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.
30-015-55225

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 06/07/2024

Additional Operator Remarks

Location of Well

0. SHL: NWSE / 2275 FSL / 2324 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.28946 / LONG: -103.8504935 (TVD: 0 feet, MD: 0 feet)

PPP: NESE / 2540 FNL / 846 FEL / TWSP: 23S / RANGE: 30E / SECTION: 23 / LAT: 32.2907458 / LONG: -103.8457139 (TVD: 11342 feet, MD: 11745 feet)

PPP: NESE / 1321 FSL / 846 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3158858 / LONG: -103.8456982 (TVD: 11350 feet, MD: 20885 feet)

PPP: SESE / 1 FSL / 846 FEL / TWSP: 23S / RANGE: 30E / SECTION: 14 / LAT: 32.2977276 / LONG: -103.8457326 (TVD: 11350 feet, MD: 14285 feet)

PPP: SESE / 1 FSL / 846 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3122547 / LONG: -103.8457028 (TVD: 11350 feet, MD: 19565 feet)

PPP: SENE / 2643 FNL / 846 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3195169 / LONG: -103.8456937 (TVD: 11350 feet, MD: 22205 feet)

BHL: NENE / 50 FNL / 846 FEL / TWSP: 23S / RANGE: 30E / SECTION: 11 / LAT: 32.3266436 / LONG: -103.8456847 (TVD: 11350 feet, MD: 24802 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- 55225	98358 96597	Los Medanos WC23S30E; Wolfcamp (Gas)

[4] Property Code	[5] Property Name	[6] Well Number
336009	THUNDERDOME FED COM	709H

[7] OGRID No.	[8] Operator Name	[9] Elevation
217817	CONOCOPHILLIPS COMPANY	3,264.95'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	23	23-S	30-E		2,275'	SOUTH	2,324'	EAST	EDDY

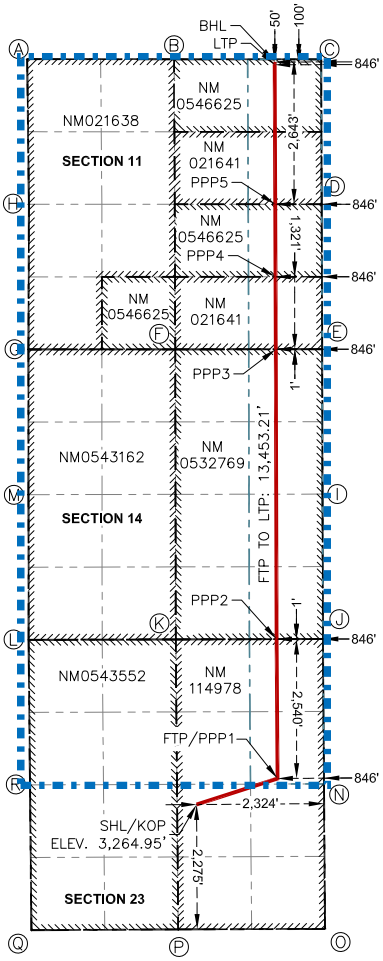
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	11	23-S	30-E		50'	NORTH	846'	EAST	EDDY

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

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

[16]



SURFACE HOLE LOCATION / KICK OFF POINT
2,275' FSL & 2,324' FEL
NEW MEXICO EAST-NAD 83
NORTH:469,374.10'
EAST:690,540.70'
LAT:32.28946003
LONG:-103.85049354

FIRST TAKE POINT / PENETRATION POINT 1
2,540' FNL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:469,848.56'
EAST:692,015.56'
LAT:32.29074587
LONG:-103.84571391

PENETRATION POINT 2
1' FSL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:472,388.44'
EAST:691,998.23'
LAT:32.29772767
LONG:-103.84573260

PENETRATION POINT 3
1' FSL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:477,673.32'
EAST:691,983.39'
LAT:32.31225477
LONG:-103.84570284

PENETRATION POINT 4
1,321' FSL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:478,994.28'
EAST:691,978.79'
LAT:32.31588585
LONG:-103.84569829

PENETRATION POINT 5
2,643' FNL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:480,315.25'
EAST:691,974.18'
LAT:32.31951692
LONG:-103.84569373

LAST TAKE POINT
100' FNL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:482,857.89'
EAST:691,965.32'
LAT:32.32650616
LONG:-103.84568496

BOTTOM HOLE LOCATION
50' FNL & 846' FEL
NEW MEXICO EAST-NAD 83
NORTH:482,907.89'
EAST:691,965.15'
LAT:32.32664360
LONG:-103.84568479

CORNER COORDINATES NEW MEXICO EAST - NAD 83

A-CALCULATED CORNER N:482,961.73' E:687,453.38'
B-FOUND IRON ROD W/ CAP N:482,959.45' E:690,132.18'
C-FOUND IRON ROD W/ CAP N:482,957.17' E:692,810.98'
D-FOUND 1" MONUMENT N:480,315.20' E:692,820.19'
E-FOUND 1" MONUMENT N:477,674.32' E:692,829.39'
F-FOUND BENT IRON ROD W/ CAP N:477,671.15' E:690,152.19'
G-FOUND BENT IRON ROD W/ CAP N:477,669.34' E:687,475.07'
H-CALCULATED CORNER N:480,315.52' E:687,485.82'
I-FOUND 1" MONUMENT N:475,033.03' E:692,835.76'
J-FOUND IRON ROD W/ CAP N:472,390.77' E:692,844.23'
K-FOUND BENT IRON ROD W/ CAP N:472,383.40' E:690,160.90'
L-FOUND IRON ROD W/ CAP N:472,376.50' E:687,479.50'
M-CALCULATED CORNER N:475,022.92' E:687,477.28'
N-FOUND IRON ROD W/ CAP N:469,750.12' E:692,862.25'
O-CALCULATED CORNER N:467,108.30' E:692,881.70'
P-FOUND IRON ROD W/ CAP N:467,097.40' E:690,206.20'
Q-FOUND IRON ROD W/ CAP N:467,084.70' E:687,530.34'
R-FOUND BENT IRON ROD W/ CAP N:469,732.12' E:687,504.28'

[17] OPERATOR CERTIFICATION

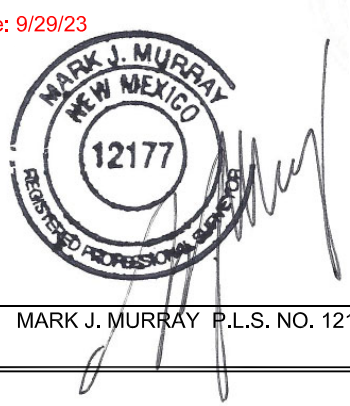
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Stan Wagner 10/10/2023
Signature Date
Stan Wagner
Printed Name Date
Email Address Date

[18] SURVEYOR CERTIFICATION

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

Date: 9/29/23



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

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

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

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

If Other, please describe: _____

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

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

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

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

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

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	Stan Wagner
Printed Name:	Stan Wagner
Title:	Regulatory Advisor
E-mail Address:	stan.s.wagner@conocophillips.com
Date:	10/10/2023
Phone:	432-253-9685

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

VIII. Best Management Practices

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

COG Operating, LLC - Thunderdome Fed Com #709H

1. Geologic Formations

TVD of target	11,350' EOL	Pilot hole depth	NA
MD at TD:	24,802'	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	495	Salt	
Base of Salt	3620	Salt	
Lamar	3844	Salt Water	
Bell Canyon	3859	Salt Water	
Brushy Canyon	5381	Oil/Gas	
Bone Spring Lime	7726	Oil/Gas	
1st Bone Spring Sand	8748	Oil/Gas	
2nd Bone Spring Sand	9409	Oil/Gas	
3rd Bone Spring Sand	10699	Oil/Gas	
Wolfcamp A	11252	Target	
Wolfcamp B	11572	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	1.17	3.30	3.34
8.750"	7400	10800	7.625"	29.7	P110 ICY	W513	1.28	1.52	2.93	1.74
6.75"	0	10300	5.5"	23	P110 CY	BTC	2.17	2.56	3.08	3.06
6.75"	10300	24,802	5.5"	23	P110 CY	W441	1.97	2.33	2.79	2.71
					BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

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

COG Operating, LLC - Thunderdome Fed Com #709H

	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 #709H

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						
	1364	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	9,800'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Thunderdome Fed Com #709H

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 #709H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	9.8 - 10	28-34	N/C
Surf csg	10 3/4" Int 1 shoe	Saturated Brine	10	28-34	N/C
10 3/4" Int1 shoe	7-5/8" Int 2 shoe	Cut Brine	8.4 - 9.3	28-34	N/C
7-5/8" Int 2 shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Thunderdome Fed Com #709H

7. Drilling Conditions

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

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

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

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

8. Other Facets of Operation

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

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

709H

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 790' X 850'

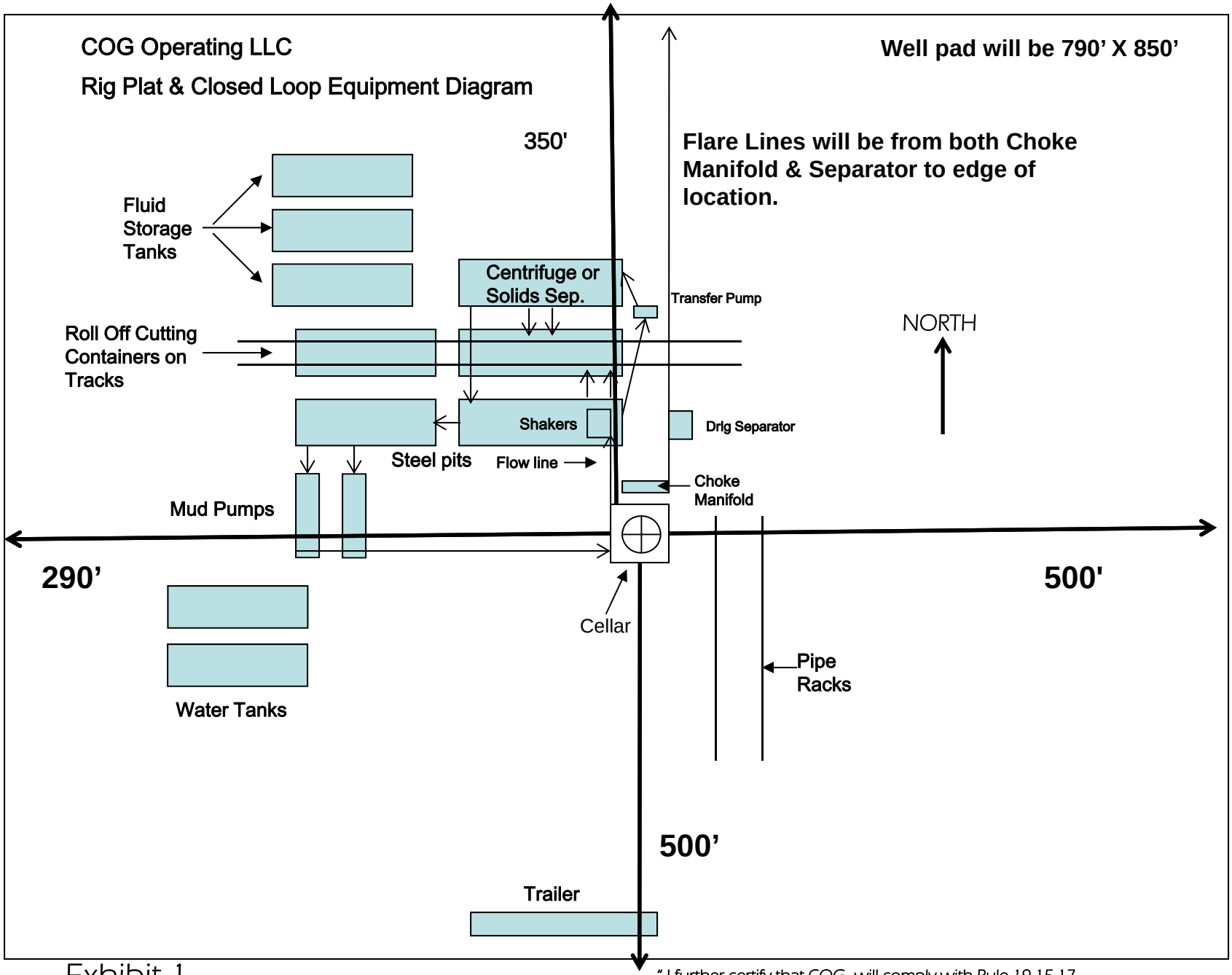


Exhibit 1

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

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-W)
THUNDERDOME PROJECT
***THUNDERDOME FED COM #709H**

OWB
PWP0

Anticollision Report

10 July, 2023

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Reference PWP0

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,000.0usft	**Error Surface:**	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 **Sigma**	**Casing Method:**	Added to Error Values

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

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	24,802.4	PWP0 (OWB)	r.5 MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction rev.5

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
THUNDERDOME PROJECT						
*THUNDERDOME FED COM #521H - OWB - PWP0	1,800.0	1,800.0	1,542.0	1,529.5	122.621	CC, ES
*THUNDERDOME FED COM #521H - OWB - PWP0	3,500.0	3,088.8	1,970.6	1,951.6	103.742	SF
*THUNDERDOME FED COM #522H - OWB - PWP0	1,955.0	1,955.1	174.9	161.9	13.488	CC
*THUNDERDOME FED COM #522H - OWB - PWP0	2,100.0	2,099.6	175.1	161.8	13.155	ES
*THUNDERDOME FED COM #522H - OWB - PWP0	2,300.0	2,297.4	178.2	164.4	12.924	SF
*THUNDERDOME FED COM #523H - OWB - PWP0	2,357.3	2,356.6	150.8	136.9	10.856	CC, ES
*THUNDERDOME FED COM #523H - OWB - PWP0	8,100.0	8,078.8	249.9	192.6	4.364	SF
*THUNDERDOME FED COM #701H - OWB - PWP0	1,500.0	1,500.0	1,541.7	1,530.0	131.384	CC, ES
*THUNDERDOME FED COM #701H - OWB - PWP0	3,600.0	3,214.0	1,975.9	1,956.1	99.911	SF
*THUNDERDOME FED COM #702H - OWB - PWP0	2,200.0	2,200.0	1,511.6	1,498.0	110.817	CC, ES
*THUNDERDOME FED COM #702H - OWB - PWP0	4,100.0	3,857.6	1,974.0	1,952.2	90.480	SF
*THUNDERDOME FED COM #703H - OWB - PWP0	2,200.0	2,200.0	1,481.7	1,468.1	108.625	CC, ES
*THUNDERDOME FED COM #703H - OWB - PWP0	4,300.0	4,007.5	1,995.8	1,973.5	89.362	SF
*THUNDERDOME FED COM #704H - OWB - PWP0	2,200.0	2,200.0	1,451.8	1,438.2	106.431	CC, ES
*THUNDERDOME FED COM #704H - OWB - PWP0	6,100.0	6,020.5	1,996.8	1,960.9	55.575	SF
*THUNDERDOME FED COM #705H - OWB - PWP0	2,460.4	2,557.6	1,395.5	1,381.0	96.169	CC, ES
*THUNDERDOME FED COM #705H - OWB - PWP0	7,300.0	7,281.7	1,777.8	1,726.6	34.750	SF
*THUNDERDOME FED COM #706H - OWB - PWP0	2,200.0	2,200.0	90.0	76.4	6.598	CC, ES
*THUNDERDOME FED COM #706H - OWB - PWP0	2,300.0	2,300.0	91.3	77.4	6.560	SF
*THUNDERDOME FED COM #707H - OWB - PWP0	2,616.6	2,622.4	40.1	25.3	2.709	CC, ES, SF
*THUNDERDOME FED COM #708H - OWB - PWP0	2,200.0	2,200.0	30.0	16.4	2.199	CC, ES, SF
*THUNDERDOME FED COM #710H - OWB - PWP0	1,800.0	1,800.0	30.0	17.4	2.386	CC, ES
*THUNDERDOME FED COM #710H - OWB - PWP0	24,802.4	24,734.5	543.3	305.2	2.282	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	1,800.0	1,800.0	1,512.1	1,499.5	120.239	CC, ES
*THUNDERDOME FED COM 501H - OWB - PWP0	3,600.0	3,153.5	1,970.0	1,950.9	103.396	SF
*THUNDERDOME FED COM 502H - OWB - PWP0	2,200.0	2,200.0	1,482.1	1,468.5	108.652	CC, ES
*THUNDERDOME FED COM 502H - OWB - PWP0	4,500.0	4,446.3	1,992.0	1,968.6	85.170	SF
*THUNDERDOME FED COM 503H - OWB - PWP0	2,270.8	2,273.5	156.8	143.1	11.433	CC, ES
*THUNDERDOME FED COM 503H - OWB - PWP0	2,300.0	2,302.5	156.9	143.1	11.386	SF
*THUNDERDOME FED COM 504H - OWB - PWP0	1,800.0	1,800.0	153.0	140.4	12.164	CC, ES
*THUNDERDOME FED COM 504H - OWB - PWP0	7,000.0	6,976.3	341.9	301.5	8.447	SF
*THUNDERDOME FED COM 505H - OWB - PWP0	1,800.0	1,800.0	150.0	137.4	11.928	CC
*THUNDERDOME FED COM 505H - OWB - PWP0	2,000.0	1,999.5	150.3	137.2	11.481	ES
*THUNDERDOME FED COM 505H - OWB - PWP0	8,300.0	8,283.2	293.6	240.0	5.476	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 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	24,802.4	23,526.2				Out of Range @TD
*THUNDERDOME FED COM #522H - OWB - PWP0	24,802.4	23,457.8				Out of Range @TD
*THUNDERDOME FED COM #523H - OWB - PWP0	24,802.4	23,558.2	1,306.2	1,057.8	5.257	
*THUNDERDOME FED COM #701H - OWB - PWP0	24,802.4	24,828.7				Out of Range @TD
*THUNDERDOME FED COM #702H - OWB - PWP0	24,802.4	24,613.5				Out of Range @TD
*THUNDERDOME FED COM #703H - OWB - PWP0	24,802.4	24,710.2				Out of Range @TD
*THUNDERDOME FED COM #704H - OWB - PWP0	24,802.4	24,561.5				Out of Range @TD
*THUNDERDOME FED COM #705H - OWB - PWP0	24,802.4	24,789.6				Out of Range @TD
*THUNDERDOME FED COM #706H - OWB - PWP0	24,802.4	24,462.1	1,548.4	1,341.5	7.484	
*THUNDERDOME FED COM #707H - OWB - PWP0	24,802.4	24,745.1	1,026.0	813.6	4.832	
*THUNDERDOME FED COM #708H - OWB - PWP0	24,802.4	24,484.0	540.4	342.8	2.734	
*THUNDERDOME FED COM #710H - OWB - PWP0	24,802.4	24,734.5	543.3	305.2	2.282	SF
*THUNDERDOME FED COM 501H - OWB - PWP0	24,802.4	23,180.6				Out of Range @TD
*THUNDERDOME FED COM 502H - OWB - PWP0	24,802.4	23,096.1				Out of Range @TD
*THUNDERDOME FED COM 503H - OWB - PWP0	24,802.4	23,131.8				Out of Range @TD
*THUNDERDOME FED COM 504H - OWB - PWP0	24,802.4	22,851.7	1,746.1	1,543.9	8.636	
*THUNDERDOME FED COM 505H - OWB - PWP0	24,802.4	23,061.6	1,705.0	1,461.4	6.999	

