	13.1	56.14	1.233	Shut in Produces
9,100.0	8,995.5	9,117.2	8,995.5	33.9	30.1	51.93	11.3	-1,108.7	69.2	13.0	56.20	1.231	Shut in Produces
9,200.0	9,095.5	9,217.2	9,095.5	33.9	30.2	51.93	11.3	-1,108.7	69.2	13.0	56.26	1.230	Shut in Produces
9,254.0	9,149.5	9,271.2	9,149.5	33.9	30.2	51.93	11.3	-1,108.7	69.2	12.9	56.28	1.230	Shut in Produces
9,300.0	9,195.5	9,314.5	9,192.7	34.0	30.2	50.94	12.7	-1,108.8	70.1	14.6	55.47	1.263	Shut in Produces
9,400.0	9,295.5	9,405.9	9,283.0	34.0	30.2	42.64	26.4	-1,110.0	79.6	29.4	50.19	1.585	Advise and Monitor
9,500.0	9,395.5	9,491.0	9,364.1	34.0	30.2	31.53	51.8	-1,112.1	102.6	59.8	42.76	2.399	
9,600.0	9,495.5	9,567.2	9,432.8	34.0	30.2	22.63	84.5	-1,114.9	140.4	102.9	37.52	3.742	
9,700.0	9,595.5	9,633.5	9,488.6	34.0	30.2	16.65	120.2	-1,117.9	190.9	155.7	35.27	5.414	
9,800.0	9,695.5	9,690.3	9,532.8	34.1	30.2	12.76	155.6	-1,120.8	251.5	216.7	34.79	7.228	
9,900.0	9,795.5	9,738.6	9,567.5	34.1	30.2	10.17	189.1	-1,123.7	319.6	284.5	35.09	9.110	
10,000.0	9,895.5	9,779.6	9,594.7	34.1	30.2	8.38	219.8	-1,126.2	393.6	357.9	35.67	11.034	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 501H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	9,995.5	9,814.6	9,616.0	34.1	30.2	7.09	247.3	-1,128.5	472.1	435.7	36.34	12.990	
10,200.0	10,095.5	9,850.0	9,635.9	34.2	30.2	5.97	276.5	-1,131.0	554.1	517.1	36.99	14.980	
10,300.0	10,195.5	9,870.3	9,646.4	34.2	30.3	5.40	293.8	-1,132.4	638.8	601.2	37.67	16.958	
10,400.0	10,295.5	9,900.0	9,660.8	34.2	30.3	4.65	319.7	-1,134.6	725.9	687.6	38.27	18.968	
10,500.0	10,395.5	9,900.0	9,660.8	34.3	30.3	4.65	319.7	-1,134.6	814.8	775.9	38.90	20.943	
10,600.0	10,495.5	9,929.2	9,673.6	34.3	30.3	4.00	345.9	-1,136.8	904.8	865.3	39.44	22.941	
10,700.0	10,595.5	9,950.0	9,681.8	34.3	30.3	3.58	364.9	-1,138.4	996.2	956.2	39.97	24.925	
10,800.0	10,695.5	9,950.0	9,681.8	34.3	30.3	3.58	364.9	-1,138.4	1,088.7	1,048.2	40.49	26.886	
10,900.0	10,795.5	9,969.9	9,689.1	34.3	30.3	3.17	383.4	-1,140.0	1,181.7	1,140.7	40.98	28.833	
11,000.0	10,894.6	10,000.0	9,698.8	34.3	30.3	1.94	411.7	-1,142.3	1,271.3	1,229.7	41.55	30.600	
11,100.0	10,990.2	10,000.0	9,698.8	34.4	30.3	1.52	411.7	-1,142.3	1,352.7	1,310.5	42.14	32.100	
11,200.0	11,079.3	10,021.4	9,704.8	34.4	30.3	1.15	432.2	-1,144.1	1,425.5	1,382.7	42.77	33.328	
11,300.0	11,159.3	10,050.0	9,711.6	34.4	30.4	0.88	459.9	-1,146.4	1,488.3	1,444.8	43.43	34.268	
11,400.0	11,227.6	10,050.0	9,711.6	34.4	30.4	0.79	459.9	-1,146.4	1,540.3	1,496.2	44.02	34.986	
11,500.0	11,282.2	10,100.0	9,720.2	34.4	30.4	0.57	508.9	-1,150.5	1,580.0	1,535.3	44.73	35.323	
11,600.0	11,321.4	10,100.0	9,720.2	34.5	30.4	0.54	508.9	-1,150.5	1,607.9	1,562.7	45.27	35.521	
11,700.0	11,344.2	10,150.0	9,724.5	34.6	30.4	0.38	558.6	-1,154.7	1,622.7	1,576.8	45.95	35.316	
11,800.0	11,350.0	10,173.7	9,725.0	34.6	30.5	0.32	582.2	-1,156.7	1,625.2	1,578.7	46.45	34.990	
11,844.3	11,350.0	10,196.5	9,725.0	34.7	30.5	0.26	604.9	-1,158.5	1,625.0	1,578.3	46.69	34.805	
11,900.0	11,350.0	10,252.0	9,725.0	34.7	30.5	0.13	660.3	-1,162.1	1,625.0	1,577.9	47.10	34.503	
12,000.0	11,350.0	10,351.8	9,725.0	34.8	30.7	0.01	760.0	-1,166.0	1,625.0	1,577.2	47.83	33.971	
12,015.2	11,350.0	10,367.0	9,725.0	34.9	30.7	0.00	775.2	-1,166.3	1,625.0	1,577.1	47.95	33.891	
12,100.0	11,350.0	10,451.8	9,725.0	35.0	30.8	-0.01	860.0	-1,166.9	1,625.0	1,576.4	48.57	33.457	
12,200.0	11,350.0	10,551.8	9,725.0	35.1	31.0	-0.01	960.0	-1,167.3	1,625.0	1,575.7	49.34	32.937	
12,300.0	11,350.0	10,651.8	9,725.0	35.3	31.2	-0.01	1,060.0	-1,167.7	1,625.0	1,574.9	50.14	32.410	
12,400.0	11,350.0	10,751.8	9,725.0	35.5	31.4	-0.01	1,160.0	-1,168.1	1,625.0	1,574.0	50.98	31.877	
12,500.0	11,350.0	10,851.8	9,725.0	35.7	31.6	-0.01	1,260.0	-1,168.5	1,625.0	1,573.2	51.85	31.342	
12,600.0	11,350.0	10,951.8	9,725.0	35.9	31.8	-0.01	1,360.0	-1,168.9	1,625.0	1,572.3	52.75	30.805	
12,700.0	11,350.0	11,051.8	9,725.0	36.1	32.0	-0.01	1,460.0	-1,169.2	1,625.0	1,571.3	53.68	30.271	
12,800.0	11,350.0	11,151.8	9,725.0	36.3	32.3	-0.01	1,560.0	-1,169.6	1,625.0	1,570.4	54.64	29.739	
12,900.0	11,350.0	11,251.8	9,725.0	36.6	32.6	-0.01	1,660.0	-1,170.0	1,625.0	1,569.4	55.63	29.211	
13,000.0	11,350.0	11,351.8	9,725.0	36.9	32.9	-0.01	1,760.0	-1,170.4	1,625.0	1,568.4	56.64	28.689	
13,100.0	11,350.0	11,451.8	9,725.0	37.2	33.2	-0.01	1,860.0	-1,170.8	1,625.0	1,567.3	57.68	28.173	
13,200.0	11,350.0	11,551.8	9,725.0	37.5	33.5	-0.01	1,960.0	-1,171.2	1,625.0	1,566.3	58.74	27.665	
13,300.0	11,350.0	11,651.8	9,725.0	37.8	33.9	-0.01	2,060.0	-1,171.6	1,625.0	1,565.2	59.82	27.166	
13,400.0	11,350.0	11,751.8	9,725.0	38.1	34.2	0.00	2,160.0	-1,172.0	1,625.0	1,564.1	60.92	26.675	
13,500.0	11,350.0	11,851.8	9,725.0	38.4	34.6	0.00	2,260.0	-1,172.4	1,625.0	1,563.0	62.04	26.193	
13,600.0	11,350.0	11,951.8	9,725.0	38.8	35.0	0.00	2,360.0	-1,172.8	1,625.0	1,561.8	63.18	25.721	
13,700.0	11,350.0	12,051.8	9,725.0	39.2	35.3	0.00	2,460.0	-1,173.2	1,625.0	1,560.7	64.33	25.259	
13,800.0	11,350.0	12,151.8	9,725.0	39.5	35.7	0.00	2,560.0	-1,173.6	1,625.0	1,559.5	65.51	24.807	
13,900.0	11,350.0	12,251.8	9,725.0	39.9	36.2	0.00	2,660.0	-1,174.0	1,625.0	1,558.3	66.69	24.365	
14,000.0	11,350.0	12,351.8	9,725.0	40.3	36.6	0.00	2,760.0	-1,174.4	1,625.0	1,557.1	67.90	23.934	
14,100.0	11,350.0	12,451.8	9,725.0	40.7	37.0	0.00	2,860.0	-1,174.8	1,625.0	1,555.9	69.11	23.513	
14,200.0	11,350.0	12,551.8	9,725.0	41.1	37.5	0.00	2,960.0	-1,175.2	1,625.0	1,554.7	70.34	23.102	
14,300.0	11,350.0	12,651.8	9,725.0	41.6	37.9	0.00	3,060.0	-1,175.6	1,625.0	1,553.4	71.58	22.701	
14,400.0	11,350.0	12,751.8	9,725.0	42.0	38.4	0.00	3,160.0	-1,175.9	1,625.0	1,552.2	72.84	22.310	
14,500.0	11,350.0	12,851.8	9,725.0	42.5	38.9	0.00	3,260.0	-1,176.3	1,625.0	1,550.9	74.10	21.930	
14,600.0	11,350.0	12,951.8	9,725.0	42.9	39.4	0.00	3,360.0	-1,176.7	1,625.0	1,549.6	75.38	21.559	
14,700.0	11,350.0	13,051.8	9,725.0	43.4	39.9	0.00	3,460.0	-1,177.1	1,625.0	1,548.3	76.66	21.197	
14,800.0	11,350.0	13,151.8	9,725.0	43.9	40.4	0.00	3,560.0	-1,177.5	1,625.0	1,547.0	77.96	20.845	
14,900.0	11,350.0	13,251.8	9,725.0	44.3	40.9	0.00	3,660.0	-1,177.9	1,625.0	1,545.7	79.26	20.502	
15,000.0	11,350.0	13,351.8	9,725.0	44.8	41.4	0.00	3,760.0	-1,178.3	1,625.0	1,544.4	80.57	20.168	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
15,100.0	11,350.0	13,451.8	9,725.0	45.3	41.9	0.00	3,860.0	-1,178.7	1,625.0	1,543.1	81.90	19.842	
15,200.0	11,350.0	13,551.8	9,725.0	45.8	42.4	0.00	3,960.0	-1,179.1	1,625.0	1,541.8	83.22	19.526	
15,300.0	11,350.0	13,651.8	9,725.0	46.3	43.0	0.00	4,060.0	-1,179.5	1,625.0	1,540.4	84.56	19.217	
15,400.0	11,350.0	13,751.8	9,725.0	46.9	43.5	0.00	4,160.0	-1,179.9	1,625.0	1,539.1	85.90	18.916	
15,500.0	11,350.0	13,851.8	9,725.0	47.4	44.1	0.00	4,260.0	-1,180.3	1,625.0	1,537.7	87.25	18.624	
15,600.0	11,350.0	13,951.8	9,725.0	47.9	44.6	0.00	4,360.0	-1,180.7	1,625.0	1,536.4	88.61	18.338	
15,700.0	11,350.0	14,051.8	9,725.0	48.5	45.2	0.00	4,460.0	-1,181.1	1,625.0	1,535.0	89.98	18.061	
15,800.0	11,350.0	14,151.8	9,725.0	49.0	45.8	0.00	4,560.0	-1,181.5	1,625.0	1,533.7	91.34	17.790	
15,900.0	11,350.0	14,251.8	9,725.0	49.6	46.4	0.00	4,660.0	-1,181.9	1,625.0	1,532.3	92.72	17.526	
16,000.0	11,350.0	14,351.8	9,725.0	50.1	46.9	0.00	4,760.0	-1,182.2	1,625.0	1,530.9	94.10	17.269	
16,100.0	11,350.0	14,451.8	9,725.0	50.7	47.5	0.00	4,860.0	-1,182.6	1,625.0	1,529.5	95.49	17.018	
16,200.0	11,350.0	14,551.8	9,725.0	51.2	48.1	0.00	4,960.0	-1,183.0	1,625.0	1,528.1	96.88	16.774	
16,300.0	11,350.0	14,651.8	9,725.0	51.8	48.7	0.00	5,060.0	-1,183.4	1,625.0	1,526.7	98.27	16.536	
16,400.0	11,350.0	14,751.8	9,725.0	52.4	49.3	0.00	5,160.0	-1,183.8	1,625.0	1,525.3	99.67	16.304	
16,500.0	11,350.0	14,851.8	9,725.0	53.0	49.9	0.00	5,260.0	-1,184.2	1,625.0	1,523.9	101.07	16.077	
16,600.0	11,350.0	14,951.8	9,725.0	53.6	50.5	0.00	5,360.0	-1,184.6	1,625.0	1,522.5	102.48	15.856	
16,700.0	11,350.0	15,051.8	9,725.0	54.2	51.1	0.00	5,460.0	-1,185.0	1,625.0	1,521.1	103.89	15.641	
16,800.0	11,350.0	15,151.8	9,725.0	54.8	51.8	0.00	5,560.0	-1,185.4	1,625.0	1,519.7	105.31	15.431	
16,900.0	11,350.0	15,251.8	9,725.0	55.3	52.4	0.00	5,660.0	-1,185.8	1,625.0	1,518.3	106.73	15.225	
17,000.0	11,350.0	15,351.8	9,725.0	56.0	53.0	0.00	5,760.0	-1,186.2	1,625.0	1,516.8	108.15	15.025	
17,100.0	11,350.0	15,451.8	9,725.0	56.6	53.6	0.00	5,860.0	-1,186.6	1,625.0	1,515.4	109.58	14.829	
17,200.0	11,350.0	15,551.8	9,725.0	57.2	54.3	0.00	5,960.0	-1,187.0	1,625.0	1,514.0	111.01	14.638	
17,300.0	11,350.0	15,651.8	9,725.0	57.8	54.9	0.00	6,060.0	-1,187.4	1,625.0	1,512.6	112.44	14.452	
17,400.0	11,350.0	15,751.8	9,725.0	58.4	55.5	0.00	6,160.0	-1,187.8	1,625.0	1,511.1	113.88	14.269	
17,500.0	11,350.0	15,851.8	9,725.0	59.0	56.2	0.00	6,260.0	-1,188.2	1,625.0	1,509.7	115.32	14.091	
17,600.0	11,350.0	15,951.8	9,725.0	59.7	56.8	0.00	6,360.0	-1,188.5	1,625.0	1,508.2	116.76	13.917	
17,700.0	11,350.0	16,051.8	9,725.0	60.3	57.5	0.00	6,460.0	-1,188.9	1,625.0	1,506.8	118.21	13.747	
17,800.0	11,350.0	16,151.8	9,725.0	60.9	58.1	0.00	6,560.0	-1,189.3	1,625.0	1,505.3	119.65	13.581	
17,900.0	11,350.0	16,251.8	9,725.0	61.5	58.8	0.00	6,660.0	-1,189.7	1,625.0	1,503.9	121.10	13.418	
18,000.0	11,350.0	16,351.8	9,725.0	62.2	59.4	0.00	6,760.0	-1,190.1	1,625.0	1,502.4	122.55	13.259	
18,100.0	11,350.0	16,451.8	9,725.0	62.8	60.1	0.00	6,860.0	-1,190.5	1,625.0	1,501.0	124.01	13.104	
18,200.0	11,350.0	16,551.8	9,725.0	63.5	60.8	0.00	6,960.0	-1,190.9	1,625.0	1,499.5	125.47	12.952	
18,300.0	11,350.0	16,651.8	9,725.0	64.1	61.4	0.00	7,060.0	-1,191.3	1,625.0	1,498.1	126.92	12.803	
18,400.0	11,350.0	16,751.8	9,725.0	64.8	62.1	0.00	7,160.0	-1,191.7	1,625.0	1,496.6	128.39	12.657	
18,500.0	11,350.0	16,851.8	9,725.0	65.4	62.8	0.00	7,260.0	-1,192.1	1,625.0	1,495.2	129.85	12.515	
18,600.0	11,350.0	16,951.8	9,725.0	66.1	63.4	0.00	7,360.0	-1,192.5	1,625.0	1,493.7	131.31	12.375	
18,700.0	11,350.0	17,051.8	9,725.0	66.7	64.1	0.00	7,460.0	-1,192.9	1,625.0	1,492.2	132.78	12.238	
18,800.0	11,350.0	17,151.8	9,725.0	67.4	64.8	0.00	7,560.0	-1,193.3	1,625.0	1,490.8	134.25	12.104	
18,900.0	11,350.0	17,251.8	9,725.0	68.0	65.5	0.00	7,660.0	-1,193.7	1,625.0	1,489.3	135.72	11.973	
19,000.0	11,350.0	17,351.8	9,725.0	68.7	66.1	0.00	7,760.0	-1,194.1	1,625.0	1,487.8	137.19	11.845	
19,100.0	11,350.0	17,451.8	9,725.0	69.4	66.8	0.00	7,860.0	-1,194.5	1,625.0	1,486.3	138.67	11.719	
19,200.0	11,350.0	17,551.8	9,725.0	70.0	67.5	0.00	7,960.0	-1,194.9	1,625.0	1,484.9	140.14	11.595	
19,300.0	11,350.0	17,651.8	9,725.0	70.7	68.2	0.00	8,060.0	-1,195.2	1,625.0	1,483.4	141.62	11.475	
19,400.0	11,350.0	17,751.8	9,725.0	71.4	68.9	0.00	8,160.0	-1,195.6	1,625.0	1,481.9	143.10	11.356	
19,500.0	11,350.0	17,851.8	9,725.0	72.0	69.6	0.00	8,260.0	-1,196.0	1,625.0	1,480.4	144.58	11.240	
19,600.0	11,350.0	17,951.8	9,725.0	72.7	70.2	0.00	8,360.0	-1,196.4	1,625.0	1,478.9	146.06	11.126	
19,700.0	11,350.0	18,051.8	9,725.0	73.4	70.9	0.00	8,460.0	-1,196.8	1,625.0	1,477.5	147.54	11.014	
19,800.0	11,350.0	18,151.8	9,725.0	74.1	71.6	0.00	8,560.0	-1,197.2	1,625.0	1,476.0	149.02	10.904	
19,900.0	11,350.0	18,251.8	9,725.0	74.8	72.3	0.00	8,660.0	-1,197.6	1,625.0	1,474.5	150.51	10.797	
20,000.0	11,350.0	18,351.8	9,725.0	75.4	73.0	0.00	8,760.0	-1,198.0	1,625.0	1,473.0	152.00	10.691	
20,100.0	11,350.0	18,451.8	9,725.0	76.1	73.7	0.00	8,860.0	-1,198.4	1,625.0	1,471.5	153.48	10.587	
20,200.0	11,350.0	18,551.8	9,725.0	76.8	74.4	0.00	8,960.0	-1,198.8	1,625.0	1,470.0	154.97	10.486	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,300.0	11,350.0	18,651.8	9,725.0	77.5	75.1	0.00	9,060.0	-1,199.2	1,625.0	1,468.5	156.46	10.386	
20,400.0	11,350.0	18,751.8	9,725.0	78.2	75.8	0.00	9,160.0	-1,199.6	1,625.0	1,467.0	157.96	10.288	
20,500.0	11,350.0	18,851.8	9,725.0	78.9	76.5	0.00	9,260.0	-1,200.0	1,625.0	1,465.6	159.45	10.191	
20,600.0	11,350.0	18,951.8	9,725.0	79.6	77.2	0.00	9,360.0	-1,200.4	1,625.0	1,464.1	160.94	10.097	
20,700.0	11,350.0	19,051.8	9,725.0	80.2	77.9	0.00	9,460.0	-1,200.8	1,625.0	1,462.6	162.44	10.004	
20,800.0	11,350.0	19,151.8	9,725.0	80.9	78.6	0.00	9,560.0	-1,201.2	1,625.0	1,461.1	163.93	9.913	
20,900.0	11,350.0	19,251.8	9,725.0	81.6	79.3	0.00	9,660.0	-1,201.5	1,625.0	1,459.6	165.43	9.823	
21,000.0	11,350.0	19,351.8	9,725.0	82.3	80.0	0.00	9,760.0	-1,201.9	1,625.0	1,458.1	166.92	9.735	
21,100.0	11,350.0	19,451.8	9,725.0	83.0	80.7	0.00	9,860.0	-1,202.3	1,625.0	1,456.6	168.42	9.648	
21,200.0	11,350.0	19,551.8	9,725.0	83.7	81.5	0.00	9,960.0	-1,202.7	1,625.0	1,455.1	169.92	9.563	
21,300.0	11,350.0	19,651.8	9,725.0	84.4	82.2	0.00	10,060.0	-1,203.1	1,625.0	1,453.6	171.42	9.479	
21,400.0	11,350.0	19,751.8	9,725.0	85.1	82.9	0.00	10,160.0	-1,203.5	1,625.0	1,452.1	172.92	9.397	
21,500.0	11,350.0	19,851.8	9,725.0	85.8	83.6	0.00	10,260.0	-1,203.9	1,625.0	1,450.6	174.43	9.316	
21,600.0	11,350.0	19,951.8	9,725.0	86.5	84.3	0.00	10,360.0	-1,204.3	1,625.0	1,449.1	175.93	9.237	
21,700.0	11,350.0	20,051.8	9,725.0	87.2	85.0	0.00	10,460.0	-1,204.7	1,625.0	1,447.6	177.43	9.158	
21,800.0	11,350.0	20,151.8	9,725.0	87.9	85.7	0.00	10,560.0	-1,205.1	1,625.0	1,446.1	178.94	9.081	
21,900.0	11,350.0	20,251.8	9,725.0	88.6	86.4	0.00	10,660.0	-1,205.5	1,625.0	1,444.6	180.44	9.006	
22,000.0	11,350.0	20,351.8	9,725.0	89.3	87.2	0.00	10,760.0	-1,205.9	1,625.0	1,443.1	181.95	8.931	
22,100.0	11,350.0	20,451.8	9,725.0	90.1	87.9	0.00	10,860.0	-1,206.3	1,625.0	1,441.5	183.45	8.858	