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-87.09	78.4	-1,540.0	1,542.0	1,535.6	6.43	239.860	
100.0	100.0	100.0	100.0	3.2	3.2	-87.09	78.4	-1,540.0	1,542.0	1,535.1	6.89	223.731	
200.0	200.0	200.0	200.0	3.5	3.5	-87.09	78.4	-1,540.0	1,542.0	1,534.7	7.33	210.425	
300.0	300.0	300.0	300.0	3.7	3.7	-87.09	78.4	-1,540.0	1,542.0	1,534.3	7.74	199.195	
400.0	400.0	400.0	400.0	3.9	3.9	-87.09	78.4	-1,540.0	1,542.0	1,533.9	8.14	189.543	
500.0	500.0	500.0	500.0	4.1	4.1	-87.09	78.4	-1,540.0	1,542.0	1,533.5	8.51	181.127	
600.0	600.0	600.0	600.0	4.2	4.2	-87.09	78.4	-1,540.0	1,542.0	1,533.2	8.88	173.699	
700.0	700.0	700.0	700.0	4.4	4.4	-87.09	78.4	-1,540.0	1,542.0	1,532.8	9.23	167.077	
800.0	800.0	800.0	800.0	4.6	4.6	-87.09	78.4	-1,540.0	1,542.0	1,532.5	9.57	161.124	
900.0	900.0	900.0	900.0	4.8	4.8	-87.09	78.4	-1,540.0	1,542.0	1,532.1	9.90	155.731	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-87.09	78.4	-1,540.0	1,542.0	1,531.8	10.22	150.815	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-87.09	78.4	-1,540.0	1,542.0	1,531.5	10.54	146.308	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-87.09	78.4	-1,540.0	1,542.0	1,531.2	10.85	142.155	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-87.09	78.4	-1,540.0	1,542.0	1,530.9	11.15	138.312	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-87.09	78.4	-1,540.0	1,542.0	1,530.6	11.44	134.741	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-87.09	78.4	-1,540.0	1,542.0	1,530.3	11.73	131.411	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-87.09	78.4	-1,540.0	1,542.0	1,530.0	12.02	128.295	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-87.09	78.4	-1,540.0	1,542.0	1,529.7	12.30	125.372	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-87.09	78.4	-1,540.0	1,542.0	1,529.5	12.58	122.621	CC, ES
1,900.0	1,900.0	1,871.4	1,871.4	6.3	6.2	-87.09	78.3	-1,540.7	1,543.0	1,530.1	12.82	120.329	
2,000.0	2,000.0	1,942.7	1,942.7	6.4	6.3	-87.10	78.2	-1,542.7	1,545.7	1,532.7	13.06	118.316	
2,100.0	2,100.0	2,000.0	1,999.9	6.5	6.4	-87.11	78.0	-1,545.3	1,550.5	1,537.2	13.27	116.808	
2,200.0	2,200.0	2,085.0	2,084.8	6.7	6.6	-87.13	77.6	-1,550.6	1,556.9	1,543.3	13.55	114.939	
2,300.0	2,300.0	2,155.8	2,155.3	6.8	6.7	-177.15	77.2	-1,556.6	1,566.5	1,552.7	13.81	113.406	
2,400.0	2,399.9	2,226.1	2,225.2	7.0	6.9	-177.18	76.7	-1,563.7	1,580.5	1,566.4	14.08	112.221	
2,500.0	2,499.7	2,300.0	2,298.6	7.1	7.0	-177.21	76.1	-1,572.6	1,598.9	1,584.6	14.39	111.131	
2,600.0	2,599.3	2,364.2	2,362.2	7.3	7.2	-177.25	75.5	-1,581.5	1,621.7	1,607.0	14.69	110.379	
2,700.0	2,698.6	2,431.8	2,428.9	7.5	7.4	-177.28	74.8	-1,592.0	1,648.6	1,633.6	15.03	109.694	
2,800.0	2,797.5	2,500.0	2,496.1	7.7	7.5	-177.33	73.9	-1,603.8	1,679.8	1,664.4	15.39	109.114	
2,900.0	2,896.1	2,563.0	2,557.9	8.0	7.7	-177.37	73.1	-1,615.8	1,715.0	1,699.3	15.77	108.751	
3,000.0	2,994.2	2,638.3	2,631.6	8.3	7.9	-177.43	72.0	-1,631.3	1,754.1	1,737.9	16.21	108.199	
3,100.0	3,091.7	2,729.1	2,720.5	8.5	8.2	-177.50	70.7	-1,650.1	1,795.8	1,779.1	16.74	107.284	
3,200.0	3,188.8	2,819.1	2,808.5	8.8	8.4	-177.60	69.4	-1,668.7	1,839.4	1,822.2	17.24	106.697	
3,300.0	3,285.8	2,909.0	2,896.4	9.1	8.7	-177.70	68.1	-1,687.4	1,883.1	1,865.3	17.80	105.799	
3,400.0	3,382.8	2,998.9	2,984.3	9.4	9.0	-177.79	66.8	-1,706.0	1,926.9	1,908.5	18.38	104.806	
3,500.0	3,479.8	3,088.8	3,072.3	9.7	9.3	-177.88	65.5	-1,724.7	1,970.6	1,951.6	18.99	103.742	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-30.97	150.0	-90.0	174.9	168.5	6.43	27.206	
100.0	100.0	100.0	100.0	3.2	3.2	-30.97	150.0	-90.0	174.9	168.0	6.89	25.376	
200.0	200.0	200.0	200.0	3.5	3.5	-30.97	150.0	-90.0	174.9	167.6	7.33	23.867	
300.0	300.0	300.0	300.0	3.7	3.7	-30.97	150.0	-90.0	174.9	167.2	7.74	22.593	
400.0	400.0	400.0	400.0	3.9	3.9	-30.97	150.0	-90.0	174.9	166.8	8.14	21.499	
500.0	500.0	500.0	500.0	4.1	4.1	-30.97	150.0	-90.0	174.9	166.4	8.51	20.544	
600.0	600.0	600.0	600.0	4.2	4.2	-30.97	150.0	-90.0	174.9	166.0	8.88	19.702	
700.0	700.0	700.0	700.0	4.4	4.4	-30.97	150.0	-90.0	174.9	165.7	9.23	18.951	
800.0	800.0	800.0	800.0	4.6	4.6	-30.97	150.0	-90.0	174.9	165.3	9.57	18.275	
900.0	900.0	900.0	900.0	4.8	4.8	-30.97	150.0	-90.0	174.9	165.0	9.90	17.664	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-30.97	150.0	-90.0	174.9	164.7	10.22	17.106	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-30.97	150.0	-90.0	174.9	164.4	10.54	16.595	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-30.97	150.0	-90.0	174.9	164.1	10.85	16.124	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-30.97	150.0	-90.0	174.9	163.8	11.15	15.688	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-30.97	150.0	-90.0	174.9	163.5	11.44	15.283	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-30.97	150.0	-90.0	174.9	163.2	11.73	14.905	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-30.97	150.0	-90.0	174.9	162.9	12.02	14.552	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-30.97	150.0	-90.0	174.9	162.6	12.30	14.220	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-30.97	150.0	-90.0	174.9	162.3	12.58	13.908	
1,900.0	1,900.0	1,900.1	1,900.0	6.3	6.3	-31.40	149.3	-91.1	174.9	162.1	12.83	13.628	
1,955.0	1,955.0	1,955.1	1,955.0	6.3	6.4	-32.00	148.3	-92.7	174.9	161.9	12.97	13.488	CC
2,000.0	2,000.0	2,000.0	1,999.9	6.4	6.4	-32.68	147.2	-94.4	174.9	161.8	13.07	13.378	
2,100.0	2,100.0	2,099.6	2,099.3	6.5	6.6	-34.81	143.7	-100.0	175.1	161.8	13.31	13.155	ES
2,200.0	2,200.0	2,198.9	2,198.1	6.7	6.8	-37.77	138.9	-107.6	175.8	162.2	13.55	12.975	
2,300.0	2,300.0	2,297.4	2,296.0	6.8	7.0	-131.76	132.8	-117.4	178.2	164.4	13.79	12.924	SF
2,400.0	2,399.9	2,395.6	2,393.3	7.0	7.1	-136.75	125.7	-128.9	183.9	169.9	13.99	13.148	
2,500.0	2,499.7	2,493.7	2,490.4	7.1	7.4	-141.89	118.4	-140.4	193.1	178.8	14.27	13.529	
2,600.0	2,599.3	2,591.2	2,586.9	7.3	7.6	-146.90	111.3	-152.0	206.0	191.4	14.61	14.102	
2,700.0	2,698.6	2,688.1	2,683.0	7.5	7.8	-151.58	104.1	-163.4	222.6	207.6	14.99	14.850	
2,800.0	2,797.5	2,784.4	2,778.3	7.7	8.1	-155.82	97.0	-174.8	242.8	227.4	15.42	15.752	
2,900.0	2,896.1	2,880.0	2,873.0	8.0	8.4	-159.58	90.0	-186.1	266.7	250.8	15.89	16.782	
3,000.0	2,994.2	2,974.9	2,966.9	8.3	8.7	-162.85	83.0	-197.2	294.0	277.6	16.41	17.917	
3,100.0	3,091.7	3,068.8	3,059.9	8.5	8.9	-165.68	76.0	-208.3	324.5	307.5	16.96	19.137	
3,200.0	3,188.8	3,162.1	3,152.3	8.8	9.2	-168.16	69.1	-219.3	357.6	340.1	17.48	20.462	
3,300.0	3,285.8	3,255.3	3,244.6	9.1	9.5	-170.26	62.3	-230.3	391.3	373.3	18.05	21.677	
3,400.0	3,382.8	3,348.6	3,337.0	9.4	9.9	-172.03	55.4	-241.3	425.4	406.8	18.65	22.813	
3,500.0	3,479.8	3,442.8	3,430.3	9.7	10.2	-173.56	48.5	-252.4	459.9	440.6	19.27	23.866	
3,600.0	3,576.9	3,539.4	3,526.1	10.1	10.5	-174.85	41.7	-263.3	494.0	474.1	19.93	24.788	
3,700.0	3,673.9	3,636.7	3,622.6	10.5	10.8	-175.93	35.3	-273.5	527.7	507.2	20.59	25.626	
3,800.0	3,770.9	3,734.5	3,719.7	10.8	11.2	-176.83	29.3	-283.1	560.9	539.7	21.27	26.372	
3,900.0	3,868.0	3,832.8	3,817.5	11.2	11.5	-177.58	23.7	-292.0	593.6	571.6	21.96	27.035	
4,000.0	3,965.0	3,931.8	3,915.9	11.6	11.9	-178.21	18.6	-300.3	625.6	603.0	22.65	27.621	
4,100.0	4,062.0	4,031.2	4,015.0	12.0	12.2	-178.73	13.8	-307.8	657.0	633.6	23.35	28.138	
4,200.0	4,159.1	4,131.2	4,114.6	12.4	12.5	-179.17	9.5	-314.7	687.7	663.7	24.05	28.592	
4,300.0	4,256.1	4,231.7	4,214.8	12.8	12.9	-179.52	5.7	-320.9	717.8	693.1	24.76	28.990	
4,400.0	4,353.1	4,332.6	4,315.6	13.2	13.2	-179.82	2.3	-326.4	747.2	721.7	25.47	29.336	
4,500.0	4,450.1	4,434.1	4,416.9	13.6	13.5	179.95	-0.7	-331.1	775.9	749.7	26.18	29.637	
4,600.0	4,547.2	4,536.1	4,518.8	14.0	13.8	179.77	-3.2	-335.0	803.8	777.0	26.89	29.899	
4,700.0	4,644.2	4,638.5	4,621.1	14.5	14.1	179.63	-5.2	-338.3	831.1	803.5	27.59	30.125	
4,800.0	4,741.2	4,741.4	4,724.0	14.9	14.4	179.54	-6.7	-340.7	857.6	829.3	28.28	30.323	
4,900.0	4,838.3	4,844.7	4,827.2	15.3	14.7	179.48	-7.7	-342.4	883.4	854.4	28.96	30.498	
5,000.0	4,935.3	4,948.4	4,931.0	15.8	14.9	179.46	-8.3	-343.3	908.4	878.8	29.62	30.665	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	5,032.3	5,049.7	5,032.3	16.2	15.0	179.47	-8.4	-343.4	932.7	902.5	30.21	30.878	
5,200.0	5,129.4	5,146.8	5,129.4	16.7	15.1	179.48	-8.4	-343.4	956.9	926.2	30.73	31.137	
5,300.0	5,226.4	5,243.8	5,226.4	17.1	15.1	179.49	-8.4	-343.4	981.1	949.8	31.26	31.386	
5,400.0	5,323.4	5,340.8	5,323.4	17.6	15.2	179.51	-8.4	-343.4	1,005.3	973.5	31.79	31.621	
5,500.0	5,420.4	5,437.9	5,420.4	18.0	15.2	179.52	-8.4	-343.4	1,029.5	997.1	32.33	31.841	
5,600.0	5,517.5	5,534.9	5,517.5	18.5	15.3	179.53	-8.4	-343.4	1,053.7	1,020.8	32.88	32.048	
5,700.0	5,614.5	5,631.9	5,614.5	18.9	15.3	179.54	-8.4	-343.4	1,077.9	1,044.4	33.43	32.243	
5,800.0	5,711.5	5,729.0	5,711.5	19.4	15.4	179.55	-8.4	-343.4	1,102.1	1,068.1	33.99	32.427	
5,900.0	5,808.6	5,826.0	5,808.6	19.8	15.4	179.56	-8.4	-343.4	1,126.2	1,091.7	34.55	32.600	
6,000.0	5,905.6	5,923.0	5,905.6	20.3	15.5	179.57	-8.4	-343.4	1,150.4	1,115.3	35.11	32.762	
6,100.0	6,002.6	6,020.0	6,002.6	20.8	15.5	179.58	-8.4	-343.4	1,174.6	1,138.9	35.69	32.915	
6,200.0	6,099.6	6,117.1	6,099.6	21.2	15.6	179.59	-8.4	-343.4	1,198.8	1,162.6	36.26	33.060	
6,300.0	6,196.7	6,214.1	6,196.7	21.7	15.6	179.59	-8.4	-343.4	1,223.0	1,186.2	36.84	33.196	
6,400.0	6,293.7	6,311.1	6,293.7	22.2	15.7	179.60	-8.4	-343.4	1,247.2	1,209.8	37.43	33.324	
6,500.0	6,390.7	6,408.2	6,390.7	22.6	15.7	179.61	-8.4	-343.4	1,271.4	1,233.4	38.02	33.445	
6,600.0	6,487.8	6,505.2	6,487.8	23.1	15.8	179.62	-8.4	-343.4	1,295.6	1,257.0	38.61	33.558	
6,700.0	6,584.8	6,602.2	6,584.8	23.6	15.8	179.62	-8.4	-343.4	1,319.8	1,280.6	39.20	33.666	
6,800.0	6,681.8	6,699.2	6,681.8	24.0	15.9	179.63	-8.4	-343.4	1,344.0	1,304.2	39.80	33.767	
6,900.0	6,778.9	6,796.3	6,778.9	24.5	16.0	179.64	-8.4	-343.4	1,368.2	1,327.8	40.40	33.863	
7,000.0	6,875.9	6,893.3	6,875.9	25.0	16.0	179.64	-8.4	-343.4	1,392.4	1,351.3	41.01	33.953	
7,100.0	6,972.9	6,990.3	6,972.9	25.4	16.1	179.65	-8.4	-343.4	1,416.5	1,374.9	41.62	34.038	
7,200.0	7,069.9	7,087.4	7,069.9	25.9	16.1	179.66	-8.4	-343.4	1,440.7	1,398.5	42.23	34.119	
7,300.0	7,167.0	7,184.4	7,167.0	26.4	16.2	179.66	-8.4	-343.4	1,464.9	1,422.1	42.84	34.195	
7,400.0	7,264.0	7,281.4	7,264.0	26.9	16.2	179.67	-8.4	-343.4	1,489.1	1,445.7	43.46	34.267	
7,500.0	7,361.0	7,378.5	7,361.0	27.3	16.3	179.67	-8.4	-343.4	1,513.3	1,469.2	44.08	34.335	
7,600.0	7,458.1	7,475.5	7,458.1	27.8	16.3	179.68	-8.4	-343.4	1,537.5	1,492.8	44.70	34.399	
7,700.0	7,555.1	7,572.5	7,555.1	28.3	16.4	179.68	-8.4	-343.4	1,561.7	1,516.4	45.32	34.460	
7,800.0	7,652.1	7,669.5	7,652.1	28.8	16.4	179.69	-8.4	-343.4	1,585.9	1,539.9	45.94	34.517	
7,900.0	7,749.2	7,766.7	7,749.2	29.2	16.5	179.69	-8.4	-343.4	1,609.7	1,563.2	46.56	34.576	
8,000.0	7,846.7	7,864.2	7,846.7	29.7	16.5	179.70	-8.4	-343.4	1,631.9	1,584.8	47.18	34.593	
8,100.0	7,944.6	7,962.0	7,944.6	30.2	16.6	179.70	-8.4	-343.4	1,652.4	1,604.7	47.79	34.580	
8,200.0	8,042.8	8,060.3	8,042.8	30.6	16.7	179.71	-8.4	-343.4	1,671.3	1,622.9	48.39	34.537	
8,300.0	8,141.4	8,158.8	8,141.4	31.1	16.7	179.71	-8.4	-343.4	1,688.3	1,639.4	48.98	34.468	
8,400.0	8,240.2	8,257.6	8,240.2	31.5	16.8	179.71	-8.4	-343.4	1,703.7	1,654.1	49.56	34.373	
8,500.0	8,339.2	8,356.7	8,339.2	31.9	16.8	179.72	-8.4	-343.4	1,717.3	1,667.2	50.13	34.256	
8,600.0	8,438.5	8,455.9	8,438.5	32.3	16.9	179.72	-8.4	-343.4	1,729.2	1,678.6	50.69	34.117	
8,700.0	8,538.0	8,555.4	8,538.0	32.7	16.9	179.72	-8.4	-343.4	1,739.4	1,688.2	51.22	33.959	
8,800.0	8,637.6	8,655.1	8,637.6	33.1	17.0	179.72	-8.4	-343.4	1,747.9	1,696.1	51.74	33.784	
8,900.0	8,737.4	8,754.8	8,737.4	33.5	17.1	179.73	-8.4	-343.4	1,754.6	1,702.3	52.23	33.594	
9,000.0	8,837.3	8,854.7	8,837.3	33.8	17.1	179.73	-8.4	-343.4	1,759.5	1,706.8	52.69	33.395	
9,100.0	8,937.2	8,954.7	8,937.2	34.1	17.2	179.73	-8.4	-343.4	1,762.7	1,709.6	53.11	33.192	
9,200.0	9,037.2	9,054.6	9,037.2	34.4	17.2	179.73	-8.4	-343.4	1,764.2	1,710.7	53.46	33.003	
9,300.0	9,137.2	9,154.6	9,137.2	34.4	17.3	-90.27	-8.4	-343.4	1,764.3	1,710.7	53.55	32.947	
9,400.0	9,237.2	9,254.6	9,237.2	34.4	17.3	-90.27	-8.4	-343.4	1,764.3	1,710.7	53.62	32.904	
9,500.0	9,337.2	9,354.6	9,337.2	34.5	17.4	-90.27	-8.4	-343.4	1,764.3	1,710.6	53.69	32.861	
9,600.0	9,437.2	9,454.6	9,437.2	34.5	17.5	-90.27	-8.4	-343.4	1,764.3	1,710.5	53.76	32.818	
9,700.0	9,537.2	9,554.6	9,537.2	34.5	17.5	-90.27	-8.4	-343.4	1,764.3	1,710.4	53.83	32.775	
9,710.0	9,547.2	9,564.6	9,547.2	34.5	17.5	-90.27	-8.4	-343.4	1,764.3	1,710.4	53.84	32.771	
9,800.0	9,637.2	9,643.6	9,626.1	34.5	17.5	-90.20	-6.3	-343.6	1,764.5	1,710.6	53.85	32.765	
9,900.0	9,737.2	9,723.4	9,704.8	34.6	17.5	-89.80	6.0	-344.5	1,765.7	1,711.9	53.81	32.815	
10,000.0	9,837.2	9,800.0	9,778.2	34.6	17.4	-89.09	28.0	-346.2	1,768.3	1,714.5	53.72	32.917	
10,100.0	9,937.2	9,866.8	9,839.2	34.6	17.3	-88.22	54.9	-348.3	1,772.7	1,719.1	53.56	33.098	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
10,200.0	10,037.2	9,927.7	9,891.8	34.7	17.3	-87.24	85.5	-350.7	1,779.5	1,726.2	53.34	33.361	
10,300.0	10,137.2	9,981.2	9,935.0	34.7	17.2	-86.23	116.9	-353.1	1,789.2	1,736.1	53.06	33.720	
10,400.0	10,237.2	10,027.7	9,970.1	34.7	17.2	-85.26	147.3	-355.4	1,802.2	1,749.5	52.72	34.183	
10,500.0	10,337.2	10,068.1	9,998.5	34.7	17.2	-84.35	175.9	-357.6	1,818.9	1,766.6	52.34	34.754	
10,600.0	10,437.2	10,100.0	10,019.5	34.8	17.1	-83.59	199.9	-359.5	1,839.5	1,787.6	51.91	35.437	
10,700.0	10,537.2	10,133.5	10,040.0	34.8	17.1	-82.76	226.4	-361.5	1,864.2	1,812.7	51.47	36.216	
10,800.0	10,637.2	10,150.0	10,049.5	34.8	17.1	-82.34	239.8	-362.5	1,892.9	1,841.9	51.00	37.118	
10,900.0	10,737.2	10,183.4	10,067.6	34.8	17.1	-81.47	267.8	-364.7	1,925.7	1,875.1	50.57	38.081	
11,000.0	10,837.1	10,200.0	10,076.0	34.9	17.1	-83.24	282.1	-365.8	1,962.1	1,912.0	50.10	39.164	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	11.31	150.0	30.0	152.9	146.5	6.43	23.790	
100.0	100.0	100.0	100.0	3.2	3.2	11.31	150.0	30.0	152.9	146.0	6.89	22.190	
200.0	200.0	200.0	200.0	3.5	3.5	11.31	150.0	30.0	152.9	145.6	7.33	20.870	
300.0	300.0	300.0	300.0	3.7	3.7	11.31	150.0	30.0	152.9	145.2	7.74	19.756	
400.0	400.0	400.0	400.0	3.9	3.9	11.31	150.0	30.0	152.9	144.8	8.14	18.799	
500.0	500.0	500.0	500.0	4.1	4.1	11.31	150.0	30.0	152.9	144.4	8.51	17.964	
600.0	600.0	600.0	600.0	4.2	4.2	11.31	150.0	30.0	152.9	144.1	8.88	17.228	
700.0	700.0	700.0	700.0	4.4	4.4	11.31	150.0	30.0	152.9	143.7	9.23	16.571	
800.0	800.0	800.0	800.0	4.6	4.6	11.31	150.0	30.0	152.9	143.4	9.57	15.980	
900.0	900.0	900.0	900.0	4.8	4.8	11.31	150.0	30.0	152.9	143.0	9.90	15.446	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	11.31	150.0	30.0	152.9	142.7	10.22	14.958	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	11.31	150.0	30.0	152.9	142.4	10.54	14.511	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	11.31	150.0	30.0	152.9	142.1	10.85	14.099	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	11.31	150.0	30.0	152.9	141.8	11.15	13.718	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	11.31	150.0	30.0	152.9	141.5	11.44	13.364	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	11.31	150.0	30.0	152.9	141.2	11.73	13.034	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	11.31	150.0	30.0	152.9	140.9	12.02	12.725	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	11.31	150.0	30.0	152.9	140.6	12.30	12.435	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	11.31	150.0	30.0	152.9	140.4	12.58	12.162	
1,900.0	1,900.0	1,900.6	1,900.6	6.3	6.3	11.80	149.5	31.2	152.7	139.9	12.84	11.900	
2,000.0	2,000.0	2,001.0	2,000.9	6.4	6.4	13.28	148.2	35.0	152.2	139.2	13.08	11.638	
2,100.0	2,100.0	2,101.2	2,100.9	6.5	6.6	15.75	145.9	41.2	151.6	138.3	13.32	11.379	
2,200.0	2,200.0	2,201.0	2,200.2	6.7	6.8	19.21	142.8	49.8	151.2	137.6	13.56	11.148	
2,300.0	2,300.0	2,300.3	2,298.9	6.8	7.0	-66.81	138.8	60.7	151.0	137.2	13.80	10.943	
2,357.3	2,357.3	2,356.6	2,354.6	6.9	7.1	-64.53	136.2	68.0	150.8	136.9	13.89	10.856	CC, ES
2,400.0	2,399.9	2,397.8	2,395.4	7.0	7.2	-62.89	134.4	73.9	151.0	137.0	13.97	10.803	
2,500.0	2,499.7	2,494.4	2,490.7	7.1	7.4	-59.23	130.7	89.2	152.2	138.0	14.22	10.705	
2,600.0	2,599.3	2,590.9	2,585.6	7.3	7.7	-55.87	128.0	106.7	154.7	140.2	14.49	10.675	
2,700.0	2,698.6	2,687.2	2,679.8	7.5	7.9	-52.87	126.0	126.5	158.2	143.4	14.79	10.695	
2,800.0	2,797.5	2,783.4	2,773.4	7.7	8.2	-50.25	124.9	148.4	162.7	147.5	15.14	10.747	
2,900.0	2,896.1	2,880.0	2,867.0	8.0	8.5	-48.01	124.6	172.6	167.9	152.4	15.48	10.843	
3,000.0	2,994.2	2,979.8	2,963.4	8.3	8.8	-46.35	124.6	198.5	172.3	156.4	15.93	10.817	
3,100.0	3,091.7	3,079.7	3,059.9	8.5	9.2	-45.39	124.6	224.3	175.1	158.7	16.42	10.663	
3,200.0	3,188.8	3,179.7	3,156.4	8.8	9.5	-44.95	124.6	250.2	176.4	159.5	16.87	10.459	
3,300.0	3,285.8	3,279.7	3,253.0	9.1	9.9	-44.55	124.6	276.1	177.6	160.3	17.39	10.216	
3,400.0	3,382.8	3,379.7	3,349.6	9.4	10.3	-44.16	124.6	302.0	178.9	161.0	17.94	9.974	
3,500.0	3,479.8	3,479.7	3,446.2	9.7	10.7	-43.77	124.6	327.8	180.2	161.6	18.51	9.734	
3,600.0	3,576.9	3,579.7	3,542.8	10.1	11.1	-43.39	124.6	353.7	181.4	162.3	19.10	9.497	
3,700.0	3,673.9	3,679.6	3,639.3	10.5	11.5	-43.01	124.6	379.6	182.7	163.0	19.72	9.264	
3,800.0	3,770.9	3,779.6	3,735.9	10.8	11.9	-42.64	124.6	405.5	184.0	163.6	20.36	9.037	
3,900.0	3,868.0	3,879.6	3,832.5	11.2	12.3	-42.28	124.6	431.3	185.3	164.2	21.01	8.816	
4,000.0	3,965.0	3,979.6	3,929.1	11.6	12.7	-41.92	124.6	457.2	186.6	164.9	21.69	8.602	
4,100.0	4,062.0	4,079.6	4,025.6	12.0	13.2	-41.56	124.6	483.1	187.9	165.5	22.38	8.394	
4,200.0	4,159.1	4,179.6	4,122.2	12.4	13.6	-41.21	124.6	509.0	189.2	166.1	23.09	8.194	
4,300.0	4,256.1	4,279.6	4,218.8	12.8	14.0	-40.86	124.6	534.9	190.5	166.7	23.81	8.001	
4,400.0	4,353.1	4,379.5	4,315.4	13.2	14.5	-40.52	124.6	560.7	191.8	167.3	24.54	7.815	
4,500.0	4,450.1	4,479.5	4,412.0	13.6	14.9	-40.19	124.6	586.6	193.1	167.8	25.29	7.637	
4,600.0	4,547.2	4,579.5	4,508.5	14.0	15.4	-39.85	124.6	612.5	194.5	168.4	26.05	7.465	
4,700.0	4,644.2	4,679.5	4,605.1	14.5	15.8	-39.53	124.6	638.4	195.8	169.0	26.82	7.300	
4,800.0	4,741.2	4,779.5	4,701.7	14.9	16.3	-39.20	124.6	664.2	197.2	169.6	27.61	7.142	
4,900.0	4,838.3	4,879.5	4,798.3	15.3	16.7	-38.89	124.6	690.1	198.5	170.1	28.40	6.990	
5,000.0	4,935.3	4,979.4	4,894.8	15.8	17.2	-38.57	124.6	716.0	199.9	170.7	29.20	6.845	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,100.0	5,032.3	5,079.4	4,991.4	16.2	17.7	-38.26	124.6	741.9	201.2	171.2	30.01	6.705	
5,200.0	5,129.4	5,179.4	5,088.0	16.7	18.1	-37.96	124.6	767.8	202.6	171.8	30.83	6.571	
5,300.0	5,226.4	5,279.4	5,184.6	17.1	18.6	-37.65	124.6	793.6	204.0	172.3	31.66	6.443	
5,400.0	5,323.4	5,379.4	5,281.2	17.6	19.1	-37.36	124.6	819.5	205.4	172.9	32.50	6.320	
5,500.0	5,420.4	5,479.4	5,377.7	18.0	19.5	-37.06	124.6	845.4	206.8	173.4	33.34	6.201	
5,600.0	5,517.5	5,579.4	5,474.3	18.5	20.0	-36.77	124.6	871.3	208.2	174.0	34.19	6.088	
5,700.0	5,614.5	5,679.3	5,570.9	18.9	20.5	-36.49	124.6	897.2	209.6	174.5	35.05	5.979	
5,800.0	5,711.5	5,779.3	5,667.5	19.4	20.9	-36.21	124.6	923.0	211.0	175.1	35.92	5.874	
5,900.0	5,808.6	5,879.3	5,764.0	19.8	21.4	-35.93	124.6	948.9	212.4	175.6	36.79	5.773	
6,000.0	5,905.6	5,979.3	5,860.6	20.3	21.9	-35.65	124.6	974.8	213.8	176.1	37.66	5.677	
6,100.0	6,002.6	6,079.3	5,957.2	20.8	22.4	-35.38	124.6	1,000.7	215.2	176.7	38.54	5.584	
6,200.0	6,099.6	6,179.3	6,053.8	21.2	22.8	-35.12	124.6	1,026.5	216.6	177.2	39.43	5.494	
6,300.0	6,196.7	6,279.2	6,150.4	21.7	23.3	-34.85	124.6	1,052.4	218.1	177.8	40.32	5.408	
6,400.0	6,293.7	6,379.2	6,246.9	22.2	23.8	-34.59	124.6	1,078.3	219.5	178.3	41.22	5.326	
6,500.0	6,390.7	6,479.2	6,343.5	22.6	24.3	-34.34	124.6	1,104.2	221.0	178.8	42.12	5.246	
6,600.0	6,487.8	6,579.2	6,440.1	23.1	24.8	-34.08	124.6	1,130.1	222.4	179.4	43.03	5.169	
6,700.0	6,584.8	6,679.2	6,536.7	23.6	25.2	-33.83	124.6	1,155.9	223.8	179.9	43.93	5.095	
6,800.0	6,681.8	6,779.2	6,633.2	24.0	25.7	-33.58	124.6	1,181.8	225.3	180.4	44.85	5.023	
6,900.0	6,778.9	6,879.2	6,729.8	24.5	26.2	-33.34	124.6	1,207.7	226.8	181.0	45.77	4.955	
7,000.0	6,875.9	6,979.1	6,826.4	25.0	26.7	-33.10	124.6	1,233.6	228.2	181.5	46.69	4.888	
7,100.0	6,972.9	7,079.1	6,923.0	25.4	27.2	-32.86	124.6	1,259.4	229.7	182.1	47.61	4.824	
7,200.0	7,069.9	7,179.1	7,019.6	25.9	27.7	-32.63	124.6	1,285.3	231.1	182.6	48.54	4.762	
7,300.0	7,167.0	7,279.1	7,116.1	26.4	28.2	-32.40	124.6	1,311.2	232.6	183.1	49.47	4.702	
7,400.0	7,264.0	7,379.1	7,212.7	26.9	28.6	-32.17	124.6	1,337.1	234.1	183.7	50.40	4.644	
7,500.0	7,361.0	7,479.1	7,309.3	27.3	29.1	-31.94	124.6	1,363.0	235.6	184.2	51.34	4.588	
7,600.0	7,458.1	7,579.1	7,405.9	27.8	29.6	-31.72	124.6	1,388.8	237.1	184.8	52.28	4.534	
7,700.0	7,555.1	7,679.0	7,502.4	28.3	30.1	-31.50	124.6	1,414.7	238.5	185.3	53.23	4.482	
7,800.0	7,652.1	7,779.0	7,599.0	28.8	30.6	-31.28	124.6	1,440.6	240.0	185.9	54.17	4.431	
7,900.0	7,749.2	7,879.0	7,695.6	29.2	31.1	-31.02	124.6	1,466.5	241.8	186.7	55.12	4.388	
8,000.0	7,846.7	7,978.9	7,792.1	29.7	31.6	-30.59	124.6	1,492.3	245.1	188.9	56.16	4.364	
8,100.0	7,944.6	8,078.8	7,888.6	30.2	32.1	-29.97	124.6	1,518.2	249.9	192.6	57.26	4.364 SF	
8,200.0	8,042.8	8,178.5	7,984.9	30.6	32.5	-29.19	124.6	1,544.0	256.2	197.7	58.42	4.385	
8,300.0	8,141.4	8,278.1	8,081.1	31.1	33.0	-28.27	124.6	1,569.8	264.1	204.4	59.63	4.429	
8,400.0	8,240.2	8,377.5	8,177.1	31.5	33.5	-27.25	124.6	1,595.5	273.6	212.7	60.87	4.495	
8,500.0	8,339.2	8,476.7	8,273.0	31.9	34.0	-26.16	124.6	1,621.2	284.7	222.6	62.13	4.583	
8,600.0	8,438.5	8,575.7	8,368.6	32.3	34.5	-25.01	124.6	1,646.8	297.6	234.2	63.39	4.694	
8,700.0	8,538.0	8,674.4	8,463.9	32.7	35.0	-23.83	124.6	1,672.3	312.1	247.4	64.64	4.828	
8,800.0	8,637.6	8,778.2	8,564.3	33.1	35.5	-22.63	124.6	1,698.6	327.8	261.9	65.90	4.975	
8,900.0	8,737.4	8,885.6	8,668.8	33.5	36.0	-21.55	124.6	1,723.2	342.9	275.9	67.06	5.114	
9,000.0	8,837.3	8,993.7	8,774.7	33.8	36.5	-20.62	124.6	1,744.9	357.1	289.0	68.10	5.244	
9,100.0	8,937.2	9,102.4	8,881.8	34.1	37.0	-19.83	124.6	1,763.7	370.4	301.4	69.01	5.368	
9,200.0	9,037.2	9,211.7	8,990.0	34.4	37.5	-19.14	124.6	1,779.5	382.7	312.9	69.77	5.485	
9,300.0	9,137.2	9,321.6	9,099.2	34.4	38.0	71.45	124.6	1,792.3	393.6	323.4	70.25	5.603	
9,400.0	9,237.2	9,432.2	9,209.3	34.4	38.4	71.89	124.6	1,801.9	401.9	331.4	70.59	5.694	
9,500.0	9,337.2	9,543.2	9,320.1	34.5	38.8	72.18	124.6	1,808.4	407.5	336.7	70.80	5.756	
9,600.0	9,437.2	9,654.5	9,431.4	34.5	39.1	72.32	124.6	1,811.7	410.3	339.5	70.86	5.790	
9,700.0	9,537.2	9,760.4	9,537.2	34.5	39.2	72.34	124.6	1,812.2	410.7	339.8	70.85	5.797	
9,710.0	9,547.2	9,770.4	9,547.2	34.5	39.2	72.34	124.6	1,812.2	410.7	339.8	70.86	5.796	
9,800.0	9,637.2	9,840.0	9,616.8	34.5	39.3	72.19	125.9	1,812.8	412.2	340.7	71.49	5.766	
9,900.0	9,737.2	9,900.0	9,676.3	34.6	39.4	71.42	132.9	1,816.0	421.4	349.1	72.22	5.835	
10,000.0	9,837.2	9,967.1	9,741.3	34.6	39.5	69.84	147.6	1,822.9	438.9	366.6	72.28	6.072	
10,100.0	9,937.2	10,025.1	9,795.6	34.6	39.7	67.99	166.0	1,831.5	465.0	393.1	71.90	6.467	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.0	10,037.2	10,078.1	9,843.1	34.7	39.8	65.99	187.4	1,841.4	499.7	428.6	71.09	7.030	
10,300.0	10,137.2	10,126.0	9,883.8	34.7	39.9	64.02	210.2	1,852.1	542.6	472.6	69.93	7.758	
10,400.0	10,237.2	10,168.8	9,918.2	34.7	40.0	62.18	233.2	1,862.8	592.9	524.3	68.58	8.645	
10,500.0	10,337.2	10,200.0	9,942.0	34.7	40.1	60.82	251.5	1,871.3	650.0	582.9	67.05	9.694	
10,600.0	10,437.2	10,243.7	9,973.3	34.8	40.2	58.93	279.2	1,884.1	712.6	646.9	65.76	10.836	
10,700.0	10,537.2	10,281.7	9,998.8	34.8	40.3	57.25	305.1	1,895.1	779.7	715.2	64.52	12.085	
10,800.0	10,637.2	10,315.2	10,019.9	34.8	40.3	55.74	329.4	1,904.5	850.6	787.2	63.35	13.426	
10,900.0	10,737.2	10,350.0	10,040.4	34.8	40.4	54.17	355.9	1,913.8	924.8	862.4	62.35	14.832	
11,000.0	10,837.1	10,372.3	10,052.8	34.9	40.4	43.67	373.6	1,919.5	1,000.4	939.0	61.43	16.284	
11,100.0	10,935.1	10,400.0	10,067.2	34.9	40.5	36.56	396.2	1,926.3	1,070.9	1,010.0	60.96	17.568	
11,200.0	11,028.4	10,434.4	10,083.8	35.0	40.5	31.49	425.3	1,934.4	1,134.1	1,073.3	60.83	18.644	
11,300.0	11,114.0	10,468.5	10,098.6	35.1	40.6	27.98	455.1	1,942.0	1,188.8	1,127.9	60.91	19.518	
11,400.0	11,189.3	10,500.0	10,110.8	35.2	40.6	25.57	483.3	1,948.5	1,233.9	1,172.8	61.11	20.190	
11,500.0	11,252.1	10,550.0	10,127.2	35.3	40.6	23.93	529.6	1,957.9	1,268.7	1,207.1	61.64	20.584	
11,600.0	11,300.5	10,578.0	10,134.8	35.3	40.7	22.96	556.2	1,962.7	1,292.6	1,230.6	62.02	20.840	
11,700.0	11,333.0	10,615.9	10,143.1	35.4	40.7	22.50	592.6	1,968.5	1,305.4	1,242.8	62.59	20.856	
11,800.0	11,348.6	10,650.0	10,148.8	35.5	40.7	22.53	625.9	1,973.1	1,306.9	1,243.7	63.18	20.684	
11,900.0	11,350.0	10,700.0	10,153.8	35.6	40.8	22.86	675.3	1,978.7	1,300.2	1,236.2	63.95	20.331	
11,983.4	11,350.0	10,724.1	10,154.9	35.6	40.8	22.97	699.3	1,981.0	1,298.0	1,233.6	64.39	20.159	
12,000.0	11,350.0	10,739.5	10,155.1	35.7	40.8	23.01	714.6	1,982.3	1,298.2	1,233.6	64.59	20.100	
12,100.0	11,350.0	10,832.3	10,155.1	35.8	40.9	23.20	807.2	1,988.0	1,300.3	1,234.5	65.77	19.770	
12,200.0	11,350.0	10,953.8	10,155.0	35.9	41.0	23.34	928.7	1,991.1	1,301.4	1,234.3	67.17	19.375	
12,300.0	11,350.0	11,057.7	10,155.0	36.0	41.1	23.34	1,032.7	1,990.7	1,301.5	1,233.1	68.36	19.040	
12,400.0	11,350.0	11,157.7	10,154.9	36.2	41.2	23.34	1,132.7	1,990.3	1,301.5	1,232.0	69.53	18.719	
12,500.0	11,350.0	11,257.7	10,154.9	36.4	41.4	23.34	1,232.7	1,989.9	1,301.6	1,230.8	70.71	18.406	
12,600.0	11,350.0	11,357.7	10,154.9	36.6	41.5	23.34	1,332.7	1,989.5	1,301.6	1,229.7	71.91	18.099	
12,700.0	11,350.0	11,457.7	10,154.8	36.8	41.7	23.34	1,432.7	1,989.2	1,301.6	1,228.5	73.13	17.800	
12,800.0	11,350.0	11,557.7	10,154.8	37.0	41.9	23.34	1,532.7	1,988.8	1,301.7	1,227.3	74.35	17.507	
12,900.0	11,350.0	11,657.7	10,154.7	37.2	42.1	23.34	1,632.7	1,988.4	1,301.7	1,226.1	75.59	17.221	
13,000.0	11,350.0	11,757.7	10,154.7	37.5	42.3	23.34	1,732.7	1,988.0	1,301.8	1,224.9	76.84	16.942	
13,100.0	11,350.0	11,857.7	10,154.7	37.7	42.5	23.34	1,832.7	1,987.6	1,301.8	1,223.7	78.10	16.669	
13,200.0	11,350.0	11,957.7	10,154.6	38.0	42.8	23.34	1,932.7	1,987.2	1,301.8	1,222.5	79.36	16.403	
13,300.0	11,350.0	12,057.7	10,154.6	38.3	43.0	23.33	2,032.7	1,986.8	1,301.9	1,221.2	80.64	16.144	
13,400.0	11,350.0	12,157.7	10,154.5	38.6	43.3	23.33	2,132.7	1,986.4	1,301.9	1,220.0	81.93	15.891	
13,500.0	11,350.0	12,257.7	10,154.5	38.9	43.5	23.33	2,232.7	1,986.0	1,301.9	1,218.7	83.23	15.643	
13,600.0	11,350.0	12,357.7	10,154.5	39.3	43.8	23.33	2,332.7	1,985.6	1,302.0	1,217.4	84.53	15.402	
13,700.0	11,350.0	12,457.7	10,154.4	39.6	44.1	23.33	2,432.7	1,985.2	1,302.0	1,216.2	85.84	15.167	
13,800.0	11,350.0	12,557.7	10,154.4	40.0	44.5	23.33	2,532.7	1,984.8	1,302.1	1,214.9	87.16	14.938	
13,900.0	11,350.0	12,657.7	10,154.3	40.4	44.8	23.33	2,632.7	1,984.4	1,302.1	1,213.6	88.49	14.714	
14,000.0	11,350.0	12,757.7	10,154.3	40.7	45.1	23.33	2,732.6	1,984.0	1,302.1	1,212.3	89.83	14.496	
14,100.0	11,350.0	12,857.7	10,154.3	41.1	45.5	23.33	2,832.6	1,983.6	1,302.2	1,211.0	91.17	14.283	
14,200.0	11,350.0	12,957.7	10,154.2	41.5	45.8	23.33	2,932.6	1,983.2	1,302.2	1,209.7	92.51	14.076	
14,300.0	11,350.0	13,057.7	10,154.2	41.9	46.2	23.33	3,032.6	1,982.8	1,302.2	1,208.4	93.87	13.873	
14,400.0	11,350.0	13,157.7	10,154.1	42.4	46.6	23.33	3,132.6	1,982.4	1,302.3	1,207.1	95.23	13.676	
14,500.0	11,350.0	13,257.7	10,154.1	42.8	47.0	23.33	3,232.6	1,982.0	1,302.3	1,205.7	96.59	13.483	
14,600.0	11,350.0	13,357.7	10,154.1	43.3	47.4	23.33	3,332.6	1,981.6	1,302.4	1,204.4	97.96	13.295	
14,700.0	11,350.0	13,457.7	10,154.0	43.7	47.8	23.33	3,432.6	1,981.2	1,302.4	1,203.1	99.34	13.111	
14,800.0	11,350.0	13,557.7	10,154.0	44.2	48.2	23.33	3,532.6	1,980.8	1,302.4	1,201.7	100.72	12.932	
14,900.0	11,350.0	13,657.7	10,153.9	44.6	48.6	23.33	3,632.6	1,980.4	1,302.5	1,200.4	102.10	12.757	
15,000.0	11,350.0	13,757.7	10,153.9	45.1	49.0	23.32	3,732.6	1,980.0	1,302.5	1,199.0	103.49	12.586	
15,100.0	11,350.0	13,857.7	10,153.9	45.6	49.5	23.32	3,832.6	1,979.6	1,302.6	1,197.7	104.88	12.419	
15,200.0	11,350.0	13,957.7	10,153.8	46.1	49.9	23.32	3,932.6	1,979.2	1,302.6	1,196.3	106.28	12.256	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
15,300.0	11,350.0	14,057.7	10,153.8	46.6	50.4	23.32	4,032.6	1,978.8	1,302.6	1,194.9	107.68	12.097	
15,400.0	11,350.0	14,157.7	10,153.7	47.1	50.8	23.32	4,132.6	1,978.4	1,302.7	1,193.6	109.09	11.941	
15,500.0	11,350.0	14,257.7	10,153.7	47.6	51.3	23.32	4,232.6	1,978.0	1,302.7	1,192.2	110.50	11.789	
15,600.0	11,350.0	14,357.7	10,153.7	48.2	51.8	23.32	4,332.6	1,977.6	1,302.7	1,190.8	111.91	11.641	
15,700.0	11,350.0	14,457.7	10,153.6	48.7	52.3	23.32	4,432.6	1,977.2	1,302.8	1,189.4	113.33	11.496	
15,800.0	11,350.0	14,557.7	10,153.6	49.2	52.8	23.32	4,532.6	1,976.8	1,302.8	1,188.1	114.75	11.354	
15,900.0	11,350.0	14,657.7	10,153.5	49.8	53.3	23.32	4,632.6	1,976.4	1,302.9	1,186.7	116.17	11.215	
16,000.0	11,350.0	14,757.7	10,153.5	50.3	53.8	23.32	4,732.6	1,976.0	1,302.9	1,185.3	117.60	11.079	
16,100.0	11,350.0	14,857.7	10,153.5	50.9	54.3	23.32	4,832.6	1,975.6	1,302.9	1,183.9	119.03	10.947	
16,200.0	11,350.0	14,957.7	10,153.4	51.4	54.8	23.32	4,932.6	1,975.2	1,303.0	1,182.5	120.46	10.817	
16,300.0	11,350.0	15,057.7	10,153.4	52.0	55.3	23.32	5,032.6	1,974.8	1,303.0	1,181.1	121.89	10.690	
16,400.0	11,350.0	15,157.7	10,153.3	52.5	55.8	23.32	5,132.6	1,974.4	1,303.0	1,179.7	123.33	10.566	
16,500.0	11,350.0	15,257.7	10,153.3	53.1	56.4	23.32	5,232.6	1,974.0	1,303.1	1,178.3	124.77	10.444	
16,600.0	11,350.0	15,357.7	10,153.3	53.7	56.9	23.32	5,332.6	1,973.6	1,303.1	1,176.9	126.21	10.325	
16,700.0	11,350.0	15,457.7	10,153.2	54.3	57.4	23.31	5,432.6	1,973.2	1,303.2	1,175.5	127.66	10.208	
16,800.0	11,350.0	15,557.7	10,153.2	54.9	58.0	23.31	5,532.6	1,972.8	1,303.2	1,174.1	129.10	10.094	
16,900.0	11,350.0	15,657.7	10,153.1	55.5	58.5	23.31	5,632.6	1,972.4	1,303.2	1,172.7	130.55	9.983	
17,000.0	11,350.0	15,757.7	10,153.1	56.1	59.1	23.31	5,732.6	1,972.0	1,303.3	1,171.3	132.00	9.873	
17,100.0	11,350.0	15,857.7	10,153.1	56.7	59.7	23.31	5,832.6	1,971.6	1,303.3	1,169.9	133.46	9.766	
17,200.0	11,350.0	15,957.7	10,153.0	57.3	60.2	23.31	5,932.6	1,971.2	1,303.3	1,168.4	134.91	9.661	
17,300.0	11,350.0	16,057.7	10,153.0	57.9	60.8	23.31	6,032.6	1,970.9	1,303.4	1,167.0	136.37	9.558	
17,400.0	11,350.0	16,157.7	10,152.9	58.5	61.4	23.31	6,132.6	1,970.5	1,303.4	1,165.6	137.83	9.457	
17,500.0	11,350.0	16,257.7	10,152.9	59.1	62.0	23.31	6,232.6	1,970.1	1,303.5	1,164.2	139.29	9.358	
17,600.0	11,350.0	16,357.7	10,152.9	59.7	62.5	23.31	6,332.6	1,969.7	1,303.5	1,162.8	140.75	9.261	
17,700.0	11,350.0	16,457.7	10,152.8	60.3	63.1	23.31	6,432.6	1,969.3	1,303.5	1,161.3	142.22	9.166	
17,800.0	11,350.0	16,557.7	10,152.8	61.0	63.7	23.31	6,532.6	1,968.9	1,303.6	1,159.9	143.68	9.073	
17,900.0	11,350.0	16,657.7	10,152.7	61.6	64.3	23.31	6,632.6	1,968.5	1,303.6	1,158.5	145.15	8.981	
18,000.0	11,350.0	16,757.7	10,152.7	62.2	64.9	23.31	6,732.6	1,968.1	1,303.7	1,157.0	146.62	8.891	
18,100.0	11,350.0	16,857.7	10,152.7	62.9	65.5	23.31	6,832.6	1,967.7	1,303.7	1,155.6	148.09	8.803	
18,200.0	11,350.0	16,957.7	10,152.6	63.5	66.1	23.31	6,932.6	1,967.3	1,303.7	1,154.2	149.56	8.717	
18,300.0	11,350.0	17,057.7	10,152.6	64.1	66.7	23.31	7,032.6	1,966.9	1,303.8	1,152.7	151.03	8.632	
18,400.0	11,350.0	17,157.7	10,152.5	64.8	67.3	23.31	7,132.6	1,966.5	1,303.8	1,151.3	152.51	8.549	
18,500.0	11,350.0	17,257.7	10,152.5	65.4	67.9	23.30	7,232.6	1,966.1	1,303.8	1,149.9	153.99	8.467	
18,600.0	11,350.0	17,357.7	10,152.5	66.1	68.6	23.30	7,332.6	1,965.7	1,303.9	1,148.4	155.46	8.387	
18,700.0	11,350.0	17,457.7	10,152.4	66.7	69.2	23.30	7,432.6	1,965.3	1,303.9	1,147.0	156.94	8.308	
18,800.0	11,350.0	17,557.7	10,152.4	67.4	69.8	23.30	7,532.6	1,964.9	1,304.0	1,145.5	158.42	8.231	
18,900.0	11,350.0	17,657.7	10,152.4	68.0	70.4	23.30	7,632.6	1,964.5	1,304.0	1,144.1	159.90	8.155	
19,000.0	11,350.0	17,757.7	10,152.3	68.7	71.1	23.30	7,732.6	1,964.1	1,304.0	1,142.6	161.39	8.080	
19,100.0	11,350.0	17,857.7	10,152.3	69.3	71.7	23.30	7,832.6	1,963.7	1,304.1	1,141.2	162.87	8.007	
19,200.0	11,350.0	17,957.7	10,152.2	70.0	72.3	23.30	7,932.6	1,963.3	1,304.1	1,139.8	164.36	7.935	
19,300.0	11,350.0	18,057.7	10,152.2	70.7	73.0	23.30	8,032.6	1,962.9	1,304.1	1,138.3	165.84	7.864	
19,400.0	11,350.0	18,157.7	10,152.2	71.3	73.6	23.30	8,132.6	1,962.5	1,304.2	1,136.9	167.33	7.794	
19,500.0	11,350.0	18,257.7	10,152.1	72.0	74.2	23.30	8,232.6	1,962.1	1,304.2	1,135.4	168.82	7.726	
19,600.0	11,350.0	18,357.7	10,152.1	72.7	74.9	23.30	8,332.6	1,961.7	1,304.3	1,134.0	170.31	7.658	
19,700.0	11,350.0	18,457.7	10,152.0	73.3	75.5	23.30	8,432.6	1,961.3	1,304.3	1,132.5	171.80	7.592	
19,800.0	11,350.0	18,557.7	10,152.0	74.0	76.2	23.30	8,532.6	1,960.9	1,304.3	1,131.1	173.29	7.527	
19,900.0	11,350.0	18,657.7	10,152.0	74.7	76.8	23.30	8,632.6	1,960.5	1,304.4	1,129.6	174.78	7.463	
20,000.0	11,350.0	18,757.7	10,151.9	75.4	77.5	23.30	8,732.6	1,960.1	1,304.4	1,128.1	176.27	7.400	
20,100.0	11,350.0	18,857.7	10,151.9	76.1	78.1	23.30	8,832.6	1,959.7	1,304.5	1,126.7	177.76	7.338	
20,200.0	11,350.0	18,957.7	10,151.8	76.7	78.8	23.29	8,932.6	1,959.3	1,304.5	1,125.2	179.26	7.277	
20,300.0	11,350.0	19,057.7	10,151.8	77.4	79.4	23.29	9,032.6	1,958.9	1,304.5	1,123.8	180.75	7.217	
20,400.0	11,350.0	19,157.7	10,151.8	78.1	80.1	23.29	9,132.6	1,958.5	1,304.6	1,122.3	182.25	7.158	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #523H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,500.0	11,350.0	19,257.7	10,151.7	78.8	80.8	23.29	9,232.6	1,958.1	1,304.6	1,120.9	183.75	7.100	
20,600.0	11,350.0	19,357.7	10,151.7	79.5	81.4	23.29	9,332.6	1,957.7	1,304.6	1,119.4	185.24	7.043	
20,700.0	11,350.0	19,457.7	10,151.6	80.2	82.1	23.29	9,432.6	1,957.3	1,304.7	1,117.9	186.74	6.987	
20,800.0	11,350.0	19,557.7	10,151.6	80.8	82.7	23.29	9,532.6	1,956.9	1,304.7	1,116.5	188.24	6.931	
20,900.0	11,350.0	19,657.7	10,151.6	81.5	83.4	23.29	9,632.6	1,956.5	1,304.8	1,115.0	189.74	6.877	
21,000.0	11,350.0	19,757.7	10,151.5	82.2	84.1	23.29	9,732.6	1,956.1	1,304.8	1,113.6	191.24	6.823	
21,100.0	11,350.0	19,857.7	10,151.5	82.9	84.8	23.29	9,832.6	1,955.7	1,304.8	1,112.1	192.74	6.770	
21,200.0	11,350.0	19,957.7	10,151.4	83.6	85.4	23.29	9,932.6	1,955.3	1,304.9	1,110.6	194.24	6.718	
21,300.0	11,350.0	20,057.7	10,151.4	84.3	86.1	23.29	10,032.6	1,954.9	1,304.9	1,109.2	195.75	6.666	
21,400.0	11,350.0	20,157.7	10,151.4	85.0	86.8	23.29	10,132.6	1,954.5	1,304.9	1,107.7	197.25	6.616	
21,500.0	11,350.0	20,257.7	10,151.3	85.7	87.5	23.29	10,232.6	1,954.1	1,305.0	1,106.2	198.75	6.566	
21,600.0	11,350.0	20,357.7	10,151.3	86.4	88.1	23.29	10,332.6	1,953.7	1,305.0	1,104.8	200.26	6.517	
21,700.0	11,350.0	20,457.7	10,151.2	87.1	88.8	23.29	10,432.6	1,953.3	1,305.1	1,103.3	201.76	6.468	
21,800.0	11,350.0	20,557.7	10,151.2	87.8	89.5	23.29	10,532.6	1,952.9	1,305.1	1,101.8	203.27	6.421	
21,900.0	11,350.0	20,657.7	10,151.2	88.5	90.2	23.28	10,632.6	1,952.5	1,305.1	1,100.4	204.77	6.374	
22,000.0	11,350.0	20,757.7	10,151.1	89.2	90.9	23.28	10,732.6	1,952.2	1,305.2	1,098.9	206.28	6.327	
22,100.0	11,350.0	20,857.7	10,151.1	89.9	91.5	23.28	10,832.6	1,951.8	1,305.2	1,097.4	207.79	6.281	
22,200.0	11,350.0	20,957.7	10,151.0	90.6	92.2	23.28	10,932.6	1,951.4	1,305.3	1,096.0	209.30	6.236	
22,300.0	11,350.0	21,057.7	10,151.0	91.3	92.9	23.28	11,032.6	1,951.0	1,305.3	1,094.5	210.80	6.192	
22,400.0	11,350.0	21,157.7	10,151.0	92.0	93.6	23.28	11,132.6	1,950.6	1,305.3	1,093.0	212.31	6.148	
22,500.0	11,350.0	21,257.7	10,150.9	92.7	94.3	23.28	11,232.6	1,950.2	1,305.4	1,091.5	213.82	6.105	
22,600.0	11,350.0	21,357.7	10,150.9	93.5	95.0	23.28	11,332.6	1,949.8	1,305.4	1,090.1	215.33	6.062	
22,700.0	11,350.0	21,457.7	10,150.8	94.2	95.7	23.28	11,432.6	1,949.4	1,305.4	1,088.6	216.84	6.020	
22,800.0	11,350.0	21,557.7	10,150.8	94.9	96.4	23.28	11,532.6	1,949.0	1,305.5	1,087.1	218.35	5.979	
22,900.0	11,350.0	21,657.7	10,150.8	95.6	97.1	23.28	11,632.6	1,948.6	1,305.5	1,085.7	219.86	5.938	
23,000.0	11,350.0	21,757.7	10,150.7	96.3	97.8	23.28	11,732.6	1,948.2	1,305.6	1,084.2	221.38	5.897	
23,100.0	11,350.0	21,857.7	10,150.7	97.0	98.5	23.28	11,832.6	1,947.8	1,305.6	1,082.7	222.89	5.858	
23,200.0	11,350.0	21,957.7	10,150.6	97.7	99.2	23.28	11,932.6	1,947.4	1,305.6	1,081.2	224.40	5.818	
23,300.0	11,350.0	22,057.7	10,150.6	98.4	99.9	23.28	12,032.6	1,947.0	1,305.7	1,079.8	225.91	5.780	
23,400.0	11,350.0	22,157.7	10,150.6	99.2	100.6	23.28	12,132.6	1,946.6	1,305.7	1,078.3	227.43	5.741	
23,500.0	11,350.0	22,257.7	10,150.5	99.9	101.3	23.28	12,232.6	1,946.2	1,305.7	1,076.8	228.94	5.703	
23,600.0	11,350.0	22,357.7	10,150.5	100.6	102.0	23.27	12,332.6	1,945.8	1,305.8	1,075.3	230.45	5.666	
23,700.0	11,350.0	22,457.7	10,150.4	101.3	102.7	23.27	12,432.6	1,945.4	1,305.8	1,073.9	231.97	5.629	
23,800.0	11,350.0	22,557.7	10,150.4	102.0	103.4	23.27	12,532.6	1,945.0	1,305.9	1,072.4	233.48	5.593	
23,900.0	11,350.0	22,657.7	10,150.4	102.7	104.1	23.27	12,632.6	1,944.6	1,305.9	1,070.9	235.00	5.557	
24,000.0	11,350.0	22,757.7	10,150.3	103.5	104.8	23.27	12,732.6	1,944.2	1,305.9	1,069.4	236.51	5.522	
24,100.0	11,350.0	22,857.7	10,150.3	104.2	105.5	23.27	12,832.6	1,943.8	1,306.0	1,067.9	238.03	5.487	
24,200.0	11,350.0	22,957.7	10,150.2	104.9	106.2	23.27	12,932.6	1,943.4	1,306.0	1,066.5	239.55	5.452	
24,300.0	11,350.0	23,057.7	10,150.2	105.6	106.9	23.27	13,032.6	1,943.0	1,306.0	1,065.0	241.06	5.418	
24,400.0	11,350.0	23,157.7	10,150.2	106.3	107.6	23.27	13,132.6	1,942.6	1,306.1	1,063.5	242.58	5.384	
24,500.0	11,350.0	23,257.7	10,150.1	107.1	108.3	23.27	13,232.6	1,942.2	1,306.1	1,062.0	244.10	5.351	
24,600.0	11,350.0	23,357.7	10,150.1	107.8	109.0	23.27	13,332.6	1,941.8	1,306.2	1,060.5	245.61	5.318	
24,700.0	11,350.0	23,457.7	10,150.0	108.5	109.7	23.27	13,432.6	1,941.4	1,306.2	1,059.1	247.13	5.285	
24,800.0	11,350.0	23,557.7	10,150.0	109.2	110.4	23.27	13,532.6	1,941.0	1,306.2	1,057.8	248.44	5.258	
24,802.4	11,350.0	23,558.2	10,150.0	109.3	110.4	23.27	13,533.0	1,941.0	1,306.2	1,057.8	248.47	5.257	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #701H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-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	-92.67	-71.7	-1,540.0	1,541.7	1,530.0	11.73	131.384	CC, ES
1,600.0	1,600.0	1,574.6	1,574.6	5.8	5.8	-92.68	-72.2	-1,540.6	1,542.5	1,530.6	11.99	128.650	
1,700.0	1,700.0	1,649.1	1,649.0	6.0	5.9	-92.72	-73.4	-1,542.4	1,545.0	1,532.8	12.24	126.243	
1,800.0	1,800.0	1,723.5	1,723.3	6.1	6.1	-92.80	-75.5	-1,545.4	1,549.1	1,536.7	12.48	124.103	
1,900.0	1,900.0	1,800.0	1,799.7	6.3	6.2	-92.90	-78.5	-1,549.7	1,554.9	1,542.2	12.73	122.116	
2,000.0	2,000.0	1,871.7	1,871.1	6.4	6.3	-93.02	-82.1	-1,554.9	1,562.3	1,549.4	12.98	120.364	
2,100.0	2,100.0	1,961.3	1,960.2	6.5	6.5	-93.20	-87.4	-1,562.4	1,571.1	1,557.9	13.26	118.489	
2,200.0	2,200.0	2,060.7	2,059.1	6.7	6.7	-93.40	-93.4	-1,571.0	1,580.0	1,566.5	13.57	116.461	
2,300.0	2,300.0	2,160.1	2,157.9	6.8	6.9	176.39	-99.3	-1,579.5	1,590.2	1,576.3	13.91	114.352	
2,400.0	2,399.9	2,259.1	2,256.4	7.0	7.2	176.20	-105.3	-1,587.9	1,603.1	1,588.8	14.26	112.437	
2,500.0	2,499.7	2,357.8	2,354.5	7.1	7.4	176.00	-111.2	-1,596.4	1,618.5	1,603.9	14.63	110.596	
2,600.0	2,599.3	2,456.0	2,452.2	7.3	7.7	175.82	-117.1	-1,604.8	1,636.6	1,621.5	15.04	108.822	
2,700.0	2,698.6	2,553.8	2,549.5	7.5	7.9	175.64	-122.9	-1,613.2	1,657.2	1,641.7	15.47	107.091	
2,800.0	2,797.5	2,638.8	2,634.1	7.7	8.2	175.49	-128.0	-1,620.6	1,680.5	1,664.6	15.90	105.682	
2,900.0	2,896.1	2,700.0	2,694.8	8.0	8.4	175.39	-131.1	-1,626.7	1,707.6	1,691.4	16.27	104.934	
3,000.0	2,994.2	2,779.5	2,773.8	8.3	8.6	175.31	-134.4	-1,635.9	1,738.6	1,721.9	16.75	103.816	
3,100.0	3,091.7	2,848.0	2,841.6	8.5	8.8	175.25	-136.5	-1,644.9	1,773.5	1,756.3	17.21	103.063	
3,200.0	3,188.8	2,915.2	2,908.0	8.8	9.0	175.26	-137.9	-1,654.8	1,811.6	1,793.9	17.63	102.759	
3,300.0	3,285.8	2,981.5	2,973.5	9.1	9.2	175.31	-138.7	-1,665.5	1,851.1	1,833.0	18.10	102.251	
3,400.0	3,382.8	3,046.9	3,037.9	9.4	9.4	175.37	-138.9	-1,677.0	1,891.9	1,873.3	18.58	101.818	
3,500.0	3,479.8	3,123.4	3,112.9	9.7	9.7	175.47	-138.5	-1,691.4	1,933.8	1,914.6	19.12	101.132	
3,600.0	3,576.9	3,214.0	3,201.9	10.1	10.0	175.59	-137.9	-1,708.7	1,975.9	1,956.1	19.78	99.911	SF

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #702H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.72	-71.7	-1,509.9	1,511.6	1,505.2	6.43	235.133	
100.0	100.0	100.0	100.0	3.2	3.2	-92.72	-71.7	-1,509.9	1,511.6	1,504.8	6.89	219.322	
200.0	200.0	200.0	200.0	3.5	3.5	-92.72	-71.7	-1,509.9	1,511.6	1,504.3	7.33	206.279	
300.0	300.0	300.0	300.0	3.7	3.7	-92.72	-71.7	-1,509.9	1,511.6	1,503.9	7.74	195.270	
400.0	400.0	400.0	400.0	3.9	3.9	-92.72	-71.7	-1,509.9	1,511.6	1,503.5	8.14	185.808	
500.0	500.0	500.0	500.0	4.1	4.1	-92.72	-71.7	-1,509.9	1,511.6	1,503.1	8.51	177.558	
600.0	600.0	600.0	600.0	4.2	4.2	-92.72	-71.7	-1,509.9	1,511.6	1,502.8	8.88	170.276	
700.0	700.0	700.0	700.0	4.4	4.4	-92.72	-71.7	-1,509.9	1,511.6	1,502.4	9.23	163.785	
800.0	800.0	800.0	800.0	4.6	4.6	-92.72	-71.7	-1,509.9	1,511.6	1,502.1	9.57	157.949	
900.0	900.0	900.0	900.0	4.8	4.8	-92.72	-71.7	-1,509.9	1,511.6	1,501.7	9.90	152.662	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.72	-71.7	-1,509.9	1,511.6	1,501.4	10.22	147.843	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.72	-71.7	-1,509.9	1,511.6	1,501.1	10.54	143.425	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.72	-71.7	-1,509.9	1,511.6	1,500.8	10.85	139.354	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.72	-71.7	-1,509.9	1,511.6	1,500.5	11.15	135.586	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.72	-71.7	-1,509.9	1,511.6	1,500.2	11.44	132.086	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.72	-71.7	-1,509.9	1,511.6	1,499.9	11.73	128.821	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.72	-71.7	-1,509.9	1,511.6	1,499.6	12.02	125.767	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.72	-71.7	-1,509.9	1,511.6	1,499.3	12.30	122.902	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.72	-71.7	-1,509.9	1,511.6	1,499.1	12.58	120.205	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-92.72	-71.7	-1,509.9	1,511.6	1,498.8	12.85	117.662	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-92.72	-71.7	-1,509.9	1,511.6	1,498.5	13.12	115.257	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-92.72	-71.7	-1,509.9	1,511.6	1,498.3	13.38	112.979	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-92.72	-71.7	-1,509.9	1,511.6	1,498.0	13.64	110.817	CC, ES
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	177.28	-71.7	-1,509.9	1,513.0	1,499.0	13.92	108.699	
2,400.0	2,399.9	2,399.9	2,399.9	7.0	6.9	177.29	-71.7	-1,509.9	1,516.9	1,502.7	14.19	106.870	
2,500.0	2,499.7	2,499.7	2,499.7	7.1	7.0	177.30	-71.7	-1,509.9	1,523.4	1,508.9	14.48	105.187	
2,600.0	2,599.3	2,570.8	2,570.8	7.3	7.1	177.30	-71.7	-1,510.6	1,533.5	1,518.7	14.76	103.865	
2,700.0	2,698.6	2,641.3	2,641.3	7.5	7.2	177.30	-71.8	-1,512.6	1,548.0	1,532.9	15.06	102.788	
2,800.0	2,797.5	2,700.0	2,699.9	7.7	7.3	177.30	-71.9	-1,515.2	1,566.9	1,551.6	15.35	102.073	
2,900.0	2,896.1	2,779.9	2,779.7	8.0	7.5	177.31	-72.2	-1,520.2	1,590.1	1,574.4	15.71	101.221	
3,000.0	2,994.2	2,853.7	2,853.2	8.3	7.5	177.31	-72.5	-1,526.2	1,617.5	1,601.5	16.04	100.856	
3,100.0	3,091.7	2,948.9	2,948.1	8.5	7.7	177.32	-72.9	-1,534.5	1,648.0	1,631.5	16.45	100.158	
3,200.0	3,188.8	3,043.5	3,042.3	8.8	7.8	177.35	-73.4	-1,542.8	1,680.4	1,663.5	16.86	99.690	
3,300.0	3,285.8	3,138.1	3,136.5	9.1	8.0	177.39	-73.8	-1,551.0	1,712.9	1,695.6	17.33	98.861	
3,400.0	3,382.8	3,232.6	3,230.7	9.4	8.2	177.42	-74.2	-1,559.2	1,745.4	1,727.6	17.82	97.922	
3,500.0	3,479.8	3,327.2	3,324.9	9.7	8.4	177.45	-74.7	-1,567.4	1,778.0	1,759.6	18.35	96.896	
3,600.0	3,576.9	3,421.8	3,419.1	10.1	8.6	177.49	-75.1	-1,575.7	1,810.5	1,791.6	18.90	95.807	
3,700.0	3,673.9	3,516.3	3,513.3	10.5	8.8	177.52	-75.5	-1,583.9	1,843.0	1,823.6	19.47	94.674	
3,800.0	3,770.9	3,610.9	3,607.5	10.8	9.0	177.55	-76.0	-1,592.1	1,875.6	1,855.5	20.06	93.512	
3,900.0	3,868.0	3,705.4	3,701.7	11.2	9.3	177.57	-76.4	-1,600.4	1,908.1	1,887.4	20.67	92.335	
4,000.0	3,965.0	3,800.0	3,795.9	11.6	9.5	177.60	-76.8	-1,608.6	1,940.6	1,919.3	21.29	91.137	
4,100.0	4,062.0	3,857.6	3,853.3	12.0	9.7	177.62	-77.1	-1,614.1	1,974.0	1,952.2	21.82	90.480	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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #703H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.77	-71.7	-1,480.0	1,481.7	1,475.3	6.43	230.482	
100.0	100.0	100.0	100.0	3.2	3.2	-92.77	-71.7	-1,480.0	1,481.7	1,474.9	6.89	214.984	
200.0	200.0	200.0	200.0	3.5	3.5	-92.77	-71.7	-1,480.0	1,481.7	1,474.4	7.33	202.198	
300.0	300.0	300.0	300.0	3.7	3.7	-92.77	-71.7	-1,480.0	1,481.7	1,474.0	7.74	191.407	
400.0	400.0	400.0	400.0	3.9	3.9	-92.77	-71.7	-1,480.0	1,481.7	1,473.6	8.14	182.133	
500.0	500.0	500.0	500.0	4.1	4.1	-92.77	-71.7	-1,480.0	1,481.7	1,473.2	8.51	174.045	
600.0	600.0	600.0	600.0	4.2	4.2	-92.77	-71.7	-1,480.0	1,481.7	1,472.9	8.88	166.908	
700.0	700.0	700.0	700.0	4.4	4.4	-92.77	-71.7	-1,480.0	1,481.7	1,472.5	9.23	160.545	
800.0	800.0	800.0	800.0	4.6	4.6	-92.77	-71.7	-1,480.0	1,481.7	1,472.2	9.57	154.824	
900.0	900.0	900.0	900.0	4.8	4.8	-92.77	-71.7	-1,480.0	1,481.7	1,471.8	9.90	149.642	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.77	-71.7	-1,480.0	1,481.7	1,471.5	10.22	144.918	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.77	-71.7	-1,480.0	1,481.7	1,471.2	10.54	140.587	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.77	-71.7	-1,480.0	1,481.7	1,470.9	10.85	136.597	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.77	-71.7	-1,480.0	1,481.7	1,470.6	11.15	132.904	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.77	-71.7	-1,480.0	1,481.7	1,470.3	11.44	129.473	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.77	-71.7	-1,480.0	1,481.7	1,470.0	11.73	126.273	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.77	-71.7	-1,480.0	1,481.7	1,469.7	12.02	123.279	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.77	-71.7	-1,480.0	1,481.7	1,469.4	12.30	120.470	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.77	-71.7	-1,480.0	1,481.7	1,469.2	12.58	117.827	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-92.77	-71.7	-1,480.0	1,481.7	1,468.9	12.85	115.334	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-92.77	-71.7	-1,480.0	1,481.7	1,468.6	13.12	112.977	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-92.77	-71.7	-1,480.0	1,481.7	1,468.4	13.38	110.744	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-92.77	-71.7	-1,480.0	1,481.7	1,468.1	13.64	108.625	CC, ES
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	177.23	-71.7	-1,480.0	1,483.1	1,469.1	13.92	106.551	
2,400.0	2,399.9	2,399.9	2,399.9	7.0	6.9	177.23	-71.7	-1,480.0	1,487.0	1,472.8	14.19	104.763	
2,500.0	2,499.7	2,499.7	2,499.7	7.1	7.0	177.24	-71.7	-1,480.0	1,493.5	1,479.0	14.48	103.122	
2,600.0	2,599.3	2,599.3	2,599.3	7.3	7.2	177.25	-71.7	-1,480.0	1,502.6	1,487.9	14.79	101.605	
2,700.0	2,698.6	2,698.6	2,698.6	7.5	7.3	177.26	-71.7	-1,480.0	1,514.4	1,499.3	15.11	100.194	
2,800.0	2,797.5	2,797.5	2,797.5	7.7	7.4	177.28	-71.7	-1,480.0	1,528.7	1,513.3	15.46	98.881	
2,900.0	2,896.1	2,896.1	2,896.1	8.0	7.5	177.30	-71.7	-1,480.0	1,545.6	1,529.8	15.83	97.659	
3,000.0	2,994.2	2,994.2	2,994.2	8.3	7.7	177.32	-71.7	-1,480.0	1,565.1	1,548.9	16.21	96.525	
3,100.0	3,091.7	3,064.8	3,064.8	8.5	7.8	177.33	-71.7	-1,480.6	1,587.9	1,571.3	16.60	95.684	
3,200.0	3,188.8	3,132.7	3,132.7	8.8	7.8	177.35	-71.7	-1,482.3	1,614.5	1,597.5	16.92	95.391	
3,300.0	3,285.8	3,200.0	3,199.9	9.1	7.9	177.38	-71.8	-1,485.2	1,642.8	1,625.5	17.30	94.948	
3,400.0	3,382.8	3,266.5	3,266.3	9.4	8.0	177.41	-71.8	-1,489.3	1,672.9	1,655.2	17.70	94.520	
3,500.0	3,479.8	3,332.2	3,331.8	9.7	8.1	177.44	-71.9	-1,494.4	1,704.6	1,686.5	18.11	94.134	
3,600.0	3,576.9	3,400.0	3,399.3	10.1	8.2	177.47	-72.0	-1,500.9	1,737.9	1,719.4	18.54	93.758	
3,700.0	3,673.9	3,461.4	3,460.3	10.5	8.3	177.50	-72.2	-1,507.8	1,772.8	1,753.8	18.96	93.479	
3,800.0	3,770.9	3,524.8	3,523.2	10.8	8.4	177.53	-72.3	-1,516.0	1,809.2	1,789.9	19.39	93.317	
3,900.0	3,868.0	3,613.5	3,611.0	11.2	8.6	177.57	-72.5	-1,528.3	1,846.7	1,826.8	19.89	92.837	
4,000.0	3,965.0	3,706.3	3,702.8	11.6	8.8	177.61	-72.7	-1,541.2	1,884.1	1,863.7	20.46	92.108	
4,100.0	4,062.0	3,799.0	3,794.7	12.0	9.0	177.65	-73.0	-1,554.1	1,921.6	1,900.5	21.04	91.326	
4,200.0	4,159.1	3,895.1	3,889.9	12.4	9.1	177.69	-73.2	-1,567.5	1,959.0	1,937.3	21.63	90.561	
4,300.0	4,256.1	4,007.5	4,001.2	12.8	9.4	177.74	-73.5	-1,582.4	1,995.8	1,973.5	22.33	89.362	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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #704H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.83	-71.6	-1,450.0	1,451.8	1,445.4	6.43	225.827	
100.0	100.0	100.0	100.0	3.2	3.2	-92.83	-71.6	-1,450.0	1,451.8	1,444.9	6.89	210.642	
200.0	200.0	200.0	200.0	3.5	3.5	-92.83	-71.6	-1,450.0	1,451.8	1,444.5	7.33	198.115	
300.0	300.0	300.0	300.0	3.7	3.7	-92.83	-71.6	-1,450.0	1,451.8	1,444.1	7.74	187.541	
400.0	400.0	400.0	400.0	3.9	3.9	-92.83	-71.6	-1,450.0	1,451.8	1,443.7	8.14	178.454	
500.0	500.0	500.0	500.0	4.1	4.1	-92.83	-71.6	-1,450.0	1,451.8	1,443.3	8.51	170.530	
600.0	600.0	600.0	600.0	4.2	4.2	-92.83	-71.6	-1,450.0	1,451.8	1,442.9	8.88	163.537	
700.0	700.0	700.0	700.0	4.4	4.4	-92.83	-71.6	-1,450.0	1,451.8	1,442.6	9.23	157.303	
800.0	800.0	800.0	800.0	4.6	4.6	-92.83	-71.6	-1,450.0	1,451.8	1,442.2	9.57	151.697	
900.0	900.0	900.0	900.0	4.8	4.8	-92.83	-71.6	-1,450.0	1,451.8	1,441.9	9.90	146.620	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.83	-71.6	-1,450.0	1,451.8	1,441.6	10.22	141.991	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.83	-71.6	-1,450.0	1,451.8	1,441.3	10.54	137.748	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.83	-71.6	-1,450.0	1,451.8	1,441.0	10.85	133.838	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.83	-71.6	-1,450.0	1,451.8	1,440.7	11.15	130.220	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.83	-71.6	-1,450.0	1,451.8	1,440.4	11.44	126.858	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.83	-71.6	-1,450.0	1,451.8	1,440.1	11.73	123.723	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.83	-71.6	-1,450.0	1,451.8	1,439.8	12.02	120.789	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.83	-71.6	-1,450.0	1,451.8	1,439.5	12.30	118.037	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.83	-71.6	-1,450.0	1,451.8	1,439.2	12.58	115.447	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-92.83	-71.6	-1,450.0	1,451.8	1,439.0	12.85	113.005	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-92.83	-71.6	-1,450.0	1,451.8	1,438.7	13.12	110.695	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-92.83	-71.6	-1,450.0	1,451.8	1,438.4	13.38	108.508	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-92.83	-71.6	-1,450.0	1,451.8	1,438.2	13.64	106.431	CC, ES
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	177.17	-71.6	-1,450.0	1,453.1	1,439.2	13.92	104.401	
2,400.0	2,399.9	2,399.9	2,399.9	7.0	6.9	177.18	-71.6	-1,450.0	1,457.0	1,442.9	14.19	102.654	
2,500.0	2,499.7	2,499.7	2,499.7	7.1	7.0	177.19	-71.6	-1,450.0	1,463.6	1,449.1	14.48	101.056	
2,600.0	2,599.3	2,660.9	2,660.9	7.3	7.3	177.20	-71.8	-1,446.7	1,470.6	1,455.8	14.88	98.829	
2,700.0	2,698.6	2,823.0	2,822.6	7.5	7.5	177.19	-72.3	-1,436.4	1,476.1	1,460.8	15.30	96.466	
2,800.0	2,797.5	2,985.5	2,984.2	7.7	7.8	177.16	-73.2	-1,419.3	1,480.0	1,464.2	15.78	93.806	
2,900.0	2,896.1	3,103.9	3,101.4	8.0	8.0	177.13	-74.1	-1,403.1	1,483.2	1,467.1	16.19	91.640	
3,000.0	2,994.2	3,203.7	3,200.3	8.3	8.2	177.11	-74.8	-1,389.3	1,489.0	1,472.3	16.67	89.341	
3,100.0	3,091.7	3,303.3	3,299.0	8.5	8.4	177.09	-75.5	-1,375.4	1,497.3	1,480.1	17.19	87.125	
3,200.0	3,188.8	3,402.8	3,397.5	8.8	8.7	177.08	-76.3	-1,361.6	1,507.6	1,490.0	17.68	85.288	
3,300.0	3,285.8	3,502.3	3,496.0	9.1	8.9	177.08	-77.0	-1,347.8	1,518.1	1,499.9	18.24	83.220	
3,400.0	3,382.8	3,601.7	3,594.4	9.4	9.2	177.07	-77.7	-1,333.9	1,528.6	1,509.8	18.84	81.150	
3,500.0	3,479.8	3,701.2	3,692.9	9.7	9.5	177.06	-78.4	-1,320.1	1,539.1	1,519.7	19.46	79.099	
3,600.0	3,576.9	3,800.6	3,791.4	10.1	9.8	177.06	-79.2	-1,306.3	1,549.6	1,529.5	20.10	77.083	
3,700.0	3,673.9	3,900.0	3,889.9	10.5	10.1	177.05	-79.9	-1,292.5	1,560.1	1,539.3	20.77	75.114	
3,800.0	3,770.9	3,999.5	3,988.4	10.8	10.4	177.04	-80.6	-1,278.6	1,570.6	1,549.1	21.46	73.201	
3,900.0	3,868.0	4,098.9	4,086.8	11.2	10.7	177.04	-81.3	-1,264.8	1,581.1	1,558.9	22.16	71.349	
4,000.0	3,965.0	4,198.4	4,185.3	11.6	11.0	177.03	-82.1	-1,251.0	1,591.6	1,568.7	22.88	69.562	
4,100.0	4,062.0	4,297.8	4,283.8	12.0	11.4	177.02	-82.8	-1,237.2	1,602.1	1,578.5	23.61	67.843	
4,200.0	4,159.1	4,397.3	4,382.3	12.4	11.7	177.02	-83.5	-1,223.4	1,612.6	1,588.2	24.36	66.191	
4,300.0	4,256.1	4,481.0	4,465.2	12.8	12.0	177.01	-84.1	-1,212.0	1,623.4	1,598.4	25.05	64.808	
4,400.0	4,353.1	4,558.4	4,542.0	13.2	12.2	177.01	-84.6	-1,202.5	1,635.5	1,609.8	25.73	63.556	
4,500.0	4,450.1	4,635.5	4,618.7	13.6	12.5	177.01	-85.0	-1,194.1	1,649.0	1,622.6	26.42	62.421	
4,600.0	4,547.2	4,712.3	4,695.1	14.0	12.7	177.02	-85.4	-1,186.7	1,663.8	1,636.7	27.10	61.404	
4,700.0	4,644.2	4,800.0	4,782.5	14.5	13.0	177.03	-85.8	-1,179.5	1,679.9	1,652.1	27.81	60.410	
4,800.0	4,741.2	4,865.0	4,847.3	14.9	13.2	177.05	-86.0	-1,175.1	1,697.3	1,668.8	28.43	59.706	
4,900.0	4,838.3	4,940.8	4,923.0	15.3	13.5	177.06	-86.3	-1,170.8	1,716.0	1,686.9	29.08	59.014	
5,000.0	4,935.3	5,016.1	4,998.3	15.8	13.7	177.08	-86.4	-1,167.6	1,735.9	1,706.2	29.72	58.420	
5,100.0	5,032.3	5,100.0	5,082.1	16.2	13.9	177.11	-86.6	-1,165.2	1,757.2	1,726.9	30.37	57.856	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,129.4	5,165.7	5,147.8	16.7	14.1	177.13	-86.6	-1,164.1	1,779.7	1,748.8	30.93	57.547	
5,300.0	5,226.4	5,244.3	5,226.4	17.1	14.2	177.16	-86.6	-1,163.8	1,803.5	1,772.0	31.47	57.314	
5,400.0	5,323.4	5,341.3	5,323.4	17.6	14.2	177.20	-86.6	-1,163.8	1,827.7	1,795.7	32.00	57.115	
5,500.0	5,420.4	5,438.3	5,420.4	18.0	14.3	177.24	-86.6	-1,163.8	1,851.8	1,819.3	32.55	56.900	
5,600.0	5,517.5	5,535.3	5,517.5	18.5	14.3	177.27	-86.6	-1,163.8	1,876.0	1,842.9	33.10	56.682	
5,700.0	5,614.5	5,632.4	5,614.5	18.9	14.4	177.31	-86.6	-1,163.8	1,900.2	1,866.5	33.65	56.462	
5,800.0	5,711.5	5,729.4	5,711.5	19.4	14.5	177.34	-86.6	-1,163.8	1,924.3	1,890.1	34.22	56.241	
5,900.0	5,808.6	5,826.4	5,808.6	19.8	14.5	177.37	-86.6	-1,163.8	1,948.5	1,913.7	34.78	56.019	
6,000.0	5,905.6	5,923.5	5,905.6	20.3	14.6	177.41	-86.6	-1,163.8	1,972.7	1,937.3	35.35	55.797	
6,100.0	6,002.6	6,020.5	6,002.6	20.8	14.7	177.44	-86.6	-1,163.8	1,996.8	1,960.9	35.93	55.575 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #705H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-92.89	-71.6	-1,420.0	1,421.8	1,415.4	6.43	221.165	
100.0	100.0	100.0	100.0	3.2	3.2	-92.89	-71.6	-1,420.0	1,421.8	1,415.0	6.89	206.293	
200.0	200.0	200.0	200.0	3.5	3.5	-92.89	-71.6	-1,420.0	1,421.8	1,414.5	7.33	194.024	
300.0	300.0	300.0	300.0	3.7	3.7	-92.89	-71.6	-1,420.0	1,421.8	1,414.1	7.74	183.669	
400.0	400.0	400.0	400.0	3.9	3.9	-92.89	-71.6	-1,420.0	1,421.8	1,413.7	8.14	174.770	
500.0	500.0	500.0	500.0	4.1	4.1	-92.89	-71.6	-1,420.0	1,421.8	1,413.3	8.51	167.009	
600.0	600.0	600.0	600.0	4.2	4.2	-92.89	-71.6	-1,420.0	1,421.8	1,413.0	8.88	160.161	
700.0	700.0	700.0	700.0	4.4	4.4	-92.89	-71.6	-1,420.0	1,421.8	1,412.6	9.23	154.055	
800.0	800.0	800.0	800.0	4.6	4.6	-92.89	-71.6	-1,420.0	1,421.8	1,412.3	9.57	148.565	
900.0	900.0	900.0	900.0	4.8	4.8	-92.89	-71.6	-1,420.0	1,421.8	1,411.9	9.90	143.593	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-92.89	-71.6	-1,420.0	1,421.8	1,411.6	10.22	139.060	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-92.89	-71.6	-1,420.0	1,421.8	1,411.3	10.54	134.904	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-92.89	-71.6	-1,420.0	1,421.8	1,411.0	10.85	131.075	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-92.89	-71.6	-1,420.0	1,421.8	1,410.7	11.15	127.531	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-92.89	-71.6	-1,420.0	1,421.8	1,410.4	11.44	124.239	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-92.89	-71.6	-1,420.0	1,421.8	1,410.1	11.73	121.168	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-92.89	-71.6	-1,420.0	1,421.8	1,409.8	12.02	118.296	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-92.89	-71.6	-1,420.0	1,421.8	1,409.5	12.30	115.600	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-92.89	-71.6	-1,420.0	1,421.8	1,409.3	12.58	113.064	
1,900.0	1,900.0	1,933.2	1,933.2	6.3	6.3	-92.96	-73.3	-1,418.4	1,420.7	1,407.8	12.88	110.272	
2,000.0	2,000.0	2,066.1	2,065.9	6.4	6.5	-93.17	-78.2	-1,413.5	1,417.2	1,404.0	13.18	107.561	
2,100.0	2,100.0	2,198.3	2,197.6	6.5	6.8	-93.51	-86.3	-1,405.4	1,411.4	1,397.9	13.47	104.753	
2,200.0	2,200.0	2,298.2	2,296.9	6.7	6.9	-93.83	-93.7	-1,398.0	1,404.5	1,390.7	13.74	102.243	
2,300.0	2,300.0	2,397.7	2,395.9	6.8	7.1	175.85	-101.0	-1,390.6	1,398.9	1,384.9	14.02	99.743	
2,400.0	2,399.9	2,497.4	2,495.0	7.0	7.3	175.55	-108.4	-1,383.3	1,396.0	1,381.6	14.32	97.488	
2,460.4	2,460.2	2,557.6	2,554.9	7.1	7.5	175.36	-112.8	-1,378.8	1,395.5	1,381.0	14.51	96.169	CC, ES
2,500.0	2,499.7	2,597.1	2,594.2	7.1	7.6	175.24	-115.8	-1,375.9	1,395.7	1,381.1	14.64	95.359	
2,600.0	2,599.3	2,696.8	2,693.4	7.3	7.8	174.94	-123.1	-1,368.5	1,398.1	1,383.1	14.98	93.310	
2,700.0	2,698.6	2,859.2	2,854.8	7.5	8.2	174.58	-132.4	-1,353.3	1,401.0	1,385.5	15.48	90.509	
2,800.0	2,797.5	3,026.8	3,020.6	7.7	8.7	174.44	-135.8	-1,330.2	1,401.7	1,385.7	16.07	87.233	
2,869.3	2,865.8	3,116.4	3,109.0	7.9	8.9	174.46	-135.2	-1,315.0	1,401.3	1,384.9	16.45	85.194	
2,900.0	2,896.1	3,147.1	3,139.3	8.0	9.0	174.48	-134.9	-1,309.6	1,401.5	1,384.8	16.62	84.326	
3,000.0	2,994.2	3,247.1	3,237.7	8.3	9.3	174.52	-133.9	-1,292.3	1,403.6	1,386.4	17.20	81.605	
3,100.0	3,091.7	3,347.0	3,336.1	8.5	9.6	174.57	-133.0	-1,275.0	1,408.3	1,390.5	17.81	79.074	
3,200.0	3,188.8	3,446.7	3,434.3	8.8	9.9	174.64	-132.0	-1,257.7	1,415.0	1,396.6	18.39	76.942	
3,300.0	3,285.8	3,546.5	3,532.5	9.1	10.2	174.70	-131.0	-1,240.4	1,421.9	1,402.9	19.04	74.676	
3,400.0	3,382.8	3,646.2	3,630.8	9.4	10.5	174.77	-130.0	-1,223.1	1,428.8	1,409.1	19.72	72.466	
3,500.0	3,479.8	3,746.0	3,729.0	9.7	10.9	174.83	-129.0	-1,205.8	1,435.7	1,415.3	20.42	70.323	
3,600.0	3,576.9	3,845.7	3,827.2	10.1	11.2	174.90	-128.0	-1,188.5	1,442.6	1,421.4	21.13	68.256	
3,700.0	3,673.9	3,945.5	3,925.5	10.5	11.6	174.96	-127.1	-1,171.2	1,449.4	1,427.6	21.87	66.269	
3,800.0	3,770.9	4,045.2	4,023.7	10.8	11.9	175.02	-126.1	-1,153.9	1,456.3	1,433.7	22.63	64.365	
3,900.0	3,868.0	4,145.0	4,121.9	11.2	12.3	175.08	-125.1	-1,136.6	1,463.2	1,439.8	23.40	62.543	
4,000.0	3,965.0	4,244.7	4,220.2	11.6	12.7	175.15	-124.1	-1,119.3	1,470.1	1,445.9	24.18	60.803	
4,100.0	4,062.0	4,344.5	4,318.4	12.0	13.0	175.21	-123.1	-1,102.1	1,477.0	1,452.0	24.97	59.144	
4,200.0	4,159.1	4,444.2	4,416.6	12.4	13.4	175.27	-122.2	-1,084.8	1,483.9	1,458.1	25.78	57.562	
4,300.0	4,256.1	4,544.0	4,514.9	12.8	13.8	175.33	-121.2	-1,067.5	1,490.8	1,464.2	26.60	56.055	
4,400.0	4,353.1	4,643.7	4,613.1	13.2	14.2	175.39	-120.2	-1,050.2	1,497.7	1,470.3	27.42	54.619	
4,500.0	4,450.1	4,743.5	4,711.3	13.6	14.6	175.44	-119.2	-1,032.9	1,504.6	1,476.4	28.25	53.252	
4,600.0	4,547.2	4,843.2	4,809.6	14.0	15.0	175.50	-118.2	-1,015.6	1,511.5	1,482.4	29.10	51.949	
4,700.0	4,644.2	4,943.0	4,907.8	14.5	15.4	175.56	-117.2	-998.3	1,518.4	1,488.5	29.94	50.709	
4,800.0	4,741.2	5,042.7	5,006.0	14.9	15.8	175.62	-116.3	-981.0	1,525.3	1,494.5	30.80	49.526	
4,900.0	4,838.3	5,142.5	5,104.3	15.3	16.2	175.67	-115.3	-963.7	1,532.2	1,500.6	31.66	48.398	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,000.0	4,935.3	5,242.2	5,202.5	15.8	16.6	175.73	-114.3	-946.4	1,539.2	1,506.6	32.53	47.322	
5,100.0	5,032.3	5,342.0	5,300.8	16.2	17.0	175.79	-113.3	-929.1	1,546.1	1,512.7	33.40	46.295	
5,200.0	5,129.4	5,441.7	5,399.0	16.7	17.4	175.84	-112.3	-911.8	1,553.0	1,518.7	34.27	45.315	
5,300.0	5,226.4	5,541.5	5,497.2	17.1	17.9	175.90	-111.4	-894.5	1,559.9	1,524.7	35.15	44.377	
5,400.0	5,323.4	5,641.2	5,595.5	17.6	18.3	175.95	-110.4	-877.2	1,566.8	1,530.8	36.03	43.481	
5,500.0	5,420.4	5,741.0	5,693.7	18.0	18.7	176.00	-109.4	-859.9	1,573.7	1,536.8	36.92	42.624	
5,600.0	5,517.5	5,840.7	5,791.9	18.5	19.1	176.06	-108.4	-842.7	1,580.6	1,542.8	37.81	41.803	
5,700.0	5,614.5	5,940.5	5,890.2	18.9	19.5	176.11	-107.4	-825.4	1,587.6	1,548.9	38.70	41.017	
5,800.0	5,711.5	6,040.2	5,988.4	19.4	20.0	176.16	-106.4	-808.1	1,594.5	1,554.9	39.60	40.263	
5,900.0	5,808.6	6,140.0	6,086.6	19.8	20.4	176.21	-105.5	-790.8	1,601.4	1,560.9	40.50	39.540	
6,000.0	5,905.6	6,239.7	6,184.9	20.3	20.8	176.27	-104.5	-773.5	1,608.3	1,566.9	41.40	38.847	
6,100.0	6,002.6	6,339.5	6,283.1	20.8	21.3	176.32	-103.5	-756.2	1,615.3	1,573.0	42.31	38.180	
6,200.0	6,099.6	6,439.2	6,381.3	21.2	21.7	176.37	-102.5	-738.9	1,622.2	1,579.0	43.20	37.547	
6,300.0	6,196.7	6,518.8	6,459.8	21.7	22.0	176.41	-101.8	-725.5	1,629.7	1,585.7	44.00	37.036	
6,400.0	6,293.7	6,600.0	6,540.0	22.2	22.3	176.45	-101.0	-713.0	1,638.5	1,593.7	44.81	36.565	
6,500.0	6,390.7	6,673.6	6,612.9	22.6	22.7	176.49	-100.5	-702.6	1,648.7	1,603.1	45.57	36.182	
6,600.0	6,487.8	6,750.7	6,689.3	23.1	23.0	176.52	-99.9	-692.8	1,660.2	1,613.9	46.33	35.837	
6,700.0	6,584.8	6,827.5	6,765.6	23.6	23.3	176.56	-99.4	-684.0	1,673.1	1,626.0	47.07	35.542	
6,800.0	6,681.8	6,900.0	6,837.7	24.0	23.6	176.60	-99.0	-676.6	1,687.3	1,639.5	47.78	35.313	
6,900.0	6,778.9	6,980.3	6,917.7	24.5	23.9	176.64	-98.6	-669.5	1,702.7	1,654.2	48.51	35.098	
7,000.0	6,875.9	7,056.2	6,993.4	25.0	24.1	176.67	-98.3	-663.8	1,719.6	1,670.4	49.21	34.946	
7,100.0	6,972.9	7,131.7	7,068.8	25.4	24.4	176.71	-98.0	-659.2	1,737.7	1,687.8	49.88	34.837	
7,200.0	7,069.9	7,200.0	7,137.0	25.9	24.6	176.74	-97.8	-655.8	1,757.1	1,706.6	50.49	34.801	
7,300.0	7,167.0	7,281.7	7,218.6	26.4	24.9	176.78	-97.6	-652.9	1,777.8	1,726.6	51.16	34.750 SF	
7,400.0	7,264.0	7,356.0	7,292.9	26.9	25.1	176.81	-97.5	-651.2	1,799.7	1,748.0	51.75	34.777	
7,500.0	7,361.0	7,429.9	7,366.8	27.3	25.2	176.84	-97.5	-650.5	1,823.0	1,770.7	52.28	34.866	
7,600.0	7,458.1	7,521.2	7,458.1	27.8	25.3	176.88	-97.5	-650.5	1,847.1	1,794.3	52.79	34.992	
7,700.0	7,555.1	7,618.2	7,555.1	28.3	25.3	176.92	-97.5	-650.5	1,871.2	1,817.9	53.31	35.099	
7,800.0	7,652.1	7,715.2	7,652.1	28.8	25.3	176.96	-97.5	-650.5	1,895.4	1,841.6	53.84	35.202	
7,900.0	7,749.2	7,812.3	7,749.2	29.2	25.3	177.01	-97.5	-650.5	1,919.2	1,864.8	54.36	35.302	
8,000.0	7,846.7	7,909.8	7,846.7	29.7	25.4	177.05	-97.5	-650.5	1,941.4	1,886.5	54.89	35.366	
8,100.0	7,944.6	8,007.7	7,944.6	30.2	25.4	177.09	-97.5	-650.5	1,961.9	1,906.5	55.42	35.401	
8,200.0	8,042.8	8,105.9	8,042.8	30.6	25.4	177.13	-97.5	-650.5	1,980.7	1,924.7	55.94	35.409	
8,300.0	8,141.4	8,204.5	8,141.4	31.1	25.5	177.17	-97.5	-650.5	1,997.7	1,941.3	56.45	35.390	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-90.00	0.0	-90.0	90.0	83.6	6.43	13.999	
100.0	100.0	100.0	100.0	3.2	3.2	-90.00	0.0	-90.0	90.0	83.1	6.89	13.058	
200.0	200.0	200.0	200.0	3.5	3.5	-90.00	0.0	-90.0	90.0	82.7	7.33	12.281	
300.0	300.0	300.0	300.0	3.7	3.7	-90.00	0.0	-90.0	90.0	82.3	7.74	11.626	
400.0	400.0	400.0	400.0	3.9	3.9	-90.00	0.0	-90.0	90.0	81.9	8.14	11.063	
500.0	500.0	500.0	500.0	4.1	4.1	-90.00	0.0	-90.0	90.0	81.5	8.51	10.571	