22,200.0	11,350.0	20,551.8	9,725.0	90.8	88.6	0.00	10,960.0	-1,206.7	1,625.0	1,440.0	184.96	8.786	
22,300.0	11,350.0	20,651.8	9,725.0	91.5	89.3	0.00	11,060.0	-1,207.1	1,625.0	1,438.5	186.47	8.715	
22,400.0	11,350.0	20,751.8	9,725.0	92.2	90.0	0.00	11,160.0	-1,207.5	1,625.0	1,437.0	187.98	8.645	
22,500.0	11,350.0	20,851.8	9,725.0	92.9	90.8	0.00	11,260.0	-1,207.8	1,625.0	1,435.5	189.48	8.576	
22,600.0	11,350.0	20,951.8	9,725.0	93.6	91.5	0.00	11,360.0	-1,208.2	1,625.0	1,434.0	190.99	8.508	
22,700.0	11,350.0	21,051.8	9,725.0	94.3	92.2	0.00	11,460.0	-1,208.6	1,625.0	1,432.5	192.50	8.441	
22,800.0	11,350.0	21,151.8	9,725.0	95.0	92.9	0.00	11,560.0	-1,209.0	1,625.0	1,431.0	194.02	8.376	
22,900.0	11,350.0	21,251.8	9,725.0	95.7	93.6	0.00	11,660.0	-1,209.4	1,625.0	1,429.5	195.53	8.311	
23,000.0	11,350.0	21,351.8	9,725.0	96.5	94.4	0.00	11,760.0	-1,209.8	1,625.0	1,428.0	197.04	8.247	
23,100.0	11,350.0	21,451.8	9,725.0	97.2	95.1	0.00	11,860.0	-1,210.2	1,625.0	1,426.4	198.55	8.184	
23,200.0	11,350.0	21,551.8	9,725.0	97.9	95.8	0.00	11,960.0	-1,210.6	1,625.0	1,424.9	200.06	8.122	
23,300.0	11,350.0	21,651.8	9,725.0	98.6	96.6	0.00	12,060.0	-1,211.0	1,625.0	1,423.4	201.58	8.061	
23,400.0	11,350.0	21,751.8	9,725.0	99.3	97.3	0.00	12,160.0	-1,211.4	1,625.0	1,421.9	203.09	8.001	
23,500.0	11,350.0	21,851.8	9,725.0	100.0	98.0	0.00	12,260.0	-1,211.8	1,625.0	1,420.4	204.61	7.942	
23,600.0	11,350.0	21,951.8	9,725.0	100.8	98.7	0.00	12,360.0	-1,212.2	1,625.0	1,418.9	206.12	7.884	
23,700.0	11,350.0	22,051.8	9,725.0	101.5	99.5	0.00	12,460.0	-1,212.6	1,625.0	1,417.4	207.64	7.826	
23,800.0	11,350.0	22,151.8	9,725.0	102.2	100.2	0.00	12,559.9	-1,213.0	1,625.0	1,415.8	209.15	7.769	
23,900.0	11,350.0	22,251.8	9,725.0	102.9	100.9	0.00	12,659.9	-1,213.4	1,625.0	1,414.3	210.67	7.713	
24,000.0	11,350.0	22,351.8	9,725.0	103.7	101.7	0.00	12,759.9	-1,213.8	1,625.0	1,412.8	212.19	7.658	
24,100.0	11,350.0	22,451.8	9,725.0	104.4	102.4	0.00	12,859.9	-1,214.2	1,625.0	1,411.3	213.71	7.604	
24,200.0	11,350.0	22,551.8	9,725.0	105.1	103.1	0.00	12,959.9	-1,214.5	1,625.0	1,409.8	215.22	7.550	
24,300.0	11,350.0	22,651.8	9,725.0	105.8	103.8	0.00	13,059.9	-1,214.9	1,625.0	1,408.3	216.74	7.497	
24,400.0	11,350.0	22,751.8	9,725.0	106.5	104.6	0.00	13,159.9	-1,215.3	1,625.0	1,406.7	218.26	7.445	
24,500.0	11,350.0	22,851.8	9,725.0	107.3	105.3	0.00	13,259.9	-1,215.7	1,625.0	1,405.2	219.78	7.394	
24,600.0	11,350.0	22,951.8	9,725.0	108.0	106.0	0.00	13,359.9	-1,216.1	1,625.0	1,403.7	221.30	7.343	
24,700.0	11,350.0	23,051.8	9,725.0	108.7	106.8	0.00	13,459.9	-1,216.5	1,625.0	1,402.2	222.82	7.293	
24,800.0	11,350.0	23,151.8	9,725.0	109.5	107.5	0.00	13,559.9	-1,216.9	1,625.0	1,400.7	224.34	7.243	
24,832.6	11,350.0	23,184.5	9,725.0	109.6	107.7	0.00	13,592.6	-1,217.0	1,625.0	1,400.3	224.71	7.231	
24,848.5	11,350.0	23,200.4	9,725.0	109.7	107.9	0.00	13,608.5	-1,217.1	1,625.0	1,400.1	224.89	7.226	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	21.79	150.1	60.0	161.7	155.3	6.43	25.149	
100.0	100.0	100.0	100.0	3.2	3.2	21.79	150.1	60.0	161.7	154.8	6.89	23.458	
200.0	200.0	200.0	200.0	3.5	3.5	21.79	150.1	60.0	161.7	154.4	7.33	22.063	
300.0	300.0	300.0	300.0	3.7	3.7	21.79	150.1	60.0	161.7	153.9	7.74	20.885	
400.0	400.0	400.0	400.0	3.9	3.9	21.79	150.1	60.0	161.7	153.5	8.14	19.873	
500.0	500.0	500.0	500.0	4.1	4.1	21.79	150.1	60.0	161.7	153.2	8.51	18.991	
600.0	600.0	600.0	600.0	4.2	4.2	21.79	150.1	60.0	161.7	152.8	8.88	18.212	
700.0	700.0	700.0	700.0	4.4	4.4	21.79	150.1	60.0	161.7	152.5	9.23	17.518	
800.0	800.0	800.0	800.0	4.6	4.6	21.79	150.1	60.0	161.7	152.1	9.57	16.894	
900.0	900.0	900.0	900.0	4.8	4.8	21.79	150.1	60.0	161.7	151.8	9.90	16.328	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	21.79	150.1	60.0	161.7	151.5	10.22	15.813	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	21.79	150.1	60.0	161.7	151.1	10.54	15.340	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	21.79	150.1	60.0	161.7	150.8	10.85	14.905	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	21.79	150.1	60.0	161.7	150.5	11.15	14.502	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	21.79	150.1	60.0	161.7	150.2	11.44	14.127	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	21.79	150.1	60.0	161.7	149.9	11.73	13.778	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	147.03	150.1	60.0	162.8	150.7	12.03	13.530	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	147.74	150.1	60.0	166.1	153.8	12.32	13.481	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	148.86	150.1	60.0	171.7	159.0	12.62	13.600	
1,900.0	1,899.3	1,899.3	1,899.3	6.4	6.3	150.31	150.1	60.0	179.6	166.6	12.94	13.876	
2,000.0	1,998.7	1,998.7	1,998.7	6.6	6.4	151.88	150.1	60.0	188.7	175.5	13.25	14.241	
2,100.0	2,098.2	2,098.2	2,098.2	6.8	6.5	153.31	150.1	60.0	198.0	184.4	13.58	14.583	
2,200.0	2,197.6	2,197.6	2,197.6	7.0	6.7	154.60	150.1	60.0	207.4	193.5	13.92	14.900	
2,300.0	2,297.1	2,297.1	2,297.1	7.3	6.8	155.79	150.1	60.0	216.9	202.6	14.28	15.192	
2,400.0	2,396.5	2,396.5	2,396.5	7.5	6.9	156.87	150.1	60.0	226.5	211.8	14.65	15.462	
2,500.0	2,496.0	2,496.0	2,496.0	7.8	7.0	157.86	150.1	60.0	236.1	221.1	15.03	15.709	
2,600.0	2,595.4	2,601.8	2,601.8	8.1	7.2	158.90	148.9	59.5	244.6	229.2	15.45	15.831	
2,700.0	2,694.8	2,708.2	2,708.1	8.4	7.3	148.93	144.9	57.9	250.5	234.7	15.86	15.798	
2,800.0	2,794.0	2,814.6	2,814.2	8.7	7.5	141.73	138.1	55.2	254.1	237.8	16.29	15.598	
2,900.0	2,893.0	2,920.6	2,919.8	9.0	7.6	137.49	128.7	51.3	255.7	239.0	16.75	15.268	
3,000.0	2,991.7	3,026.1	3,024.4	9.3	7.8	135.70	116.6	46.5	255.8	238.6	17.21	14.864	
3,035.3	3,026.5	3,061.3	3,059.3	9.4	7.8	135.75	112.1	44.6	255.7	238.4	17.36	14.728	
3,100.0	3,090.0	3,124.8	3,122.2	9.6	7.9	136.22	103.9	41.3	256.2	238.5	17.67	14.501	
3,200.0	3,188.2	3,222.9	3,219.3	10.0	8.1	140.43	91.2	36.2	258.1	239.9	18.21	14.173	
3,300.0	3,286.3	3,321.0	3,316.5	10.3	8.3	144.55	78.5	31.1	261.5	242.8	18.75	13.947	
3,400.0	3,384.5	3,419.1	3,413.6	10.7	8.6	148.55	65.9	26.0	266.3	247.0	19.29	13.802	
3,500.0	3,482.7	3,517.0	3,510.5	11.0	8.8	152.38	53.3	20.9	272.3	252.5	19.83	13.728	
3,600.0	3,580.8	3,612.6	3,605.4	11.4	9.1	155.86	41.6	16.2	280.1	259.7	20.36	13.757	
3,700.0	3,679.0	3,708.5	3,700.5	11.8	9.3	158.97	31.0	11.9	289.7	268.8	20.88	13.876	
3,800.0	3,777.1	3,804.4	3,795.9	12.1	9.6	161.71	21.5	8.0	300.9	279.6	21.39	14.070	
3,900.0	3,875.3	3,900.0	3,891.1	12.5	9.8	164.07	13.2	4.7	313.6	291.7	21.90	14.321	
4,000.0	3,973.5	3,996.5	3,987.2	12.9	10.1	166.09	5.9	1.7	327.4	305.0	22.41	14.612	
4,100.0	4,071.6	4,092.6	4,083.1	13.3	10.3	167.77	-0.3	-0.8	342.3	319.4	22.92	14.934	
4,200.0	4,169.8	4,188.6	4,179.0	13.7	10.6	169.15	-5.3	-2.8	358.1	334.7	23.44	15.277	
4,300.0	4,268.0	4,284.7	4,275.0	14.1	10.9	170.25	-9.3	-4.4	374.7	350.8	23.97	15.634	
4,400.0	4,366.1	4,380.6	4,370.9	14.5	11.1	171.10	-12.1	-5.5	392.1	367.6	24.50	16.000	
4,500.0	4,464.3	4,476.5	4,466.7	14.9	11.3	171.72	-13.7	-6.2	410.0	385.0	25.04	16.373	
4,600.0	4,562.4	4,573.0	4,563.2	15.4	11.4	172.16	-14.3	-6.4	428.6	403.1	25.57	16.762	
4,700.0	4,660.6	4,670.4	4,660.6	15.8	11.5	172.49	-14.3	-6.4	447.6	421.5	26.11	17.145	
4,800.0	4,758.8	4,768.6	4,758.8	16.2	11.6	172.79	-14.3	-6.4	466.5	439.8	26.66	17.498	
4,900.0	4,856.9	4,866.7	4,856.9	16.6	11.6	173.08	-14.3	-6.4	485.4	458.2	27.22	17.834	
5,000.0	4,955.1	4,964.9	4,955.1	17.0	11.7	173.34	-14.3	-6.4	504.4	476.6	27.79	18.153	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	5,053.3	5,063.1	5,053.3	17.5	11.8	173.58	-14.3	-6.4	523.3	495.0	28.36	18.457	
5,200.0	5,151.4	5,161.2	5,151.4	17.9	11.8	173.81	-14.3	-6.4	542.3	513.4	28.93	18.746	
5,300.0	5,249.6	5,259.4	5,249.6	18.3	11.9	174.02	-14.3	-6.4	561.3	531.8	29.51	19.021	
5,400.0	5,347.7	5,357.5	5,347.7	18.8	12.0	174.21	-14.3	-6.4	580.3	550.2	30.09	19.284	
5,500.0	5,445.9	5,455.7	5,445.9	19.2	12.0	174.40	-14.3	-6.4	599.3	568.6	30.68	19.535	
5,600.0	5,544.1	5,553.9	5,544.1	19.6	12.1	174.57	-14.3	-6.4	618.3	587.0	31.27	19.774	
5,700.0	5,642.2	5,652.0	5,642.2	20.1	12.2	174.73	-14.3	-6.4	637.3	605.4	31.86	20.003	
5,800.0	5,740.4	5,750.2	5,740.4	20.5	12.2	174.88	-14.3	-6.4	656.3	623.8	32.45	20.221	
5,900.0	5,838.6	5,848.4	5,838.6	21.0	12.3	175.03	-14.3	-6.4	675.3	642.2	33.05	20.430	
6,000.0	5,936.7	5,946.5	5,936.7	21.4	12.4	175.16	-14.3	-6.4	694.3	660.6	33.65	20.631	
6,100.0	6,034.9	6,044.7	6,034.9	21.8	12.4	175.29	-14.3	-6.4	713.3	679.1	34.26	20.822	
6,200.0	6,133.1	6,142.8	6,133.1	22.3	12.5	175.42	-14.3	-6.4	732.3	697.5	34.86	21.006	
6,300.0	6,231.2	6,241.0	6,231.2	22.7	12.6	175.53	-14.3	-6.4	751.4	715.9	35.47	21.183	
6,400.0	6,329.4	6,339.2	6,329.4	23.2	12.6	175.64	-14.3	-6.4	770.4	734.3	36.08	21.352	
6,500.0	6,427.5	6,437.3	6,427.5	23.6	12.7	175.75	-14.3	-6.4	789.4	752.7	36.69	21.514	
6,600.0	6,525.7	6,535.5	6,525.7	24.1	12.8	175.85	-14.3	-6.4	808.4	771.1	37.31	21.671	
6,700.0	6,623.9	6,633.7	6,623.9	24.5	12.9	175.94	-14.3	-6.4	827.5	789.6	37.92	21.821	
6,800.0	6,722.0	6,731.8	6,722.0	25.0	12.9	176.04	-14.3	-6.4	846.5	808.0	38.54	21.965	
6,900.0	6,820.2	6,830.0	6,820.2	25.4	13.0	176.12	-14.3	-6.4	865.6	826.4	39.16	22.105	
7,000.0	6,918.4	6,928.1	6,918.4	25.9	13.1	176.21	-14.3	-6.4	884.6	844.8	39.78	22.239	
7,100.0	7,016.5	7,026.3	7,016.5	26.3	13.1	176.29	-14.3	-6.4	903.6	863.2	40.40	22.368	
7,200.0	7,114.7	7,124.5	7,114.7	26.8	13.2	176.36	-14.3	-6.4	922.7	881.7	41.02	22.492	
7,300.0	7,212.8	7,222.6	7,212.8	27.2	13.3	176.44	-14.3	-6.4	941.7	900.1	41.65	22.612	
7,400.0	7,311.0	7,320.8	7,311.0	27.7	13.4	176.51	-14.3	-6.4	960.8	918.5	42.27	22.728	
7,500.0	7,409.2	7,419.0	7,409.2	28.1	13.4	176.58	-14.3	-6.4	979.8	936.9	42.90	22.840	
7,600.0	7,507.3	7,517.1	7,507.3	28.6	13.5	176.64	-14.3	-6.4	998.9	955.3	43.53	22.948	
7,700.0	7,605.5	7,615.3	7,605.5	29.0	13.6	176.70	-14.3	-6.4	1,017.9	973.8	44.16	23.053	
7,800.0	7,703.7	7,713.5	7,703.7	29.5	13.6	176.76	-14.3	-6.4	1,037.0	992.2	44.79	23.154	
7,900.0	7,801.8	7,811.6	7,801.8	29.9	13.7	176.83	-14.3	-6.4	1,056.0	1,010.6	45.40	23.257	
8,000.0	7,900.2	7,910.0	7,900.2	30.4	13.8	176.89	-14.3	-6.4	1,073.8	1,027.8	46.03	23.328	
8,100.0	7,998.9	8,008.7	7,998.9	30.8	13.8	176.94	-14.3	-6.4	1,089.9	1,043.2	46.64	23.367	
8,200.0	8,097.9	8,107.7	8,097.9	31.3	13.9	176.99	-14.3	-6.4	1,104.3	1,057.0	47.24	23.375	
8,300.0	8,197.1	8,206.9	8,197.1	31.7	14.0	177.03	-14.3	-6.4	1,116.9	1,069.1	47.83	23.354	
8,400.0	8,296.5	8,306.3	8,296.5	32.1	14.1	177.07	-14.3	-6.4	1,127.8	1,079.4	48.39	23.306	
8,500.0	8,396.0	8,405.8	8,396.0	32.5	14.1	177.09	-14.3	-6.4	1,137.0	1,088.1	48.94	23.234	
8,600.0	8,495.8	8,505.6	8,495.8	32.8	14.2	177.12	-14.3	-6.4	1,144.5	1,095.0	49.46	23.138	
8,700.0	8,595.6	8,605.4	8,595.6	33.2	14.3	177.13	-14.3	-6.4	1,150.2	1,100.2	49.96	23.023	
8,800.0	8,695.5	8,705.3	8,695.5	33.5	14.4	177.15	-14.3	-6.4	1,154.2	1,103.7	50.42	22.893	
8,900.0	8,795.5	8,805.3	8,795.5	33.8	14.4	177.15	-14.3	-6.4	1,156.4	1,105.6	50.82	22.755	
9,000.0	8,895.5	8,905.3	8,895.5	33.9	14.5	89.15	-14.3	-6.4	1,156.9	1,105.9	51.00	22.687	
9,100.0	8,995.5	9,005.3	8,995.5	33.9	14.6	89.15	-14.3	-6.4	1,156.9	1,105.8	51.07	22.653	
9,200.0	9,095.5	9,105.3	9,095.5	33.9	14.7	89.15	-14.3	-6.4	1,156.9	1,105.8	51.14	22.622	
9,254.0	9,149.5	9,159.3	9,149.5	33.9	14.7	89.15	-14.3	-6.4	1,156.9	1,105.7	51.17	22.608	
9,300.0	9,195.5	9,204.3	9,194.4	34.0	14.7	89.08	-12.7	-6.4	1,156.9	1,105.7	51.19	22.599	
9,400.0	9,295.5	9,300.0	9,288.9	34.0	14.7	88.33	2.3	-6.5	1,157.2	1,106.0	51.23	22.587	
9,500.0	9,395.5	9,387.7	9,372.1	34.0	14.6	86.98	29.6	-6.6	1,158.4	1,107.2	51.21	22.624	
9,600.0	9,495.5	9,465.9	9,442.0	34.0	14.6	85.26	64.5	-6.7	1,161.7	1,110.6	51.07	22.747	
9,700.0	9,595.5	9,533.3	9,498.0	34.0	14.5	83.42	102.0	-6.9	1,168.0	1,117.3	50.79	22.999	
9,800.0	9,695.5	9,590.6	9,541.9	34.1	14.5	81.63	138.8	-7.1	1,178.7	1,128.3	50.36	23.407	
9,900.0	9,795.5	9,638.9	9,575.8	34.1	14.5	79.97	173.1	-7.2	1,194.3	1,144.5	49.79	23.989	
10,000.0	9,895.5	9,679.7	9,602.2	34.1	14.5	78.48	204.2	-7.3	1,215.6	1,166.5	49.11	24.752	
10,100.0	9,995.5	9,714.2	9,622.7	34.1	14.5	77.16	232.0	-7.4	1,242.6	1,194.3	48.36	25.697	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
10,200.0	10,095.5	9,750.0	9,642.2	34.2	14.4	75.75	262.0	-7.6	1,275.6	1,228.0	47.58	26.809	
10,300.0	10,195.5	9,768.9	9,651.7	34.2	14.4	75.00	278.3	-7.6	1,314.2	1,267.4	46.78	28.092	
10,400.0	10,295.5	9,800.0	9,666.2	34.2	14.4	73.73	305.9	-7.7	1,358.3	1,312.2	46.04	29.505	
10,500.0	10,395.5	9,800.0	9,666.2	34.3	14.4	73.73	305.9	-7.7	1,407.4	1,362.1	45.32	31.055	
10,600.0	10,495.5	9,826.4	9,677.3	34.3	14.4	72.64	329.8	-7.8	1,461.1	1,416.4	44.71	32.680	
10,700.0	10,595.5	9,850.0	9,686.3	34.3	14.4	71.66	351.6	-7.9	1,519.2	1,475.1	44.18	34.388	
10,800.0	10,695.5	9,850.0	9,686.3	34.3	14.4	71.66	351.6	-7.9	1,581.1	1,537.4	43.74	36.151	
10,900.0	10,795.5	9,850.0	9,686.3	34.3	14.4	70.32	351.6	-7.9	1,646.7	1,603.3	43.37	37.964	
11,000.0	10,894.6	9,879.7	9,696.3	34.3	14.4	61.35	379.6	-8.0	1,711.6	1,668.6	43.04	39.769	
11,100.0	10,990.2	9,900.0	9,702.3	34.4	14.4	54.13	399.0	-8.1	1,773.4	1,730.6	42.76	41.476	
11,200.0	11,079.3	9,900.0	9,702.3	34.4	14.4	48.73	399.0	-8.1	1,830.2	1,787.7	42.54	43.023	
11,300.0	11,159.3	9,950.0	9,714.1	34.4	14.4	43.74	447.6	-8.3	1,880.0	1,837.6	42.36	44.383	
11,400.0	11,227.6	9,950.0	9,714.1	34.4	14.4	40.64	447.6	-8.3	1,922.0	1,879.7	42.23	45.510	
11,500.0	11,282.2	10,000.0	9,721.6	34.4	14.4	38.01	497.0	-8.5	1,955.1	1,913.0	42.12	46.414	
11,600.0	11,321.4	10,000.0	9,721.6	34.5	14.4	36.55	497.0	-8.5	1,978.4	1,936.4	42.04	47.064	
11,700.0	11,344.2	10,050.0	9,724.8	34.6	14.4	35.62	546.9	-8.7	1,991.7	1,949.8	41.97	47.451	
11,800.0	11,350.0	10,067.9	9,725.0	34.6	14.4	35.45	564.8	-8.8	1,994.7	1,952.8	41.87	47.640	
11,900.0	11,350.0	10,167.9	9,725.0	34.7	14.5	35.44	664.8	-9.2	1,994.7	1,952.9	41.79	47.735	
12,000.0	11,350.0	10,267.9	9,725.0	34.8	14.6	35.44	764.8	-9.6	1,994.7	1,952.9	41.76	47.765	
12,100.0	11,350.0	10,367.9	9,725.0	35.0	14.6	35.44	864.8	-10.0	1,994.6	1,952.9	41.79	47.729	
12,200.0	11,350.0	10,467.9	9,725.0	35.1	14.8	35.44	964.8	-10.4	1,994.6	1,952.8	41.88	47.628	
12,300.0	11,350.0	10,567.9	9,725.0	35.3	15.0	35.44	1,064.8	-10.8	1,994.6	1,952.6	42.03	47.463	
12,400.0	11,350.0	10,667.9	9,725.0	35.5	15.3	35.44	1,164.8	-11.2	1,994.6	1,952.4	42.23	47.236	
12,500.0	11,350.0	10,767.9	9,725.0	35.7	15.7	35.44	1,264.8	-11.7	1,994.6	1,952.1	42.48	46.950	
12,600.0	11,350.0	10,867.9	9,725.0	35.9	16.1	35.44	1,364.8	-12.1	1,994.6	1,951.8	42.79	46.609	
12,700.0	11,350.0	10,967.9	9,725.0	36.1	16.5	35.44	1,464.8	-12.5	1,994.6	1,951.4	43.16	46.215	
12,800.0	11,350.0	11,067.9	9,725.0	36.3	17.0	35.44	1,564.8	-12.9	1,994.6	1,951.0	43.58	45.773	
12,900.0	11,350.0	11,167.9	9,725.0	36.6	17.5	35.44	1,664.8	-13.3	1,994.6	1,950.5	44.04	45.288	
13,000.0	11,350.0	11,267.9	9,725.0	36.9	18.0	35.44	1,764.8	-13.7	1,994.6	1,950.0	44.56	44.764	
13,100.0	11,350.0	11,367.9	9,725.0	37.2	18.5	35.44	1,864.8	-14.1	1,994.6	1,949.5	45.12	44.205	
13,200.0	11,350.0	11,467.9	9,725.0	37.5	19.1	35.44	1,964.8	-14.5	1,994.6	1,948.8	45.73	43.618	
13,300.0	11,350.0	11,567.9	9,725.0	37.8	19.6	35.44	2,064.8	-14.9	1,994.6	1,948.2	46.38	43.005	
13,400.0	11,350.0	11,667.9	9,725.0	38.1	20.2	35.44	2,164.8	-15.3	1,994.5	1,947.5	47.07	42.371	
13,500.0	11,350.0	11,767.9	9,725.0	38.4	20.8	35.44	2,264.8	-15.7	1,994.5	1,946.7	47.81	41.722	
13,600.0	11,350.0	11,867.9	9,725.0	38.8	21.4	35.44	2,364.8	-16.1	1,994.5	1,946.0	48.58	41.059	
13,700.0	11,350.0	11,967.9	9,725.0	39.2	22.0	35.44	2,464.8	-16.6	1,994.5	1,945.1	49.38	40.388	
13,800.0	11,350.0	12,067.9	9,725.0	39.5	22.6	35.44	2,564.8	-17.0	1,994.5	1,944.3	50.23	39.711	
13,900.0	11,350.0	12,167.9	9,725.0	39.9	23.3	35.44	2,664.8	-17.4	1,994.5	1,943.4	51.10	39.031	
14,000.0	11,350.0	12,267.9	9,725.0	40.3	23.9	35.44	2,764.8	-17.8	1,994.5	1,942.5	52.01	38.351	
14,100.0	11,350.0	12,367.9	9,725.0	40.7	24.5	35.44	2,864.7	-18.2	1,994.5	1,941.6	52.94	37.674	
14,200.0	11,350.0	12,467.9	9,725.0	41.1	25.2	35.44	2,964.7	-18.6	1,994.5	1,940.6	53.90	37.001	
14,300.0	11,350.0	12,567.9	9,725.0	41.6	25.9	35.44	3,064.7	-19.0	1,994.5	1,939.6	54.89	36.334	
14,400.0	11,350.0	12,667.9	9,725.0	42.0	26.5	35.44	3,164.7	-19.4	1,994.5	1,938.6	55.91	35.674	
14,500.0	11,350.0	12,767.9	9,725.0	42.5	27.2	35.44	3,264.7	-19.8	1,994.5	1,937.5	56.95	35.024	
14,600.0	11,350.0	12,867.9	9,725.0	42.9	27.9	35.44	3,364.7	-20.2	1,994.5	1,936.4	58.01	34.383	
14,700.0	11,350.0	12,967.9	9,725.0	43.4	28.5	35.44	3,464.7	-20.6	1,994.4	1,935.4	59.09	33.754	
14,800.0	11,350.0	13,067.9	9,725.0	43.9	29.2	35.44	3,564.7	-21.0	1,994.4	1,934.2	60.19	33.136	
14,900.0	11,350.0	13,167.9	9,725.0	44.3	29.9	35.44	3,664.7	-21.5	1,994.4	1,933.1	61.31	32.530	
15,000.0	11,350.0	13,267.9	9,725.0	44.8	30.6	35.44	3,764.7	-21.9	1,994.4	1,932.0	62.45	31.937	
15,100.0	11,350.0	13,367.9	9,725.0	45.3	31.3	35.43	3,864.7	-22.3	1,994.4	1,930.8	63.60	31.357	
15,200.0	11,350.0	13,467.9	9,725.0	45.8	32.0	35.43	3,964.7	-22.7	1,994.4	1,929.6	64.78	30.789	
15,300.0	11,350.0	13,567.9	9,725.0	46.3	32.7	35.43	4,064.7	-23.1	1,994.4	1,928.4	65.96	30.235	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	11,350.0	13,667.9	9,725.0	46.9	33.4	35.43	4,164.7	-23.5	1,994.4	1,927.2	67.16	29.695	
15,500.0	11,350.0	13,767.9	9,725.0	47.4	34.1	35.43	4,264.7	-23.9	1,994.4	1,926.0	68.38	29.167	
15,600.0	11,350.0	13,867.9	9,725.0	47.9	34.8	35.43	4,364.7	-24.3	1,994.4	1,924.8	69.61	28.652	
15,700.0	11,350.0	13,967.9	9,725.0	48.5	35.5	35.43	4,464.7	-24.7	1,994.4	1,923.5	70.85	28.151	
15,800.0	11,350.0	14,067.9	9,725.0	49.0	36.2	35.43	4,564.7	-25.1	1,994.4	1,922.3	72.10	27.662	
15,900.0	11,350.0	14,167.9	9,725.0	49.6	37.0	35.43	4,664.7	-25.5	1,994.4	1,921.0	73.36	27.186	
16,000.0	11,350.0	14,267.9	9,725.0	50.1	37.7	35.43	4,764.7	-26.0	1,994.3	1,919.7	74.63	26.723	
16,100.0	11,350.0	14,367.9	9,725.0	50.7	38.4	35.43	4,864.7	-26.4	1,994.3	1,918.4	75.91	26.271	
16,200.0	11,350.0	14,467.9	9,725.0	51.2	39.1	35.43	4,964.7	-26.8	1,994.3	1,917.1	77.21	25.831	
16,300.0	11,350.0	14,567.9	9,725.0	51.8	39.8	35.43	5,064.7	-27.2	1,994.3	1,915.8	78.51	25.403	
16,400.0	11,350.0	14,667.9	9,725.0	52.4	40.6	35.43	5,164.7	-27.6	1,994.3	1,914.5	79.82	24.986	
16,500.0	11,350.0	14,767.9	9,725.0	53.0	41.3	35.43	5,264.7	-28.0	1,994.3	1,913.2	81.13	24.581	
16,600.0	11,350.0	14,867.9	9,725.0	53.6	42.0	35.43	5,364.7	-28.4	1,994.3	1,911.8	82.46	24.185	
16,700.0	11,350.0	14,967.9	9,725.0	54.2	42.8	35.43	5,464.7	-28.8	1,994.3	1,910.5	83.79	23.801	
16,800.0	11,350.0	15,067.9	9,725.0	54.8	43.5	35.43	5,564.7	-29.2	1,994.3	1,909.2	85.13	23.426	
16,900.0	11,350.0	15,167.9	9,725.0	55.3	44.2	35.43	5,664.7	-29.6	1,994.3	1,907.8	86.48	23.062	
17,000.0	11,350.0	15,267.9	9,725.0	56.0	44.9	35.43	5,764.7	-30.0	1,994.3	1,906.4	87.83	22.706	
17,100.0	11,350.0	15,367.9	9,725.0	56.6	45.7	35.43	5,864.7	-30.4	1,994.3	1,905.1	89.19	22.360	
17,200.0	11,350.0	15,467.9	9,725.0	57.2	46.4	35.43	5,964.7	-30.9	1,994.3	1,903.7	90.55	22.024	
17,300.0	11,350.0	15,567.9	9,725.0	57.8	47.2	35.43	6,064.7	-31.3	1,994.2	1,902.3	91.92	21.695	
17,400.0	11,350.0	15,667.9	9,725.0	58.4	47.9	35.43	6,164.7	-31.7	1,994.2	1,900.9	93.30	21.375	
17,500.0	11,350.0	15,767.9	9,725.0	59.0	48.6	35.43	6,264.7	-32.1	1,994.2	1,899.6	94.68	21.064	
17,600.0	11,350.0	15,867.9	9,725.0	59.7	49.4	35.43	6,364.7	-32.5	1,994.2	1,898.2	96.06	20.760	
17,700.0	11,350.0	15,967.9	9,725.0	60.3	50.1	35.43	6,464.7	-32.9	1,994.2	1,896.8	97.45	20.464	
17,800.0	11,350.0	16,067.9	9,725.0	60.9	50.8	35.43	6,564.7	-33.3	1,994.2	1,895.4	98.84	20.175	
17,900.0	11,350.0	16,167.9	9,725.0	61.5	51.6	35.43	6,664.7	-33.7	1,994.2	1,894.0	100.24	19.894	
18,000.0	11,350.0	16,267.9	9,725.0	62.2	52.3	35.43	6,764.7	-34.1	1,994.2	1,892.5	101.64	19.619	
18,100.0	11,350.0	16,367.9	9,725.0	62.8	53.1	35.43	6,864.7	-34.5	1,994.2	1,891.1	103.05	19.352	
18,200.0	11,350.0	16,467.9	9,725.0	63.5	53.8	35.43	6,964.7	-34.9	1,994.2	1,889.7	104.46	19.090	
18,300.0	11,350.0	16,567.9	9,725.0	64.1	54.6	35.42	7,064.7	-35.3	1,994.2	1,888.3	105.87	18.836	
18,400.0	11,350.0	16,667.9	9,725.0	64.8	55.3	35.42	7,164.7	-35.8	1,994.2	1,886.9	107.29	18.587	
18,500.0	11,350.0	16,767.9	9,725.0	65.4	56.0	35.42	7,264.7	-36.2	1,994.2	1,885.4	108.71	18.344	
18,600.0	11,350.0	16,867.9	9,725.0	66.1	56.8	35.42	7,364.7	-36.6	1,994.1	1,884.0	110.13	18.107	
18,700.0	11,350.0	16,967.9	9,725.0	66.7	57.5	35.42	7,464.7	-37.0	1,994.1	1,882.6	111.56	17.875	
18,800.0	11,350.0	17,067.9	9,725.0	67.4	58.3	35.42	7,564.7	-37.4	1,994.1	1,881.1	112.99	17.649	
18,900.0	11,350.0	17,167.9	9,725.0	68.0	59.0	35.42	7,664.7	-37.8	1,994.1	1,879.7	114.42	17.428	
19,000.0	11,350.0	17,267.9	9,725.0	68.7	59.8	35.42	7,764.7	-38.2	1,994.1	1,878.3	115.85	17.212	
19,100.0	11,350.0	17,367.9	9,725.0	69.4	60.5	35.42	7,864.7	-38.6	1,994.1	1,876.8	117.29	17.001	
19,200.0	11,350.0	17,467.9	9,725.0	70.0	61.3	35.42	7,964.7	-39.0	1,994.1	1,875.4	118.73	16.795	
19,300.0	11,350.0	17,567.9	9,725.0	70.7	62.0	35.42	8,064.7	-39.4	1,994.1	1,873.9	120.17	16.593	
19,400.0	11,350.0	17,667.9	9,725.0	71.4	62.8	35.42	8,164.7	-39.8	1,994.1	1,872.5	121.62	16.396	
19,500.0	11,350.0	17,767.9	9,725.0	72.0	63.5	35.42	8,264.7	-40.3	1,994.1	1,871.0	123.07	16.203	
19,600.0	11,350.0	17,867.9	9,725.0	72.7	64.3	35.42	8,364.7	-40.7	1,994.1	1,869.5	124.52	16.015	
19,700.0	11,350.0	17,967.9	9,725.0	73.4	65.0	35.42	8,464.7	-41.1	1,994.1	1,868.1	125.97	15.830	
19,800.0	11,350.0	18,067.9	9,725.0	74.1	65.8	35.42	8,564.7	-41.5	1,994.0	1,866.6	127.42	15.649	
19,900.0	11,350.0	18,167.9	9,725.0	74.8	66.5	35.42	8,664.7	-41.9	1,994.0	1,865.2	128.87	15.473	
20,000.0	11,350.0	18,267.9	9,725.0	75.4	67.3	35.42	8,764.7	-42.3	1,994.0	1,863.7	130.33	15.300	
20,100.0	11,350.0	18,367.9	9,725.0	76.1	68.0	35.42	8,864.7	-42.7	1,994.0	1,862.2	131.79	15.130	
20,200.0	11,350.0	18,467.9	9,725.0	76.8	68.8	35.42	8,964.7	-43.1	1,994.0	1,860.8	133.25	14.964	
20,300.0	11,350.0	18,567.9	9,725.0	77.5	69.5	35.42	9,064.7	-43.5	1,994.0	1,859.3	134.71	14.802	
20,400.0	11,350.0	18,667.9	9,725.0	78.2	70.3	35.42	9,164.7	-43.9	1,994.0	1,857.8	136.18	14.643	
20,500.0	11,350.0	18,767.9	9,725.0	78.9	71.0	35.42	9,264.7	-44.3	1,994.0	1,856.4	137.64	14.487	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,600.0	11,350.0	18,867.9	9,725.0	79.6	71.8	35.42	9,364.7	-44.7	1,994.0	1,854.9	139.11	14.334	
20,700.0	11,350.0	18,967.9	9,725.0	80.2	72.5	35.42	9,464.7	-45.2	1,994.0	1,853.4	140.58	14.184	
20,800.0	11,350.0	19,067.9	9,725.0	80.9	73.3	35.42	9,564.7	-45.6	1,994.0	1,851.9	142.05	14.037	
20,900.0	11,350.0	19,167.9	9,725.0	81.6	74.1	35.42	9,664.7	-46.0	1,994.0	1,850.4	143.52	13.893	
21,000.0	11,350.0	19,267.9	9,725.0	82.3	74.8	35.42	9,764.7	-46.4	1,994.0	1,849.0	145.00	13.752	
21,100.0	11,350.0	19,367.9	9,725.0	83.0	75.6	35.42	9,864.7	-46.8	1,993.9	1,847.5	146.47	13.613	
21,200.0	11,350.0	19,467.9	9,725.0	83.7	76.3	35.42	9,964.7	-47.2	1,993.9	1,846.0	147.95	13.477	
21,300.0	11,350.0	19,567.9	9,725.0	84.4	77.1	35.42	10,064.7	-47.6	1,993.9	1,844.5	149.42	13.344	
21,400.0	11,350.0	19,667.9	9,725.0	85.1	77.8	35.42	10,164.7	-48.0	1,993.9	1,843.0	150.90	13.213	
21,500.0	11,350.0	19,767.9	9,725.0	85.8	78.6	35.41	10,264.7	-48.4	1,993.9	1,841.5	152.38	13.085	
21,600.0	11,350.0	19,867.9	9,725.0	86.5	79.3	35.41	10,364.7	-48.8	1,993.9	1,840.0	153.86	12.959	
21,700.0	11,350.0	19,967.9	9,725.0	87.2	80.1	35.41	10,464.7	-49.2	1,993.9	1,838.6	155.34	12.835	
21,800.0	11,350.0	20,067.9	9,725.0	87.9	80.9	35.41	10,564.7	-49.6	1,993.9	1,837.1	156.83	12.714	
21,900.0	11,350.0	20,167.9	9,725.0	88.6	81.6	35.41	10,664.7	-50.1	1,993.9	1,835.6	158.31	12.595	
22,000.0	11,350.0	20,267.9	9,725.0	89.3	82.4	35.41	10,764.7	-50.5	1,993.9	1,834.1	159.79	12.478	
22,100.0	11,350.0	20,367.9	9,725.0	90.1	83.1	35.41	10,864.7	-50.9	1,993.9	1,832.6	161.28	12.363	
22,200.0	11,350.0	20,467.9	9,725.0	90.8	83.9	35.41	10,964.7	-51.3	1,993.9	1,831.1	162.77	12.250	
22,300.0	11,350.0	20,567.9	9,725.0	91.5	84.6	35.41	11,064.7	-51.7	1,993.9	1,829.6	164.25	12.139	
22,400.0	11,350.0	20,667.9	9,725.0	92.2	85.4	35.41	11,164.7	-52.1	1,993.8	1,828.1	165.74	12.030	
22,500.0	11,350.0	20,767.9	9,725.0	92.9	86.2	35.41	11,264.7	-52.5	1,993.8	1,826.6	167.23	11.923	
22,600.0	11,350.0	20,867.9	9,725.0	93.6	86.9	35.41	11,364.7	-52.9	1,993.8	1,825.1	168.72	11.817	
22,700.0	11,350.0	20,967.9	9,725.0	94.3	87.7	35.41	11,464.7	-53.3	1,993.8	1,823.6	170.21	11.714	
22,800.0	11,350.0	21,067.9	9,725.0	95.0	88.4	35.41	11,564.7	-53.7	1,993.8	1,822.1	171.71	11.612	
22,900.0	11,350.0	21,167.9	9,725.0	95.7	89.2	35.41	11,664.7	-54.1	1,993.8	1,820.6	173.20	11.512	
23,000.0	11,350.0	21,267.9	9,725.0	96.5	89.9	35.41	11,764.7	-54.6	1,993.8	1,819.1	174.69	11.413	
23,100.0	11,350.0	21,367.9	9,725.0	97.2	90.7	35.41	11,864.7	-55.0	1,993.8	1,817.6	176.19	11.316	
23,200.0	11,350.0	21,467.9	9,725.0	97.9	91.5	35.41	11,964.7	-55.4	1,993.8	1,816.1	177.68	11.221	
23,300.0	11,350.0	21,567.9	9,725.0	98.6	92.2	35.41	12,064.7	-55.8	1,993.8	1,814.6	179.18	11.127	
23,400.0	11,350.0	21,667.9	9,725.0	99.3	93.0	35.41	12,164.7	-56.2	1,993.8	1,813.1	180.68	11.035	
23,500.0	11,350.0	21,767.9	9,725.0	100.0	93.7	35.41	12,264.7	-56.6	1,993.8	1,811.6	182.17	10.944	
23,600.0	11,350.0	21,867.9	9,725.0	100.8	94.5	35.41	12,364.7	-57.0	1,993.8	1,810.1	183.67	10.855	
23,700.0	11,350.0	21,967.9	9,725.0	101.5	95.3	35.41	12,464.7	-57.4	1,993.7	1,808.6	185.17	10.767	
23,800.0	11,350.0	22,067.9	9,725.0	102.2	96.0	35.41	12,564.7	-57.8	1,993.7	1,807.1	186.67	10.681	
23,900.0	11,350.0	22,167.9	9,725.0	102.9	96.8	35.41	12,664.7	-58.2	1,993.7	1,805.6	188.17	10.595	
24,000.0	11,350.0	22,267.9	9,725.0	103.7	97.5	35.41	12,764.7	-58.6	1,993.7	1,804.1	189.67	10.512	
24,100.0	11,350.0	22,367.9	9,725.0	104.4	98.3	35.41	12,864.7	-59.0	1,993.7	1,802.5	191.17	10.429	
24,200.0	11,350.0	22,467.9	9,725.0	105.1	99.1	35.41	12,964.7	-59.5	1,993.7	1,801.0	192.67	10.348	
24,300.0	11,350.0	22,567.9	9,725.0	105.8	99.8	35.41	13,064.7	-59.9	1,993.7	1,799.5	194.17	10.268	
24,400.0	11,350.0	22,667.9	9,725.0	106.5	100.6	35.41	13,164.7	-60.3	1,993.7	1,798.0	195.68	10.189	
24,500.0	11,350.0	22,767.9	9,725.0	107.3	101.3	35.41	13,264.7	-60.7	1,993.7	1,796.5	197.18	10.111	
24,600.0	11,350.0	22,867.9	9,725.0	108.0	102.1	35.40	13,364.7	-61.1	1,993.7	1,795.0	198.68	10.034	
24,700.0	11,350.0	22,967.9	9,725.0	108.7	102.8	35.40	13,464.7	-61.5	1,993.7	1,793.5	200.19	9.959	
24,800.0	11,350.0	23,067.9	9,725.0	109.5	103.6	35.40	13,564.7	-61.9	1,993.7	1,792.0	201.69	9.885	
24,842.7	11,350.0	23,110.6	9,725.0	109.7	103.9	35.40	13,607.3	-62.1	1,993.7	1,791.4	202.21	9.859	
24,848.5	11,350.0	23,110.8	9,725.0	109.7	103.9	35.40	13,607.6	-62.1	1,993.7	1,791.4	202.25	9.857	SF