600.0	600.0	600.0	600.0	4.2	4.2	-90.00	0.0	-90.0	90.0	81.1	8.88	10.138	
700.0	700.0	700.0	700.0	4.4	4.4	-90.00	0.0	-90.0	90.0	80.8	9.23	9.751	
800.0	800.0	800.0	800.0	4.6	4.6	-90.00	0.0	-90.0	90.0	80.4	9.57	9.404	
900.0	900.0	900.0	900.0	4.8	4.8	-90.00	0.0	-90.0	90.0	80.1	9.90	9.089	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.00	0.0	-90.0	90.0	79.8	10.22	8.802	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.00	0.0	-90.0	90.0	79.5	10.54	8.539	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.00	0.0	-90.0	90.0	79.2	10.85	8.297	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.00	0.0	-90.0	90.0	78.9	11.15	8.072	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.00	0.0	-90.0	90.0	78.6	11.44	7.864	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.00	0.0	-90.0	90.0	78.3	11.73	7.670	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-90.00	0.0	-90.0	90.0	78.0	12.02	7.488	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.00	0.0	-90.0	90.0	77.7	12.30	7.317	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-90.00	0.0	-90.0	90.0	77.4	12.58	7.157	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-90.00	0.0	-90.0	90.0	77.2	12.85	7.005	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-90.00	0.0	-90.0	90.0	76.9	13.12	6.862	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-90.00	0.0	-90.0	90.0	76.6	13.38	6.727	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-90.00	0.0	-90.0	90.0	76.4	13.64	6.598	CC, ES
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	180.00	0.0	-90.0	91.3	77.4	13.92	6.560	SF
2,400.0	2,399.9	2,399.9	2,399.9	7.0	6.9	180.00	0.0	-90.0	95.2	81.0	14.19	6.710	
2,500.0	2,499.7	2,499.7	2,499.7	7.1	7.0	180.00	0.0	-90.0	101.8	87.3	14.48	7.027	
2,600.0	2,599.3	2,599.3	2,599.3	7.3	7.2	180.00	0.0	-90.0	110.9	96.1	14.79	7.500	
2,700.0	2,698.6	2,698.6	2,698.6	7.5	7.3	180.00	0.0	-90.0	122.7	107.6	15.12	8.116	
2,800.0	2,797.5	2,797.5	2,797.5	7.7	7.4	180.00	0.0	-90.0	137.0	121.6	15.46	8.863	
2,900.0	2,896.1	2,896.1	2,896.1	8.0	7.5	180.00	0.0	-90.0	154.0	138.1	15.83	9.727	
3,000.0	2,994.2	2,994.2	2,994.2	8.3	7.7	180.00	0.0	-90.0	173.5	157.3	16.22	10.698	
3,100.0	3,091.7	3,091.7	3,091.7	8.5	7.8	180.00	0.0	-90.0	195.5	178.9	16.62	11.762	
3,200.0	3,188.8	3,188.8	3,188.8	8.8	7.9	180.00	0.0	-90.0	219.6	202.6	16.99	12.925	
3,300.0	3,285.8	3,285.8	3,285.8	9.1	8.0	180.00	0.0	-90.0	243.8	226.4	17.41	14.000	
3,400.0	3,382.8	3,382.8	3,382.8	9.4	8.1	180.00	0.0	-90.0	268.0	250.1	17.85	15.010	
3,500.0	3,479.8	3,479.8	3,479.8	9.7	8.2	180.00	0.0	-90.0	292.2	273.9	18.31	15.957	
3,600.0	3,576.9	3,576.9	3,576.9	10.1	8.3	180.00	0.0	-90.0	316.4	297.6	18.78	16.844	
3,700.0	3,673.9	3,673.9	3,673.9	10.5	8.5	180.00	0.0	-90.0	340.6	321.3	19.27	17.675	
3,800.0	3,770.9	3,770.9	3,770.9	10.8	8.6	180.00	0.0	-90.0	364.7	345.0	19.77	18.454	
3,900.0	3,868.0	3,868.0	3,868.0	11.2	8.7	180.00	0.0	-90.0	388.9	368.7	20.28	19.183	
4,000.0	3,965.0	3,965.0	3,965.0	11.6	8.8	180.00	0.0	-90.0	413.1	392.3	20.80	19.866	
4,100.0	4,062.0	4,062.0	4,062.0	12.0	8.9	180.00	0.0	-90.0	437.3	416.0	21.33	20.505	
4,200.0	4,159.1	4,159.1	4,159.1	12.4	9.0	180.00	0.0	-90.0	461.5	439.6	21.87	21.105	
4,300.0	4,256.1	4,256.1	4,256.1	12.8	9.1	180.00	0.0	-90.0	485.7	463.3	22.42	21.667	
4,400.0	4,353.1	4,353.1	4,353.1	13.2	9.2	180.00	0.0	-90.0	509.9	486.9	22.97	22.195	
4,500.0	4,450.1	4,450.1	4,450.1	13.6	9.3	180.00	0.0	-90.0	534.1	510.6	23.54	22.690	
4,600.0	4,547.2	4,547.2	4,547.2	14.0	9.4	180.00	0.0	-90.0	558.3	534.2	24.11	23.155	
4,700.0	4,644.2	4,644.2	4,644.2	14.5	9.5	180.00	0.0	-90.0	582.5	557.8	24.69	23.593	
4,800.0	4,741.2	4,741.2	4,741.2	14.9	9.6	180.00	0.0	-90.0	606.7	581.4	25.27	24.005	
4,900.0	4,838.3	4,838.3	4,838.3	15.3	9.8	180.00	0.0	-90.0	630.9	605.0	25.86	24.393	
5,000.0	4,935.3	4,935.3	4,935.3	15.8	9.9	180.00	0.0	-90.0	655.0	628.6	26.46	24.759	
5,100.0	5,032.3	5,032.3	5,032.3	16.2	10.0	180.00	0.0	-90.0	679.2	652.2	27.06	25.105	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,129.4	5,129.4	5,129.4	16.7	10.1	180.00	0.0	-90.0	703.4	675.8	27.66	25.431	
5,300.0	5,226.4	5,226.4	5,226.4	17.1	10.2	180.00	0.0	-90.0	727.6	699.4	28.27	25.739	
5,400.0	5,323.4	5,323.4	5,323.4	17.6	10.3	180.00	0.0	-90.0	751.8	722.9	28.88	26.031	
5,500.0	5,420.4	5,420.4	5,420.4	18.0	10.4	180.00	0.0	-90.0	776.0	746.5	29.50	26.307	
5,600.0	5,517.5	5,517.5	5,517.5	18.5	10.5	180.00	0.0	-90.0	800.2	770.1	30.12	26.569	
5,700.0	5,614.5	5,614.5	5,614.5	18.9	10.6	180.00	0.0	-90.0	824.4	793.7	30.74	26.817	
5,800.0	5,711.5	5,711.5	5,711.5	19.4	10.7	180.00	0.0	-90.0	848.6	817.2	31.37	27.053	
5,900.0	5,808.6	5,808.6	5,808.6	19.8	10.8	180.00	0.0	-90.0	872.8	840.8	32.00	27.277	
6,000.0	5,905.6	5,905.6	5,905.6	20.3	10.9	180.00	0.0	-90.0	897.0	864.3	32.63	27.491	
6,100.0	6,002.6	6,002.6	6,002.6	20.8	11.0	180.00	0.0	-90.0	921.2	887.9	33.26	27.693	
6,200.0	6,099.6	6,099.6	6,099.6	21.2	11.1	180.00	0.0	-90.0	945.4	911.5	33.90	27.887	
6,300.0	6,196.7	6,196.7	6,196.7	21.7	11.2	180.00	0.0	-90.0	969.5	935.0	34.54	28.071	
6,400.0	6,293.7	6,293.7	6,293.7	22.2	11.3	180.00	0.0	-90.0	993.7	958.6	35.18	28.247	
6,500.0	6,390.7	6,390.7	6,390.7	22.6	11.4	180.00	0.0	-90.0	1,017.9	982.1	35.82	28.414	
6,600.0	6,487.8	6,487.8	6,487.8	23.1	11.5	180.00	0.0	-90.0	1,042.1	1,005.7	36.47	28.575	
6,700.0	6,584.8	6,584.8	6,584.8	23.6	11.6	180.00	0.0	-90.0	1,066.3	1,029.2	37.12	28.728	
6,800.0	6,681.8	6,681.8	6,681.8	24.0	11.7	180.00	0.0	-90.0	1,090.5	1,052.7	37.77	28.875	
6,900.0	6,778.9	6,778.9	6,778.9	24.5	11.8	180.00	0.0	-90.0	1,114.7	1,076.3	38.42	29.015	
7,000.0	6,875.9	6,875.9	6,875.9	25.0	11.9	180.00	0.0	-90.0	1,138.9	1,099.8	39.07	29.149	
7,100.0	6,972.9	6,972.9	6,972.9	25.4	12.0	180.00	0.0	-90.0	1,163.1	1,123.4	39.73	29.278	
7,200.0	7,069.9	7,069.9	7,069.9	25.9	12.1	180.00	0.0	-90.0	1,187.3	1,146.9	40.38	29.402	
7,300.0	7,167.0	7,167.0	7,167.0	26.4	12.2	180.00	0.0	-90.0	1,211.5	1,170.4	41.04	29.521	
7,400.0	7,264.0	7,264.0	7,264.0	26.9	12.2	180.00	0.0	-90.0	1,235.7	1,194.0	41.70	29.635	
7,500.0	7,361.0	7,361.0	7,361.0	27.3	12.3	180.00	0.0	-90.0	1,259.9	1,217.5	42.36	29.744	
7,600.0	7,458.1	7,458.1	7,458.1	27.8	12.4	180.00	0.0	-90.0	1,284.0	1,241.0	43.02	29.850	
7,700.0	7,555.1	7,555.1	7,555.1	28.3	12.5	180.00	0.0	-90.0	1,308.2	1,264.6	43.68	29.951	
7,800.0	7,652.1	7,652.1	7,652.1	28.8	12.6	180.00	0.0	-90.0	1,332.4	1,288.1	44.34	30.048	
7,900.0	7,749.2	7,749.2	7,749.2	29.2	12.7	180.00	0.0	-90.0	1,356.3	1,311.3	44.99	30.146	
8,000.0	7,846.7	7,846.7	7,846.7	29.7	12.8	180.00	0.0	-90.0	1,378.5	1,332.8	45.64	30.200	
8,100.0	7,944.6	7,944.6	7,944.6	30.2	12.9	180.00	0.0	-90.0	1,399.0	1,352.7	46.29	30.222	
8,200.0	8,042.8	8,042.8	8,042.8	30.6	13.0	180.00	0.0	-90.0	1,417.8	1,370.9	46.93	30.213	
8,300.0	8,141.4	8,141.4	8,141.4	31.1	13.1	180.00	0.0	-90.0	1,434.9	1,387.3	47.55	30.175	
8,400.0	8,240.2	8,240.2	8,240.2	31.5	13.2	180.00	0.0	-90.0	1,450.2	1,402.1	48.16	30.110	
8,500.0	8,339.2	8,339.2	8,339.2	31.9	13.3	180.00	0.0	-90.0	1,463.9	1,415.1	48.76	30.021	
8,600.0	8,438.5	8,438.5	8,438.5	32.3	13.4	180.00	0.0	-90.0	1,475.8	1,426.4	49.34	29.908	
8,700.0	8,538.0	8,538.0	8,538.0	32.7	13.5	180.00	0.0	-90.0	1,486.0	1,436.1	49.91	29.774	
8,800.0	8,637.6	8,637.6	8,637.6	33.1	13.6	180.00	0.0	-90.0	1,494.4	1,444.0	50.45	29.622	
8,900.0	8,737.4	8,737.4	8,737.4	33.5	13.7	180.00	0.0	-90.0	1,501.1	1,450.1	50.97	29.453	
9,000.0	8,837.3	8,837.3	8,837.3	33.8	13.8	180.00	0.0	-90.0	1,506.0	1,454.6	51.45	29.272	
9,100.0	8,937.2	8,937.2	8,937.2	34.1	13.9	180.00	0.0	-90.0	1,509.3	1,457.4	51.89	29.085	
9,200.0	9,037.2	9,037.2	9,037.2	34.4	14.0	180.00	0.0	-90.0	1,510.7	1,458.5	52.26	28.908	
9,300.0	9,137.2	9,137.2	9,137.2	34.4	14.1	-90.00	0.0	-90.0	1,510.8	1,458.5	52.37	28.849	
9,400.0	9,237.2	9,237.2	9,237.2	34.4	14.2	-90.00	0.0	-90.0	1,510.8	1,458.4	52.45	28.803	
9,500.0	9,337.2	9,337.2	9,337.2	34.5	14.3	-90.00	0.0	-90.0	1,510.8	1,458.3	52.54	28.757	
9,600.0	9,437.2	9,437.2	9,437.2	34.5	14.3	-90.00	0.0	-90.0	1,510.8	1,458.2	52.62	28.711	
9,700.0	9,537.2	9,537.2	9,537.2	34.5	14.4	-90.00	0.0	-90.0	1,510.8	1,458.1	52.71	28.665	
9,800.0	9,637.2	9,637.2	9,637.2	34.5	14.5	-90.00	0.0	-90.0	1,510.8	1,458.0	52.79	28.619	
9,900.0	9,737.2	9,737.2	9,737.2	34.6	14.6	-90.00	0.0	-90.0	1,510.8	1,457.9	52.88	28.573	
10,000.0	9,837.2	9,837.2	9,837.2	34.6	14.7	-90.00	0.0	-90.0	1,510.8	1,457.9	52.96	28.527	
10,100.0	9,937.2	9,937.2	9,937.2	34.6	14.8	-90.00	0.0	-90.0	1,510.8	1,457.8	53.05	28.480	
10,200.0	10,037.2	10,037.2	10,037.2	34.7	14.9	-90.00	0.0	-90.0	1,510.8	1,457.7	53.13	28.434	
10,300.0	10,137.2	10,137.2	10,137.2	34.7	15.0	-90.00	0.0	-90.0	1,510.8	1,457.6	53.22	28.388	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,237.2	10,237.2	10,237.2	34.7	15.1	-90.00	0.0	-90.0	1,510.8	1,457.5	53.31	28.341	
10,500.0	10,337.2	10,337.2	10,337.2	34.7	15.2	-90.00	0.0	-90.0	1,510.8	1,457.4	53.40	28.295	
10,600.0	10,437.2	10,437.2	10,437.2	34.8	15.3	-90.00	0.0	-90.0	1,510.8	1,457.3	53.48	28.248	
10,700.0	10,537.2	10,537.2	10,537.2	34.8	15.4	-90.00	0.0	-90.0	1,510.8	1,457.2	53.57	28.201	
10,800.0	10,637.2	10,640.9	10,640.9	34.8	15.5	-89.96	1.0	-90.0	1,510.8	1,457.1	53.67	28.147	
10,900.0	10,737.2	10,750.3	10,748.8	34.8	15.7	-89.32	17.8	-89.3	1,510.2	1,456.5	53.77	28.086	
10,996.8	10,833.9	10,849.0	10,841.9	34.9	15.9	-92.89	50.3	-87.9	1,509.8	1,456.0	53.79	28.070	
11,000.0	10,837.1	10,851.3	10,844.0	34.9	15.9	-92.79	51.3	-87.9	1,509.7	1,455.9	53.78	28.071	
11,100.0	10,935.1	10,946.5	10,927.0	34.9	16.1	-91.59	97.6	-85.9	1,510.4	1,456.7	53.73	28.110	
11,200.0	11,028.4	11,037.1	10,997.9	35.0	16.3	-90.36	153.9	-83.6	1,512.4	1,458.8	53.63	28.199	
11,300.0	11,114.0	11,124.1	11,056.7	35.1	16.5	-89.12	217.7	-80.9	1,515.5	1,462.0	53.51	28.323	
11,400.0	11,189.3	11,208.1	11,103.7	35.2	16.6	-87.91	287.2	-78.0	1,519.4	1,466.0	53.38	28.465	
11,500.0	11,252.1	11,289.7	11,139.2	35.3	16.7	-86.76	360.5	-74.9	1,524.1	1,470.8	53.27	28.608	
11,600.0	11,300.5	11,369.4	11,163.5	35.3	16.8	-85.68	436.3	-71.7	1,529.1	1,475.9	53.21	28.737	
11,700.0	11,333.0	11,450.0	11,177.1	35.4	16.8	-84.70	515.6	-68.4	1,534.2	1,481.0	53.19	28.844	
11,800.0	11,348.6	11,507.0	11,180.0	35.5	16.8	-83.93	572.5	-66.0	1,539.4	1,486.1	53.28	28.893	
11,900.0	11,350.0	11,600.0	11,180.0	35.6	16.9	-83.68	665.4	-63.6	1,544.4	1,490.9	53.42	28.912	
12,000.0	11,350.0	11,659.6	11,180.0	35.7	16.9	-83.69	725.0	-63.6	1,548.1	1,494.5	53.63	28.866	
12,100.0	11,350.0	11,759.6	11,180.0	35.8	16.9	-83.70	825.0	-64.0	1,549.3	1,495.4	53.83	28.783	
12,200.0	11,350.0	11,859.6	11,180.0	35.9	16.9	-83.70	925.0	-64.4	1,549.3	1,495.2	54.06	28.659	
12,300.0	11,350.0	11,959.6	11,180.0	36.0	17.0	-83.70	1,025.0	-64.8	1,549.2	1,494.9	54.33	28.514	
12,400.0	11,350.0	12,059.6	11,180.0	36.2	17.3	-83.70	1,125.0	-65.2	1,549.2	1,494.6	54.65	28.349	
12,500.0	11,350.0	12,159.6	11,180.0	36.4	17.6	-83.70	1,225.0	-65.6	1,549.2	1,494.2	55.00	28.165	
12,600.0	11,350.0	12,259.6	11,180.0	36.6	18.0	-83.70	1,325.0	-66.0	1,549.2	1,493.8	55.40	27.964	
12,700.0	11,350.0	12,359.6	11,180.0	36.8	18.3	-83.70	1,425.0	-66.4	1,549.2	1,493.4	55.83	27.747	
12,800.0	11,350.0	12,459.6	11,180.0	37.0	18.8	-83.70	1,525.0	-66.7	1,549.2	1,492.9	56.30	27.515	
12,900.0	11,350.0	12,559.6	11,180.0	37.2	19.2	-83.70	1,625.0	-67.1	1,549.2	1,492.4	56.81	27.269	
13,000.0	11,350.0	12,659.6	11,180.0	37.5	19.6	-83.70	1,725.0	-67.5	1,549.2	1,491.8	57.36	27.010	
13,100.0	11,350.0	12,759.6	11,180.0	37.7	20.1	-83.70	1,825.0	-67.9	1,549.2	1,491.3	57.93	26.741	
13,200.0	11,350.0	12,859.6	11,180.0	38.0	20.6	-83.70	1,925.0	-68.3	1,549.2	1,490.6	58.55	26.461	
13,300.0	11,350.0	12,959.6	11,180.0	38.3	21.1	-83.70	2,025.0	-68.7	1,549.2	1,490.0	59.19	26.173	
13,400.0	11,350.0	13,059.6	11,180.0	38.6	21.6	-83.70	2,125.0	-69.1	1,549.2	1,489.3	59.87	25.877	
13,500.0	11,350.0	13,159.6	11,180.0	38.9	22.2	-83.70	2,225.0	-69.5	1,549.2	1,488.6	60.57	25.575	
13,600.0	11,350.0	13,259.6	11,180.0	39.3	22.7	-83.70	2,325.0	-69.9	1,549.2	1,487.8	61.31	25.268	
13,700.0	11,350.0	13,359.6	11,180.0	39.6	23.3	-83.70	2,425.0	-70.3	1,549.1	1,487.1	62.07	24.957	
13,800.0	11,350.0	13,459.6	11,180.0	40.0	23.8	-83.70	2,525.0	-70.7	1,549.1	1,486.3	62.86	24.643	
13,900.0	11,350.0	13,559.6	11,180.0	40.4	24.4	-83.70	2,625.0	-71.1	1,549.1	1,485.5	63.68	24.326	
14,000.0	11,350.0	13,659.6	11,180.0	40.7	25.0	-83.70	2,725.0	-71.5	1,549.1	1,484.6	64.52	24.008	
14,100.0	11,350.0	13,759.6	11,180.0	41.1	25.6	-83.70	2,825.0	-71.9	1,549.1	1,483.7	65.39	23.690	
14,200.0	11,350.0	13,859.6	11,180.0	41.5	26.2	-83.70	2,925.0	-72.3	1,549.1	1,482.8	66.28	23.372	
14,300.0	11,350.0	13,959.6	11,180.0	41.9	26.9	-83.70	3,025.0	-72.7	1,549.1	1,481.9	67.19	23.054	
14,400.0	11,350.0	14,059.6	11,180.0	42.4	27.5	-83.70	3,125.0	-73.0	1,549.1	1,481.0	68.13	22.738	
14,500.0	11,350.0	14,159.6	11,180.0	42.8	28.1	-83.70	3,225.0	-73.4	1,549.1	1,480.0	69.08	22.423	
14,600.0	11,350.0	14,259.6	11,180.0	43.3	28.7	-83.70	3,325.0	-73.8	1,549.1	1,479.0	70.06	22.111	
14,700.0	11,350.0	14,359.6	11,180.0	43.7	29.4	-83.70	3,425.0	-74.2	1,549.1	1,478.0	71.05	21.802	
14,800.0	11,350.0	14,459.6	11,180.0	44.2	30.0	-83.70	3,525.0	-74.6	1,549.1	1,477.0	72.06	21.496	
14,900.0	11,350.0	14,559.6	11,180.0	44.6	30.7	-83.70	3,625.0	-75.0	1,549.1	1,476.0	73.09	21.193	
15,000.0	11,350.0	14,659.6	11,180.0	45.1	31.4	-83.70	3,725.0	-75.4	1,549.1	1,474.9	74.14	20.894	
15,100.0	11,350.0	14,759.6	11,180.0	45.6	32.0	-83.70	3,825.0	-75.8	1,549.0	1,473.8	75.20	20.599	
15,200.0	11,350.0	14,859.6	11,180.0	46.1	32.7	-83.70	3,925.0	-76.2	1,549.0	1,472.8	76.28	20.308	
15,300.0	11,350.0	14,959.6	11,180.0	46.6	33.4	-83.70	4,025.0	-76.6	1,549.0	1,471.7	77.37	20.021	
15,400.0	11,350.0	15,059.6	11,180.0	47.1	34.1	-83.70	4,125.0	-77.0	1,549.0	1,470.6	78.48	19.739	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	15,159.6	11,180.0	47.6	34.7	-83.70	4,225.0	-77.4	1,549.0	1,469.4	79.59	19.461	
15,600.0	11,350.0	15,259.6	11,180.0	48.2	35.4	-83.70	4,325.0	-77.8	1,549.0	1,468.3	80.73	19.188	
15,700.0	11,350.0	15,359.6	11,180.0	48.7	36.1	-83.70	4,425.0	-78.2	1,549.0	1,467.1	81.87	18.920	
15,800.0	11,350.0	15,459.6	11,180.0	49.2	36.8	-83.70	4,525.0	-78.6	1,549.0	1,466.0	83.03	18.656	
15,900.0	11,350.0	15,559.6	11,180.0	49.8	37.5	-83.70	4,625.0	-78.9	1,549.0	1,464.8	84.19	18.398	
16,000.0	11,350.0	15,659.6	11,180.0	50.3	38.2	-83.70	4,725.0	-79.3	1,549.0	1,463.6	85.37	18.144	
16,100.0	11,350.0	15,759.6	11,180.0	50.9	38.9	-83.70	4,825.0	-79.7	1,549.0	1,462.4	86.56	17.894	
16,200.0	11,350.0	15,859.6	11,180.0	51.4	39.6	-83.70	4,925.0	-80.1	1,549.0	1,461.2	87.76	17.650	
16,300.0	11,350.0	15,959.6	11,180.0	52.0	40.3	-83.70	5,025.0	-80.5	1,549.0	1,460.0	88.97	17.410	
16,400.0	11,350.0	16,059.6	11,180.0	52.5	41.0	-83.70	5,125.0	-80.9	1,549.0	1,458.8	90.19	17.175	
16,500.0	11,350.0	16,159.6	11,180.0	53.1	41.7	-83.70	5,225.0	-81.3	1,548.9	1,457.5	91.41	16.944	
16,600.0	11,350.0	16,259.6	11,180.0	53.7	42.4	-83.70	5,325.0	-81.7	1,548.9	1,456.3	92.65	16.718	
16,700.0	11,350.0	16,359.6	11,180.0	54.3	43.1	-83.70	5,425.0	-82.1	1,548.9	1,455.0	93.89	16.497	
16,800.0	11,350.0	16,459.6	11,180.0	54.9	43.9	-83.70	5,525.0	-82.5	1,548.9	1,453.8	95.14	16.280	
16,900.0	11,350.0	16,559.6	11,180.0	55.5	44.6	-83.70	5,625.0	-82.9	1,548.9	1,452.5	96.40	16.068	
17,000.0	11,350.0	16,659.6	11,180.0	56.1	45.3	-83.70	5,725.0	-83.3	1,548.9	1,451.2	97.67	15.859	
17,100.0	11,350.0	16,759.6	11,180.0	56.7	46.0	-83.70	5,825.0	-83.7	1,548.9	1,450.0	98.94	15.655	
17,200.0	11,350.0	16,859.6	11,180.0	57.3	46.7	-83.70	5,925.0	-84.1	1,548.9	1,448.7	100.22	15.455	
17,300.0	11,350.0	16,959.6	11,180.0	57.9	47.5	-83.70	6,025.0	-84.5	1,548.9	1,447.4	101.50	15.259	
17,400.0	11,350.0	17,059.6	11,180.0	58.5	48.2	-83.70	6,125.0	-84.9	1,548.9	1,446.1	102.80	15.068	
17,500.0	11,350.0	17,159.6	11,180.0	59.1	48.9	-83.70	6,225.0	-85.2	1,548.9	1,444.8	104.09	14.880	
17,600.0	11,350.0	17,259.6	11,180.0	59.7	49.6	-83.70	6,325.0	-85.6	1,548.9	1,443.5	105.40	14.696	
17,700.0	11,350.0	17,359.6	11,180.0	60.3	50.4	-83.70	6,425.0	-86.0	1,548.9	1,442.2	106.71	14.515	
17,800.0	11,350.0	17,459.6	11,180.0	61.0	51.1	-83.70	6,525.0	-86.4	1,548.9	1,440.8	108.02	14.339	
17,900.0	11,350.0	17,559.6	11,180.0	61.6	51.8	-83.70	6,625.0	-86.8	1,548.8	1,439.5	109.34	14.165	
18,000.0	11,350.0	17,659.6	11,180.0	62.2	52.5	-83.70	6,725.0	-87.2	1,548.8	1,438.2	110.66	13.996	
18,100.0	11,350.0	17,759.6	11,180.0	62.9	53.3	-83.70	6,825.0	-87.6	1,548.8	1,436.8	111.99	13.830	
18,200.0	11,350.0	17,859.6	11,180.0	63.5	54.0	-83.70	6,925.0	-88.0	1,548.8	1,435.5	113.33	13.667	
18,300.0	11,350.0	17,959.6	11,180.0	64.1	54.7	-83.70	7,025.0	-88.4	1,548.8	1,434.2	114.67	13.507	
18,400.0	11,350.0	18,059.6	11,180.0	64.8	55.5	-83.70	7,125.0	-88.8	1,548.8	1,432.8	116.01	13.351	
18,500.0	11,350.0	18,159.6	11,180.0	65.4	56.2	-83.70	7,225.0	-89.2	1,548.8	1,431.5	117.35	13.198	
18,600.0	11,350.0	18,259.6	11,180.0	66.1	57.0	-83.70	7,325.0	-89.6	1,548.8	1,430.1	118.71	13.047	
18,700.0	11,350.0	18,359.6	11,180.0	66.7	57.7	-83.70	7,425.0	-90.0	1,548.8	1,428.7	120.06	12.900	
18,800.0	11,350.0	18,459.6	11,180.0	67.4	58.4	-83.70	7,525.0	-90.4	1,548.8	1,427.4	121.42	12.756	
18,900.0	11,350.0	18,559.6	11,180.0	68.0	59.2	-83.70	7,625.0	-90.8	1,548.8	1,426.0	122.78	12.614	
19,000.0	11,350.0	18,659.6	11,180.0	68.7	59.9	-83.70	7,725.0	-91.1	1,548.8	1,424.6	124.15	12.475	
19,100.0	11,350.0	18,759.6	11,180.0	69.3	60.6	-83.70	7,825.0	-91.5	1,548.8	1,423.2	125.51	12.339	
19,200.0	11,350.0	18,859.6	11,180.0	70.0	61.4	-83.70	7,925.0	-91.9	1,548.8	1,421.9	126.89	12.206	
19,300.0	11,350.0	18,959.6	11,180.0	70.7	62.1	-83.70	8,025.0	-92.3	1,548.7	1,420.5	128.26	12.075	
19,400.0	11,350.0	19,059.6	11,180.0	71.3	62.9	-83.70	8,125.0	-92.7	1,548.7	1,419.1	129.64	11.947	
19,500.0	11,350.0	19,159.6	11,180.0	72.0	63.6	-83.70	8,225.0	-93.1	1,548.7	1,417.7	131.02	11.821	
19,600.0	11,350.0	19,259.6	11,180.0	72.7	64.4	-83.70	8,325.0	-93.5	1,548.7	1,416.3	132.40	11.697	
19,700.0	11,350.0	19,359.6	11,180.0	73.3	65.1	-83.70	8,425.0	-93.9	1,548.7	1,414.9	133.79	11.576	
19,800.0	11,350.0	19,459.6	11,180.0	74.0	65.8	-83.70	8,525.0	-94.3	1,548.7	1,413.5	135.18	11.457	
19,900.0	11,350.0	19,559.6	11,180.0	74.7	66.6	-83.70	8,625.0	-94.7	1,548.7	1,412.1	136.57	11.340	
20,000.0	11,350.0	19,659.6	11,180.0	75.4	67.3	-83.70	8,725.0	-95.1	1,548.7	1,410.7	137.97	11.225	
20,100.0	11,350.0	19,759.6	11,180.0	76.1	68.1	-83.70	8,825.0	-95.5	1,548.7	1,409.3	139.36	11.113	
20,200.0	11,350.0	19,859.6	11,180.0	76.7	68.8	-83.70	8,925.0	-95.9	1,548.7	1,407.9	140.76	11.002	
20,300.0	11,350.0	19,959.6	11,180.0	77.4	69.6	-83.70	9,025.0	-96.3	1,548.7	1,406.5	142.17	10.893	
20,400.0	11,350.0	20,059.6	11,180.0	78.1	70.3	-83.70	9,125.0	-96.7	1,548.7	1,405.1	143.57	10.787	
20,500.0	11,350.0	20,159.6	11,180.0	78.8	71.1	-83.70	9,225.0	-97.0	1,548.7	1,403.7	144.98	10.682	
20,600.0	11,350.0	20,259.6	11,180.0	79.5	71.8	-83.70	9,325.0	-97.4	1,548.7	1,402.3	146.38	10.579	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,700.0	11,350.0	20,359.6	11,180.0	80.2	72.6	-83.70	9,425.0	-97.8	1,548.6	1,400.9	147.79	10.478	
20,800.0	11,350.0	20,459.6	11,180.0	80.8	73.3	-83.70	9,525.0	-98.2	1,548.6	1,399.4	149.21	10.379	
20,900.0	11,350.0	20,559.6	11,180.0	81.5	74.1	-83.70	9,625.0	-98.6	1,548.6	1,398.0	150.62	10.282	
21,000.0	11,350.0	20,659.6	11,180.0	82.2	74.8	-83.70	9,725.0	-99.0	1,548.6	1,396.6	152.04	10.186	
21,100.0	11,350.0	20,759.6	11,180.0	82.9	75.6	-83.70	9,825.0	-99.4	1,548.6	1,395.2	153.45	10.092	
21,200.0	11,350.0	20,859.6	11,180.0	83.6	76.3	-83.70	9,925.0	-99.8	1,548.6	1,393.7	154.87	9.999	
21,300.0	11,350.0	20,959.6	11,180.0	84.3	77.1	-83.70	10,025.0	-100.2	1,548.6	1,392.3	156.30	9.908	
21,400.0	11,350.0	21,059.6	11,180.0	85.0	77.8	-83.70	10,125.0	-100.6	1,548.6	1,390.9	157.72	9.819	
21,500.0	11,350.0	21,159.6	11,180.0	85.7	78.6	-83.70	10,225.0	-101.0	1,548.6	1,389.4	159.14	9.731	
21,600.0	11,350.0	21,259.6	11,180.0	86.4	79.3	-83.70	10,325.0	-101.4	1,548.6	1,388.0	160.57	9.644	
21,700.0	11,350.0	21,359.6	11,180.0	87.1	80.1	-83.70	10,425.0	-101.8	1,548.6	1,386.6	162.00	9.559	
21,800.0	11,350.0	21,459.6	11,180.0	87.8	80.8	-83.70	10,525.0	-102.2	1,548.6	1,385.1	163.43	9.476	
21,900.0	11,350.0	21,559.6	11,180.0	88.5	81.6	-83.70	10,625.0	-102.6	1,548.6	1,383.7	164.86	9.393	
22,000.0	11,350.0	21,659.6	11,180.0	89.2	82.3	-83.70	10,725.0	-103.0	1,548.6	1,382.3	166.29	9.312	
22,100.0	11,350.0	21,759.6	11,180.0	89.9	83.1	-83.70	10,825.0	-103.3	1,548.5	1,380.8	167.72	9.233	
22,200.0	11,350.0	21,859.6	11,180.0	90.6	83.8	-83.70	10,925.0	-103.7	1,548.5	1,379.4	169.16	9.154	
22,300.0	11,350.0	21,959.6	11,180.0	91.3	84.6	-83.70	11,025.0	-104.1	1,548.5	1,377.9	170.60	9.077	
22,400.0	11,350.0	22,059.6	11,180.0	92.0	85.3	-83.70	11,124.9	-104.5	1,548.5	1,376.5	172.03	9.001	
22,500.0	11,350.0	22,159.6	11,180.0	92.7	86.1	-83.70	11,224.9	-104.9	1,548.5	1,375.0	173.47	8.927	
22,600.0	11,350.0	22,259.6	11,180.0	93.5	86.8	-83.70	11,324.9	-105.3	1,548.5	1,373.6	174.91	8.853	
22,700.0	11,350.0	22,359.6	11,180.0	94.2	87.6	-83.70	11,424.9	-105.7	1,548.5	1,372.2	176.35	8.781	
22,800.0	11,350.0	22,459.6	11,180.0	94.9	88.3	-83.70	11,524.9	-106.1	1,548.5	1,370.7	177.80	8.709	
22,900.0	11,350.0	22,559.6	11,180.0	95.6	89.1	-83.70	11,624.9	-106.5	1,548.5	1,369.2	179.24	8.639	
23,000.0	11,350.0	22,659.6	11,180.0	96.3	89.8	-83.70	11,724.9	-106.9	1,548.5	1,367.8	180.68	8.570	
23,100.0	11,350.0	22,759.6	11,180.0	97.0	90.6	-83.70	11,824.9	-107.3	1,548.5	1,366.3	182.13	8.502	
23,200.0	11,350.0	22,859.6	11,180.0	97.7	91.4	-83.70	11,924.9	-107.7	1,548.5	1,364.9	183.58	8.435	
23,300.0	11,350.0	22,959.6	11,180.0	98.4	92.1	-83.70	12,024.9	-108.1	1,548.5	1,363.4	185.03	8.369	
23,400.0	11,350.0	23,059.6	11,180.0	99.2	92.9	-83.70	12,124.9	-108.5	1,548.5	1,362.0	186.47	8.304	
23,500.0	11,350.0	23,159.6	11,180.0	99.9	93.6	-83.70	12,224.9	-108.9	1,548.4	1,360.5	187.92	8.240	
23,600.0	11,350.0	23,259.6	11,180.0	100.6	94.4	-83.70	12,324.9	-109.2	1,548.4	1,359.1	189.38	8.177	
23,700.0	11,350.0	23,359.6	11,180.0	101.3	95.1	-83.70	12,424.9	-109.6	1,548.4	1,357.6	190.83	8.114	
23,800.0	11,350.0	23,459.6	11,180.0	102.0	95.9	-83.70	12,524.9	-110.0	1,548.4	1,356.1	192.28	8.053	
23,900.0	11,350.0	23,559.6	11,180.0	102.7	96.6	-83.70	12,624.9	-110.4	1,548.4	1,354.7	193.73	7.992	
24,000.0	11,350.0	23,659.6	11,180.0	103.5	97.4	-83.70	12,724.9	-110.8	1,548.4	1,353.2	195.19	7.933	
24,100.0	11,350.0	23,759.6	11,180.0	104.2	98.2	-83.70	12,824.9	-111.2	1,548.4	1,351.8	196.64	7.874	
24,200.0	11,350.0	23,859.6	11,180.0	104.9	98.9	-83.70	12,924.9	-111.6	1,548.4	1,350.3	198.10	7.816	
24,300.0	11,350.0	23,959.6	11,180.0	105.6	99.7	-83.70	13,024.9	-112.0	1,548.4	1,348.8	199.56	7.759	
24,400.0	11,350.0	24,059.6	11,180.0	106.3	100.4	-83.70	13,124.9	-112.4	1,548.4	1,347.4	201.02	7.703	
24,500.0	11,350.0	24,159.6	11,180.0	107.1	101.2	-83.70	13,224.9	-112.8	1,548.4	1,345.9	202.48	7.647	
24,600.0	11,350.0	24,259.6	11,180.0	107.8	101.9	-83.70	13,324.9	-113.2	1,548.4	1,344.4	203.93	7.592	
24,700.0	11,350.0	24,359.6	11,180.0	108.5	102.7	-83.70	13,424.9	-113.6	1,548.4	1,343.0	205.39	7.538	
24,800.0	11,350.0	24,459.6	11,180.0	109.2	103.5	-83.70	13,524.9	-114.0	1,548.4	1,341.5	206.86	7.485	