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	81.48	221.7	1,480.0	1,496.6	1,490.1	6.43	232.787	
100.0	100.0	100.0	100.0	3.2	3.2	81.48	221.7	1,480.0	1,496.6	1,489.7	6.89	217.134	
200.0	200.0	200.0	200.0	3.5	3.5	81.48	221.7	1,480.0	1,496.6	1,489.2	7.33	204.221	
300.0	300.0	300.0	300.0	3.7	3.7	81.48	221.7	1,480.0	1,496.6	1,488.8	7.74	193.321	
400.0	400.0	400.0	400.0	3.9	3.9	81.48	221.7	1,480.0	1,496.6	1,488.4	8.14	183.954	
500.0	500.0	500.0	500.0	4.1	4.1	81.48	221.7	1,480.0	1,496.6	1,488.1	8.51	175.786	
600.0	600.0	600.0	600.0	4.2	4.2	81.48	221.7	1,480.0	1,496.6	1,487.7	8.88	168.577	
700.0	700.0	700.0	700.0	4.4	4.4	81.48	221.7	1,480.0	1,496.6	1,487.3	9.23	162.151	
800.0	800.0	800.0	800.0	4.6	4.6	81.48	221.7	1,480.0	1,496.6	1,487.0	9.57	156.373	
900.0	900.0	900.0	900.0	4.8	4.8	81.48	221.7	1,480.0	1,496.6	1,486.7	9.90	151.139	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.48	221.7	1,480.0	1,496.6	1,486.3	10.22	146.368	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.48	221.7	1,480.0	1,496.6	1,486.0	10.54	141.993	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.48	221.7	1,480.0	1,496.6	1,485.7	10.85	137.963	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.48	221.7	1,480.0	1,496.6	1,485.4	11.15	134.233	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.48	221.7	1,480.0	1,496.6	1,485.1	11.44	130.768	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.48	221.7	1,480.0	1,496.6	1,484.8	11.73	127.536	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-153.53	221.7	1,480.0	1,497.7	1,485.7	12.03	124.456	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-153.58	221.7	1,480.0	1,501.3	1,488.9	12.33	121.796	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-153.65	221.7	1,480.0	1,507.1	1,494.5	12.63	119.336	
1,900.0	1,899.3	1,952.6	1,952.6	6.4	6.3	-153.79	219.9	1,477.6	1,513.6	1,500.5	13.02	116.215	
2,000.0	1,998.7	2,106.3	2,106.0	6.6	6.6	-153.89	214.3	1,470.2	1,517.7	1,504.3	13.41	113.197	
2,100.0	2,098.2	2,260.3	2,259.2	6.8	6.9	-153.88	205.0	1,457.9	1,518.2	1,504.4	13.83	109.740	
2,200.0	2,197.6	2,385.8	2,383.6	7.0	7.1	-153.80	194.9	1,444.5	1,515.7	1,501.5	14.20	106.720	
2,300.0	2,297.1	2,485.8	2,482.6	7.3	7.3	-153.73	186.6	1,433.4	1,512.8	1,498.2	14.61	103.539	
2,400.0	2,396.5	2,585.7	2,581.5	7.5	7.6	-153.65	178.2	1,422.3	1,509.9	1,494.9	15.05	100.312	
2,500.0	2,496.0	2,685.6	2,680.5	7.8	7.8	-153.58	169.8	1,411.2	1,507.0	1,491.5	15.52	97.118	
2,600.0	2,595.4	2,785.6	2,779.5	8.1	8.1	-153.50	161.5	1,400.1	1,504.1	1,488.1	16.01	93.943	
2,700.0	2,694.8	2,885.5	2,878.4	8.4	8.4	-164.68	153.1	1,389.0	1,502.1	1,485.6	16.52	90.919	
2,749.4	2,743.9	2,934.9	2,927.3	8.5	8.5	-169.50	149.0	1,383.5	1,501.9	1,485.1	16.79	89.438	
2,800.0	2,794.0	2,985.4	2,977.3	8.7	8.7	-173.79	144.7	1,377.9	1,502.1	1,485.1	17.07	87.993	
2,900.0	2,893.0	3,085.2	3,076.2	9.0	9.0	179.34	136.4	1,366.8	1,504.2	1,486.5	17.65	85.218	
3,000.0	2,991.7	3,184.8	3,174.8	9.3	9.3	174.17	128.0	1,355.7	1,508.2	1,490.0	18.26	82.615	
3,100.0	3,090.0	3,284.2	3,273.2	9.6	9.6	170.92	119.7	1,344.7	1,514.3	1,495.5	18.85	80.330	
3,200.0	3,188.2	3,383.5	3,371.5	10.0	10.0	171.29	111.4	1,333.6	1,521.2	1,501.7	19.50	78.009	
3,300.0	3,286.3	3,482.7	3,469.8	10.3	10.3	171.66	103.1	1,322.6	1,528.1	1,508.0	20.14	75.863	
3,400.0	3,384.5	3,582.0	3,568.1	10.7	10.6	172.03	94.8	1,311.6	1,535.1	1,514.3	20.80	73.812	
3,500.0	3,482.7	3,681.3	3,666.4	11.0	11.0	172.39	86.4	1,300.5	1,542.2	1,520.7	21.46	71.855	
3,600.0	3,580.8	3,780.5	3,764.7	11.4	11.4	172.75	78.1	1,289.5	1,549.3	1,527.1	22.14	69.990	
3,700.0	3,679.0	3,879.8	3,863.0	11.8	11.7	173.11	69.8	1,278.5	1,556.4	1,533.6	22.82	68.213	
3,800.0	3,777.1	3,979.1	3,961.3	12.1	12.1	173.46	61.5	1,267.4	1,563.7	1,540.2	23.51	66.522	
3,900.0	3,875.3	4,078.4	4,059.6	12.5	12.5	173.81	53.2	1,256.4	1,571.0	1,546.8	24.20	64.913	
4,000.0	3,973.5	4,177.6	4,158.0	12.9	12.8	174.16	44.9	1,245.4	1,578.3	1,553.4	24.90	63.381	
4,100.0	4,071.6	4,275.2	4,254.6	13.3	13.2	174.49	36.7	1,234.5	1,585.7	1,560.1	25.58	61.991	
4,200.0	4,169.8	4,364.2	4,342.7	13.7	13.5	174.79	29.5	1,225.0	1,593.6	1,567.4	26.25	60.713	
4,300.0	4,268.0	4,453.1	4,430.9	14.1	13.8	175.07	22.8	1,216.0	1,602.2	1,575.3	26.93	59.502	
4,400.0	4,366.1	4,542.0	4,519.2	14.5	14.2	175.33	16.4	1,207.6	1,611.5	1,583.8	27.60	58.378	
4,500.0	4,464.3	4,630.8	4,607.5	14.9	14.5	175.58	10.5	1,199.7	1,621.4	1,593.1	28.28	57.333	
4,600.0	4,562.4	4,719.6	4,695.8	15.4	14.8	175.81	5.0	1,192.4	1,632.0	1,603.1	28.95	56.364	
4,700.0	4,660.6	4,808.3	4,784.1	15.8	15.2	176.02	-0.1	1,185.6	1,643.3	1,613.7	29.63	55.465	
4,800.0	4,758.8	4,900.0	4,875.4	16.2	15.5	176.23	-5.0	1,179.2	1,655.2	1,624.9	30.31	54.612	
4,900.0	4,856.9	4,985.5	4,960.7	16.6	15.8	176.40	-9.1	1,173.8	1,667.8	1,636.8	30.96	53.860	
5,000.0	4,955.1	5,074.0	5,048.9	17.0	16.1	176.56	-12.9	1,168.6	1,681.0	1,649.4	31.63	53.148	

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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,100.0	5,053.3	5,162.3	5,137.1	17.5	16.4	176.71	-16.4	1,164.1	1,694.9	1,662.6	32.29	52.490	
5,200.0	5,151.4	5,250.5	5,225.1	17.9	16.7	176.84	-19.4	1,160.1	1,709.3	1,676.4	32.94	51.885	
5,300.0	5,249.6	5,338.6	5,313.1	18.3	17.0	176.96	-22.0	1,156.6	1,724.5	1,690.9	33.60	51.329	
5,400.0	5,347.7	5,426.6	5,401.0	18.8	17.3	177.06	-24.2	1,153.7	1,740.2	1,706.0	34.24	50.821	
5,500.0	5,445.9	5,514.4	5,488.7	19.2	17.5	177.15	-26.0	1,151.3	1,756.5	1,721.7	34.88	50.359	
5,600.0	5,544.1	5,600.0	5,574.3	19.6	17.8	177.22	-27.4	1,149.5	1,773.5	1,738.0	35.50	49.952	
5,700.0	5,642.2	5,689.4	5,663.8	20.1	18.0	177.28	-28.4	1,148.1	1,791.1	1,755.0	36.13	49.570	
5,800.0	5,740.4	5,776.7	5,751.0	20.5	18.2	177.32	-29.0	1,147.3	1,809.3	1,772.5	36.74	49.251	
5,900.0	5,838.6	5,864.2	5,838.6	21.0	18.3	177.35	-29.2	1,147.1	1,828.1	1,790.8	37.28	49.035	
6,000.0	5,936.7	5,962.4	5,936.7	21.4	18.4	177.38	-29.2	1,147.1	1,847.1	1,809.3	37.80	48.870	
6,100.0	6,034.9	6,060.6	6,034.9	21.8	18.4	177.41	-29.2	1,147.1	1,866.2	1,827.8	38.33	48.691	
6,200.0	6,133.1	6,158.7	6,133.1	22.3	18.4	177.43	-29.2	1,147.1	1,885.2	1,846.4	38.86	48.512	
6,300.0	6,231.2	6,256.9	6,231.2	22.7	18.5	177.46	-29.2	1,147.1	1,904.3	1,864.9	39.40	48.333	
6,400.0	6,329.4	6,355.1	6,329.4	23.2	18.5	177.49	-29.2	1,147.1	1,923.4	1,883.4	39.94	48.155	
6,500.0	6,427.5	6,453.2	6,427.5	23.6	18.5	177.51	-29.2	1,147.1	1,942.4	1,901.9	40.49	47.977	
6,600.0	6,525.7	6,551.4	6,525.7	24.1	18.6	177.53	-29.2	1,147.1	1,961.5	1,920.5	41.04	47.799	
6,700.0	6,623.9	6,649.5	6,623.9	24.5	18.6	177.56	-29.2	1,147.1	1,980.6	1,939.0	41.59	47.623	
6,800.0	6,722.0	6,747.7	6,722.0	25.0	18.7	177.58	-29.2	1,147.1	1,999.6	1,957.5	42.14	47.447 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
0.0	0.0	0.0	0.0	3.0	3.0	81.65	221.7	1,510.0	1,526.2	1,519.8	6.43	237.404	
100.0	100.0	100.0	100.0	3.2	3.2	81.65	221.7	1,510.0	1,526.2	1,519.4	6.89	221.440	
200.0	200.0	200.0	200.0	3.5	3.5	81.65	221.7	1,510.0	1,526.2	1,518.9	7.33	208.271	
300.0	300.0	300.0	300.0	3.7	3.7	81.65	221.7	1,510.0	1,526.2	1,518.5	7.74	197.155	
400.0	400.0	400.0	400.0	3.9	3.9	81.65	221.7	1,510.0	1,526.2	1,518.1	8.14	187.602	
500.0	500.0	500.0	500.0	4.1	4.1	81.65	221.7	1,510.0	1,526.2	1,517.7	8.51	179.272	
600.0	600.0	600.0	600.0	4.2	4.2	81.65	221.7	1,510.0	1,526.2	1,517.4	8.88	171.920	
700.0	700.0	700.0	700.0	4.4	4.4	81.65	221.7	1,510.0	1,526.2	1,517.0	9.23	165.367	
800.0	800.0	800.0	800.0	4.6	4.6	81.65	221.7	1,510.0	1,526.2	1,516.7	9.57	159.474	
900.0	900.0	900.0	900.0	4.8	4.8	81.65	221.7	1,510.0	1,526.2	1,516.3	9.90	154.136	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.65	221.7	1,510.0	1,526.2	1,516.0	10.22	149.270	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.65	221.7	1,510.0	1,526.2	1,515.7	10.54	144.809	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.65	221.7	1,510.0	1,526.2	1,515.4	10.85	140.699	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.65	221.7	1,510.0	1,526.2	1,515.1	11.15	136.895	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.65	221.7	1,510.0	1,526.2	1,514.8	11.44	133.361	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.65	221.7	1,510.0	1,526.2	1,514.5	11.73	130.065	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-153.37	221.7	1,510.0	1,527.4	1,515.4	12.03	126.923	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-153.41	221.7	1,510.0	1,530.9	1,518.6	12.33	124.206	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-153.48	221.7	1,510.0	1,536.8	1,524.1	12.63	121.688	
1,900.0	1,899.3	1,871.5	1,871.5	6.4	6.2	-153.54	222.0	1,510.7	1,545.9	1,532.9	12.92	119.607	
2,000.0	1,998.7	1,942.8	1,942.8	6.6	6.4	-153.68	222.9	1,512.5	1,557.9	1,544.7	13.21	117.933	
2,100.0	2,098.2	2,000.0	1,999.9	6.8	6.5	-153.80	224.0	1,514.8	1,571.9	1,558.4	13.48	116.613	
2,200.0	2,197.6	2,084.2	2,084.0	7.0	6.6	-154.00	226.2	1,519.6	1,587.4	1,573.6	13.82	114.821	
2,300.0	2,297.1	2,154.3	2,153.8	7.3	6.7	-154.17	228.7	1,524.9	1,604.8	1,590.6	14.16	113.338	
2,400.0	2,396.5	2,223.8	2,223.0	7.5	6.9	-154.36	231.7	1,531.3	1,624.0	1,609.4	14.51	111.931	
2,500.0	2,496.0	2,300.0	2,298.6	7.8	7.1	-154.57	235.6	1,539.7	1,644.9	1,630.0	14.89	110.432	
2,600.0	2,595.4	2,365.0	2,363.0	8.1	7.2	-154.75	239.2	1,547.8	1,667.4	1,652.2	15.22	109.550	
2,700.0	2,694.8	2,442.2	2,439.3	8.4	7.3	-166.45	242.8	1,558.6	1,692.1	1,676.5	15.62	108.315	
2,800.0	2,794.0	2,518.6	2,514.8	8.7	7.5	-176.08	245.2	1,570.3	1,719.8	1,703.8	16.07	107.013	
2,900.0	2,893.0	2,595.9	2,590.9	9.0	7.7	176.55	246.6	1,583.2	1,750.5	1,733.9	16.54	105.843	
3,000.0	2,991.7	2,690.2	2,683.8	9.3	8.0	170.89	247.7	1,599.6	1,783.4	1,766.2	17.15	103.981	
3,100.0	3,090.0	2,783.9	2,776.1	9.6	8.2	167.19	248.8	1,615.8	1,818.1	1,800.4	17.73	102.544	
3,200.0	3,188.2	2,877.2	2,868.0	10.0	8.5	167.38	250.0	1,632.0	1,853.4	1,835.1	18.36	100.962	
3,300.0	3,286.3	2,970.6	2,960.0	10.3	8.8	167.56	251.1	1,648.2	1,888.8	1,869.8	18.99	99.476	
3,400.0	3,384.5	3,064.0	3,051.9	10.7	9.1	167.74	252.2	1,664.3	1,924.1	1,904.5	19.63	97.999	
3,500.0	3,482.7	3,157.4	3,143.9	11.0	9.4	167.91	253.4	1,680.5	1,959.5	1,939.2	20.30	96.542	
3,600.0	3,580.8	3,250.7	3,235.9	11.4	9.7	168.07	254.5	1,696.7	1,994.9	1,973.9	20.97	95.112	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 #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
0.0	0.0	0.0	0.0	3.0	3.0	81.81	221.7	1,540.0	1,555.9	1,549.5	6.43	242.021	
100.0	100.0	100.0	100.0	3.2	3.2	81.81	221.7	1,540.0	1,555.9	1,549.0	6.89	225.747	
200.0	200.0	200.0	200.0	3.5	3.5	81.81	221.7	1,540.0	1,555.9	1,548.6	7.33	212.322	
300.0	300.0	300.0	300.0	3.7	3.7	81.81	221.7	1,540.0	1,555.9	1,548.2	7.74	200.990	
400.0	400.0	400.0	400.0	3.9	3.9	81.81	221.7	1,540.0	1,555.9	1,547.8	8.14	191.251	
500.0	500.0	500.0	500.0	4.1	4.1	81.81	221.7	1,540.0	1,555.9	1,547.4	8.51	182.759	
600.0	600.0	600.0	600.0	4.2	4.2	81.81	221.7	1,540.0	1,555.9	1,547.1	8.88	175.265	
700.0	700.0	700.0	700.0	4.4	4.4	81.81	221.7	1,540.0	1,555.9	1,546.7	9.23	168.583	
800.0	800.0	800.0	800.0	4.6	4.6	81.81	221.7	1,540.0	1,555.9	1,546.4	9.57	162.576	
900.0	900.0	900.0	900.0	4.8	4.8	81.81	221.7	1,540.0	1,555.9	1,546.0	9.90	157.134	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	81.81	221.7	1,540.0	1,555.9	1,545.7	10.22	152.174	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	81.81	221.7	1,540.0	1,555.9	1,545.4	10.54	147.626	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	81.81	221.7	1,540.0	1,555.9	1,545.1	10.85	143.436	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	81.81	221.7	1,540.0	1,555.9	1,544.8	11.15	139.558	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	81.81	221.7	1,540.0	1,555.9	1,544.5	11.44	135.955	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	81.81	221.7	1,540.0	1,555.9	1,544.2	11.73	132.595	CC, ES
1,600.0	1,600.0	1,600.0	1,600.0	5.9	5.8	-153.21	221.7	1,540.0	1,557.1	1,545.1	12.03	129.391	
1,700.0	1,699.9	1,699.9	1,699.9	6.0	6.0	-153.25	221.7	1,540.0	1,560.6	1,548.3	12.33	126.616	
1,800.0	1,799.7	1,799.7	1,799.7	6.2	6.1	-153.32	221.7	1,540.0	1,566.5	1,553.8	12.63	124.041	
1,900.0	1,899.3	1,870.4	1,870.4	6.4	6.2	-153.36	221.8	1,540.7	1,575.5	1,562.6	12.92	121.929	
2,000.0	1,998.7	1,940.7	1,940.7	6.6	6.3	-153.47	221.8	1,542.6	1,587.6	1,574.4	13.20	120.250	
2,100.0	2,098.2	2,000.0	1,999.9	6.8	6.4	-153.56	221.9	1,545.3	1,601.6	1,588.1	13.47	118.875	
2,200.0	2,197.6	2,080.2	2,080.0	7.0	6.6	-153.67	222.1	1,550.3	1,617.3	1,603.4	13.81	117.134	
2,300.0	2,297.1	2,149.4	2,148.9	7.3	6.7	-153.76	222.3	1,556.0	1,634.7	1,620.6	14.14	115.644	
2,400.0	2,396.5	2,218.1	2,217.3	7.5	6.9	-153.85	222.5	1,562.9	1,654.0	1,639.5	14.48	114.231	
2,500.0	2,496.0	2,300.0	2,298.6	7.8	7.0	-153.93	222.9	1,572.7	1,675.1	1,660.2	14.88	112.575	
2,600.0	2,595.4	2,354.0	2,352.1	8.1	7.2	-153.99	223.1	1,580.1	1,697.8	1,682.5	15.22	111.541	
2,700.0	2,694.8	2,421.0	2,418.3	8.4	7.3	-165.58	223.5	1,590.4	1,723.1	1,707.4	15.61	110.368	
2,800.0	2,794.0	2,500.0	2,496.1	8.7	7.5	-175.15	224.0	1,604.0	1,752.0	1,735.9	16.09	108.915	
2,900.0	2,893.0	2,551.8	2,547.0	9.0	7.7	177.47	224.3	1,613.8	1,784.3	1,767.8	16.48	108.238	
3,000.0	2,991.7	2,600.0	2,594.2	9.3	7.8	171.72	224.7	1,623.5	1,820.1	1,803.2	16.88	107.838	
3,100.0	3,090.0	2,677.6	2,669.9	9.6	8.1	167.97	225.2	1,640.4	1,859.1	1,841.7	17.40	106.865	
3,200.0	3,188.2	2,738.7	2,729.2	10.0	8.3	168.12	225.7	1,654.7	1,900.2	1,882.3	17.88	106.254	
3,300.0	3,286.3	2,800.0	2,788.6	10.3	8.5	168.26	226.3	1,670.1	1,942.8	1,924.5	18.36	105.797	
3,400.0	3,384.5	2,888.1	2,873.8	10.7	8.7	168.46	227.1	1,692.9	1,986.2	1,967.2	18.98	104.632	SF