24,802.4	11,350.0	24,462.1	11,180.0	109.3	103.5	-83.70	13,527.4	-114.0	1,548.4	1,341.5	206.89	7.484	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-90.00	0.0	-60.0	60.0	53.6	6.43	9.333	
100.0	100.0	100.0	100.0	3.2	3.2	-90.00	0.0	-60.0	60.0	53.1	6.89	8.705	
200.0	200.0	200.0	200.0	3.5	3.5	-90.00	0.0	-60.0	60.0	52.7	7.33	8.188	
300.0	300.0	300.0	300.0	3.7	3.7	-90.00	0.0	-60.0	60.0	52.3	7.74	7.751	
400.0	400.0	400.0	400.0	3.9	3.9	-90.00	0.0	-60.0	60.0	51.9	8.14	7.375	
500.0	500.0	500.0	500.0	4.1	4.1	-90.00	0.0	-60.0	60.0	51.5	8.51	7.048	
600.0	600.0	600.0	600.0	4.2	4.2	-90.00	0.0	-60.0	60.0	51.1	8.88	6.759	
700.0	700.0	700.0	700.0	4.4	4.4	-90.00	0.0	-60.0	60.0	50.8	9.23	6.501	
800.0	800.0	800.0	800.0	4.6	4.6	-90.00	0.0	-60.0	60.0	50.4	9.57	6.269	
900.0	900.0	900.0	900.0	4.8	4.8	-90.00	0.0	-60.0	60.0	50.1	9.90	6.059	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.00	0.0	-60.0	60.0	49.8	10.22	5.868	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.00	0.0	-60.0	60.0	49.5	10.54	5.693	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.00	0.0	-60.0	60.0	49.2	10.85	5.531	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.00	0.0	-60.0	60.0	48.9	11.15	5.382	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.00	0.0	-60.0	60.0	48.6	11.44	5.243	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.00	0.0	-60.0	60.0	48.3	11.73	5.113	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-90.00	0.0	-60.0	60.0	48.0	12.02	4.992	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.00	0.0	-60.0	60.0	47.7	12.30	4.878	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-90.00	0.0	-60.0	60.0	47.4	12.58	4.771	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-90.00	0.0	-60.0	60.0	47.2	12.85	4.670	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-90.00	0.0	-60.0	60.0	46.9	13.12	4.575	
2,100.0	2,100.0	2,101.5	2,101.5	6.5	6.5	-90.45	-0.5	-58.7	58.8	45.4	13.39	4.387	
2,200.0	2,200.0	2,202.8	2,202.7	6.7	6.7	-91.92	-1.8	-54.9	55.0	41.4	13.66	4.030	
2,300.0	2,300.0	2,303.9	2,303.6	6.8	6.9	175.28	-4.1	-48.6	50.3	36.3	13.94	3.604	
2,400.0	2,399.9	2,404.9	2,404.1	7.0	7.1	170.79	-7.3	-39.9	45.9	31.6	14.23	3.224	
2,500.0	2,499.7	2,505.7	2,504.2	7.1	7.3	164.27	-11.4	-28.6	42.2	27.7	14.52	2.907	
2,600.0	2,599.3	2,605.8	2,603.3	7.3	7.4	156.26	-16.2	-15.6	40.1	25.4	14.75	2.721	
2,616.6	2,615.8	2,622.4	2,619.8	7.3	7.4	154.99	-17.0	-13.4	40.1	25.3	14.80	2.709	CC, ES, SF
2,700.0	2,698.6	2,705.6	2,702.2	7.5	7.6	149.42	-20.9	-2.5	41.1	26.1	15.03	2.735	
2,800.0	2,797.5	2,805.5	2,801.1	7.7	7.9	144.97	-25.7	10.5	44.8	29.4	15.33	2.921	
2,900.0	2,896.1	2,905.3	2,900.0	8.0	8.1	143.03	-30.4	23.6	50.7	35.0	15.66	3.238	
3,000.0	2,994.2	3,005.0	2,998.7	8.3	8.4	143.06	-35.2	36.6	58.8	42.7	16.05	3.662	
3,100.0	3,091.7	3,104.5	3,097.2	8.5	8.7	144.36	-39.9	49.6	68.9	52.4	16.50	4.177	
3,200.0	3,188.8	3,203.7	3,195.5	8.8	9.0	146.18	-44.6	62.6	80.8	63.8	16.94	4.768	
3,300.0	3,285.8	3,303.0	3,293.7	9.1	9.3	147.61	-49.3	75.6	92.8	75.4	17.45	5.318	
3,400.0	3,382.8	3,402.2	3,392.0	9.4	9.6	148.71	-54.1	88.6	104.9	86.9	17.98	5.833	
3,500.0	3,479.8	3,501.5	3,490.3	9.7	9.9	149.59	-58.8	101.5	117.0	98.5	18.53	6.314	
3,600.0	3,576.9	3,600.7	3,588.6	10.1	10.2	150.30	-63.5	114.5	129.1	110.0	19.10	6.762	
3,700.0	3,673.9	3,700.0	3,686.9	10.5	10.6	150.88	-68.2	127.5	141.3	121.6	19.68	7.179	
3,800.0	3,770.9	3,799.2	3,785.2	10.8	10.9	151.38	-73.0	140.5	153.5	133.2	20.28	7.567	
3,900.0	3,868.0	3,901.5	3,886.5	11.2	11.3	152.18	-76.5	154.1	164.9	143.9	20.94	7.872	
4,000.0	3,965.0	4,002.8	3,986.8	11.6	11.6	153.69	-77.0	168.1	174.4	152.8	21.67	8.049	
4,100.0	4,062.0	4,102.2	4,085.3	12.0	11.9	155.13	-77.0	182.0	183.9	161.4	22.47	8.184	
4,200.0	4,159.1	4,201.7	4,183.8	12.4	12.3	156.43	-77.0	195.8	193.4	170.1	23.28	8.309	
4,300.0	4,256.1	4,301.1	4,282.2	12.8	12.6	157.61	-77.0	209.6	203.1	179.0	24.10	8.426	
4,400.0	4,353.1	4,400.6	4,380.7	13.2	13.0	158.68	-77.0	223.5	212.8	187.8	24.93	8.534	
4,500.0	4,450.1	4,500.0	4,479.2	13.6	13.4	159.66	-77.0	237.3	222.5	196.8	25.77	8.635	
4,600.0	4,547.2	4,599.5	4,577.7	14.0	13.7	160.56	-77.0	251.2	232.4	205.8	26.62	8.730	
4,700.0	4,644.2	4,699.0	4,676.2	14.5	14.1	161.38	-77.0	265.0	242.3	214.8	27.47	8.819	
4,800.0	4,741.2	4,798.4	4,774.7	14.9	14.5	162.14	-77.0	278.8	252.2	223.9	28.33	8.902	
4,900.0	4,838.3	4,897.9	4,873.1	15.3	14.9	162.84	-77.0	292.7	262.2	233.0	29.19	8.981	
5,000.0	4,935.3	4,997.3	4,971.6	15.8	15.3	163.49	-77.0	306.5	272.2	242.1	30.06	9.054	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,032.3	5,096.8	5,070.1	16.2	15.6	164.09	-77.0	320.4	282.2	251.3	30.93	9.124	
5,200.0	5,129.4	5,196.2	5,168.6	16.7	16.0	164.65	-77.0	334.2	292.3	260.5	31.81	9.189	
5,300.0	5,226.4	5,295.7	5,267.1	17.1	16.4	165.17	-77.0	348.0	302.4	269.7	32.69	9.251	
5,400.0	5,323.4	5,395.1	5,365.6	17.6	16.8	165.66	-77.0	361.9	312.5	278.9	33.57	9.310	
5,500.0	5,420.4	5,494.6	5,464.0	18.0	17.2	166.12	-77.0	375.7	322.6	288.2	34.45	9.365	
5,600.0	5,517.5	5,594.0	5,562.5	18.5	17.6	166.56	-77.0	389.6	332.8	297.5	35.34	9.418	
5,700.0	5,614.5	5,691.2	5,658.8	18.9	18.0	166.96	-77.0	403.0	343.1	306.9	36.19	9.481	
5,800.0	5,711.5	5,784.9	5,751.8	19.4	18.3	167.37	-77.0	414.6	354.8	317.7	37.03	9.580	
5,900.0	5,808.6	5,878.2	5,844.5	19.8	18.7	167.80	-77.0	424.7	368.0	330.2	37.86	9.720	
6,000.0	5,905.6	5,971.1	5,937.0	20.3	19.0	168.25	-77.0	433.2	382.9	344.2	38.68	9.899	
6,100.0	6,002.6	6,063.5	6,029.2	20.8	19.4	168.71	-77.0	440.2	399.3	359.8	39.47	10.118	
6,200.0	6,099.6	6,155.4	6,120.9	21.2	19.7	169.18	-77.0	445.7	417.3	377.1	40.23	10.373	
6,300.0	6,196.7	6,246.7	6,212.1	21.7	20.0	169.63	-77.0	449.7	436.9	396.0	40.97	10.665	
6,400.0	6,293.7	6,337.4	6,302.7	22.2	20.2	170.08	-77.0	452.3	458.1	416.4	41.67	10.994	
6,500.0	6,390.7	6,427.4	6,392.8	22.6	20.4	170.52	-77.0	453.4	480.8	438.5	42.29	11.368	
6,600.0	6,487.8	6,522.4	6,487.8	23.1	20.5	170.96	-77.0	453.4	504.6	461.8	42.85	11.778	
6,700.0	6,584.8	6,619.4	6,584.8	23.6	20.5	171.37	-77.0	453.4	528.5	485.1	43.42	12.174	
6,800.0	6,681.8	6,716.5	6,681.8	24.0	20.5	171.75	-77.0	453.4	552.5	508.5	43.99	12.560	
6,900.0	6,778.9	6,813.5	6,778.9	24.5	20.6	172.09	-77.0	453.4	576.5	531.9	44.56	12.937	
7,000.0	6,875.9	6,910.5	6,875.9	25.0	20.6	172.41	-77.0	453.4	600.4	555.3	45.13	13.305	
7,100.0	6,972.9	7,007.6	6,972.9	25.4	20.7	172.70	-77.0	453.4	624.4	578.7	45.70	13.663	
7,200.0	7,069.9	7,104.6	7,069.9	25.9	20.7	172.98	-77.0	453.4	648.5	602.2	46.28	14.012	
7,300.0	7,167.0	7,201.6	7,167.0	26.4	20.7	173.23	-77.0	453.4	672.5	625.6	46.86	14.352	
7,400.0	7,264.0	7,298.7	7,264.0	26.9	20.8	173.46	-77.0	453.4	696.5	649.1	47.44	14.684	
7,500.0	7,361.0	7,395.7	7,361.0	27.3	20.8	173.68	-77.0	453.4	720.6	672.6	48.02	15.007	
7,600.0	7,458.1	7,492.7	7,458.1	27.8	20.9	173.89	-77.0	453.4	744.6	696.0	48.60	15.322	
7,700.0	7,555.1	7,589.7	7,555.1	28.3	20.9	174.08	-77.0	453.4	768.7	719.5	49.19	15.629	
7,800.0	7,652.1	7,686.8	7,652.1	28.8	21.0	174.26	-77.0	453.4	792.8	743.0	49.77	15.928	
7,900.0	7,749.2	7,783.9	7,749.2	29.2	21.0	174.44	-77.0	453.4	816.5	766.1	50.35	16.217	
8,000.0	7,846.7	7,881.4	7,846.7	29.7	21.0	174.61	-77.0	453.4	838.6	787.7	50.93	16.467	
8,100.0	7,944.6	7,979.3	7,944.6	30.2	21.1	174.76	-77.0	453.4	859.0	807.5	51.50	16.680	
8,200.0	8,042.8	8,077.5	8,042.8	30.6	21.1	174.89	-77.0	453.4	877.8	825.7	52.07	16.858	
8,300.0	8,141.4	8,176.0	8,141.4	31.1	21.2	175.00	-77.0	453.4	894.8	842.2	52.62	17.004	
8,400.0	8,240.2	8,274.8	8,240.2	31.5	21.2	175.10	-77.0	453.4	910.1	856.9	53.17	17.117	
8,500.0	8,339.2	8,373.9	8,339.2	31.9	21.3	175.18	-77.0	453.4	923.7	870.0	53.70	17.201	
8,600.0	8,438.5	8,473.2	8,438.5	32.3	21.3	175.25	-77.0	453.4	935.6	881.3	54.22	17.255	
8,700.0	8,538.0	8,572.6	8,538.0	32.7	21.3	175.31	-77.0	453.4	945.7	891.0	54.72	17.282	
8,800.0	8,637.6	8,672.3	8,637.6	33.1	21.4	175.36	-77.0	453.4	954.1	898.9	55.21	17.283	
8,900.0	8,737.4	8,772.1	8,737.4	33.5	21.4	175.40	-77.0	453.4	960.8	905.1	55.67	17.260	
9,000.0	8,837.3	8,871.9	8,837.3	33.8	21.5	175.42	-77.0	453.4	965.7	909.6	56.10	17.215	
9,100.0	8,937.2	8,971.9	8,937.2	34.1	21.5	175.44	-77.0	453.4	968.9	912.4	56.49	17.152	
9,200.0	9,037.2	9,071.9	9,037.2	34.4	21.6	175.45	-77.0	453.4	970.4	913.6	56.82	17.079	
9,300.0	9,137.2	9,171.9	9,137.2	34.4	21.6	-94.55	-77.0	453.4	970.5	913.6	56.91	17.054	
9,400.0	9,237.2	9,271.9	9,237.2	34.4	21.7	-94.55	-77.0	453.4	970.5	913.5	56.97	17.034	
9,500.0	9,337.2	9,371.9	9,337.2	34.5	21.7	-94.55	-77.0	453.4	970.5	913.4	57.04	17.015	
9,600.0	9,437.2	9,471.9	9,437.2	34.5	21.8	-94.55	-77.0	453.4	970.5	913.4	57.10	16.995	
9,700.0	9,537.2	9,571.9	9,537.2	34.5	21.8	-94.55	-77.0	453.4	970.5	913.3	57.17	16.975	
9,800.0	9,637.2	9,671.9	9,637.2	34.5	21.9	-94.55	-77.0	453.4	970.5	913.2	57.24	16.955	
9,900.0	9,737.2	9,771.9	9,737.2	34.6	21.9	-94.55	-77.0	453.4	970.5	913.2	57.31	16.935	
10,000.0	9,837.2	9,871.9	9,837.2	34.6	21.9	-94.55	-77.0	453.4	970.5	913.1	57.37	16.915	
10,100.0	9,937.2	9,971.9	9,937.2	34.6	22.0	-94.55	-77.0	453.4	970.5	913.0	57.44	16.895	
10,200.0	10,037.2	10,071.9	10,037.2	34.7	22.0	-94.55	-77.0	453.4	970.5	913.0	57.51	16.875	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,137.2	10,171.9	10,137.2	34.7	22.1	-94.55	-77.0	453.4	970.5	912.9	57.58	16.855	
10,400.0	10,237.2	10,271.9	10,237.2	34.7	22.1	-94.55	-77.0	453.4	970.5	912.8	57.65	16.835	
10,500.0	10,337.2	10,371.9	10,337.2	34.7	22.2	-94.55	-77.0	453.4	970.5	912.8	57.72	16.814	
10,600.0	10,437.2	10,471.9	10,437.2	34.8	22.2	-94.55	-77.0	453.4	970.5	912.7	57.79	16.794	
10,700.0	10,537.2	10,571.9	10,537.2	34.8	22.3	-94.55	-77.0	453.4	970.5	912.6	57.86	16.774	
10,800.0	10,637.2	10,671.9	10,637.2	34.8	22.3	-94.55	-77.0	453.4	970.5	912.5	57.93	16.753	
10,900.0	10,737.2	10,771.9	10,737.2	34.8	22.4	-94.55	-77.0	453.4	970.5	912.5	58.00	16.733	
10,904.4	10,741.7	10,776.3	10,741.7	34.8	22.4	-99.15	-77.0	453.4	970.5	912.5	58.00	16.731	
11,000.0	10,837.1	10,880.7	10,845.8	34.9	22.4	-99.09	-72.8	453.4	970.7	912.5	58.15	16.692	
11,100.0	10,935.1	10,994.8	10,957.1	34.9	22.4	-98.76	-47.9	453.3	972.1	913.7	58.40	16.645	
11,200.0	11,028.4	11,107.9	11,060.3	35.0	22.4	-98.13	-2.1	453.1	974.7	916.1	58.63	16.625	
11,300.0	11,114.0	11,219.4	11,151.2	35.1	22.4	-97.24	62.1	452.8	978.6	919.8	58.82	16.639	
11,400.0	11,189.3	11,328.9	11,226.8	35.2	22.4	-96.13	141.0	452.5	983.6	924.7	58.95	16.686	
11,500.0	11,252.1	11,436.0	11,284.9	35.3	22.4	-94.84	230.9	452.2	989.7	930.7	59.03	16.767	
11,600.0	11,300.5	11,540.8	11,324.7	35.3	22.5	-93.41	327.6	451.8	996.7	937.6	59.07	16.874	
11,700.0	11,333.0	11,643.1	11,345.9	35.4	22.5	-91.91	427.6	451.4	1,004.4	945.3	59.08	16.999	
11,800.0	11,348.6	11,743.1	11,350.0	35.5	22.7	-90.41	527.4	451.0	1,012.6	953.5	59.11	17.131	
11,900.0	11,350.0	11,842.8	11,350.0	35.6	22.8	-90.00	627.1	450.6	1,020.4	961.1	59.29	17.210	
12,000.0	11,350.0	11,942.7	11,350.0	35.7	22.9	-90.00	727.0	450.2	1,025.0	965.4	59.55	17.212	
12,100.0	11,350.0	12,042.7	11,350.0	35.8	23.1	-90.00	827.0	449.8	1,026.1	966.3	59.83	17.151	
12,200.0	11,350.0	12,142.7	11,350.0	35.9	23.3	-90.00	927.0	449.4	1,026.1	966.0	60.15	17.060	
12,300.0	11,350.0	12,242.7	11,350.0	36.0	23.6	-90.00	1,027.0	449.0	1,026.1	965.6	60.50	16.961	
12,400.0	11,350.0	12,342.7	11,350.0	36.2	23.8	-90.00	1,127.0	448.6	1,026.1	965.2	60.89	16.853	
12,500.0	11,350.0	12,442.7	11,350.0	36.4	24.1	-90.00	1,227.0	448.2	1,026.1	964.8	61.31	16.737	
12,600.0	11,350.0	12,542.7	11,350.0	36.6	24.4	-90.00	1,327.0	447.8	1,026.1	964.3	61.77	16.613	
12,700.0	11,350.0	12,642.7	11,350.0	36.8	24.7	-90.00	1,427.0	447.4	1,026.1	963.9	62.26	16.481	
12,800.0	11,350.0	12,742.7	11,350.0	37.0	25.0	-90.00	1,527.0	447.0	1,026.1	963.3	62.78	16.344	
12,900.0	11,350.0	12,842.7	11,350.0	37.2	25.4	-90.00	1,627.0	446.6	1,026.1	962.8	63.34	16.200	
13,000.0	11,350.0	12,942.7	11,350.0	37.5	25.8	-90.00	1,727.0	446.2	1,026.1	962.2	63.93	16.051	
13,100.0	11,350.0	13,042.7	11,350.0	37.7	26.2	-90.00	1,827.0	445.8	1,026.1	961.6	64.54	15.898	
13,200.0	11,350.0	13,142.7	11,350.0	38.0	26.6	-90.00	1,927.0	445.4	1,026.1	960.9	65.19	15.740	
13,300.0	11,350.0	13,242.7	11,350.0	38.3	27.0	-90.00	2,027.0	445.0	1,026.1	960.2	65.87	15.579	
13,400.0	11,350.0	13,342.7	11,350.0	38.6	27.4	-90.00	2,127.0	444.6	1,026.1	959.5	66.57	15.414	
13,500.0	11,350.0	13,442.7	11,350.0	38.9	27.9	-90.00	2,227.0	444.2	1,026.1	958.8	67.30	15.247	
13,600.0	11,350.0	13,542.7	11,350.0	39.3	28.3	-90.00	2,327.0	443.8	1,026.1	958.0	68.06	15.077	
13,700.0	11,350.0	13,642.7	11,350.0	39.6	28.8	-90.00	2,427.0	443.4	1,026.1	957.3	68.84	14.906	
13,800.0	11,350.0	13,742.7	11,350.0	40.0	29.3	-90.00	2,527.0	443.0	1,026.1	956.5	69.64	14.734	
13,900.0	11,350.0	13,842.7	11,350.0	40.4	29.8	-90.00	2,627.0	442.6	1,026.1	955.6	70.47	14.561	
14,000.0	11,350.0	13,942.7	11,350.0	40.7	30.3	-90.00	2,727.0	442.2	1,026.1	954.8	71.32	14.387	
14,100.0	11,350.0	14,042.7	11,350.0	41.1	30.8	-90.00	2,827.0	441.8	1,026.1	953.9	72.20	14.213	
14,200.0	11,350.0	14,142.7	11,350.0	41.5	31.4	-90.00	2,927.0	441.4	1,026.1	953.0	73.09	14.039	
14,300.0	11,350.0	14,242.7	11,350.0	41.9	31.9	-90.00	3,027.0	441.0	1,026.1	952.1	74.00	13.865	
14,400.0	11,350.0	14,342.7	11,350.0	42.4	32.5	-90.00	3,127.0	440.6	1,026.1	951.2	74.94	13.693	
14,500.0	11,350.0	14,442.7	11,350.0	42.8	33.0	-90.00	3,227.0	440.2	1,026.1	950.2	75.89	13.521	
14,600.0	11,350.0	14,542.7	11,350.0	43.3	33.6	-90.00	3,327.0	439.8	1,026.1	949.2	76.86	13.350	
14,700.0	11,350.0	14,642.7	11,350.0	43.7	34.2	-90.00	3,427.0	439.4	1,026.1	948.2	77.85	13.181	
14,800.0	11,350.0	14,742.7	11,350.0	44.2	34.8	-90.00	3,527.0	439.0	1,026.1	947.2	78.85	13.013	
14,900.0	11,350.0	14,842.7	11,350.0	44.6	35.3	-90.00	3,627.0	438.6	1,026.1	946.2	79.87	12.846	
15,000.0	11,350.0	14,942.7	11,350.0	45.1	35.9	-90.00	3,727.0	438.2	1,026.1	945.2	80.91	12.682	
15,100.0	11,350.0	15,042.7	11,350.0	45.6	36.5	-90.00	3,827.0	437.8	1,026.1	944.1	81.96	12.519	
15,200.0	11,350.0	15,142.7	11,350.0	46.1	37.2	-90.00	3,927.0	437.4	1,026.1	943.1	83.03	12.358	
15,300.0	11,350.0	15,242.7	11,350.0	46.6	37.8	-90.00	4,027.0	437.0	1,026.1	942.0	84.11	12.200	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.0	11,350.0	15,342.7	11,350.0	47.1	38.4	-90.00	4,127.0	436.6	1,026.1	940.9	85.20	12.043	
15,500.0	11,350.0	15,442.7	11,350.0	47.6	39.0	-90.00	4,227.0	436.2	1,026.1	939.8	86.30	11.889	
15,600.0	11,350.0	15,542.7	11,350.0	48.2	39.6	-90.00	4,327.0	435.8	1,026.1	938.7	87.42	11.737	
15,700.0	11,350.0	15,642.7	11,350.0	48.7	40.3	-90.00	4,427.0	435.4	1,026.1	937.5	88.55	11.588	
15,800.0	11,350.0	15,742.7	11,350.0	49.2	40.9	-90.00	4,527.0	435.0	1,026.1	936.4	89.69	11.440	
15,900.0	11,350.0	15,842.7	11,350.0	49.8	41.6	-90.00	4,627.0	434.6	1,026.1	935.2	90.84	11.295	
16,000.0	11,350.0	15,942.7	11,350.0	50.3	42.2	-90.00	4,727.0	434.2	1,026.1	934.1	92.00	11.153	
16,100.0	11,350.0	16,042.7	11,350.0	50.9	42.9	-90.00	4,827.0	433.8	1,026.1	932.9	93.18	11.012	
16,200.0	11,350.0	16,142.7	11,350.0	51.4	43.5	-90.00	4,927.0	433.4	1,026.1	931.7	94.36	10.874	
16,300.0	11,350.0	16,242.7	11,350.0	52.0	44.2	-90.00	5,027.0	433.0	1,026.1	930.5	95.55	10.739	
16,400.0	11,350.0	16,342.7	11,350.0	52.5	44.8	-90.00	5,127.0	432.6	1,026.1	929.3	96.75	10.606	
16,500.0	11,350.0	16,442.7	11,350.0	53.1	45.5	-90.00	5,227.0	432.2	1,026.1	928.1	97.96	10.475	
16,600.0	11,350.0	16,542.7	11,350.0	53.7	46.2	-90.00	5,327.0	431.8	1,026.1	926.9	99.17	10.346	
16,700.0	11,350.0	16,642.7	11,350.0	54.3	46.8	-90.00	5,427.0	431.4	1,026.1	925.7	100.40	10.220	
16,800.0	11,350.0	16,742.7	11,350.0	54.9	47.5	-90.00	5,527.0	431.0	1,026.1	924.4	101.63	10.096	
16,900.0	11,350.0	16,842.7	11,350.0	55.5	48.2	-90.00	5,626.9	430.6	1,026.1	923.2	102.87	9.974	
17,000.0	11,350.0	16,942.7	11,350.0	56.1	48.9	-90.00	5,726.9	430.2	1,026.1	921.9	104.12	9.855	
17,100.0	11,350.0	17,042.7	11,350.0	56.7	49.6	-90.00	5,826.9	429.8	1,026.1	920.7	105.37	9.737	
17,200.0	11,350.0	17,142.7	11,350.0	57.3	50.2	-90.00	5,926.9	429.4	1,026.1	919.4	106.64	9.622	
17,300.0	11,350.0	17,242.7	11,350.0	57.9	50.9	-90.00	6,026.9	429.0	1,026.1	918.2	107.90	9.509	
17,400.0	11,350.0	17,342.7	11,350.0	58.5	51.6	-90.00	6,126.9	428.6	1,026.1	916.9	109.18	9.398	
17,500.0	11,350.0	17,442.7	11,350.0	59.1	52.3	-90.00	6,226.9	428.2	1,026.1	915.6	110.46	9.289	
17,600.0	11,350.0	17,542.7	11,350.0	59.7	53.0	-90.00	6,326.9	427.8	1,026.1	914.3	111.74	9.182	
17,700.0	11,350.0	17,642.7	11,350.0	60.3	53.7	-90.00	6,426.9	427.4	1,026.1	913.0	113.03	9.077	
17,800.0	11,350.0	17,742.7	11,350.0	61.0	54.4	-90.00	6,526.9	427.0	1,026.1	911.7	114.33	8.974	
17,900.0	11,350.0	17,842.7	11,350.0	61.6	55.1	-90.00	6,626.9	426.6	1,026.1	910.4	115.63	8.873	
18,000.0	11,350.0	17,942.7	11,350.0	62.2	55.8	-90.00	6,726.9	426.2	1,026.1	909.1	116.94	8.774	
18,100.0	11,350.0	18,042.7	11,350.0	62.9	56.5	-90.00	6,826.9	425.8	1,026.1	907.8	118.25	8.677	
18,200.0	11,350.0	18,142.7	11,350.0	63.5	57.2	-90.00	6,926.9	425.4	1,026.1	906.5	119.57	8.581	
18,300.0	11,350.0	18,242.7	11,350.0	64.1	57.9	-90.00	7,026.9	425.0	1,026.1	905.2	120.89	8.488	
18,400.0	11,350.0	18,342.7	11,350.0	64.8	58.6	-90.00	7,126.9	424.6	1,026.1	903.8	122.22	8.395	
18,500.0	11,350.0	18,442.7	11,350.0	65.4	59.3	-90.00	7,226.9	424.2	1,026.1	902.5	123.55	8.305	
18,600.0	11,350.0	18,542.7	11,350.0	66.1	60.0	-90.00	7,326.9	423.8	1,026.1	901.2	124.88	8.216	
18,700.0	11,350.0	18,642.7	11,350.0	66.7	60.7	-90.00	7,426.9	423.4	1,026.1	899.8	126.22	8.129	
18,800.0	11,350.0	18,742.7	11,350.0	67.4	61.5	-90.00	7,526.9	423.0	1,026.0	898.5	127.56	8.044	
18,900.0	11,350.0	18,842.7	11,350.0	68.0	62.2	-90.00	7,626.9	422.6	1,026.0	897.1	128.91	7.960	
19,000.0	11,350.0	18,942.7	11,350.0	68.7	62.9	-90.00	7,726.9	422.2	1,026.0	895.8	130.26	7.877	
19,100.0	11,350.0	19,042.7	11,350.0	69.3	63.6	-90.00	7,826.9	421.8	1,026.0	894.4	131.61	7.796	
19,200.0	11,350.0	19,142.7	11,350.0	70.0	64.3	-90.00	7,926.9	421.4	1,026.0	893.1	132.96	7.717	
19,300.0	11,350.0	19,242.7	11,350.0	70.7	65.0	-90.00	8,026.9	421.0	1,026.0	891.7	134.32	7.639	
19,400.0	11,350.0	19,342.7	11,350.0	71.3	65.8	-90.00	8,126.9	420.6	1,026.0	890.4	135.69	7.562	
19,500.0	11,350.0	19,442.7	11,350.0	72.0	66.5	-90.00	8,226.9	420.2	1,026.0	889.0	137.05	7.486	
19,600.0	11,350.0	19,542.7	11,350.0	72.7	67.2	-90.00	8,326.9	419.8	1,026.0	887.6	138.42	7.412	
19,700.0	11,350.0	19,642.7	11,350.0	73.3	67.9	-90.00	8,426.9	419.4	1,026.0	886.2	139.80	7.340	
19,800.0	11,350.0	19,742.7	11,350.0	74.0	68.7	-90.00	8,526.9	419.0	1,026.0	884.9	141.17	7.268	
19,900.0	11,350.0	19,842.7	11,350.0	74.7	69.4	-90.00	8,626.9	418.6	1,026.0	883.5	142.55	7.198	
20,000.0	11,350.0	19,942.7	11,350.0	75.4	70.1	-90.00	8,726.9	418.2	1,026.0	882.1	143.93	7.129	
20,100.0	11,350.0	20,042.7	11,350.0	76.1	70.8	-90.00	8,826.9	417.8	1,026.0	880.7	145.31	7.061	
20,200.0	11,350.0	20,142.7	11,350.0	76.7	71.6	-90.00	8,926.9	417.4	1,026.0	879.3	146.70	6.994	
20,300.0	11,350.0	20,242.7	11,350.0	77.4	72.3	-90.00	9,026.9	417.0	1,026.0	877.9	148.09	6.929	
20,400.0	11,350.0	20,342.7	11,350.0	78.1	73.0	-90.00	9,126.9	416.6	1,026.0	876.6	149.48	6.864	
20,500.0	11,350.0	20,442.7	11,350.0	78.8	73.7	-90.00	9,226.9	416.2	1,026.0	875.2	150.87	6.801	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,600.0	11,350.0	20,542.7	11,350.0	79.5	74.5	-90.00	9,326.9	415.8	1,026.0	873.8	152.26	6.739	
20,700.0	11,350.0	20,642.7	11,350.0	80.2	75.2	-90.00	9,426.9	415.4	1,026.0	872.4	153.66	6.677	
20,800.0	11,350.0	20,742.7	11,350.0	80.8	75.9	-90.00	9,526.9	415.0	1,026.0	871.0	155.06	6.617	
20,900.0	11,350.0	20,842.7	11,350.0	81.5	76.7	-90.00	9,626.9	414.6	1,026.0	869.6	156.46	6.558	
21,000.0	11,350.0	20,942.7	11,350.0	82.2	77.4	-90.00	9,726.9	414.2	1,026.0	868.2	157.87	6.499	
21,100.0	11,350.0	21,042.7	11,350.0	82.9	78.1	-90.00	9,826.9	413.8	1,026.0	866.8	159.27	6.442	
21,200.0	11,350.0	21,142.7	11,350.0	83.6	78.9	-90.00	9,926.9	413.4	1,026.0	865.3	160.68	6.386	
21,300.0	11,350.0	21,242.7	11,350.0	84.3	79.6	-90.00	10,026.9	413.0	1,026.0	863.9	162.09	6.330	
21,400.0	11,350.0	21,342.7	11,350.0	85.0	80.3	-90.00	10,126.9	412.6	1,026.0	862.5	163.50	6.275	
21,500.0	11,350.0	21,442.7	11,350.0	85.7	81.1	-90.00	10,226.9	412.2	1,026.0	861.1	164.91	6.222	
21,600.0	11,350.0	21,542.7	11,350.0	86.4	81.8	-90.00	10,326.9	411.8	1,026.0	859.7	166.33	6.169	
21,700.0	11,350.0	21,642.7	11,350.0	87.1	82.6	-90.00	10,426.9	411.4	1,026.0	858.3	167.74	6.117	
21,800.0	11,350.0	21,742.7	11,350.0	87.8	83.3	-90.00	10,526.9	411.0	1,026.0	856.9	169.16	6.065	
21,900.0	11,350.0	21,842.7	11,350.0	88.5	84.0	-90.00	10,626.9	410.6	1,026.0	855.4	170.58	6.015	
22,000.0	11,350.0	21,942.7	11,350.0	89.2	84.8	-90.00	10,726.9	410.2	1,026.0	854.0	172.00	5.965	
22,100.0	11,350.0	22,042.7	11,350.0	89.9	85.5	-90.00	10,826.9	409.8	1,026.0	852.6	173.43	5.916	
22,200.0	11,350.0	22,142.7	11,350.0	90.6	86.2	-90.00	10,926.9	409.4	1,026.0	851.2	174.85	5.868	
22,300.0	11,350.0	22,242.7	11,350.0	91.3	87.0	-90.00	11,026.9	409.0	1,026.0	849.7	176.28	5.820	
22,400.0	11,350.0	22,342.7	11,350.0	92.0	87.7	-90.00	11,126.9	408.6	1,026.0	848.3	177.70	5.774	
22,500.0	11,350.0	22,442.7	11,350.0	92.7	88.5	-90.00	11,226.9	408.2	1,026.0	846.9	179.13	5.728	
22,600.0	11,350.0	22,542.7	11,350.0	93.5	89.2	-90.00	11,326.9	407.8	1,026.0	845.4	180.56	5.682	
22,700.0	11,350.0	22,642.7	11,350.0	94.2	89.9	-90.00	11,426.9	407.4	1,026.0	844.0	181.99	5.638	
22,800.0	11,350.0	22,742.7	11,350.0	94.9	90.7	-90.00	11,526.9	407.0	1,026.0	842.6	183.43	5.594	
22,900.0	11,350.0	22,842.7	11,350.0	95.6	91.4	-90.00	11,626.9	406.6	1,026.0	841.1	184.86	5.550	
23,000.0	11,350.0	22,942.7	11,350.0	96.3	92.2	-90.00	11,726.9	406.2	1,026.0	839.7	186.29	5.507	
23,100.0	11,350.0	23,042.7	11,350.0	97.0	92.9	-90.00	11,826.9	405.8	1,026.0	838.3	187.73	5.465	
23,200.0	11,350.0	23,142.7	11,350.0	97.7	93.7	-90.00	11,926.9	405.4	1,026.0	836.8	189.17	5.424	
23,300.0	11,350.0	23,242.7	11,350.0	98.4	94.4	-90.00	12,026.9	405.0	1,026.0	835.4	190.61	5.383	
23,400.0	11,350.0	23,342.7	11,350.0	99.2	95.2	-90.00	12,126.9	404.6	1,026.0	834.0	192.05	5.342	
23,500.0	11,350.0	23,442.7	11,350.0	99.9	95.9	-90.00	12,226.9	404.2	1,026.0	832.5	193.49	5.303	
23,600.0	11,350.0	23,542.7	11,350.0	100.6	96.6	-90.00	12,326.9	403.8	1,026.0	831.1	194.93	5.263	
23,700.0	11,350.0	23,642.7	11,350.0	101.3	97.4	-90.00	12,426.9	403.4	1,026.0	829.6	196.37	5.225	
23,800.0	11,350.0	23,742.7	11,350.0	102.0	98.1	-90.00	12,526.9	403.0	1,026.0	828.2	197.82	5.187	
23,900.0	11,350.0	23,842.7	11,350.0	102.7	98.9	-90.00	12,626.9	402.6	1,026.0	826.7	199.26	5.149	
24,000.0	11,350.0	23,942.7	11,350.0	103.5	99.6	-90.00	12,726.9	402.2	1,026.0	825.3	200.71	5.112	
24,100.0	11,350.0	24,042.7	11,350.0	104.2	100.4	-90.00	12,826.9	401.8	1,026.0	823.8	202.15	5.075	
24,200.0	11,350.0	24,142.7	11,350.0	104.9	101.1	-90.00	12,926.9	401.4	1,026.0	822.4	203.60	5.039	
24,300.0	11,350.0	24,242.7	11,350.0	105.6	101.9	-90.00	13,026.9	401.0	1,026.0	820.9	205.05	5.004	
24,400.0	11,350.0	24,342.7	11,350.0	106.3	102.6	-90.00	13,126.9	400.6	1,026.0	819.5	206.50	4.968	
24,500.0	11,350.0	24,442.7	11,350.0	107.1	103.4	-90.00	13,226.9	400.2	1,026.0	818.0	207.95	4.934	
24,600.0	11,350.0	24,542.7	11,350.0	107.8	104.1	-90.00	13,326.9	399.8	1,026.0	816.6	209.40	4.900	
24,700.0	11,350.0	24,642.7	11,350.0	108.5	104.9	-90.00	13,426.9	399.4	1,026.0	815.1	210.86	4.866	
24,800.0	11,350.0	24,742.7	11,350.0	109.2	105.6	-90.00	13,526.9	399.0	1,026.0	813.7	212.31	4.833	
24,802.4	11,350.0	24,745.1	11,350.0	109.3	105.6	-90.00	13,529.3	399.0	1,026.0	813.6	212.34	4.832	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-90.00	0.0	-30.0	30.0	23.6	6.43	4.666	
100.0	100.0	100.0	100.0	3.2	3.2	-90.00	0.0	-30.0	30.0	23.1	6.89	4.353	
200.0	200.0	200.0	200.0	3.5	3.5	-90.00	0.0	-30.0	30.0	22.7	7.33	4.094	
300.0	300.0	300.0	300.0	3.7	3.7	-90.00	0.0	-30.0	30.0	22.3	7.74	3.875	
400.0	400.0	400.0	400.0	3.9	3.9	-90.00	0.0	-30.0	30.0	21.9	8.14	3.688	
500.0	500.0	500.0	500.0	4.1	4.1	-90.00	0.0	-30.0	30.0	21.5	8.51	3.524	
600.0	600.0	600.0	600.0	4.2	4.2	-90.00	0.0	-30.0	30.0	21.1	8.88	3.379	
700.0	700.0	700.0	700.0	4.4	4.4	-90.00	0.0	-30.0	30.0	20.8	9.23	3.250	
800.0	800.0	800.0	800.0	4.6	4.6	-90.00	0.0	-30.0	30.0	20.4	9.57	3.135	
900.0	900.0	900.0	900.0	4.8	4.8	-90.00	0.0	-30.0	30.0	20.1	9.90	3.030	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-90.00	0.0	-30.0	30.0	19.8	10.22	2.934	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-90.00	0.0	-30.0	30.0	19.5	10.54	2.846	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-90.00	0.0	-30.0	30.0	19.2	10.85	2.766	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-90.00	0.0	-30.0	30.0	18.9	11.15	2.691	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-90.00	0.0	-30.0	30.0	18.6	11.44	2.621	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-90.00	0.0	-30.0	30.0	18.3	11.73	2.557	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-90.00	0.0	-30.0	30.0	18.0	12.02	2.496	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.00	0.0	-30.0	30.0	17.7	12.30	2.439	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-90.00	0.0	-30.0	30.0	17.4	12.58	2.386	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-90.00	0.0	-30.0	30.0	17.2	12.85	2.335	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-90.00	0.0	-30.0	30.0	16.9	13.12	2.287	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-90.00	0.0	-30.0	30.0	16.6	13.38	2.242	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-90.00	0.0	-30.0	30.0	16.4	13.64	2.199	CC, ES, SF
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	180.00	0.0	-30.0	31.3	17.4	13.92	2.249	
2,400.0	2,399.9	2,399.9	2,399.9	7.0	6.9	180.00	0.0	-30.0	35.2	21.0	14.19	2.482	
2,500.0	2,499.7	2,499.7	2,499.7	7.1	7.0	180.00	0.0	-30.0	41.8	27.3	14.48	2.884	
2,600.0	2,599.3	2,600.4	2,600.4	7.3	7.2	-179.24	0.7	-28.9	49.8	35.0	14.80	3.364	
2,700.0	2,698.6	2,701.2	2,701.2	7.5	7.3	-177.38	2.7	-25.4	58.2	43.1	15.14	3.845	
2,800.0	2,797.5	2,802.2	2,801.9	7.7	7.5	-174.87	6.0	-19.7	67.1	51.6	15.49	4.330	
2,900.0	2,896.1	2,903.2	2,902.5	8.0	7.7	-171.98	10.6	-11.6	76.6	60.7	15.87	4.823	
3,000.0	2,994.2	3,004.3	3,002.8	8.3	7.9	-168.89	16.6	-1.2	86.7	70.5	16.27	5.332	
3,100.0	3,091.7	3,104.0	3,101.6	8.5	8.1	-166.04	23.5	10.7	98.2	81.6	16.64	5.902	
3,200.0	3,188.8	3,203.0	3,199.6	8.8	8.3	-164.06	30.4	22.6	111.7	94.7	17.01	6.566	
3,300.0	3,285.8	3,302.8	3,298.5	9.1	8.5	-162.54	37.3	34.7	125.4	108.0	17.42	7.197	
3,400.0	3,382.8	3,406.7	3,401.1	9.4	8.8	-161.58	43.0	49.4	136.9	118.9	17.91	7.640	
3,500.0	3,479.8	3,511.3	3,504.1	9.7	9.1	-161.19	46.6	67.2	144.9	126.5	18.42	7.866	
3,600.0	3,576.9	3,615.2	3,605.9	10.1	9.4	-161.24	48.0	87.8	149.5	130.5	18.97	7.880	
3,700.0	3,673.9	3,715.1	3,703.7	10.5	9.7	-161.40	48.8	108.6	153.0	133.4	19.64	7.792	
3,800.0	3,770.9	3,815.1	3,801.5	10.8	10.0	-161.56	49.5	129.4	156.6	136.3	20.27	7.723	
3,900.0	3,868.0	3,915.0	3,899.2	11.2	10.3	-161.71	50.2	150.1	160.1	139.2	20.93	7.650	
4,000.0	3,965.0	4,014.9	3,997.0	11.6	10.6	-161.85	50.9	170.9	163.7	142.1	21.61	7.573	
4,100.0	4,062.0	4,114.9	4,094.7	12.0	11.0	-161.99	51.7	191.7	167.2	144.9	22.31	7.495	
4,200.0	4,159.1	4,214.8	4,192.5	12.4	11.3	-162.12	52.4	212.4	170.8	147.8	23.03	7.415	
4,300.0	4,256.1	4,314.7	4,290.2	12.8	11.6	-162.25	53.1	233.2	174.3	150.6	23.77	7.336	
4,400.0	4,353.1	4,414.7	4,388.0	13.2	12.0	-162.37	53.8	254.0	177.9	153.4	24.52	7.257	
4,500.0	4,450.1	4,514.6	4,485.7	13.6	12.4	-162.49	54.6	274.7	181.5	156.2	25.28	7.179	
4,600.0	4,547.2	4,614.6	4,583.5	14.0	12.8	-162.60	55.3	295.5	185.0	159.0	26.05	7.102	
4,700.0	4,644.2	4,714.5	4,681.2	14.5	13.1	-162.71	56.0	316.3	188.6	161.7	26.84	7.026	
4,800.0	4,741.2	4,814.4	4,779.0	14.9	13.5	-162.81	56.7	337.0	192.1	164.5	27.64	6.953	
4,900.0	4,838.3	4,914.4	4,876.7	15.3	13.9	-162.91	57.5	357.8	195.7	167.3	28.44	6.881	
5,000.0	4,935.3	5,014.3	4,974.5	15.8	14.3	-163.01	58.2	378.5	199.3	170.0	29.26	6.811	
5,100.0	5,032.3	5,114.2	5,072.2	16.2	14.7	-163.10	58.9	399.3	202.8	172.7	30.08	6.743	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,200.0	5,129.4	5,214.2	5,170.0	16.7	15.1	-163.19	59.6	420.1	206.4	175.5	30.91	6.677	
5,300.0	5,226.4	5,314.1	5,267.7	17.1	15.5	-163.28	60.4	440.8	209.9	178.2	31.75	6.613	
5,400.0	5,323.4	5,414.0	5,365.5	17.6	15.9	-163.36	61.1	461.6	213.5	180.9	32.59	6.552	
5,500.0	5,420.4	5,514.0	5,463.2	18.0	16.4	-163.44	61.8	482.4	217.1	183.6	33.44	6.492	
5,600.0	5,517.5	5,613.9	5,561.0	18.5	16.8	-163.52	62.5	503.1	220.6	186.3	34.29	6.434	
5,700.0	5,614.5	5,713.8	5,658.7	18.9	17.2	-163.60	63.3	523.9	224.2	189.1	35.15	6.378	
5,800.0	5,711.5	5,813.8	5,756.5	19.4	17.6	-163.67	64.0	544.7	227.8	191.8	36.01	6.324	
5,900.0	5,808.6	5,913.7	5,854.2	19.8	18.1	-163.74	64.7	565.4	231.3	194.4	36.88	6.272	
6,000.0	5,905.6	6,013.7	5,952.0	20.3	18.5	-163.81	65.4	586.2	234.9	197.1	37.75	6.222	
6,100.0	6,002.6	6,113.6	6,049.8	20.8	18.9	-163.88	66.2	607.0	238.5	199.8	38.63	6.173	
6,200.0	6,099.6	6,213.5	6,147.5	21.2	19.4	-163.94	66.9	627.7	242.0	202.5	39.51	6.126	
6,300.0	6,196.7	6,313.5	6,245.3	21.7	19.8	-164.01	67.6	648.5	245.6	205.2	40.39	6.080	
6,400.0	6,293.7	6,413.4	6,343.0	22.2	20.2	-164.07	68.3	669.3	249.2	207.9	41.28	6.036	
6,500.0	6,390.7	6,513.3	6,440.8	22.6	20.7	-164.13	69.1	690.0	252.7	210.6	42.17	5.994	
6,600.0	6,487.8	6,613.3	6,538.5	23.1	21.1	-164.19	69.8	710.8	256.3	213.2	43.06	5.952	
6,700.0	6,584.8	6,713.2	6,636.3	23.6	21.6	-164.24	70.5	731.6	259.9	215.9	43.95	5.912	
6,800.0	6,681.8	6,813.1	6,734.0	24.0	22.0	-164.30	71.2	752.3	263.4	218.6	44.85	5.874	
6,900.0	6,778.9	6,913.1	6,831.8	24.5	22.5	-164.35	72.0	773.1	267.0	221.3	45.75	5.837	
7,000.0	6,875.9	7,013.0	6,929.5	25.0	22.9	-164.40	72.7	793.9	270.6	223.9	46.65	5.800	
7,100.0	6,972.9	7,113.0	7,027.3	25.4	23.4	-164.45	73.4	814.6	274.1	226.6	47.55	5.765	
7,200.0	7,069.9	7,212.9	7,125.0	25.9	23.8	-164.50	74.1	835.4	277.7	229.3	48.45	5.732	
7,300.0	7,167.0	7,309.5	7,219.6	26.4	24.2	-164.58	74.8	855.0	281.7	232.4	49.33	5.711	
7,400.0	7,264.0	7,404.8	7,313.2	26.9	24.7	-164.74	75.5	872.9	287.3	237.0	50.23	5.719	
7,500.0	7,361.0	7,500.0	7,407.0	27.3	25.1	-164.99	76.0	889.2	294.4	243.3	51.12	5.759	
7,600.0	7,458.1	7,594.8	7,500.7	27.8	25.5	-165.31	76.5	903.9	303.1	251.1	52.01	5.828	
7,700.0	7,555.1	7,689.4	7,594.3	28.3	25.9	-165.69	77.0	917.0	313.4	260.5	52.89	5.926	
7,800.0	7,652.1	7,783.6	7,687.8	28.8	26.2	-166.12	77.4	928.5	325.3	271.6	53.76	6.052	
7,900.0	7,749.2	7,877.4	7,781.2	29.2	26.6	-166.60	77.7	938.4	338.5	283.9	54.59	6.200	
8,000.0	7,846.7	7,971.1	7,874.4	29.7	27.0	-167.06	78.0	946.8	351.6	296.2	55.40	6.346	
8,100.0	7,944.6	8,064.5	7,967.6	30.2	27.3	-167.50	78.3	953.6	364.6	308.4	56.17	6.491	
8,200.0	8,042.8	8,157.8	8,060.8	30.6	27.6	-167.90	78.5	959.0	377.5	320.6	56.90	6.635	
8,300.0	8,141.4	8,250.9	8,153.8	31.1	27.9	-168.29	78.6	962.8	390.3	332.8	57.57	6.780	
8,400.0	8,240.2	8,343.8	8,246.6	31.5	28.2	-168.65	78.7	965.0	403.0	344.8	58.19	6.926	
8,500.0	8,339.2	8,436.5	8,339.4	31.9	28.4	-169.00	78.7	965.8	415.6	356.9	58.71	7.079	
8,600.0	8,438.5	8,535.7	8,438.5	32.3	28.4	-169.32	78.7	965.8	427.3	368.1	59.21	7.216	
8,700.0	8,538.0	8,635.2	8,538.0	32.7	28.4	-169.59	78.7	965.8	437.3	377.6	59.70	7.325	
8,800.0	8,637.6	8,734.8	8,637.6	33.1	28.4	-169.80	78.7	965.8	445.6	385.4	60.17	7.406	
8,900.0	8,737.4	8,834.6	8,737.4	33.5	28.5	-169.96	78.7	965.8	452.2	391.6	60.60	7.462	
9,000.0	8,837.3	8,934.5	8,837.3	33.8	28.5	-170.08	78.7	965.8	457.1	396.1	61.01	7.492	
9,100.0	8,937.2	9,034.4	8,937.2	34.1	28.5	-170.15	78.7	965.8	460.2	398.9	61.37	7.499	
9,200.0	9,037.2	9,134.4	9,037.2	34.4	28.6	-170.18	78.7	965.8	461.7	400.0	61.67	7.486	
9,300.0	9,137.2	9,234.4	9,137.2	34.4	28.6	-80.19	78.7	965.8	461.8	400.0	61.75	7.478	
9,400.0	9,237.2	9,334.4	9,237.2	34.4	28.7	-80.19	78.7	965.8	461.8	400.0	61.81	7.471	
9,500.0	9,337.2	9,434.4	9,337.2	34.5	28.7	-80.19	78.7	965.8	461.8	399.9	61.87	7.463	
9,600.0	9,437.2	9,534.4	9,437.2	34.5	28.7	-80.19	78.7	965.8	461.8	399.8	61.93	7.456	
9,700.0	9,537.2	9,634.4	9,537.2	34.5	28.8	-80.19	78.7	965.8	461.8	399.8	61.99	7.449	
9,800.0	9,637.2	9,734.4	9,637.2	34.5	28.8	-80.19	78.7	965.8	461.8	399.7	62.05	7.441	
9,900.0	9,737.2	9,834.4	9,737.2	34.6	28.8	-80.19	78.7	965.8	461.8	399.6	62.11	7.434	
10,000.0	9,837.2	9,934.4	9,837.2	34.6	28.9	-80.19	78.7	965.8	461.8	399.6	62.18	7.427	
10,100.0	9,937.2	10,034.4	9,937.2	34.6	28.9	-80.19	78.7	965.8	461.8	399.5	62.24	7.419	
10,200.0	10,037.2	10,134.4	10,037.2	34.7	28.9	-80.19	78.7	965.8	461.8	399.5	62.30	7.412	
10,300.0	10,137.2	10,234.4	10,137.2	34.7	29.0	-80.19	78.7	965.8	461.8	399.4	62.37	7.404	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
10,400.0	10,237.2	10,334.4	10,237.2	34.7	29.0	-80.19	78.7	965.8	461.8	399.3	62.43	7.397	
10,500.0	10,337.2	10,434.4	10,337.2	34.7	29.0	-80.19	78.7	965.8	461.8	399.3	62.49	7.389	
10,600.0	10,437.2	10,534.4	10,437.2	34.8	29.1	-80.19	78.7	965.8	461.8	399.2	62.56	7.382	
10,700.0	10,537.2	10,634.4	10,537.2	34.8	29.1	-80.19	78.7	965.8	461.8	399.1	62.62	7.374	
10,702.3	10,539.5	10,636.7	10,539.5	34.8	29.1	-80.19	78.7	965.8	461.8	399.1	62.62	7.374	
10,800.0	10,637.2	10,730.7	10,633.5	34.8	29.2	-80.11	79.3	965.8	461.9	399.3	62.59	7.379	
10,900.0	10,737.2	10,816.9	10,719.0	34.8	29.2	-78.84	89.8	965.8	464.2	402.1	62.08	7.477	
11,000.0	10,837.1	10,900.0	10,799.0	34.9	29.3	-80.74	111.8	965.7	469.7	408.6	61.13	7.684	
11,100.0	10,935.1	10,978.8	10,871.3	34.9	29.3	-78.06	143.3	965.6	477.1	417.1	60.06	7.944	
11,200.0	11,028.4	11,057.0	10,937.9	35.0	29.4	-75.71	183.9	965.4	485.5	426.4	59.10	8.215	
11,300.0	11,114.0	11,133.8	10,997.5	35.1	29.5	-73.76	232.4	965.2	494.4	436.1	58.32	8.477	
11,400.0	11,189.3	11,209.8	11,049.5	35.2	29.6	-72.26	287.7	965.0	503.1	445.4	57.77	8.708	
11,500.0	11,252.1	11,285.1	11,093.4	35.3	29.6	-71.20	348.8	964.7	511.4	453.9	57.48	8.897	
11,600.0	11,300.5	11,360.2	11,128.8	35.3	29.7	-70.60	415.0	964.5	518.8	461.4	57.43	9.034	
11,700.0	11,333.0	11,435.3	11,155.2	35.4	29.8	-70.45	485.2	964.2	525.2	467.6	57.61	9.116	
11,800.0	11,348.6	11,510.6	11,172.3	35.5	29.8	-70.73	558.5	963.9	530.5	472.5	58.02	9.144	
11,900.0	11,350.0	11,586.8	11,179.7	35.6	29.9	-71.43	634.3	963.6	535.2	476.7	58.51	9.147	
12,000.0	11,350.0	11,681.6	11,180.0	35.7	30.0	-71.62	729.0	963.2	539.4	480.9	58.51	9.220	
12,100.0	11,350.0	11,781.6	11,180.0	35.8	30.1	-71.67	829.0	962.8	540.5	482.1	58.41	9.254	
12,200.0	11,350.0	11,881.6	11,180.0	35.9	30.2	-71.67	929.0	962.4	540.5	482.2	58.33	9.267	
12,300.0	11,350.0	11,981.6	11,180.0	36.0	30.4	-71.67	1,029.0	962.0	540.5	482.2	58.29	9.273	
12,400.0	11,350.0	12,081.6	11,180.0	36.2	30.5	-71.67	1,129.0	961.6	540.5	482.2	58.29	9.273	
12,500.0	11,350.0	12,181.6	11,180.0	36.4	30.7	-71.67	1,229.0	961.2	540.5	482.2	58.33	9.266	
12,600.0	11,350.0	12,281.6	11,180.0	36.6	30.9	-71.67	1,329.0	960.8	540.5	482.1	58.41	9.253	
12,700.0	11,350.0	12,381.6	11,180.0	36.8	31.1	-71.67	1,429.0	960.4	540.5	482.0	58.53	9.234	
12,800.0	11,350.0	12,481.6	11,180.0	37.0	31.4	-71.67	1,529.0	960.0	540.5	481.8	58.69	9.209	
12,900.0	11,350.0	12,581.6	11,180.0	37.2	31.6	-71.67	1,629.0	959.6	540.5	481.6	58.89	9.178	
13,000.0	11,350.0	12,681.6	11,180.0	37.5	31.9	-71.67	1,729.0	959.2	540.5	481.4	59.13	9.141	
13,100.0	11,350.0	12,781.6	11,180.0	37.7	32.2	-71.67	1,829.0	958.8	540.5	481.1	59.40	9.099	
13,200.0	11,350.0	12,881.6	11,180.0	38.0	32.5	-71.67	1,929.0	958.4	540.5	480.8	59.71	9.052	
13,300.0	11,350.0	12,981.6	11,180.0	38.3	32.8	-71.67	2,029.0	958.0	540.5	480.4	60.06	8.999	
13,400.0	11,350.0	13,081.6	11,180.0	38.6	33.2	-71.67	2,129.0	957.6	540.5	480.1	60.45	8.942	
13,500.0	11,350.0	13,181.6	11,180.0	38.9	33.5	-71.67	2,229.0	957.2	540.5	479.6	60.87	8.880	
13,600.0	11,350.0	13,281.6	11,180.0	39.3	33.9	-71.67	2,329.0	956.8	540.5	479.2	61.33	8.814	
13,700.0	11,350.0	13,381.6	11,180.0	39.6	34.3	-71.67	2,429.0	956.4	540.5	478.7	61.82	8.744	
13,800.0	11,350.0	13,481.6	11,180.0	40.0	34.7	-71.67	2,529.0	956.0	540.5	478.2	62.34	8.671	
13,900.0	11,350.0	13,581.6	11,180.0	40.4	35.1	-71.67	2,629.0	955.6	540.5	477.6	62.89	8.594	
14,000.0	11,350.0	13,681.6	11,180.0	40.7	35.5	-71.67	2,729.0	955.2	540.5	477.0	63.48	8.515	
14,100.0	11,350.0	13,781.6	11,180.0	41.1	35.9	-71.67	2,829.0	954.8	540.5	476.4	64.10	8.433	
14,200.0	11,350.0	13,881.6	11,180.0	41.5	36.4	-71.67	2,929.0	954.4	540.5	475.8	64.74	8.348	
14,300.0	11,350.0	13,981.6	11,180.0	41.9	36.8	-71.67	3,029.0	954.0	540.5	475.1	65.42	8.262	
14,400.0	11,350.0	14,081.6	11,180.0	42.4	37.3	-71.67	3,129.0	953.6	540.5	474.4	66.12	8.174	
14,500.0	11,350.0	14,181.6	11,180.0	42.8	37.8	-71.67	3,229.0	953.2	540.5	473.6	66.86	8.085	
14,600.0	11,350.0	14,281.6	11,180.0	43.3	38.3	-71.67	3,329.0	952.8	540.5	472.9	67.61	7.994	
14,700.0	11,350.0	14,381.6	11,180.0	43.7	38.8	-71.67	3,429.0	952.4	540.5	472.1	68.40	7.903	
14,800.0	11,350.0	14,481.6	11,180.0	44.2	39.3	-71.67	3,529.0	952.0	540.5	471.3	69.20	7.810	
14,900.0	11,350.0	14,581.6	11,180.0	44.6	39.8	-71.67	3,629.0	951.6	540.5	470.5	70.03	7.718	
15,000.0	11,350.0	14,681.6	11,180.0	45.1	40.3	-71.67	3,729.0	951.2	540.5	469.6	70.89	7.625	
15,100.0	11,350.0	14,781.6	11,180.0	45.6	40.8	-71.67	3,829.0	950.8	540.5	468.7	71.76	7.532	
15,200.0	11,350.0	14,881.6	11,180.0	46.1	41.4	-71.67	3,929.0	950.4	540.5	467.8	72.66	7.439	
15,300.0	11,350.0	14,981.6	11,180.0	46.6	41.9	-71.67	4,029.0	950.0	540.5	466.9	73.58	7.346	
15,400.0	11,350.0	15,081.6	11,180.0	47.1	42.5	-71.67	4,129.0	949.6	540.5	466.0	74.51	7.254	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #708H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	11,350.0	15,181.6	11,180.0	47.6	43.0	-71.67	4,229.0	949.2	540.5	465.0	75.47	7.162	
15,600.0	11,350.0	15,281.6	11,180.0	48.2	43.6	-71.67	4,329.0	948.8	540.5	464.1	76.44	7.071	
15,700.0	11,350.0	15,381.6	11,180.0	48.7	44.2	-71.67	4,429.0	948.4	540.5	463.1	77.43	6.980	
15,800.0	11,350.0	15,481.6	11,180.0	49.2	44.8	-71.67	4,529.0	948.0	540.5	462.1	78.44	6.890	
15,900.0	11,350.0	15,581.6	11,180.0	49.8	45.4	-71.67	4,629.0	947.6	540.5	461.0	79.47	6.802	
16,000.0	11,350.0	15,681.6	11,180.0	50.3	45.9	-71.67	4,729.0	947.2	540.5	460.0	80.51	6.714	
16,100.0	11,350.0	15,781.6	11,180.0	50.9	46.5	-71.67	4,829.0	946.8	540.5	458.9	81.56	6.627	
16,200.0	11,350.0	15,881.6	11,180.0	51.4	47.1	-71.67	4,929.0	946.4	540.5	457.9	82.63	6.541	
16,300.0	11,350.0	15,981.6	11,180.0	52.0	47.7	-71.67	5,029.0	946.0	540.5	456.8	83.71	6.456	
16,400.0	11,350.0	16,081.6	11,180.0	52.5	48.4	-71.67	5,129.0	945.6	540.5	455.7	84.81	6.373	
16,500.0	11,350.0	16,181.6	11,180.0	53.1	49.0	-71.67	5,229.0	945.2	540.5	454.6	85.92	6.291	
16,600.0	11,350.0	16,281.6	11,180.0	53.7	49.6	-71.67	5,329.0	944.8	540.5	453.4	87.04	6.210	
16,700.0	11,350.0	16,381.6	11,180.0	54.3	50.2	-71.67	5,429.0	944.4	540.5	452.3	88.17	6.130	
16,800.0	11,350.0	16,481.6	11,180.0	54.9	50.8	-71.67	5,529.0	944.0	540.5	451.2	89.32	6.051	
16,900.0	11,350.0	16,581.6	11,180.0	55.5	51.5	-71.67	5,629.0	943.6	540.5	450.0	90.47	5.974	
17,000.0	11,350.0	16,681.6	11,180.0	56.1	52.1	-71.67	5,729.0	943.2	540.5	448.8	91.64	5.898	
17,100.0	11,350.0	16,781.6	11,180.0	56.7	52.7	-71.67	5,829.0	942.8	540.5	447.7	92.81	5.823	
17,200.0	11,350.0	16,881.6	11,180.0	57.3	53.4	-71.67	5,929.0	942.4	540.5	446.5	94.00	5.750	
17,300.0	11,350.0	16,981.6	11,180.0	57.9	54.0	-71.67	6,029.0	942.0	540.5	445.3	95.20	5.678	
17,400.0	11,350.0	17,081.6	11,180.0	58.5	54.7	-71.67	6,129.0	941.6	540.5	444.1	96.40	5.607	
17,500.0	11,350.0	17,181.6	11,180.0	59.1	55.3	-71.67	6,229.0	941.2	540.5	442.9	97.61	5.537	
17,600.0	11,350.0	17,281.6	11,180.0	59.7	56.0	-71.67	6,329.0	940.8	540.5	441.6	98.83	5.469	
17,700.0	11,350.0	17,381.6	11,180.0	60.3	56.6	-71.67	6,429.0	940.4	540.5	440.4	100.06	5.401	
17,800.0	11,350.0	17,481.6	11,180.0	61.0	57.3	-71.67	6,529.0	940.0	540.5	439.2	101.30	5.335	
17,900.0	11,350.0	17,581.6	11,180.0	61.6	58.0	-71.67	6,629.0	939.6	540.5	437.9	102.54	5.271	
18,000.0	11,350.0	17,681.6	11,180.0	62.2	58.6	-71.67	6,729.0	939.2	540.5	436.7	103.80	5.207	
18,100.0	11,350.0	17,781.6	11,180.0	62.9	59.3	-71.67	6,829.0	938.8	540.5	435.4	105.05	5.145	
18,200.0	11,350.0	17,881.6	11,180.0	63.5	60.0	-71.67	6,929.0	938.4	540.5	434.2	106.32	5.083	
18,300.0	11,350.0	17,981.6	11,180.0	64.1	60.6	-71.67	7,029.0	938.0	540.5	432.9	107.59	5.023	
18,400.0	11,350.0	18,081.6	11,180.0	64.8	61.3	-71.67	7,129.0	937.6	540.5	431.6	108.87	4.964	
18,500.0	11,350.0	18,181.6	11,180.0	65.4	62.0	-71.67	7,229.0	937.2	540.5	430.3	110.15	4.907	
18,600.0	11,350.0	18,281.6	11,180.0	66.1	62.7	-71.67	7,329.0	936.8	540.5	429.0	111.44	4.850	
18,700.0	11,350.0	18,381.6	11,180.0	66.7	63.3	-71.67	7,429.0	936.4	540.5	427.7	112.74	4.794	
18,800.0	11,350.0	18,481.6	11,180.0	67.4	64.0	-71.67	7,529.0	936.0	540.5	426.4	114.04	4.739	
18,900.0	11,350.0	18,581.6	11,180.0	68.0	64.7	-71.67	7,629.0	935.6	540.5	425.1	115.35	4.686	
19,000.0	11,350.0	18,681.6	11,180.0	68.7	65.4	-71.67	7,729.0	935.2	540.5	423.8	116.66	4.633	
19,100.0	11,350.0	18,781.6	11,180.0	69.3	66.1	-71.67	7,829.0	934.8	540.5	422.5	117.97	4.581	
19,200.0	11,350.0	18,881.6	11,180.0	70.0	66.8	-71.67	7,929.0	934.4	540.5	421.2	119.29	4.531	
19,300.0	11,350.0	18,981.6	11,180.0	70.7	67.5	-71.67	8,029.0	934.0	540.5	419.8	120.62	4.481	
19,400.0	11,350.0	19,081.6	11,180.0	71.3	68.2	-71.67	8,129.0	933.6	540.5	418.5	121.95	4.432	
19,500.0	11,350.0	19,181.6	11,180.0	72.0	68.9	-71.67	8,229.0	933.2	540.5	417.2	123.28	4.384	
19,600.0	11,350.0	19,281.6	11,180.0	72.7	69.5	-71.67	8,329.0	932.8	540.5	415.8	124.62	4.337	
19,700.0	11,350.0	19,381.6	11,180.0	73.3	70.2	-71.67	8,429.0	932.4	540.5	414.5	125.96	4.291	
19,800.0	11,350.0	19,481.6	11,180.0	74.0	70.9	-71.67	8,529.0	932.0	540.5	413.2	127.31	4.245	
19,900.0	11,350.0	19,581.6	11,180.0	74.7	71.6	-71.67	8,629.0	931.6	540.5	411.8	128.66	4.201	
20,000.0	11,350.0	19,681.6	11,180.0	75.4	72.3	-71.67	8,729.0	931.2	540.5	410.5	130.01	4.157	
20,100.0	11,350.0	19,781.6	11,180.0	76.1	73.0	-71.67	8,829.0	930.8	540.5	409.1	131.37	4.114	
20,200.0	11,350.0	19,881.6	11,180.0	76.7	73.8	-71.67	8,929.0	930.4	540.5	407.7	132.73	4.072	
20,300.0	11,350.0	19,981.6	11,180.0	77.4	74.5	-71.67	9,029.0	930.0	540.5	406.4	134.09	4.030	
20,400.0	11,350.0	20,081.6	11,180.0	78.1	75.2	-71.67	9,129.0	929.6	540.5	405.0	135.46	3.990	
20,500.0	11,350.0	20,181.6	11,180.0	78.8	75.9	-71.67	9,229.0	929.2	540.5	403.6	136.83	3.950	
20,600.0	11,350.0	20,281.6	11,180.0	79.5	76.6	-71.67	9,329.0	928.8	540.5	402.3	138.20	3.911	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM #708H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,700.0	11,350.0	20,381.6	11,180.0	80.2	77.3	-71.67	9,429.0	928.4	540.5	400.9	139.58	3.872	
20,800.0	11,350.0	20,481.6	11,180.0	80.8	78.0	-71.67	9,529.0	928.0	540.5	399.5	140.96	3.834	
20,900.0	11,350.0	20,581.6	11,180.0	81.5	78.7	-71.67	9,629.0	927.6	540.5	398.1	142.34	3.797	
21,000.0	11,350.0	20,681.6	11,180.0	82.2	79.4	-71.67	9,729.0	927.2	540.5	396.7	143.72	3.760	
21,100.0	11,350.0	20,781.6	11,180.0	82.9	80.1	-71.67	9,829.0	926.8	540.5	395.3	145.11	3.724	
21,200.0	11,350.0	20,881.6	11,180.0	83.6	80.9	-71.67	9,929.0	926.4	540.5	394.0	146.50	3.689	
21,300.0	11,350.0	20,981.6	11,180.0	84.3	81.6	-71.67	10,029.0	926.0	540.5	392.6	147.89	3.654	
21,400.0	11,350.0	21,081.6	11,180.0	85.0	82.3	-71.67	10,129.0	925.6	540.5	391.2	149.29	3.620	
21,500.0	11,350.0	21,181.6	11,180.0	85.7	83.0	-71.67	10,229.0	925.2	540.5	389.8	150.68	3.587	
21,600.0	11,350.0	21,281.6	11,180.0	86.4	83.7	-71.67	10,329.0	924.8	540.5	388.4	152.08	3.554	
21,700.0	11,350.0	21,381.6	11,180.0	87.1	84.4	-71.67	10,429.0	924.4	540.5	387.0	153.48	3.521	
21,800.0	11,350.0	21,481.6	11,180.0	87.8	85.2	-71.67	10,529.0	924.0	540.5	385.6	154.89	3.489	
21,900.0	11,350.0	21,581.6	11,180.0	88.5	85.9	-71.67	10,629.0	923.6	540.4	384.2	156.29	3.458	
22,000.0	11,350.0	21,681.6	11,180.0	89.2	86.6	-71.67	10,729.0	923.2	540.4	382.7	157.70	3.427	
22,100.0	11,350.0	21,781.6	11,180.0	89.9	87.3	-71.67	10,829.0	922.8	540.4	381.3	159.11	3.397	
22,200.0	11,350.0	21,881.6	11,180.0	90.6	88.0	-71.67	10,929.0	922.4	540.4	379.9	160.52	3.367	
22,300.0	11,350.0	21,981.6	11,180.0	91.3	88.8	-71.67	11,029.0	922.0	540.4	378.5	161.93	3.337	
22,400.0	11,350.0	22,081.6	11,180.0	92.0	89.5	-71.67	11,129.0	921.6	540.4	377.1	163.35	3.309	
22,500.0	11,350.0	22,181.6	11,180.0	92.7	90.2	-71.67	11,229.0	921.2	540.4	375.7	164.76	3.280	
22,600.0	11,350.0	22,281.6	11,180.0	93.5	90.9	-71.67	11,329.0	920.8	540.4	374.3	166.18	3.252	
22,700.0	11,350.0	22,381.6	11,180.0	94.2	91.7	-71.67	11,429.0	920.4	540.4	372.8	167.60	3.225	
22,800.0	11,350.0	22,481.6	11,180.0	94.9	92.4	-71.67	11,529.0	920.0	540.4	371.4	169.02	3.197	
22,900.0	11,350.0	22,581.6	11,180.0	95.6	93.1	-71.67	11,629.0	919.6	540.4	370.0	170.45	3.171	
23,000.0	11,350.0	22,681.6	11,180.0	96.3	93.9	-71.67	11,729.0	919.2	540.4	368.6	171.87	3.144	
23,100.0	11,350.0	22,781.6	11,180.0	97.0	94.6	-71.67	11,828.9	918.8	540.4	367.1	173.30	3.119	
23,200.0	11,350.0	22,881.6	11,180.0	97.7	95.3	-71.67	11,928.9	918.4	540.4	365.7	174.73	3.093	
23,300.0	11,350.0	22,981.6	11,180.0	98.4	96.0	-71.67	12,028.9	918.0	540.4	364.3	176.16	3.068	
23,400.0	11,350.0	23,081.6	11,180.0	99.2	96.8	-71.67	12,128.9	917.6	540.4	362.9	177.59	3.043	
23,500.0	11,350.0	23,181.6	11,180.0	99.9	97.5	-71.67	12,228.9	917.2	540.4	361.4	179.02	3.019	
23,600.0	11,350.0	23,281.6	11,180.0	100.6	98.2	-71.67	12,328.9	916.8	540.4	360.0	180.45	2.995	
23,700.0	11,350.0	23,381.6	11,180.0	101.3	99.0	-71.67	12,428.9	916.4	540.4	358.5	181.89	2.971	
23,800.0	11,350.0	23,481.6	11,180.0	102.0	99.7	-71.67	12,528.9	916.0	540.4	357.1	183.32	2.948	
23,900.0	11,350.0	23,581.6	11,180.0	102.7	100.4	-71.67	12,628.9	915.6	540.4	355.7	184.76	2.925	
24,000.0	11,350.0	23,681.6	11,180.0	103.5	101.2	-71.67	12,728.9	915.2	540.4	354.2	186.20	2.902	
24,100.0	11,350.0	23,781.6	11,180.0	104.2	101.9	-71.67	12,828.9	914.8	540.4	352.8	187.64	2.880	
24,200.0	11,350.0	23,881.6	11,180.0	104.9	102.6	-71.67	12,928.9	914.4	540.4	351.4	189.08	2.858	
24,300.0	11,350.0	23,981.6	11,180.0	105.6	103.4	-71.67	13,028.9	914.0	540.4	349.9	190.52	2.837	
24,400.0	11,350.0	24,081.6	11,180.0	106.3	104.1	-71.67	13,128.9	913.6	540.4	348.5	191.96	2.815	
24,500.0	11,350.0	24,181.6	11,180.0	107.1	104.8	-71.67	13,228.9	913.2	540.4	347.0	193.41	2.794	
24,600.0	11,350.0	24,281.6	11,180.0	107.8	105.6	-71.67	13,328.9	912.8	540.4	345.6	194.85	2.774	
24,700.0	11,350.0	24,381.6	11,180.0	108.5	106.3	-71.67	13,428.9	912.4	540.4	344.1	196.30	2.753	
24,800.0	11,350.0	24,481.6	11,180.0	109.2	106.9	-71.67	13,528.9	912.0	540.4	342.8	197.61	2.735	