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

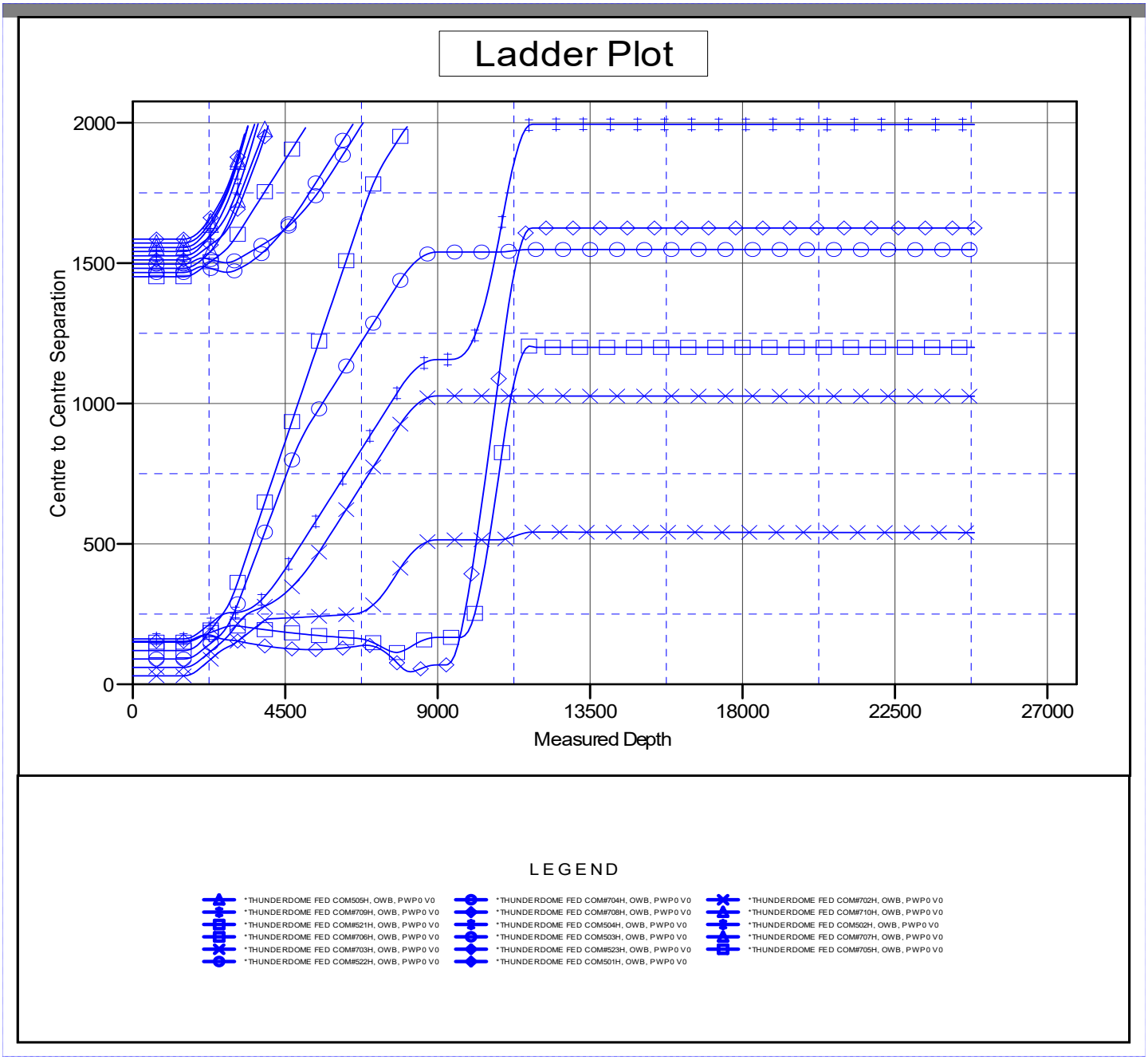
ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 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 #701H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°



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

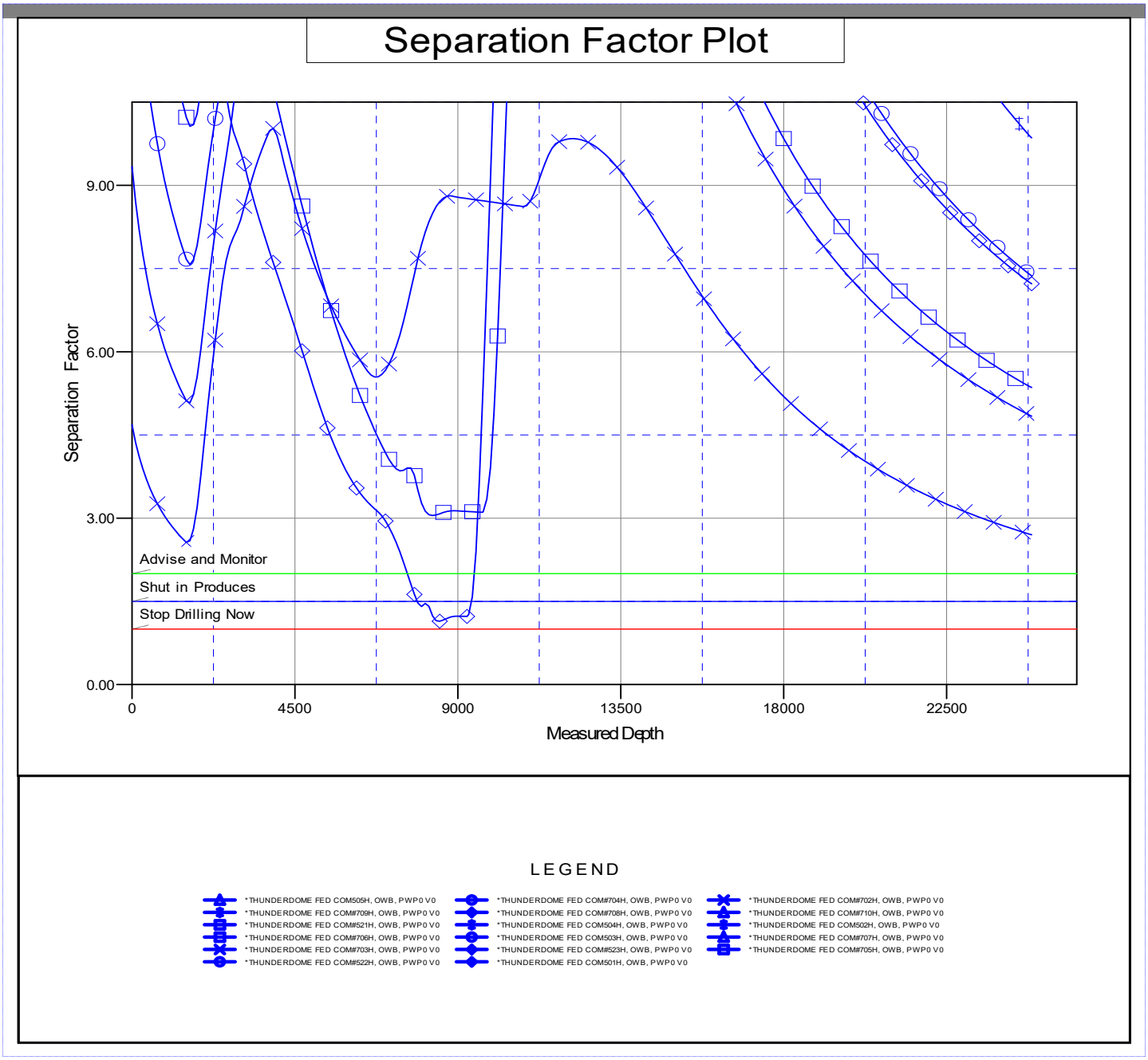
ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #701H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #701H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 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 #701H
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 #701H

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 #701H
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 #701H	**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 #701H

Well Position	**+N/-S**	0.0 usft	**Northing:**	469,242.95 usft	**Latitude:**	32° 17' 20.974 N
	+E/-W	0.0 usft	**Easting:**	647,817.46 usft	**Longitude:**	103° 51' 17.963 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	47,538.99767786