24,802.4	11,350.0	24,484.0	11,180.0	109.3	106.9	-71.67	13,531.4	912.0	540.4	342.8	197.64	2.734	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	90.04	0.0	30.0	30.0	23.6	6.43	4.666	
100.0	100.0	100.0	100.0	3.2	3.2	90.04	0.0	30.0	30.0	23.1	6.89	4.353	
200.0	200.0	200.0	200.0	3.5	3.5	90.04	0.0	30.0	30.0	22.7	7.33	4.094	
300.0	300.0	300.0	300.0	3.7	3.7	90.04	0.0	30.0	30.0	22.3	7.74	3.875	
400.0	400.0	400.0	400.0	3.9	3.9	90.04	0.0	30.0	30.0	21.9	8.14	3.688	
500.0	500.0	500.0	500.0	4.1	4.1	90.04	0.0	30.0	30.0	21.5	8.51	3.524	
600.0	600.0	600.0	600.0	4.2	4.2	90.04	0.0	30.0	30.0	21.1	8.88	3.379	
700.0	700.0	700.0	700.0	4.4	4.4	90.04	0.0	30.0	30.0	20.8	9.23	3.250	
800.0	800.0	800.0	800.0	4.6	4.6	90.04	0.0	30.0	30.0	20.4	9.57	3.135	
900.0	900.0	900.0	900.0	4.8	4.8	90.04	0.0	30.0	30.0	20.1	9.90	3.030	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	90.04	0.0	30.0	30.0	19.8	10.22	2.934	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	90.04	0.0	30.0	30.0	19.5	10.54	2.846	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	90.04	0.0	30.0	30.0	19.2	10.85	2.766	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	90.04	0.0	30.0	30.0	18.9	11.15	2.691	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	90.04	0.0	30.0	30.0	18.6	11.44	2.621	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	90.04	0.0	30.0	30.0	18.3	11.73	2.557	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	90.04	0.0	30.0	30.0	18.0	12.02	2.496	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	90.04	0.0	30.0	30.0	17.7	12.30	2.439	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	90.04	0.0	30.0	30.0	17.4	12.58	2.386	CC, ES
1,900.0	1,900.0	1,899.2	1,899.2	6.3	6.3	90.34	-0.2	31.3	31.3	18.4	12.86	2.432	
2,000.0	2,000.0	1,998.3	1,998.2	6.4	6.4	91.13	-0.7	35.1	35.2	22.0	13.14	2.674	
2,100.0	2,100.0	2,097.1	2,096.8	6.5	6.6	92.11	-1.5	41.4	41.6	28.2	13.43	3.097	
2,200.0	2,200.0	2,195.5	2,194.8	6.7	6.8	93.06	-2.7	50.3	50.6	36.9	13.73	3.687	
2,300.0	2,300.0	2,293.5	2,292.2	6.8	7.0	3.95	-4.2	61.6	60.9	46.8	14.06	4.333	
2,400.0	2,399.9	2,391.3	2,388.9	7.0	7.2	4.85	-6.0	75.3	71.2	56.8	14.40	4.941	
2,500.0	2,499.7	2,488.8	2,485.1	7.1	7.5	5.75	-8.1	91.4	81.4	66.6	14.78	5.507	
2,600.0	2,599.3	2,586.1	2,580.6	7.3	7.8	6.65	-10.5	109.9	91.5	76.4	15.18	6.029	
2,700.0	2,698.6	2,683.6	2,675.7	7.5	8.0	7.55	-13.3	130.8	101.7	86.1	15.59	6.522	
2,800.0	2,797.5	2,783.2	2,772.8	7.7	8.3	8.49	-16.2	153.0	110.1	94.0	16.10	6.836	
2,900.0	2,896.1	2,883.0	2,870.0	8.0	8.6	9.52	-19.1	175.3	115.9	99.3	16.67	6.956	
3,000.0	2,994.2	2,982.9	2,967.4	8.3	8.9	10.67	-22.1	197.6	119.3	102.0	17.27	6.908	
3,100.0	3,091.7	3,082.9	3,064.8	8.5	9.3	12.02	-25.0	219.9	120.1	102.2	17.90	6.711	
3,200.0	3,188.8	3,182.8	3,162.1	8.8	9.6	13.58	-28.0	242.2	119.0	100.5	18.49	6.437	
3,300.0	3,285.8	3,282.7	3,259.5	9.1	10.0	15.19	-30.9	264.5	117.9	98.7	19.14	6.159	
3,400.0	3,382.8	3,382.7	3,356.9	9.4	10.4	16.83	-33.8	286.7	116.8	97.0	19.80	5.901	
3,500.0	3,479.8	3,482.6	3,454.3	9.7	10.7	18.49	-36.8	309.0	115.9	95.4	20.46	5.662	
3,600.0	3,576.9	3,582.5	3,551.7	10.1	11.1	20.19	-39.7	331.3	115.0	93.9	21.13	5.443	
3,700.0	3,673.9	3,682.5	3,649.0	10.5	11.5	21.90	-42.6	353.6	114.3	92.5	21.80	5.242	
3,800.0	3,770.9	3,782.4	3,746.4	10.8	11.9	23.64	-45.6	375.9	113.6	91.2	22.45	5.060	
3,888.2	3,856.6	3,870.0	3,831.8	11.2	12.3	25.09	-48.0	395.6	113.2	90.2	23.00	4.924	
3,900.0	3,868.0	3,881.6	3,843.0	11.2	12.3	25.22	-48.3	398.3	113.2	90.2	23.07	4.909	
4,000.0	3,965.0	3,980.0	3,938.3	11.6	12.7	25.50	-49.2	422.7	114.2	90.4	23.76	4.806	
4,100.0	4,062.0	4,080.0	4,034.9	12.0	13.1	25.13	-49.2	448.5	115.8	91.2	24.55	4.716	
4,200.0	4,159.1	4,180.0	4,131.5	12.4	13.6	24.77	-49.2	474.4	117.3	92.0	25.36	4.627	
4,300.0	4,256.1	4,280.0	4,228.1	12.8	14.0	24.42	-49.2	500.3	118.9	92.7	26.18	4.542	
4,400.0	4,353.1	4,380.0	4,324.6	13.2	14.4	24.07	-49.2	526.2	120.5	93.5	27.02	4.461	
4,500.0	4,450.1	4,479.9	4,421.2	13.6	14.9	23.74	-49.2	552.1	122.1	94.2	27.86	4.383	
4,600.0	4,547.2	4,579.9	4,517.8	14.0	15.3	23.41	-49.2	577.9	123.7	95.0	28.72	4.308	
4,700.0	4,644.2	4,679.9	4,614.4	14.5	15.8	23.10	-49.2	603.8	125.3	95.7	29.58	4.236	
4,800.0	4,741.2	4,779.9	4,710.9	14.9	16.2	22.79	-49.2	629.7	126.9	96.5	30.45	4.168	
4,900.0	4,838.3	4,879.9	4,807.5	15.3	16.7	22.49	-49.2	655.6	128.5	97.2	31.33	4.102	
5,000.0	4,935.3	4,979.9	4,904.1	15.8	17.2	22.19	-49.2	681.4	130.1	97.9	32.22	4.039	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
5,100.0	5,032.3	5,079.8	5,000.7	16.2	17.6	21.91	-49.2	707.3	131.8	98.6	33.11	3.979	
5,200.0	5,129.4	5,179.8	5,097.3	16.7	18.1	21.63	-49.2	733.2	133.4	99.4	34.01	3.921	
5,300.0	5,226.4	5,279.8	5,193.8	17.1	18.6	21.35	-49.2	759.1	135.0	100.1	34.92	3.866	
5,400.0	5,323.4	5,379.8	5,290.4	17.6	19.0	21.09	-49.2	785.0	136.6	100.8	35.83	3.813	
5,500.0	5,420.4	5,479.8	5,387.0	18.0	19.5	20.83	-49.2	810.8	138.3	101.5	36.75	3.763	
5,600.0	5,517.5	5,579.8	5,483.6	18.5	20.0	20.57	-49.2	836.7	139.9	102.2	37.67	3.714	
5,700.0	5,614.5	5,679.8	5,580.1	18.9	20.4	20.32	-49.2	862.6	141.5	102.9	38.59	3.667	
5,800.0	5,711.5	5,779.7	5,676.7	19.4	20.9	20.08	-49.2	888.5	143.2	103.6	39.52	3.623	
5,900.0	5,808.6	5,879.7	5,773.3	19.8	21.4	19.84	-49.2	914.4	144.8	104.4	40.45	3.580	
6,000.0	5,905.6	5,979.7	5,869.9	20.3	21.8	19.61	-49.2	940.2	146.5	105.1	41.39	3.538	
6,100.0	6,002.6	6,079.7	5,966.5	20.8	22.3	19.39	-49.2	966.1	148.1	105.8	42.33	3.499	
6,200.0	6,099.6	6,179.7	6,063.0	21.2	22.8	19.16	-49.2	992.0	149.7	106.5	43.27	3.461	
6,300.0	6,196.7	6,279.7	6,159.6	21.7	23.3	18.95	-49.2	1,017.9	151.4	107.2	44.22	3.424	
6,400.0	6,293.7	6,379.6	6,256.2	22.2	23.8	18.74	-49.2	1,043.7	153.0	107.9	45.17	3.388	
6,500.0	6,390.7	6,479.6	6,352.8	22.6	24.2	18.53	-49.2	1,069.6	154.7	108.6	46.12	3.354	
6,600.0	6,487.8	6,579.6	6,449.3	23.1	24.7	18.32	-49.2	1,095.5	156.4	109.3	47.07	3.322	
6,700.0	6,584.8	6,679.6	6,545.9	23.6	25.2	18.13	-49.2	1,121.4	158.0	110.0	48.03	3.290	
6,800.0	6,681.8	6,779.6	6,642.5	24.0	25.7	17.93	-49.2	1,147.3	159.7	110.7	48.99	3.260	
6,900.0	6,778.9	6,879.6	6,739.1	24.5	26.2	17.74	-49.2	1,173.1	161.3	111.4	49.95	3.230	
7,000.0	6,875.9	6,979.6	6,835.7	25.0	26.6	17.55	-49.2	1,199.0	163.0	112.1	50.91	3.202	
7,100.0	6,972.9	7,079.5	6,932.2	25.4	27.1	17.37	-49.2	1,224.9	164.7	112.8	51.87	3.174	
7,200.0	7,069.9	7,179.5	7,028.8	25.9	27.6	17.19	-49.2	1,250.8	166.3	113.5	52.84	3.148	
7,300.0	7,167.0	7,279.5	7,125.4	26.4	28.1	17.01	-49.2	1,276.6	168.0	114.2	53.81	3.122	
7,400.0	7,264.0	7,379.5	7,222.0	26.9	28.6	16.84	-49.2	1,302.5	169.7	114.9	54.78	3.097	
7,500.0	7,361.0	7,479.5	7,318.5	27.3	29.1	16.67	-49.2	1,328.4	171.3	115.6	55.75	3.073	
7,600.0	7,458.1	7,579.5	7,415.1	27.8	29.6	16.51	-49.2	1,354.3	173.0	116.3	56.72	3.050	
7,700.0	7,555.1	7,679.4	7,511.7	28.3	30.0	16.34	-49.2	1,380.2	174.7	117.0	57.70	3.028	
7,800.0	7,652.1	7,779.4	7,608.3	28.8	30.5	16.19	-49.2	1,406.0	176.4	117.7	58.67	3.006	
7,900.0	7,749.2	7,879.4	7,704.9	29.2	31.0	16.00	-49.2	1,431.9	178.4	118.8	59.64	2.991	
8,000.0	7,846.7	7,979.3	7,801.4	29.7	31.5	15.68	-49.2	1,457.8	182.0	121.4	60.64	3.002	
8,100.0	7,944.6	8,079.2	7,897.8	30.2	32.0	15.24	-49.2	1,483.6	187.3	125.7	61.67	3.038	
8,200.0	8,042.8	8,178.9	7,994.2	30.6	32.5	14.70	-49.2	1,509.4	194.4	131.7	62.70	3.100	
8,300.0	8,141.4	8,281.8	8,093.8	31.1	33.0	14.11	-49.2	1,535.3	202.3	138.5	63.76	3.173	
8,400.0	8,240.2	8,385.1	8,194.2	31.5	33.5	13.56	-49.2	1,559.4	210.2	145.4	64.78	3.245	
8,500.0	8,339.2	8,488.5	8,295.2	31.9	34.0	13.07	-49.2	1,581.8	218.1	152.3	65.76	3.317	
8,600.0	8,438.5	8,592.1	8,396.7	32.3	34.5	12.60	-49.2	1,602.3	225.9	159.3	66.68	3.388	
8,700.0	8,538.0	8,695.9	8,498.7	32.7	34.9	12.18	-49.2	1,621.1	233.7	166.2	67.56	3.459	
8,800.0	8,637.6	8,799.8	8,601.3	33.1	35.4	11.78	-49.2	1,638.0	241.5	173.1	68.39	3.531	
8,900.0	8,737.4	8,903.8	8,704.2	33.5	35.8	11.41	-49.2	1,653.1	249.1	180.0	69.16	3.602	
9,000.0	8,837.3	9,008.1	8,807.6	33.8	36.3	11.07	-49.2	1,666.3	256.7	186.9	69.88	3.674	
9,100.0	8,937.2	9,112.4	8,911.3	34.1	36.7	10.75	-49.2	1,677.6	264.3	193.8	70.52	3.748	
9,200.0	9,037.2	9,216.9	9,015.4	34.4	37.1	10.45	-49.2	1,687.1	271.8	200.7	71.07	3.824	
9,300.0	9,137.2	9,321.6	9,119.8	34.4	37.5	100.17	-49.2	1,694.7	278.8	207.4	71.39	3.905	
9,400.0	9,237.2	9,426.6	9,224.6	34.4	37.9	99.97	-49.2	1,700.4	284.1	212.5	71.64	3.966	
9,500.0	9,337.2	9,531.7	9,329.6	34.5	38.2	99.84	-49.2	1,704.2	287.7	215.9	71.83	4.005	
9,600.0	9,437.2	9,636.9	9,434.8	34.5	38.4	99.78	-49.2	1,706.0	289.4	217.5	71.90	4.025	
9,700.0	9,537.2	9,739.3	9,537.2	34.5	38.5	99.77	-49.2	1,706.2	289.6	217.7	71.90	4.028	
9,800.0	9,637.2	9,839.3	9,637.2	34.5	38.5	99.77	-49.2	1,706.2	289.6	217.6	71.95	4.025	
9,900.0	9,737.2	9,939.3	9,737.2	34.6	38.6	99.77	-49.2	1,706.2	289.6	217.6	72.00	4.022	
10,000.0	9,837.2	10,039.3	9,837.2	34.6	38.6	99.77	-49.2	1,706.2	289.6	217.6	72.05	4.019	
10,100.0	9,937.2	10,139.3	9,937.2	34.6	38.6	99.77	-49.2	1,706.2	289.6	217.5	72.10	4.017	
10,200.0	10,037.2	10,239.3	10,037.2	34.7	38.6	99.77	-49.2	1,706.2	289.6	217.5	72.15	4.014	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,137.2	10,339.3	10,137.2	34.7	38.6	99.77	-49.2	1,706.2	289.6	217.4	72.20	4.011	
10,400.0	10,237.2	10,439.3	10,237.2	34.7	38.7	99.77	-49.2	1,706.2	289.6	217.4	72.25	4.008	
10,500.0	10,337.2	10,539.3	10,337.2	34.7	38.7	99.77	-49.2	1,706.2	289.6	217.3	72.30	4.006	
10,600.0	10,437.2	10,639.3	10,437.2	34.8	38.7	99.77	-49.2	1,706.2	289.6	217.3	72.35	4.003	
10,700.0	10,537.2	10,739.3	10,537.2	34.8	38.7	99.77	-49.2	1,706.2	289.6	217.2	72.40	4.000	
10,800.0	10,637.2	10,823.1	10,620.8	34.8	38.9	98.78	-44.5	1,709.2	292.2	219.0	73.28	3.988	
10,900.0	10,737.2	10,900.0	10,696.0	34.8	39.1	96.02	-31.3	1,717.6	301.3	226.9	74.40	4.049	
11,000.0	10,837.1	10,977.8	10,769.3	34.9	39.3	86.42	-9.4	1,731.6	318.1	242.9	75.20	4.230	
11,100.0	10,935.1	11,050.0	10,833.6	34.9	39.5	81.38	18.2	1,749.3	342.2	266.6	75.54	4.529	
11,200.0	11,028.4	11,118.8	10,890.5	35.0	39.7	77.09	50.7	1,770.1	371.2	295.6	75.56	4.913	
11,300.0	11,114.0	11,185.6	10,941.0	35.1	39.9	73.53	87.5	1,793.6	403.6	328.2	75.39	5.353	
11,400.0	11,189.3	11,250.0	10,984.6	35.2	40.1	70.62	127.4	1,819.1	437.9	362.9	75.06	5.834	
11,500.0	11,252.1	11,313.2	11,021.9	35.3	40.3	68.28	170.4	1,846.6	473.4	398.8	74.61	6.345	
11,600.0	11,300.5	11,403.6	11,066.4	35.3	40.4	67.23	237.6	1,887.3	507.9	432.7	75.17	6.756	
11,700.0	11,333.0	11,530.0	11,117.1	35.4	40.7	67.87	343.1	1,934.5	532.9	456.0	76.85	6.934	
11,800.0	11,348.6	11,666.3	11,155.8	35.5	40.8	69.49	468.5	1,970.3	545.8	467.3	78.42	6.959	
11,900.0	11,350.0	11,810.1	11,177.1	35.6	41.0	71.58	609.2	1,989.7	547.2	467.5	79.72	6.864	
12,000.0	11,350.0	11,934.2	11,180.0	35.7	41.1	71.78	733.2	1,991.9	544.0	463.4	80.58	6.751	
12,099.9	11,350.0	12,034.0	11,180.0	35.8	41.2	71.74	833.0	1,991.5	542.7	461.5	81.20	6.683	
12,100.0	11,350.0	12,034.1	11,180.0	35.8	41.2	71.75	833.1	1,991.5	542.9	461.7	81.20	6.686	
12,200.0	11,350.0	12,134.1	11,180.0	35.9	41.3	71.75	933.1	1,991.1	542.9	461.1	81.84	6.634	
12,300.0	11,350.0	12,234.1	11,180.0	36.0	41.4	71.75	1,033.1	1,990.7	542.9	460.4	82.50	6.581	
12,400.0	11,350.0	12,334.1	11,180.0	36.2	41.6	71.75	1,133.1	1,990.3	542.9	459.7	83.18	6.527	
12,500.0	11,350.0	12,434.1	11,180.0	36.4	41.7	71.75	1,233.1	1,989.9	542.9	459.0	83.88	6.472	
12,600.0	11,350.0	12,534.1	11,180.0	36.6	41.9	71.75	1,333.1	1,989.5	542.9	458.3	84.61	6.417	
12,700.0	11,350.0	12,634.1	11,180.0	36.8	42.1	71.75	1,433.1	1,989.1	542.9	457.6	85.36	6.361	
12,800.0	11,350.0	12,734.1	11,180.0	37.0	42.3	71.75	1,533.1	1,988.7	542.9	456.8	86.12	6.304	
12,900.0	11,350.0	12,834.1	11,180.0	37.2	42.5	71.75	1,633.1	1,988.3	542.9	456.0	86.91	6.247	
13,000.0	11,350.0	12,934.1	11,180.0	37.5	42.7	71.75	1,733.1	1,987.9	542.9	455.2	87.72	6.190	
13,100.0	11,350.0	13,034.1	11,180.0	37.7	43.0	71.75	1,833.1	1,987.5	542.9	454.4	88.54	6.132	
13,200.0	11,350.0	13,134.1	11,180.0	38.0	43.2	71.75	1,933.1	1,987.1	542.9	453.6	89.38	6.074	
13,300.0	11,350.0	13,234.1	11,180.0	38.3	43.5	71.75	2,033.1	1,986.7	542.9	452.7	90.24	6.016	
13,400.0	11,350.0	13,334.1	11,180.0	38.6	43.8	71.75	2,133.1	1,986.3	542.9	451.8	91.12	5.959	
13,500.0	11,350.0	13,434.1	11,180.0	38.9	44.1	71.75	2,233.1	1,985.9	543.0	450.9	92.02	5.901	
13,600.0	11,350.0	13,534.1	11,180.0	39.3	44.4	71.75	2,333.1	1,985.5	543.0	450.0	92.93	5.843	
13,700.0	11,350.0	13,634.1	11,180.0	39.6	44.7	71.75	2,433.1	1,985.1	543.0	449.1	93.85	5.785	
13,800.0	11,350.0	13,734.1	11,180.0	40.0	45.0	71.75	2,533.1	1,984.7	543.0	448.2	94.79	5.728	
13,900.0	11,350.0	13,834.1	11,180.0	40.4	45.3	71.75	2,633.1	1,984.3	543.0	447.2	95.75	5.671	
14,000.0	11,350.0	13,934.1	11,180.0	40.7	45.7	71.75	2,733.1	1,983.9	543.0	446.2	96.72	5.614	
14,100.0	11,350.0	14,034.1	11,180.0	41.1	46.1	71.75	2,833.1	1,983.6	543.0	445.3	97.71	5.557	
14,200.0	11,350.0	14,134.1	11,180.0	41.5	46.4	71.75	2,933.1	1,983.2	543.0	444.3	98.71	5.501	
14,300.0	11,350.0	14,234.1	11,180.0	41.9	46.8	71.75	3,033.1	1,982.8	543.0	443.3	99.72	5.445	
14,400.0	11,350.0	14,334.1	11,180.0	42.4	47.2	71.75	3,133.1	1,982.4	543.0	442.2	100.74	5.390	
14,500.0	11,350.0	14,434.1	11,180.0	42.8	47.6	71.75	3,233.1	1,982.0	543.0	441.2	101.78	5.335	
14,600.0	11,350.0	14,534.1	11,180.0	43.3	48.0	71.75	3,333.1	1,981.6	543.0	440.2	102.83	5.281	
14,700.0	11,350.0	14,634.1	11,180.0	43.7	48.4	71.75	3,433.1	1,981.2	543.0	439.1	103.89	5.227	
14,800.0	11,350.0	14,734.1	11,180.0	44.2	48.8	71.75	3,533.1	1,980.8	543.0	438.0	104.96	5.173	
14,900.0	11,350.0	14,834.1	11,180.0	44.6	49.3	71.75	3,633.1	1,980.4	543.0	437.0	106.04	5.121	
15,000.0	11,350.0	14,934.1	11,180.0	45.1	49.7	71.75	3,733.1	1,980.0	543.0	435.9	107.13	5.068	
15,100.0	11,350.0	15,034.1	11,180.0	45.6	50.2	71.75	3,833.1	1,979.6	543.0	434.8	108.24	5.017	
15,200.0	11,350.0	15,134.1	11,180.0	46.1	50.6	71.76	3,933.1	1,979.2	543.0	433.7	109.35	4.966	
15,300.0	11,350.0	15,234.1	11,180.0	46.6	51.1	71.76	4,033.1	1,978.8	543.0	432.5	110.47	4.915	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference 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	15,334.1	11,180.0	47.1	51.5	71.76	4,133.1	1,978.4	543.0	431.4	111.61	4.865	
15,500.0	11,350.0	15,434.1	11,180.0	47.6	52.0	71.76	4,233.1	1,978.0	543.0	430.3	112.75	4.816	
15,600.0	11,350.0	15,534.1	11,180.0	48.2	52.5	71.76	4,333.1	1,977.6	543.0	429.1	113.90	4.768	
15,700.0	11,350.0	15,634.1	11,180.0	48.7	53.0	71.76	4,433.1	1,977.2	543.0	428.0	115.05	4.720	
15,800.0	11,350.0	15,734.1	11,180.0	49.2	53.5	71.76	4,533.1	1,976.8	543.0	426.8	116.22	4.672	
15,900.0	11,350.0	15,834.1	11,180.0	49.8	54.0	71.76	4,633.1	1,976.4	543.0	425.6	117.40	4.626	
16,000.0	11,350.0	15,934.1	11,180.0	50.3	54.5	71.76	4,733.1	1,976.0	543.0	424.4	118.58	4.579	
16,100.0	11,350.0	16,034.1	11,180.0	50.9	55.0	71.76	4,833.1	1,975.6	543.0	423.3	119.77	4.534	
16,200.0	11,350.0	16,134.1	11,180.0	51.4	55.5	71.76	4,933.1	1,975.2	543.0	422.1	120.97	4.489	
16,300.0	11,350.0	16,234.1	11,180.0	52.0	56.1	71.76	5,033.1	1,974.8	543.0	420.9	122.17	4.445	
16,400.0	11,350.0	16,334.1	11,180.0	52.5	56.6	71.76	5,133.1	1,974.4	543.0	419.7	123.38	4.401	
16,500.0	11,350.0	16,434.1	11,180.0	53.1	57.1	71.76	5,233.1	1,974.0	543.0	418.4	124.60	4.358	
16,600.0	11,350.0	16,534.1	11,180.0	53.7	57.7	71.76	5,333.1	1,973.6	543.0	417.2	125.83	4.316	
16,700.0	11,350.0	16,634.1	11,180.0	54.3	58.2	71.76	5,433.1	1,973.2	543.0	416.0	127.06	4.274	
16,800.0	11,350.0	16,734.1	11,180.0	54.9	58.8	71.76	5,533.1	1,972.8	543.0	414.8	128.29	4.233	
16,900.0	11,350.0	16,834.1	11,180.0	55.5	59.3	71.76	5,633.1	1,972.4	543.1	413.5	129.54	4.192	
17,000.0	11,350.0	16,934.1	11,180.0	56.1	59.9	71.76	5,733.1	1,972.0	543.1	412.3	130.79	4.152	
17,100.0	11,350.0	17,034.1	11,180.0	56.7	60.5	71.76	5,833.1	1,971.6	543.1	411.0	132.04	4.113	
17,200.0	11,350.0	17,134.1	11,180.0	57.3	61.0	71.76	5,933.1	1,971.2	543.1	409.8	133.30	4.074	
17,300.0	11,350.0	17,234.1	11,180.0	57.9	61.6	71.76	6,033.1	1,970.8	543.1	408.5	134.56	4.036	
17,400.0	11,350.0	17,334.1	11,180.0	58.5	62.2	71.76	6,133.1	1,970.4	543.1	407.2	135.84	3.998	
17,500.0	11,350.0	17,434.1	11,180.0	59.1	62.8	71.76	6,233.1	1,970.0	543.1	406.0	137.11	3.961	
17,600.0	11,350.0	17,534.1	11,180.0	59.7	63.4	71.76	6,333.1	1,969.6	543.1	404.7	138.39	3.924	
17,700.0	11,350.0	17,634.1	11,180.0	60.3	64.0	71.76	6,433.1	1,969.2	543.1	403.4	139.68	3.888	
17,800.0	11,350.0	17,734.1	11,180.0	61.0	64.5	71.76	6,533.1	1,968.8	543.1	402.1	140.97	3.853	
17,900.0	11,350.0	17,834.1	11,180.0	61.6	65.1	71.76	6,633.1	1,968.4	543.1	400.8	142.26	3.818	
18,000.0	11,350.0	17,934.1	11,180.0	62.2	65.7	71.76	6,733.1	1,968.0	543.1	399.5	143.56	3.783	
18,100.0	11,350.0	18,034.1	11,180.0	62.9	66.3	71.76	6,833.1	1,967.6	543.1	398.2	144.86	3.749	
18,200.0	11,350.0	18,134.1	11,180.0	63.5	67.0	71.76	6,933.1	1,967.3	543.1	396.9	146.17	3.716	
18,300.0	11,350.0	18,234.1	11,180.0	64.1	67.6	71.76	7,033.1	1,966.9	543.1	395.6	147.48	3.683	
18,400.0	11,350.0	18,334.1	11,180.0	64.8	68.2	71.76	7,133.1	1,966.5	543.1	394.3	148.79	3.650	
18,500.0	11,350.0	18,434.1	11,180.0	65.4	68.8	71.76	7,233.1	1,966.1	543.1	393.0	150.11	3.618	
18,600.0	11,350.0	18,534.1	11,180.0	66.1	69.4	71.76	7,333.1	1,965.7	543.1	391.7	151.43	3.586	
18,700.0	11,350.0	18,634.1	11,180.0	66.7	70.0	71.76	7,433.1	1,965.3	543.1	390.3	152.76	3.555	
18,800.0	11,350.0	18,734.1	11,180.0	67.4	70.7	71.76	7,533.1	1,964.9	543.1	389.0	154.09	3.525	
18,900.0	11,350.0	18,834.1	11,180.0	68.0	71.3	71.76	7,633.1	1,964.5	543.1	387.7	155.42	3.494	
19,000.0	11,350.0	18,934.1	11,180.0	68.7	71.9	71.76	7,733.1	1,964.1	543.1	386.4	156.76	3.465	
19,100.0	11,350.0	19,034.1	11,180.0	69.3	72.6	71.76	7,833.1	1,963.7	543.1	385.0	158.10	3.435	
19,200.0	11,350.0	19,134.1	11,180.0	70.0	73.2	71.76	7,933.1	1,963.3	543.1	383.7	159.44	3.406	
19,300.0	11,350.0	19,234.1	11,180.0	70.7	73.8	71.76	8,033.1	1,962.9	543.1	382.3	160.79	3.378	
19,400.0	11,350.0	19,334.1	11,180.0	71.3	74.5	71.76	8,133.1	1,962.5	543.1	381.0	162.14	3.350	
19,500.0	11,350.0	19,434.1	11,180.0	72.0	75.1	71.76	8,233.1	1,962.1	543.1	379.6	163.49	3.322	
19,600.0	11,350.0	19,534.1	11,180.0	72.7	75.7	71.76	8,333.1	1,961.7	543.1	378.3	164.84	3.295	
19,700.0	11,350.0	19,634.1	11,180.0	73.3	76.4	71.76	8,433.1	1,961.3	543.1	376.9	166.20	3.268	
19,800.0	11,350.0	19,734.1	11,180.0	74.0	77.0	71.76	8,533.1	1,960.9	543.1	375.6	167.56	3.241	
19,900.0	11,350.0	19,834.1	11,180.0	74.7	77.7	71.76	8,633.1	1,960.5	543.1	374.2	168.92	3.215	
20,000.0	11,350.0	19,934.1	11,180.0	75.4	78.3	71.76	8,733.1	1,960.1	543.1	372.9	170.29	3.190	
20,100.0	11,350.0	20,034.1	11,180.0	76.1	79.0	71.76	8,833.1	1,959.7	543.1	371.5	171.66	3.164	
20,200.0	11,350.0	20,134.1	11,180.0	76.7	79.7	71.76	8,933.1	1,959.3	543.1	370.1	173.03	3.139	
20,300.0	11,350.0	20,234.1	11,180.0	77.4	80.3	71.76	9,033.1	1,958.9	543.2	368.8	174.40	3.114	
20,400.0	11,350.0	20,334.1	11,180.0	78.1	81.0	71.76	9,133.1	1,958.5	543.2	367.4	175.77	3.090	
20,500.0	11,350.0	20,434.1	11,180.0	78.8	81.6	71.76	9,233.1	1,958.1	543.2	366.0	177.15	3.066	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
20,600.0	11,350.0	20,534.1	11,180.0	79.5	82.3	71.76	9,333.1	1,957.7	543.2	364.6	178.53	3.042	
20,700.0	11,350.0	20,634.1	11,180.0	80.2	83.0	71.76	9,433.1	1,957.3	543.2	363.3	179.91	3.019	
20,800.0	11,350.0	20,734.1	11,180.0	80.8	83.6	71.76	9,533.1	1,956.9	543.2	361.9	181.30	2.996	
20,900.0	11,350.0	20,834.1	11,180.0	81.5	84.3	71.76	9,633.1	1,956.5	543.2	360.5	182.68	2.973	
21,000.0	11,350.0	20,934.1	11,180.0	82.2	85.0	71.76	9,733.1	1,956.1	543.2	359.1	184.07	2.951	
21,100.0	11,350.0	21,034.1	11,180.0	82.9	85.7	71.76	9,833.1	1,955.7	543.2	357.7	185.46	2.929	
21,200.0	11,350.0	21,134.1	11,180.0	83.6	86.3	71.76	9,933.1	1,955.3	543.2	356.3	186.85	2.907	
21,300.0	11,350.0	21,234.1	11,180.0	84.3	87.0	71.76	10,033.1	1,954.9	543.2	354.9	188.25	2.885	
21,400.0	11,350.0	21,334.1	11,180.0	85.0	87.7	71.76	10,133.1	1,954.5	543.2	353.5	189.64	2.864	
21,500.0	11,350.0	21,434.1	11,180.0	85.7	88.4	71.76	10,233.1	1,954.1	543.2	352.1	191.04	2.843	
21,600.0	11,350.0	21,534.1	11,180.0	86.4	89.0	71.76	10,333.1	1,953.7	543.2	350.8	192.44	2.823	
21,700.0	11,350.0	21,634.1	11,180.0	87.1	89.7	71.76	10,433.1	1,953.3	543.2	349.4	193.84	2.802	
21,800.0	11,350.0	21,734.1	11,180.0	87.8	90.4	71.76	10,533.1	1,952.9	543.2	348.0	195.25	2.782	
21,900.0	11,350.0	21,834.1	11,180.0	88.5	91.1	71.76	10,633.1	1,952.5	543.2	346.5	196.65	2.762	
22,000.0	11,350.0	21,934.1	11,180.0	89.2	91.8	71.76	10,733.1	1,952.1	543.2	345.1	198.06	2.743	
22,100.0	11,350.0	22,034.1	11,180.0	89.9	92.5	71.76	10,833.1	1,951.7	543.2	343.7	199.47	2.723	
22,200.0	11,350.0	22,134.1	11,180.0	90.6	93.1	71.76	10,933.1	1,951.3	543.2	342.3	200.87	2.704	
22,300.0	11,350.0	22,234.1	11,180.0	91.3	93.8	71.76	11,033.1	1,950.9	543.2	340.9	202.29	2.685	
22,400.0	11,350.0	22,334.1	11,180.0	92.0	94.5	71.76	11,133.1	1,950.6	543.2	339.5	203.70	2.667	
22,500.0	11,350.0	22,434.1	11,180.0	92.7	95.2	71.76	11,233.1	1,950.2	543.2	338.1	205.11	2.648	
22,600.0	11,350.0	22,534.1	11,180.0	93.5	95.9	71.76	11,333.1	1,949.8	543.2	336.7	206.53	2.630	
22,700.0	11,350.0	22,634.1	11,180.0	94.2	96.6	71.76	11,433.1	1,949.4	543.2	335.3	207.95	2.612	
22,800.0	11,350.0	22,734.1	11,180.0	94.9	97.3	71.76	11,533.1	1,949.0	543.2	333.9	209.36	2.595	
22,900.0	11,350.0	22,834.1	11,180.0	95.6	98.0	71.76	11,633.1	1,948.6	543.2	332.4	210.78	2.577	
23,000.0	11,350.0	22,934.1	11,180.0	96.3	98.7	71.76	11,733.1	1,948.2	543.2	331.0	212.21	2.560	
23,100.0	11,350.0	23,034.1	11,180.0	97.0	99.4	71.76	11,833.1	1,947.8	543.2	329.6	213.63	2.543	
23,200.0	11,350.0	23,134.1	11,180.0	97.7	100.1	71.76	11,933.1	1,947.4	543.2	328.2	215.05	2.526	
23,300.0	11,350.0	23,234.1	11,180.0	98.4	100.8	71.76	12,033.1	1,947.0	543.2	326.8	216.48	2.509	
23,400.0	11,350.0	23,334.1	11,180.0	99.2	101.5	71.76	12,133.1	1,946.6	543.2	325.3	217.90	2.493	
23,500.0	11,350.0	23,434.1	11,180.0	99.9	102.2	71.76	12,233.0	1,946.2	543.2	323.9	219.33	2.477	
23,600.0	11,350.0	23,534.1	11,180.0	100.6	102.9	71.76	12,333.0	1,945.8	543.3	322.5	220.76	2.461	
23,700.0	11,350.0	23,634.1	11,180.0	101.3	103.6	71.76	12,433.0	1,945.4	543.3	321.1	222.19	2.445	
23,800.0	11,350.0	23,734.1	11,180.0	102.0	104.3	71.76	12,533.0	1,945.0	543.3	319.6	223.62	2.429	
23,900.0	11,350.0	23,834.1	11,180.0	102.7	105.0	71.76	12,633.0	1,944.6	543.3	318.2	225.05	2.414	
24,000.0	11,350.0	23,934.1	11,180.0	103.5	105.7	71.76	12,733.0	1,944.2	543.3	316.8	226.48	2.399	
24,100.0	11,350.0	24,034.1	11,180.0	104.2	106.4	71.76	12,833.0	1,943.8	543.3	315.3	227.92	2.384	
24,200.0	11,350.0	24,134.1	11,180.0	104.9	107.1	71.76	12,933.0	1,943.4	543.3	313.9	229.35	2.369	
24,300.0	11,350.0	24,234.1	11,180.0	105.6	107.8	71.76	13,033.0	1,943.0	543.3	312.5	230.79	2.354	
24,400.0	11,350.0	24,334.1	11,180.0	106.3	108.5	71.76	13,133.0	1,942.6	543.3	311.0	232.23	2.339	
24,500.0	11,350.0	24,434.1	11,180.0	107.1	109.2	71.76	13,233.0	1,942.2	543.3	309.6	233.67	2.325	
24,600.0	11,350.0	24,534.1	11,180.0	107.8	109.9	71.77	13,333.0	1,941.8	543.3	308.2	235.11	2.311	
24,700.0	11,350.0	24,634.1	11,180.0	108.5	110.7	71.77	13,433.0	1,941.4	543.3	306.7	236.55	2.297	
24,800.0	11,350.0	24,734.1	11,180.0	109.2	111.4	71.77	13,533.0	1,941.0	543.3	305.3	237.99	2.283	
24,802.4	11,350.0	24,734.5	11,180.0	109.3	111.4	71.77	13,533.4	1,941.0	543.3	305.2	238.05	2.282	SF