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	354.89

Plan Survey Tool Program **Date** 10/5/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	24,848.0	PWP0 (OWB)	r.5 MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well THUNDERDOME FED COM #701H
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 #701H	**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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,900.0	6.00	235.00	1,899.3	-12.0	-17.1	1.50	1.50	0.00	235.00	
2,604.6	6.00	235.00	2,600.0	-54.2	-77.5	0.00	0.00	0.00	0.00	
3,082.6	11.00	272.00	3,073.0	-67.0	-143.6	1.50	1.05	7.74	66.92	
7,877.8	11.00	272.00	7,780.0	-35.1	-1,058.0	0.00	0.00	0.00	0.00	
8,977.8	0.00	0.00	8,873.3	-31.4	-1,163.2	1.00	-1.00	8.00	180.00	
10,881.5	0.00	0.00	10,777.0	-31.4	-1,163.2	0.00	0.00	0.00	0.00	
11,781.5	90.00	359.78	11,350.0	541.6	-1,165.4	10.00	10.00	-0.02	359.78	
24,848.7	90.00	359.78	11,350.0	13,608.7	-1,216.3	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 #701H
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 #701H	**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	1.50	235.00	1,600.0	-0.8	-1.1	-0.7	1.50	1.50	0.00
1,700.0	3.00	235.00	1,699.9	-3.0	-4.3	-2.6	1.50	1.50	0.00
1,800.0	4.50	235.00	1,799.7	-6.8	-9.6	-5.9	1.50	1.50	0.00
1,900.0	6.00	235.00	1,899.3	-12.0	-17.1	-10.4	1.50	1.50	0.00
2,000.0	6.00	235.00	1,998.7	-18.0	-25.7	-15.6	0.00	0.00	0.00
2,100.0	6.00	235.00	2,098.2	-24.0	-34.3	-20.8	0.00	0.00	0.00
2,200.0	6.00	235.00	2,197.6	-30.0	-42.8	-26.1	0.00	0.00	0.00
2,300.0	6.00	235.00	2,297.1	-36.0	-51.4	-31.3	0.00	0.00	0.00
2,400.0	6.00	235.00	2,396.5	-42.0	-60.0	-36.5	0.00	0.00	0.00
2,500.0	6.00	235.00	2,496.0	-48.0	-68.5	-41.7	0.00	0.00	0.00
2,600.0	6.00	235.00	2,595.4	-54.0	-77.1	-46.9	0.00	0.00	0.00
2,604.6	6.00	235.00	2,600.0	-54.2	-77.5	-47.1	0.00	0.00	0.00
2,700.0	6.69	246.37	2,694.8	-59.3	-86.6	-51.4	1.50	0.72	11.92
2,800.0	7.64	255.72	2,794.0	-63.3	-98.4	-54.3	1.50	0.95	9.35
2,900.0	8.74	262.88	2,893.0	-65.9	-112.4	-55.6	1.50	1.10	7.16
3,000.0	9.95	268.38	2,991.7	-67.1	-128.6	-55.4	1.50	1.21	5.50
3,082.6	11.00	272.00	3,073.0	-67.0	-143.6	-54.0	1.50	1.27	4.38
3,100.0	11.00	272.00	3,090.0	-66.9	-146.9	-53.5	0.00	0.00	0.00
3,200.0	11.00	272.00	3,188.2	-66.2	-166.0	-51.2	0.00	0.00	0.00
3,300.0	11.00	272.00	3,286.3	-65.6	-185.1	-48.8	0.00	0.00	0.00
3,400.0	11.00	272.00	3,384.5	-64.9	-204.1	-46.5	0.00	0.00	0.00
3,500.0	11.00	272.00	3,482.7	-64.2	-223.2	-44.1	0.00	0.00	0.00
3,600.0	11.00	272.00	3,580.8	-63.6	-242.3	-41.7	0.00	0.00	0.00
3,700.0	11.00	272.00	3,679.0	-62.9	-261.3	-39.4	0.00	0.00	0.00
3,800.0	11.00	272.00	3,777.1	-62.2	-280.4	-37.0	0.00	0.00	0.00
3,900.0	11.00	272.00	3,875.3	-61.6	-299.5	-34.7	0.00	0.00	0.00
4,000.0	11.00	272.00	3,973.5	-60.9	-318.5	-32.3	0.00	0.00	0.00
4,100.0	11.00	272.00	4,071.6	-60.2	-337.6	-29.9	0.00	0.00	0.00
4,200.0	11.00	272.00	4,169.8	-59.6	-356.7	-27.6	0.00	0.00	0.00
4,300.0	11.00	272.00	4,268.0	-58.9	-375.7	-25.2	0.00	0.00	0.00
4,400.0	11.00	272.00	4,366.1	-58.2	-394.8	-22.8	0.00	0.00	0.00
4,500.0	11.00	272.00	4,464.3	-57.6	-413.9	-20.5	0.00	0.00	0.00
4,600.0	11.00	272.00	4,562.4	-56.9	-433.0	-18.1	0.00	0.00	0.00
4,700.0	11.00	272.00	4,660.6	-56.2	-452.0	-15.8	0.00	0.00	0.00
4,800.0	11.00	272.00	4,758.8	-55.6	-471.1	-13.4	0.00	0.00	0.00
4,900.0	11.00	272.00	4,856.9	-54.9	-490.2	-11.0	0.00	0.00	0.00
5,000.0	11.00	272.00	4,955.1	-54.2	-509.2	-8.7	0.00	0.00	0.00
5,100.0	11.00	272.00	5,053.3	-53.6	-528.3	-6.3	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well THUNDERDOME FED COM #701H
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 #701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.0	11.00	272.00	5,151.4	-52.9	-547.4	-4.0	0.00	0.00	0.00
5,300.0	11.00	272.00	5,249.6	-52.2	-566.4	-1.6	0.00	0.00	0.00
5,400.0	11.00	272.00	5,347.7	-51.6	-585.5	0.8	0.00	0.00	0.00
5,500.0	11.00	272.00	5,445.9	-50.9	-604.6	3.1	0.00	0.00	0.00
5,600.0	11.00	272.00	5,544.1	-50.2	-623.6	5.5	0.00	0.00	0.00
5,700.0	11.00	272.00	5,642.2	-49.6	-642.7	7.8	0.00	0.00	0.00
5,800.0	11.00	272.00	5,740.4	-48.9	-661.8	10.2	0.00	0.00	0.00
5,900.0	11.00	272.00	5,838.6	-48.2	-680.9	12.6	0.00	0.00	0.00
6,000.0	11.00	272.00	5,936.7	-47.6	-699.9	14.9	0.00	0.00	0.00
6,100.0	11.00	272.00	6,034.9	-46.9	-719.0	17.3	0.00	0.00	0.00
6,200.0	11.00	272.00	6,133.1	-46.2	-738.1	19.6	0.00	0.00	0.00
6,300.0	11.00	272.00	6,231.2	-45.6	-757.1	22.0	0.00	0.00	0.00
6,400.0	11.00	272.00	6,329.4	-44.9	-776.2	24.4	0.00	0.00	0.00
6,500.0	11.00	272.00	6,427.5	-44.2	-795.3	26.7	0.00	0.00	0.00
6,600.0	11.00	272.00	6,525.7	-43.6	-814.3	29.1	0.00	0.00	0.00
6,700.0	11.00	272.00	6,623.9	-42.9	-833.4	31.5	0.00	0.00	0.00
6,800.0	11.00	272.00	6,722.0	-42.2	-852.5	33.8	0.00	0.00	0.00
6,900.0	11.00	272.00	6,820.2	-41.6	-871.5	36.2	0.00	0.00	0.00
7,000.0	11.00	272.00	6,918.4	-40.9	-890.6	38.5	0.00	0.00	0.00
7,100.0	11.00	272.00	7,016.5	-40.2	-909.7	40.9	0.00	0.00	0.00
7,200.0	11.00	272.00	7,114.7	-39.6	-928.8	43.3	0.00	0.00	0.00
7,300.0	11.00	272.00	7,212.8	-38.9	-947.8	45.6	0.00	0.00	0.00
7,400.0	11.00	272.00	7,311.0	-38.3	-966.9	48.0	0.00	0.00	0.00
7,500.0	11.00	272.00	7,409.2	-37.6	-986.0	50.3	0.00	0.00	0.00
7,600.0	11.00	272.00	7,507.3	-36.9	-1,005.0	52.7	0.00	0.00	0.00
7,700.0	11.00	272.00	7,605.5	-36.3	-1,024.1	55.1	0.00	0.00	0.00
7,800.0	11.00	272.00	7,703.7	-35.6	-1,043.2	57.4	0.00	0.00	0.00
7,877.8	11.00	272.00	7,780.0	-35.1	-1,058.0	59.3	0.00	0.00	0.00
7,900.0	10.78	272.00	7,801.8	-34.9	-1,062.2	59.8	1.00	-1.00	0.00
8,000.0	9.78	272.00	7,900.2	-34.3	-1,080.0	62.0	1.00	-1.00	0.00
8,100.0	8.78	272.00	7,998.9	-33.7	-1,096.1	64.0	1.00	-1.00	0.00
8,200.0	7.78	272.00	8,097.9	-33.2	-1,110.5	65.8	1.00	-1.00	0.00
8,300.0	6.78	272.00	8,197.1	-32.8	-1,123.2	67.3	1.00	-1.00	0.00
8,400.0	5.78	272.00	8,296.5	-32.4	-1,134.1	68.7	1.00	-1.00	0.00
8,500.0	4.78	272.00	8,396.0	-32.1	-1,143.3	69.8	1.00	-1.00	0.00
8,600.0	3.78	272.00	8,495.8	-31.8	-1,150.8	70.7	1.00	-1.00	0.00
8,700.0	2.78	272.00	8,595.6	-31.6	-1,156.5	71.4	1.00	-1.00	0.00
8,800.0	1.78	272.00	8,695.5	-31.5	-1,160.4	71.9	1.00	-1.00	0.00
8,900.0	0.78	272.00	8,795.5	-31.4	-1,162.7	72.2	1.00	-1.00	0.00
8,977.8	0.00	0.00	8,873.3	-31.4	-1,163.2	72.3	1.00	-1.00	113.15
9,000.0	0.00	0.00	8,895.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,100.0	0.00	0.00	8,995.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,200.0	0.00	0.00	9,095.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,300.0	0.00	0.00	9,195.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,400.0	0.00	0.00	9,295.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,500.0	0.00	0.00	9,395.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,600.0	0.00	0.00	9,495.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,700.0	0.00	0.00	9,595.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,800.0	0.00	0.00	9,695.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
9,900.0	0.00	0.00	9,795.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,000.0	0.00	0.00	9,895.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,100.0	0.00	0.00	9,995.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,200.0	0.00	0.00	10,095.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,300.0	0.00	0.00	10,195.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well THUNDERDOME FED COM #701H
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 #701H	**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)
10,400.0	0.00	0.00	10,295.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,500.0	0.00	0.00	10,395.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,600.0	0.00	0.00	10,495.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,700.0	0.00	0.00	10,595.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,800.0	0.00	0.00	10,695.5	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,881.5	0.00	0.00	10,777.0	-31.4	-1,163.2	72.3	0.00	0.00	0.00
10,900.0	1.85	359.78	10,795.5	-31.1	-1,163.2	72.6	10.00	10.00	-1.21
11,000.0	11.85	359.78	10,894.6	-19.2	-1,163.3	84.4	10.00	10.00	0.00
11,100.0	21.85	359.78	10,990.2	9.8	-1,163.4	113.3	10.00	10.00	0.00
11,200.0	31.85	359.78	11,079.3	54.9	-1,163.5	158.2	10.00	10.00	0.00
11,300.0	41.85	359.78	11,159.3	114.8	-1,163.8	217.9	10.00	10.00	0.00
11,400.0	51.85	359.78	11,227.6	187.6	-1,164.1	290.5	10.00	10.00	0.00
11,500.0	61.85	359.78	11,282.2	271.2	-1,164.4	373.8	10.00	10.00	0.00
11,600.0	71.85	359.78	11,321.4	363.1	-1,164.7	465.3	10.00	10.00	0.00
11,700.0	81.85	359.78	11,344.2	460.3	-1,165.1	562.2	10.00	10.00	0.00
11,775.1	89.36	359.78	11,349.9	535.1	-1,165.4	636.8	10.00	10.00	0.00
FTP (THUNDERDOME FED COM #701H)									
11,781.5	90.00	359.78	11,350.0	541.6	-1,165.4	643.2	10.00	10.00	0.00
11,800.0	90.00	359.78	11,350.0	560.0	-1,165.5	661.6	0.00	0.00	0.00
11,900.0	90.00	359.78	11,350.0	660.0	-1,165.9	761.2	0.00	0.00	0.00
12,000.0	90.00	359.78	11,350.0	760.0	-1,166.3	860.8	0.00	0.00	0.00
12,100.0	90.00	359.78	11,350.0	860.0	-1,166.7	960.5	0.00	0.00	0.00
12,200.0	90.00	359.78	11,350.0	960.0	-1,167.1	1,060.1	0.00	0.00	0.00
12,300.0	90.00	359.78	11,350.0	1,060.0	-1,167.5	1,159.8	0.00	0.00	0.00
12,400.0	90.00	359.78	11,350.0	1,160.0	-1,167.8	1,259.4	0.00	0.00	0.00
12,500.0	90.00	359.78	11,350.0	1,260.0	-1,168.2	1,359.0	0.00	0.00	0.00
12,600.0	90.00	359.78	11,350.0	1,360.0	-1,168.6	1,458.7	0.00	0.00	0.00
12,700.0	90.00	359.78	11,350.0	1,460.0	-1,169.0	1,558.3	0.00	0.00	0.00
12,800.0	90.00	359.78	11,350.0	1,560.0	-1,169.4	1,657.9	0.00	0.00	0.00
12,900.0	90.00	359.78	11,350.0	1,660.0	-1,169.8	1,757.6	0.00	0.00	0.00
13,000.0	90.00	359.78	11,350.0	1,760.0	-1,170.2	1,857.2	0.00	0.00	0.00
13,100.0	90.00	359.78	11,350.0	1,860.0	-1,170.6	1,956.9	0.00	0.00	0.00
13,200.0	90.00	359.78	11,350.0	1,960.0	-1,171.0	2,056.5	0.00	0.00	0.00
13,300.0	90.00	359.78	11,350.0	2,060.0	-1,171.4	2,156.1	0.00	0.00	0.00
13,400.0	90.00	359.78	11,350.0	2,160.0	-1,171.7	2,255.8	0.00	0.00	0.00
13,500.0	90.00	359.78	11,350.0	2,260.0	-1,172.1	2,355.4	0.00	0.00	0.00
13,600.0	90.00	359.78	11,350.0	2,360.0	-1,172.5	2,455.0	0.00	0.00	0.00
13,700.0	90.00	359.78	11,350.0	2,460.0	-1,172.9	2,554.7	0.00	0.00	0.00
13,800.0	90.00	359.78	11,350.0	2,560.0	-1,173.3	2,654.3	0.00	0.00	0.00
13,900.0	90.00	359.78	11,350.0	2,660.0	-1,173.7	2,753.9	0.00	0.00	0.00
14,000.0	90.00	359.78	11,350.0	2,760.0	-1,174.1	2,853.6	0.00	0.00	0.00
14,100.0	90.00	359.78	11,350.0	2,860.0	-1,174.5	2,953.2	0.00	0.00	0.00
14,200.0	90.00	359.78	11,350.0	2,960.0	-1,174.9	3,052.9	0.00	0.00	0.00
14,300.0	90.00	359.78	11,350.0	3,060.0	-1,175.2	3,152.5	0.00	0.00	0.00
14,400.0	90.00	359.78	11,350.0	3,160.0	-1,175.6	3,252.1	0.00	0.00	0.00
14,500.0	90.00	359.78	11,350.0	3,260.0	-1,176.0	3,351.8	0.00	0.00	0.00
14,600.0	90.00	359.78	11,350.0	3,360.0	-1,176.4	3,451.4	0.00	0.00	0.00
14,700.0	90.00	359.78	11,350.0	3,460.0	-1,176.8	3,551.0	0.00	0.00	0.00
14,800.0	90.00	359.78	11,350.0	3,560.0	-1,177.2	3,650.7	0.00	0.00	0.00
14,900.0	90.00	359.78	11,350.0	3,660.0	-1,177.6	3,750.3	0.00	0.00	0.00
15,000.0	90.00	359.78	11,350.0	3,760.0	-1,178.0	3,850.0	0.00	0.00	0.00
15,100.0	90.00	359.78	11,350.0	3,860.0	-1,178.4	3,949.6	0.00	0.00	0.00
15,200.0	90.00	359.78	11,350.0	3,960.0	-1,178.8	4,049.2	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well THUNDERDOME FED COM #701H
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 #701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,300.0	90.00	359.78	11,350.0	4,060.0	-1,179.1	4,148.9	0.00	0.00	0.00
15,400.0	90.00	359.78	11,350.0	4,160.0	-1,179.5	4,248.5	0.00	0.00	0.00
15,500.0	90.00	359.78	11,350.0	4,260.0	-1,179.9	4,348.1	0.00	0.00	0.00
15,600.0	90.00	359.78	11,350.0	4,360.0	-1,180.3	4,447.8	0.00	0.00	0.00
15,700.0	90.00	359.78	11,350.0	4,460.0	-1,180.7	4,547.4	0.00	0.00	0.00
15,800.0	90.00	359.78	11,350.0	4,560.0	-1,181.1	4,647.0	0.00	0.00	0.00
15,900.0	90.00	359.78	11,350.0	4,660.0	-1,181.5	4,746.7	0.00	0.00	0.00
16,000.0	90.00	359.78	11,350.0	4,760.0	-1,181.9	4,846.3	0.00	0.00	0.00
16,100.0	90.00	359.78	11,350.0	4,860.0	-1,182.3	4,946.0	0.00	0.00	0.00
16,200.0	90.00	359.78	11,350.0	4,960.0	-1,182.6	5,045.6	0.00	0.00	0.00
16,300.0	90.00	359.78	11,350.0	5,060.0	-1,183.0	5,145.2	0.00	0.00	0.00
16,400.0	90.00	359.78	11,350.0	5,160.0	-1,183.4	5,244.9	0.00	0.00	0.00
16,500.0	90.00	359.78	11,350.0	5,260.0	-1,183.8	5,344.5	0.00	0.00	0.00
16,600.0	90.00	359.78	11,350.0	5,360.0	-1,184.2	5,444.1	0.00	0.00	0.00
16,700.0	90.00	359.78	11,350.0	5,460.0	-1,184.6	5,543.8	0.00	0.00	0.00
16,800.0	90.00	359.78	11,350.0	5,560.0	-1,185.0	5,643.4	0.00	0.00	0.00
16,900.0	90.00	359.78	11,350.0	5,660.0	-1,185.4	5,743.1	0.00	0.00	0.00
17,000.0	90.00	359.78	11,350.0	5,760.0	-1,185.8	5,842.7	0.00	0.00	0.00
17,100.0	90.00	359.78	11,350.0	5,860.0	-1,186.2	5,942.3	0.00	0.00	0.00
17,200.0	90.00	359.78	11,350.0	5,960.0	-1,186.5	6,042.0	0.00	0.00	0.00
17,300.0	90.00	359.78	11,350.0	6,060.0	-1,186.9	6,141.6	0.00	0.00	0.00
17,400.0	90.00	359.78	11,350.0	6,160.0	-1,187.3	6,241.2	0.00	0.00	0.00
17,500.0	90.00	359.78	11,350.0	6,260.0	-1,187.7	6,340.9	0.00	0.00	0.00
17,600.0	90.00	359.78	11,350.0	6,360.0	-1,188.1	6,440.5	0.00	0.00	0.00
17,700.0	90.00	359.78	11,350.0	6,460.0	-1,188.5	6,540.1	0.00	0.00	0.00
17,800.0	90.00	359.78	11,350.0	6,560.0	-1,188.9	6,639.8	0.00	0.00	0.00
17,900.0	90.00	359.78	11,350.0	6,660.0	-1,189.3	6,739.4	0.00	0.00	0.00
18,000.0	90.00	359.78	11,350.0	6,760.0	-1,189.7	6,839.1	0.00	0.00	0.00
18,100.0	90.00	359.78	11,350.0	6,860.0	-1,190.1	6,938.7	0.00	0.00	0.00
18,200.0	90.00	359.78	11,350.0	6,960.0	-1,190.4	7,038.3	0.00	0.00	0.00
18,300.0	90.00	359.78	11,350.0	7,060.0	-1,190.8	7,138.0	0.00	0.00	0.00
18,400.0	90.00	359.78	11,350.0	7,160.0	-1,191.2	7,237.6	0.00	0.00	0.00
18,500.0	90.00	359.78	11,350.0	7,260.0	-1,191.6	7,337.2	0.00	0.00	0.00
18,600.0	90.00	359.78	11,350.0	7,360.0	-1,192.0	7,436.9	0.00	0.00	0.00
18,700.0	90.00	359.78	11,350.0	7,460.0	-1,192.4	7,536.5	0.00	0.00	0.00
18,800.0	90.00	359.78	11,350.0	7,560.0	-1,192.8	7,636.2	0.00	0.00	0.00
18,900.0	90.00	359.78	11,350.0	7,660.0	-1,193.2	7,735.8	0.00	0.00	0.00
19,000.0	90.00	359.78	11,350.0	7,760.0	-1,193.6	7,835.4	0.00	0.00	0.00
19,100.0	90.00	359.78	11,350.0	7,860.0	-1,193.9	7,935.1	0.00	0.00	0.00
19,200.0	90.00	359.78	11,350.0	7,960.0	-1,194.3	8,034.7	0.00	0.00	0.00
19,300.0	90.00	359.78	11,350.0	8,060.0	-1,194.7	8,134.3	0.00	0.00	0.00
19,400.0	90.00	359.78	11,350.0	8,160.0	-1,195.1	8,234.0	0.00	0.00	0.00
19,500.0	90.00	359.78	11,350.0	8,260.0	-1,195.5	8,333.6	0.00	0.00	0.00
19,600.0	90.00	359.78	11,350.0	8,360.0	-1,195.9	8,433.2	0.00	0.00	0.00
19,700.0	90.00	359.78	11,350.0	8,460.0	-1,196.3	8,532.9	0.00	0.00	0.00
19,800.0	90.00	359.78	11,350.0	8,560.0	-1,196.7	8,632.5	0.00	0.00	0.00
19,900.0	90.00	359.78	11,350.0	8,660.0	-1,197.1	8,732.2	0.00	0.00	0.00
20,000.0	90.00	359.78	11,350.0	8,760.0	-1,197.5	8,831.8	0.00	0.00	0.00
20,100.0	90.00	359.78	11,350.0	8,860.0	-1,197.8	8,931.4	0.00	0.00	0.00
20,200.0	90.00	359.78	11,350.0	8,960.0	-1,198.2	9,031.1	0.00	0.00	0.00
20,300.0	90.00	359.78	11,350.0	9,060.0	-1,198.6	9,130.7	0.00	0.00	0.00
20,400.0	90.00	359.78	11,350.0	9,160.0	-1,199.0	9,230.3	0.00	0.00	0.00
20,500.0	90.00	359.78	11,350.0	9,260.0	-1,199.4	9,330.0	0.00	0.00	0.00
20,600.0	90.00	359.78	11,350.0	9,360.0	-1,199.8	9,429.6	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well THUNDERDOME FED COM #701H
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 #701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,700.0	90.00	359.78	11,350.0	9,460.0	-1,200.2	9,529.3	0.00	0.00	0.00
20,800.0	90.00	359.78	11,350.0	9,560.0	-1,200.6	9,628.9	0.00	0.00	0.00
20,900.0	90.00	359.78	11,350.0	9,660.0	-1,201.0	9,728.5	0.00	0.00	0.00
21,000.0	90.00	359.78	11,350.0	9,760.0	-1,201.3	9,828.2	0.00	0.00	0.00
21,100.0	90.00	359.78	11,350.0	9,860.0	-1,201.7	9,927.8	0.00	0.00	0.00
21,200.0	90.00	359.78	11,350.0	9,960.0	-1,202.1	10,027.4	0.00	0.00	0.00
21,300.0	90.00	359.78	11,350.0	10,060.0	-1,202.5	10,127.1	0.00	0.00	0.00
21,400.0	90.00	359.78	11,350.0	10,160.0	-1,202.9	10,226.7	0.00	0.00	0.00
21,500.0	90.00	359.78	11,350.0	10,260.0	-1,203.3	10,326.3	0.00	0.00	0.00
21,600.0	90.00	359.78	11,350.0	10,360.0	-1,203.7	10,426.0	0.00	0.00	0.00
21,700.0	90.00	359.78	11,350.0	10,460.0	-1,204.1	10,525.6	0.00	0.00	0.00
21,800.0	90.00	359.78	11,350.0	10,560.0	-1,204.5	10,625.3	0.00	0.00	0.00
21,900.0	90.00	359.78	11,350.0	10,660.0	-1,204.9	10,724.9	0.00	0.00	0.00
22,000.0	90.00	359.78	11,350.0	10,760.0	-1,205.2	10,824.5	0.00	0.00	0.00
22,100.0	90.00	359.78	11,350.0	10,860.0	-1,205.6	10,924.2	0.00	0.00	0.00
22,200.0	90.00	359.78	11,350.0	10,960.0	-1,206.0	11,023.8	0.00	0.00	0.00
22,300.0	90.00	359.78	11,350.0	11,060.0	-1,206.4	11,123.4	0.00	0.00	0.00
22,400.0	90.00	359.78	11,350.0	11,160.0	-1,206.8	11,223.1	0.00	0.00	0.00
22,500.0	90.00	359.78	11,350.0	11,260.0	-1,207.2	11,322.7	0.00	0.00	0.00
22,600.0	90.00	359.78	11,350.0	11,360.0	-1,207.6	11,422.4	0.00	0.00	0.00
22,700.0	90.00	359.78	11,350.0	11,460.0	-1,208.0	11,522.0	0.00	0.00	0.00
22,800.0	90.00	359.78	11,350.0	11,560.0	-1,208.4	11,621.6	0.00	0.00	0.00
22,900.0	90.00	359.78	11,350.0	11,660.0	-1,208.7	11,721.3	0.00	0.00	0.00
23,000.0	90.00	359.78	11,350.0	11,760.0	-1,209.1	11,820.9	0.00	0.00	0.00
23,100.0	90.00	359.78	11,350.0	11,860.0	-1,209.5	11,920.5	0.00	0.00	0.00
23,200.0	90.00	359.78	11,350.0	11,960.0	-1,209.9	12,020.2	0.00	0.00	0.00
23,300.0	90.00	359.78	11,350.0	12,060.0	-1,210.3	12,119.8	0.00	0.00	0.00
23,400.0	90.00	359.78	11,350.0	12,159.9	-1,210.7	12,219.4	0.00	0.00	0.00
23,500.0	90.00	359.78	11,350.0	12,259.9	-1,211.1	12,319.1	0.00	0.00	0.00
23,600.0	90.00	359.78	11,350.0	12,359.9	-1,211.5	12,418.7	0.00	0.00	0.00
23,700.0	90.00	359.78	11,350.0	12,459.9	-1,211.9	12,518.4	0.00	0.00	0.00
23,800.0	90.00	359.78	11,350.0	12,559.9	-1,212.3	12,618.0	0.00	0.00	0.00
23,900.0	90.00	359.78	11,350.0	12,659.9	-1,212.6	12,717.6	0.00	0.00	0.00
24,000.0	90.00	359.78	11,350.0	12,759.9	-1,213.0	12,817.3	0.00	0.00	0.00
24,100.0	90.00	359.78	11,350.0	12,859.9	-1,213.4	12,916.9	0.00	0.00	0.00
24,200.0	90.00	359.78	11,350.0	12,959.9	-1,213.8	13,016.5	0.00	0.00	0.00
24,300.0	90.00	359.78	11,350.0	13,059.9	-1,214.2	13,116.2	0.00	0.00	0.00
24,400.0	90.00	359.78	11,350.0	13,159.9	-1,214.6	13,215.8	0.00	0.00	0.00
24,500.0	90.00	359.78	11,350.0	13,259.9	-1,215.0	13,315.5	0.00	0.00	0.00
24,600.0	90.00	359.78	11,350.0	13,359.9	-1,215.4	13,415.1	0.00	0.00	0.00
24,700.0	90.00	359.78	11,350.0	13,459.9	-1,215.8	13,514.7	0.00	0.00	0.00
24,798.7	90.00	359.78	11,350.0	13,558.7	-1,216.1	13,613.1	0.00	0.00	0.00
LTP (THUNDERDOME FED COM #701H)									
24,800.0	90.00	359.78	11,350.0	13,559.9	-1,216.2	13,614.4	0.00	0.00	0.00
24,848.7	90.00	359.78	11,350.0	13,608.7	-1,216.3	13,662.9	0.00	0.00	0.00
PBHL (THUNDERDOME FED COM #701H)									

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well THUNDERDOME FED COM #701H
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 #701H	**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
PBHL (THUNDERDOME - plan hits target center - Rectangle (sides W100.0 H13,069.8 D20.0)	0.00	179.77	11,350.0	13,608.7	-1,216.3	482,851.62	646,601.12	32° 19' 35.697 N	103° 51' 31.431 W
LTP (THUNDERDOME I - plan misses target center by 0.4usft at 24798.7usft MD (11350.0 TVD, 13558.7 N, -1216.1 E) - Circle (radius 50.0)	90.00	359.77	11,350.0	13,558.7	-1,215.7	482,801.62	646,601.73	32° 19' 35.203 N	103° 51' 31.427 W
FTP (THUNDERDOME I - plan misses target center by 2.0usft at 11775.1usft MD (11349.9 TVD, 535.1 N, -1165.4 E) - Circle (radius 50.0)	0.00	0.00	11,350.0	535.1	-1,167.4	469,778.07	646,650.03	32° 17' 26.321 N	103° 51' 31.536 W

Casing Points

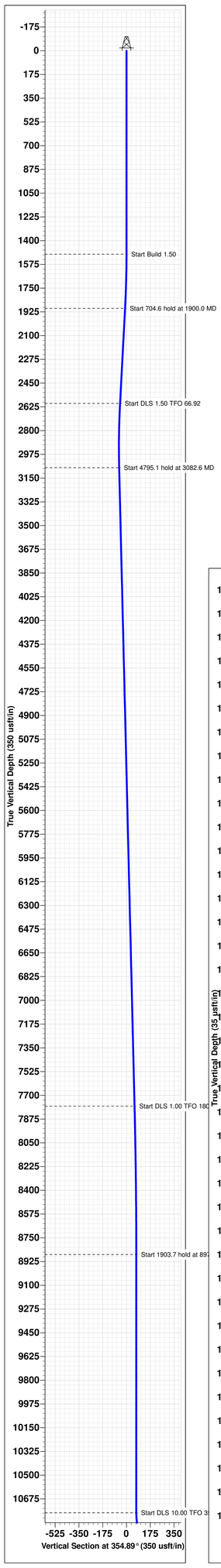
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
24,848.0	11,350.0	5-1/2" Production Casing	5-1/2	6-3/4

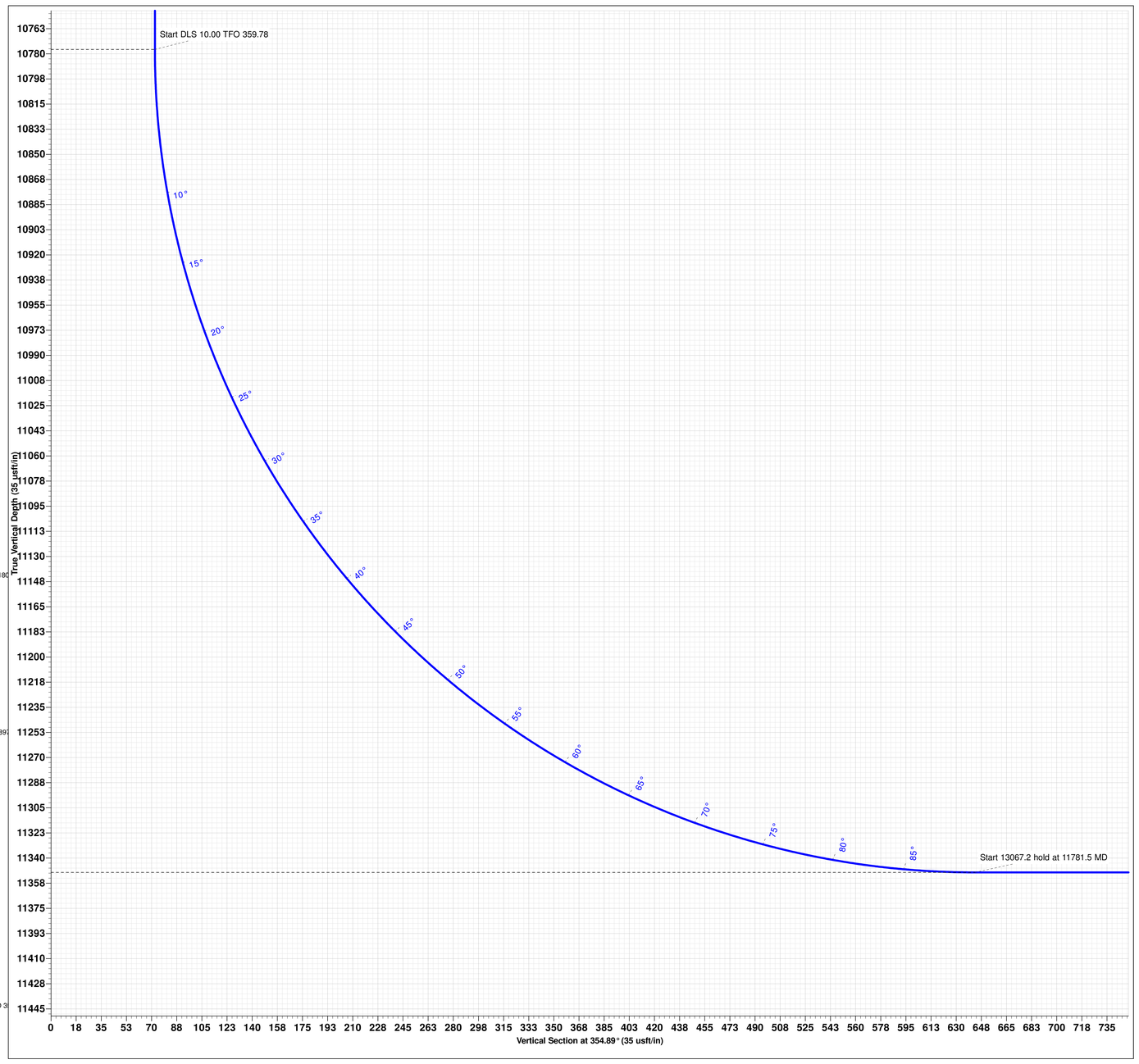
ConocoPhillips

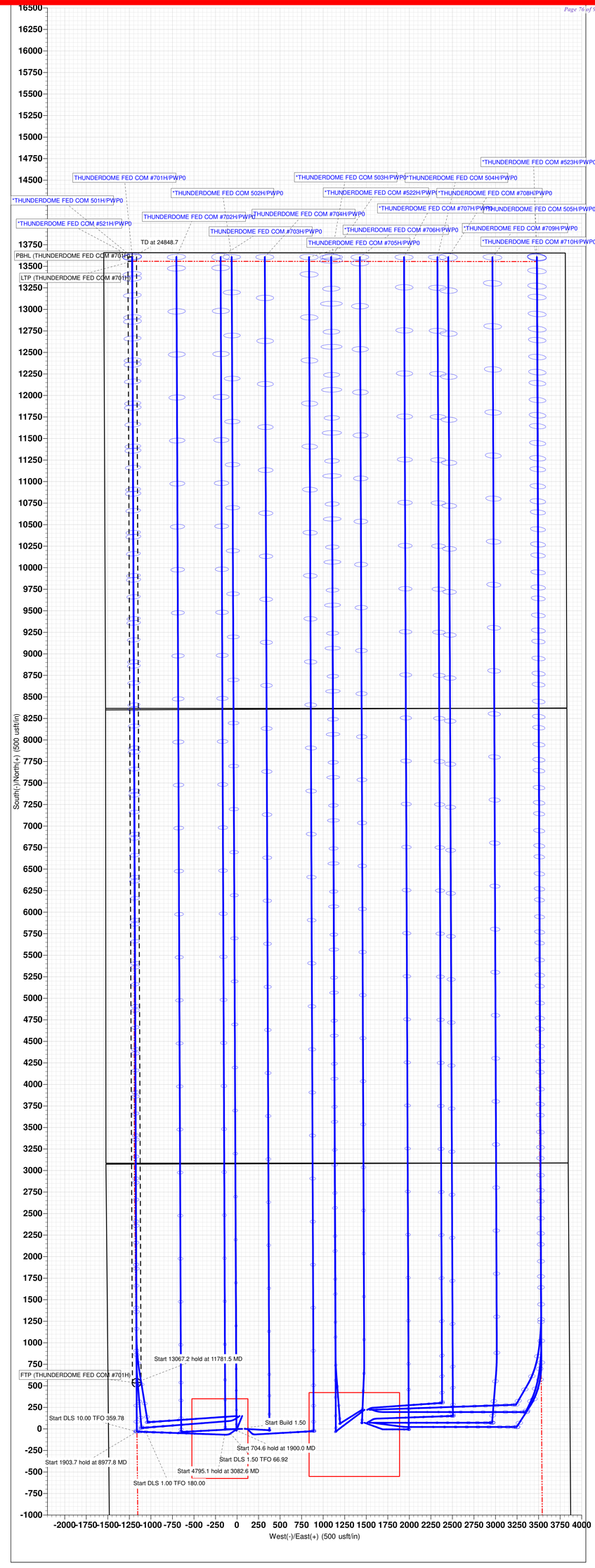
Site:	THUNDERDOME PROJECT
Well:	THUNDERDOME FED COM #701H
Wellbore:	OWB
Design:	PWP0

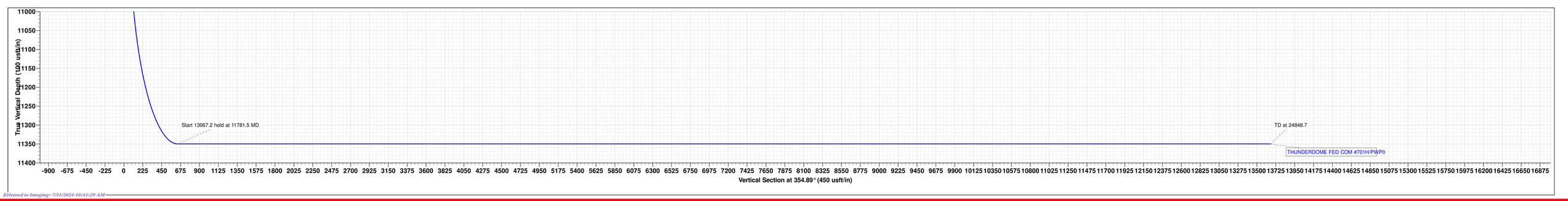
SECTION DETAILS

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
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0
1900.0	6.00	235.00	1899.3	-12.0	-17.1	1.50	235.00	-10.4
2604.6	6.00	235.00	2600.0	-54.2	-77.5	0.00	0.00	-47.1
3082.6	11.00	272.00	3073.0	-67.0	-143.6	1.50	66.92	-54.0
7877.8	11.00	272.00	7780.0	-35.1	-1058.0	0.00	0.00	59.3
8977.8	0.00	0.00	8873.3	-31.4	-1163.2	1.00	180.00	72.3
10881.5	0.00	0.00	10777.0	-31.4	-1163.2	0.00	0.00	72.3
11781.5	90.00	359.78	11350.0	541.6	-1165.4	10.00	359.78	643.2
24848.7	90.00	359.78	11350.0	13608.7	-1216.3	0.00	0.00	13662.9









PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 701H
SURFACE HOLE FOOTAGE:	2210'/S & 1492'/W
BOTTOM HOLE FOOTAGE	50'/N & 330'/W
LOCATION:	Section 30, T.24 S., R.28 E.
COUNTY:	Eddy County, New Mexico

COA

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

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

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 **10,750** 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 **24,848** 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

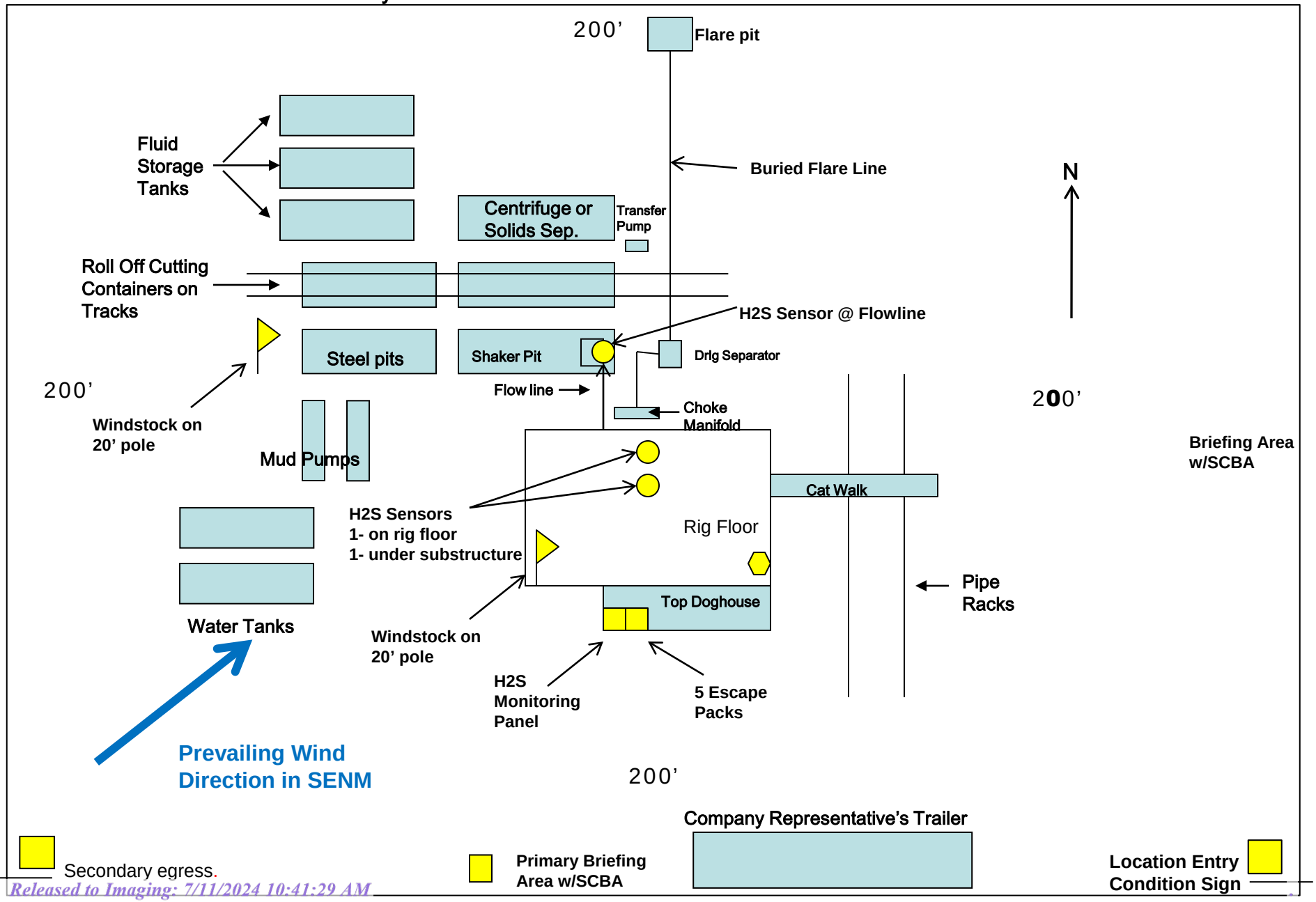
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location 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 361792

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 361792
	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	7/11/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/11/2024
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	7/11/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	7/11/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	7/11/2024
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	7/11/2024
ward.rikala	Must comply with all R-111-Q requirements.	7/11/2024