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	-87.03	78.4	-1,510.0	1,512.1	1,505.6	6.43	235.199	
100.0	100.0	100.0	100.0	3.2	3.2	-87.03	78.4	-1,510.0	1,512.1	1,505.2	6.89	219.384	
200.0	200.0	200.0	200.0	3.5	3.5	-87.03	78.4	-1,510.0	1,512.1	1,504.7	7.33	206.337	
300.0	300.0	300.0	300.0	3.7	3.7	-87.03	78.4	-1,510.0	1,512.1	1,504.3	7.74	195.325	
400.0	400.0	400.0	400.0	3.9	3.9	-87.03	78.4	-1,510.0	1,512.1	1,503.9	8.14	185.861	
500.0	500.0	500.0	500.0	4.1	4.1	-87.03	78.4	-1,510.0	1,512.1	1,503.6	8.51	177.608	
600.0	600.0	600.0	600.0	4.2	4.2	-87.03	78.4	-1,510.0	1,512.1	1,503.2	8.88	170.324	
700.0	700.0	700.0	700.0	4.4	4.4	-87.03	78.4	-1,510.0	1,512.1	1,502.8	9.23	163.831	
800.0	800.0	800.0	800.0	4.6	4.6	-87.03	78.4	-1,510.0	1,512.1	1,502.5	9.57	157.993	
900.0	900.0	900.0	900.0	4.8	4.8	-87.03	78.4	-1,510.0	1,512.1	1,502.2	9.90	152.705	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-87.03	78.4	-1,510.0	1,512.1	1,501.8	10.22	147.884	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-87.03	78.4	-1,510.0	1,512.1	1,501.5	10.54	143.465	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-87.03	78.4	-1,510.0	1,512.1	1,501.2	10.85	139.393	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-87.03	78.4	-1,510.0	1,512.1	1,500.9	11.15	135.624	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-87.03	78.4	-1,510.0	1,512.1	1,500.6	11.44	132.123	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-87.03	78.4	-1,510.0	1,512.1	1,500.3	11.73	128.858	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-87.03	78.4	-1,510.0	1,512.1	1,500.1	12.02	125.803	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-87.03	78.4	-1,510.0	1,512.1	1,499.8	12.30	122.936	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-87.03	78.4	-1,510.0	1,512.1	1,499.5	12.58	120.239	CC, ES
1,900.0	1,900.0	1,876.2	1,876.2	6.3	6.2	-87.05	78.0	-1,510.7	1,512.9	1,500.0	12.82	118.025	
2,000.0	2,000.0	1,952.4	1,952.3	6.4	6.3	-87.10	76.6	-1,512.5	1,515.2	1,502.2	13.05	116.099	
2,100.0	2,100.0	2,028.4	2,028.2	6.5	6.5	-87.19	74.5	-1,515.6	1,519.2	1,505.9	13.28	114.389	
2,200.0	2,200.0	2,100.0	2,099.7	6.7	6.6	-87.30	71.6	-1,519.7	1,524.7	1,511.2	13.50	112.913	
2,300.0	2,300.0	2,179.7	2,179.1	6.8	6.7	-177.46	67.6	-1,525.5	1,533.1	1,519.3	13.77	111.353	
2,400.0	2,399.9	2,254.7	2,253.6	7.0	6.9	-177.64	62.9	-1,532.2	1,545.6	1,531.6	14.03	110.186	
2,500.0	2,499.7	2,328.8	2,327.2	7.1	7.1	-177.86	57.4	-1,540.0	1,562.4	1,548.1	14.31	109.195	
2,600.0	2,599.3	2,400.0	2,397.5	7.3	7.2	-178.09	51.4	-1,548.6	1,583.2	1,568.6	14.60	108.409	
2,700.0	2,698.6	2,474.3	2,470.8	7.5	7.4	-178.36	44.3	-1,558.7	1,608.2	1,593.3	14.90	107.965	
2,800.0	2,797.5	2,547.1	2,542.4	7.7	7.5	-178.61	37.7	-1,569.6	1,637.1	1,621.8	15.23	107.489	
2,900.0	2,896.1	2,618.7	2,612.9	8.0	7.7	-178.83	32.1	-1,581.4	1,669.8	1,654.2	15.61	106.976	
3,000.0	2,994.2	2,700.0	2,692.7	8.3	7.9	-179.03	26.9	-1,595.8	1,706.4	1,690.3	16.05	106.288	
3,100.0	3,091.7	2,758.1	2,749.7	8.5	8.1	-179.14	23.9	-1,606.9	1,746.5	1,730.0	16.44	106.200	
3,200.0	3,188.8	2,825.8	2,815.9	8.8	8.3	-179.25	21.2	-1,620.6	1,789.6	1,772.8	16.84	106.284	
3,300.0	3,285.8	2,900.0	2,888.3	9.1	8.5	-179.33	19.2	-1,636.6	1,834.1	1,816.8	17.32	105.923	
3,400.0	3,382.8	2,975.2	2,961.6	9.4	8.8	-179.39	17.9	-1,653.5	1,879.3	1,861.5	17.83	105.399	
3,500.0	3,479.8	3,064.3	3,048.5	9.7	9.0	-179.46	16.3	-1,673.5	1,924.7	1,906.2	18.43	104.412	
3,600.0	3,576.9	3,153.5	3,135.3	10.1	9.3	-179.52	14.7	-1,693.4	1,970.0	1,950.9	19.05	103.396	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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-86.97	78.4	-1,480.0	1,482.1	1,475.7	6.43	230.539	
100.0	100.0	100.0	100.0	3.2	3.2	-86.97	78.4	-1,480.0	1,482.1	1,475.2	6.89	215.037	
200.0	200.0	200.0	200.0	3.5	3.5	-86.97	78.4	-1,480.0	1,482.1	1,474.8	7.33	202.249	
300.0	300.0	300.0	300.0	3.7	3.7	-86.97	78.4	-1,480.0	1,482.1	1,474.4	7.74	191.455	
400.0	400.0	400.0	400.0	3.9	3.9	-86.97	78.4	-1,480.0	1,482.1	1,474.0	8.14	182.178	
500.0	500.0	500.0	500.0	4.1	4.1	-86.97	78.4	-1,480.0	1,482.1	1,473.6	8.51	174.089	
600.0	600.0	600.0	600.0	4.2	4.2	-86.97	78.4	-1,480.0	1,482.1	1,473.2	8.88	166.950	
700.0	700.0	700.0	700.0	4.4	4.4	-86.97	78.4	-1,480.0	1,482.1	1,472.9	9.23	160.585	
800.0	800.0	800.0	800.0	4.6	4.6	-86.97	78.4	-1,480.0	1,482.1	1,472.5	9.57	154.863	
900.0	900.0	900.0	900.0	4.8	4.8	-86.97	78.4	-1,480.0	1,482.1	1,472.2	9.90	149.680	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-86.97	78.4	-1,480.0	1,482.1	1,471.9	10.22	144.954	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-86.97	78.4	-1,480.0	1,482.1	1,471.6	10.54	140.622	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-86.97	78.4	-1,480.0	1,482.1	1,471.3	10.85	136.631	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-86.97	78.4	-1,480.0	1,482.1	1,471.0	11.15	132.937	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-86.97	78.4	-1,480.0	1,482.1	1,470.7	11.44	129.505	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-86.97	78.4	-1,480.0	1,482.1	1,470.4	11.73	126.304	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-86.97	78.4	-1,480.0	1,482.1	1,470.1	12.02	123.310	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-86.97	78.4	-1,480.0	1,482.1	1,469.8	12.30	120.500	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-86.97	78.4	-1,480.0	1,482.1	1,469.5	12.58	117.857	
1,900.0	1,900.0	1,900.0	1,900.0	6.3	6.3	-86.97	78.4	-1,480.0	1,482.1	1,469.3	12.85	115.363	
2,000.0	2,000.0	2,000.0	2,000.0	6.4	6.4	-86.97	78.4	-1,480.0	1,482.1	1,469.0	13.12	113.005	
2,100.0	2,100.0	2,100.0	2,100.0	6.5	6.5	-86.97	78.4	-1,480.0	1,482.1	1,468.7	13.38	110.772	
2,200.0	2,200.0	2,200.0	2,200.0	6.7	6.7	-86.97	78.4	-1,480.0	1,482.1	1,468.5	13.64	108.652	CC, ES
2,300.0	2,300.0	2,300.0	2,300.0	6.8	6.8	-176.97	78.4	-1,480.0	1,483.4	1,469.5	13.92	106.578	
2,400.0	2,399.9	2,399.9	2,399.9	7.0	6.9	-176.97	78.4	-1,480.0	1,487.3	1,473.1	14.19	104.789	
2,500.0	2,499.7	2,499.7	2,499.7	7.1	7.0	-176.98	78.4	-1,480.0	1,493.9	1,479.4	14.48	103.149	
2,600.0	2,599.3	2,588.0	2,588.0	7.3	7.2	-177.03	77.5	-1,480.4	1,503.4	1,488.6	14.76	101.873	
2,700.0	2,698.6	2,675.7	2,675.6	7.5	7.3	-177.15	74.6	-1,481.6	1,516.2	1,501.2	15.03	100.848	
2,800.0	2,797.5	2,762.7	2,762.5	7.7	7.4	-177.34	70.0	-1,483.4	1,532.5	1,517.1	15.33	99.953	
2,900.0	2,896.1	2,848.8	2,848.3	8.0	7.5	-177.60	63.6	-1,486.0	1,552.0	1,536.4	15.65	99.162	
3,000.0	2,994.2	2,933.8	2,932.8	8.3	7.6	-177.91	55.6	-1,489.3	1,574.9	1,558.9	15.99	98.469	
3,100.0	3,091.7	3,017.5	3,015.9	8.5	7.8	-178.29	45.9	-1,493.1	1,601.1	1,584.8	16.35	97.948	
3,200.0	3,188.8	3,110.0	3,107.5	8.8	7.9	-178.75	34.0	-1,498.0	1,629.9	1,613.3	16.65	97.903	
3,300.0	3,285.8	3,204.8	3,201.4	9.1	8.1	-179.21	21.8	-1,502.9	1,659.0	1,641.9	17.05	97.295	
3,400.0	3,382.8	3,299.6	3,295.3	9.4	8.3	-179.66	9.6	-1,507.8	1,688.1	1,670.6	17.48	96.595	
3,500.0	3,479.8	3,394.5	3,389.2	9.7	8.5	179.91	-2.7	-1,512.8	1,717.4	1,699.4	17.92	95.819	
3,600.0	3,576.9	3,489.3	3,483.1	10.1	8.7	179.49	-14.9	-1,517.7	1,746.7	1,728.3	18.40	94.947	
3,700.0	3,673.9	3,591.9	3,584.8	10.5	9.0	179.07	-27.7	-1,522.9	1,775.9	1,757.0	18.89	94.011	
3,800.0	3,770.9	3,696.8	3,688.9	10.8	9.3	178.69	-39.5	-1,527.7	1,804.7	1,785.3	19.41	92.979	
3,900.0	3,868.0	3,802.3	3,793.8	11.2	9.6	178.37	-50.0	-1,531.9	1,833.0	1,813.1	19.95	91.901	
4,000.0	3,965.0	3,908.4	3,899.5	11.6	9.9	178.10	-59.3	-1,535.7	1,860.9	1,840.4	20.50	90.793	
4,100.0	4,062.0	4,015.1	4,005.8	12.0	10.1	177.88	-67.2	-1,538.8	1,888.2	1,867.1	21.06	89.667	
4,200.0	4,159.1	4,122.2	4,112.7	12.4	10.4	177.71	-73.7	-1,541.5	1,915.0	1,893.4	21.63	88.533	
4,300.0	4,256.1	4,229.8	4,220.1	12.8	10.7	177.59	-78.9	-1,543.6	1,941.2	1,919.0	22.21	87.400	
4,400.0	4,353.1	4,337.8	4,328.1	13.2	11.0	177.51	-82.7	-1,545.1	1,966.9	1,944.1	22.80	86.276	
4,500.0	4,450.1	4,446.3	4,436.5	13.6	11.2	177.47	-85.1	-1,546.1	1,992.0	1,968.6	23.39	85.170	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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-21.81	150.0	-60.0	161.5	155.1	6.43	25.125	
100.0	100.0	100.0	100.0	3.2	3.2	-21.81	150.0	-60.0	161.5	154.6	6.89	23.436	
200.0	200.0	200.0	200.0	3.5	3.5	-21.81	150.0	-60.0	161.5	154.2	7.33	22.042	
300.0	300.0	300.0	300.0	3.7	3.7	-21.81	150.0	-60.0	161.5	153.8	7.74	20.866	
400.0	400.0	400.0	400.0	3.9	3.9	-21.81	150.0	-60.0	161.5	153.4	8.14	19.855	
500.0	500.0	500.0	500.0	4.1	4.1	-21.81	150.0	-60.0	161.5	153.0	8.51	18.973	
600.0	600.0	600.0	600.0	4.2	4.2	-21.81	150.0	-60.0	161.5	152.6	8.88	18.195	
700.0	700.0	700.0	700.0	4.4	4.4	-21.81	150.0	-60.0	161.5	152.3	9.23	17.501	
800.0	800.0	800.0	800.0	4.6	4.6	-21.81	150.0	-60.0	161.5	152.0	9.57	16.878	
900.0	900.0	900.0	900.0	4.8	4.8	-21.81	150.0	-60.0	161.5	151.6	9.90	16.313	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-21.81	150.0	-60.0	161.5	151.3	10.22	15.798	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-21.81	150.0	-60.0	161.5	151.0	10.54	15.326	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-21.81	150.0	-60.0	161.5	150.7	10.85	14.891	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-21.81	150.0	-60.0	161.5	150.4	11.15	14.488	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-21.81	150.0	-60.0	161.5	150.1	11.44	14.114	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-21.81	150.0	-60.0	161.5	149.8	11.73	13.765	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-21.81	150.0	-60.0	161.5	149.5	12.02	13.439	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-21.81	150.0	-60.0	161.5	149.2	12.30	13.133	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-21.81	150.0	-60.0	161.5	149.0	12.58	12.845	
1,900.0	1,900.0	1,901.1	1,901.1	6.3	6.3	-22.26	149.2	-61.1	161.2	148.4	12.84	12.558	
2,000.0	2,000.0	2,002.1	2,002.0	6.4	6.4	-23.65	146.8	-64.3	160.2	147.1	13.08	12.253	
2,100.0	2,100.0	2,102.7	2,102.4	6.5	6.6	-25.98	142.8	-69.6	158.8	145.5	13.31	11.929	
2,200.0	2,200.0	2,203.0	2,202.2	6.7	6.8	-29.29	137.2	-77.0	157.3	143.8	13.55	11.611	
2,270.8	2,270.8	2,273.5	2,272.3	6.8	6.9	-122.43	132.3	-83.4	156.8	143.1	13.71	11.433	CC, ES
2,300.0	2,300.0	2,302.5	2,301.1	6.8	7.0	-123.97	130.1	-86.4	156.9	143.1	13.78	11.386	SF
2,400.0	2,399.9	2,401.1	2,398.7	7.0	7.1	-129.99	121.9	-97.2	159.3	145.3	13.96	11.409	
2,500.0	2,499.7	2,499.2	2,495.9	7.1	7.4	-136.36	113.7	-108.1	165.3	151.1	14.22	11.620	
2,600.0	2,599.3	2,596.8	2,592.5	7.3	7.6	-142.68	105.5	-119.0	175.4	160.8	14.54	12.064	
2,700.0	2,698.6	2,693.8	2,688.6	7.5	7.8	-148.63	97.4	-129.8	189.7	174.8	14.90	12.727	
2,800.0	2,797.5	2,790.2	2,784.0	7.7	8.1	-153.99	89.3	-140.5	208.1	192.8	15.33	13.580	
2,900.0	2,896.1	2,885.9	2,878.8	8.0	8.4	-158.68	81.3	-151.1	230.6	214.8	15.80	14.593	
3,000.0	2,994.2	2,980.9	2,972.9	8.3	8.7	-162.69	73.4	-161.7	256.8	240.4	16.32	15.735	
3,100.0	3,091.7	3,075.0	3,066.1	8.5	9.0	-166.07	65.5	-172.1	286.4	269.6	16.87	16.980	
3,200.0	3,188.8	3,168.5	3,158.6	8.8	9.2	-168.96	57.7	-182.5	318.8	301.4	17.39	18.335	
3,300.0	3,285.8	3,261.9	3,251.1	9.1	9.6	-171.36	49.8	-192.9	352.0	334.0	17.96	19.592	
3,400.0	3,382.8	3,355.3	3,343.6	9.4	9.9	-173.35	42.0	-203.3	385.6	367.0	18.56	20.773	
3,500.0	3,479.8	3,448.7	3,436.1	9.7	10.2	-175.03	34.2	-213.7	419.5	400.3	19.17	21.879	
3,600.0	3,576.9	3,542.0	3,528.6	10.1	10.5	-176.45	26.4	-224.0	453.7	433.9	19.80	22.912	
3,700.0	3,673.9	3,635.4	3,621.0	10.5	10.8	-177.68	18.5	-234.4	488.2	467.7	20.45	23.874	
3,800.0	3,770.9	3,728.8	3,713.5	10.8	11.2	-178.75	10.7	-244.8	522.8	501.7	21.11	24.770	
3,900.0	3,868.0	3,822.2	3,806.0	11.2	11.5	-179.68	2.9	-255.2	557.6	535.8	21.78	25.603	
4,000.0	3,965.0	3,915.6	3,898.5	11.6	11.8	179.49	-4.9	-265.6	592.4	570.0	22.46	26.379	
4,100.0	4,062.0	4,009.0	3,991.0	12.0	12.2	178.76	-12.8	-275.9	627.4	604.3	23.15	27.101	
4,200.0	4,159.1	4,102.4	4,083.5	12.4	12.5	178.10	-20.6	-286.3	662.5	638.6	23.85	27.774	
4,300.0	4,256.1	4,195.8	4,176.0	12.8	12.9	177.51	-28.4	-296.7	697.6	673.0	24.56	28.401	
4,400.0	4,353.1	4,290.8	4,270.1	13.2	13.2	176.97	-36.3	-307.2	732.8	707.5	25.26	29.005	
4,500.0	4,450.1	4,389.8	4,368.2	13.6	13.6	176.48	-44.2	-317.7	767.4	741.4	26.02	29.493	
4,600.0	4,547.2	4,489.4	4,467.0	14.0	14.0	176.08	-51.6	-327.5	801.5	774.7	26.79	29.922	
4,700.0	4,644.2	4,589.6	4,566.5	14.5	14.4	175.74	-58.6	-336.7	834.9	807.3	27.55	30.300	
4,800.0	4,741.2	4,690.3	4,666.7	14.9	14.7	175.46	-65.0	-345.3	867.6	839.3	28.32	30.631	
4,900.0	4,838.3	4,791.6	4,767.5	15.3	15.1	175.23	-70.9	-353.2	899.6	870.5	29.09	30.921	
5,000.0	4,935.3	4,893.4	4,868.9	15.8	15.5	175.05	-76.4	-360.4	930.9	901.1	29.86	31.173	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	5,032.3	4,995.7	4,970.9	16.2	15.8	174.91	-81.3	-366.9	961.6	930.9	30.63	31.390	
5,200.0	5,129.4	5,098.6	5,073.5	16.7	16.2	174.81	-85.7	-372.7	991.5	960.1	31.40	31.577	
5,300.0	5,226.4	5,201.9	5,176.6	17.1	16.5	174.74	-89.5	-377.8	1,020.6	988.5	32.16	31.736	
5,400.0	5,323.4	5,305.8	5,280.3	17.6	16.9	174.71	-92.8	-382.2	1,049.1	1,016.1	32.92	31.871	
5,500.0	5,420.4	5,410.1	5,384.5	18.0	17.2	174.70	-95.6	-385.9	1,076.7	1,043.1	33.66	31.984	
5,600.0	5,517.5	5,514.8	5,489.2	18.5	17.5	174.73	-97.8	-388.8	1,103.7	1,069.3	34.40	32.080	
5,700.0	5,614.5	5,620.0	5,594.4	18.9	17.8	174.77	-99.4	-390.9	1,129.9	1,094.8	35.13	32.162	
5,800.0	5,711.5	5,725.7	5,700.0	19.4	18.1	174.85	-100.4	-392.3	1,155.3	1,119.5	35.84	32.236	
5,900.0	5,808.6	5,831.7	5,806.0	19.8	18.3	174.94	-100.9	-392.9	1,180.0	1,143.5	36.50	32.331	
6,000.0	5,905.6	5,931.3	5,905.6	20.3	18.3	175.05	-100.9	-393.0	1,204.2	1,167.1	37.03	32.520	
6,100.0	6,002.6	6,028.3	6,002.6	20.8	18.4	175.14	-100.9	-393.0	1,228.3	1,190.7	37.56	32.704	
6,200.0	6,099.6	6,125.3	6,099.6	21.2	18.4	175.24	-100.9	-393.0	1,252.4	1,214.3	38.09	32.879	
6,300.0	6,196.7	6,222.4	6,196.7	21.7	18.5	175.33	-100.9	-393.0	1,276.5	1,237.9	38.63	33.044	
6,400.0	6,293.7	6,319.4	6,293.7	22.2	18.5	175.41	-100.9	-393.0	1,300.6	1,261.4	39.18	33.200	
6,500.0	6,390.7	6,416.4	6,390.7	22.6	18.5	175.50	-100.9	-393.0	1,324.7	1,285.0	39.73	33.347	
6,600.0	6,487.8	6,513.4	6,487.8	23.1	18.6	175.58	-100.9	-393.0	1,348.9	1,308.6	40.28	33.487	
6,700.0	6,584.8	6,610.5	6,584.8	23.6	18.6	175.66	-100.9	-393.0	1,373.0	1,332.1	40.84	33.619	
6,800.0	6,681.8	6,707.5	6,681.8	24.0	18.6	175.73	-100.9	-393.0	1,397.1	1,355.7	41.40	33.743	
6,900.0	6,778.9	6,804.5	6,778.9	24.5	18.7	175.80	-100.9	-393.0	1,421.2	1,379.3	41.97	33.861	
7,000.0	6,875.9	6,901.6	6,875.9	25.0	18.7	175.87	-100.9	-393.0	1,445.4	1,402.8	42.54	33.973	
7,100.0	6,972.9	6,998.6	6,972.9	25.4	18.8	175.94	-100.9	-393.0	1,469.5	1,426.4	43.12	34.079	
7,200.0	7,069.9	7,095.6	7,069.9	25.9	18.8	176.01	-100.9	-393.0	1,493.6	1,449.9	43.70	34.179	
7,300.0	7,167.0	7,192.7	7,167.0	26.4	18.8	176.07	-100.9	-393.0	1,517.8	1,473.5	44.28	34.273	
7,400.0	7,264.0	7,289.7	7,264.0	26.9	18.9	176.13	-100.9	-393.0	1,541.9	1,497.0	44.87	34.363	
7,500.0	7,361.0	7,386.7	7,361.0	27.3	18.9	176.19	-100.9	-393.0	1,566.1	1,520.6	45.46	34.447	
7,600.0	7,458.1	7,483.7	7,458.1	27.8	19.0	176.25	-100.9	-393.0	1,590.2	1,544.1	46.06	34.528	
7,700.0	7,555.1	7,580.8	7,555.1	28.3	19.0	176.31	-100.9	-393.0	1,614.3	1,567.7	46.65	34.604	
7,800.0	7,652.1	7,677.8	7,652.1	28.8	19.1	176.36	-100.9	-393.0	1,638.5	1,591.2	47.25	34.675	
7,900.0	7,749.2	7,774.9	7,749.2	29.2	19.1	176.42	-100.9	-393.0	1,662.3	1,614.4	47.84	34.748	
8,000.0	7,846.7	7,872.4	7,846.7	29.7	19.1	176.48	-100.9	-393.0	1,684.5	1,636.0	48.43	34.778	
8,100.0	7,944.6	7,970.3	7,944.6	30.2	19.2	176.54	-100.9	-393.0	1,704.9	1,655.9	49.02	34.778	
8,200.0	8,042.8	8,068.5	8,042.8	30.6	19.2	176.59	-100.9	-393.0	1,723.7	1,674.1	49.60	34.749	
8,300.0	8,141.4	8,167.0	8,141.4	31.1	19.3	176.63	-100.9	-393.0	1,740.8	1,690.6	50.18	34.693	
8,400.0	8,240.2	8,265.8	8,240.2	31.5	19.3	176.67	-100.9	-393.0	1,756.1	1,705.4	50.74	34.612	
8,500.0	8,339.2	8,364.9	8,339.2	31.9	19.4	176.70	-100.9	-393.0	1,769.7	1,718.4	51.29	34.507	
8,600.0	8,438.5	8,464.2	8,438.5	32.3	19.4	176.73	-100.9	-393.0	1,781.6	1,729.8	51.82	34.380	
8,700.0	8,538.0	8,563.7	8,538.0	32.7	19.4	176.76	-100.9	-393.0	1,791.8	1,739.4	52.34	34.234	
8,800.0	8,637.6	8,663.3	8,637.6	33.1	19.5	176.78	-100.9	-393.0	1,800.2	1,747.3	52.84	34.070	
8,900.0	8,737.4	8,763.1	8,737.4	33.5	19.5	176.79	-100.9	-393.0	1,806.9	1,753.6	53.31	33.892	
9,000.0	8,837.3	8,863.0	8,837.3	33.8	19.6	176.80	-100.9	-393.0	1,811.8	1,758.1	53.76	33.703	
9,100.0	8,937.2	8,962.9	8,937.2	34.1	19.6	176.81	-100.9	-393.0	1,815.0	1,760.9	54.16	33.509	
9,200.0	9,037.2	9,062.9	9,037.2	34.4	19.7	176.81	-100.9	-393.0	1,816.5	1,762.0	54.50	33.329	
9,300.0	9,137.2	9,162.9	9,137.2	34.4	19.7	-93.18	-100.9	-393.0	1,816.6	1,762.0	54.59	33.280	
9,400.0	9,237.2	9,278.5	9,252.3	34.4	19.6	-92.91	-92.1	-393.0	1,816.2	1,761.5	54.67	33.223	
9,500.0	9,337.2	9,389.0	9,358.6	34.5	19.4	-91.97	-62.4	-393.1	1,815.1	1,760.4	54.68	33.196	
9,600.0	9,437.2	9,485.3	9,445.0	34.5	19.3	-90.64	-20.3	-393.3	1,814.2	1,759.6	54.60	33.227	
9,628.8	9,466.0	9,510.0	9,466.0	34.5	19.2	-90.23	-7.2	-393.3	1,814.2	1,759.6	54.56	33.250	
9,700.0	9,537.2	9,565.6	9,511.0	34.5	19.1	-89.20	25.5	-393.5	1,814.6	1,760.2	54.43	33.336	
9,800.0	9,637.2	9,631.2	9,559.7	34.5	19.0	-87.81	69.4	-393.6	1,817.4	1,763.2	54.19	33.538	
9,900.0	9,737.2	9,684.5	9,595.3	34.6	19.0	-86.56	109.0	-393.8	1,823.4	1,769.5	53.88	33.843	
10,000.0	9,837.2	9,728.0	9,621.5	34.6	18.9	-85.47	143.7	-393.9	1,833.2	1,779.7	53.51	34.261	
10,100.0	9,937.2	9,763.7	9,641.1	34.6	18.9	-84.54	173.5	-394.0	1,847.0	1,794.0	53.08	34.796	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
10,200.0	10,037.2	9,800.0	9,659.0	34.7	18.9	-83.55	205.1	-394.2	1,865.3	1,812.7	52.62	35.447	
10,300.0	10,137.2	9,818.3	9,667.2	34.7	18.9	-83.05	221.4	-394.2	1,887.9	1,835.8	52.12	36.220	
10,400.0	10,237.2	9,850.0	9,680.3	34.7	18.9	-82.15	250.3	-394.3	1,915.1	1,863.5	51.62	37.099	
10,500.0	10,337.2	9,850.0	9,680.3	34.7	18.9	-82.15	250.3	-394.3	1,946.5	1,895.4	51.09	38.101	
10,600.0	10,437.2	9,873.2	9,688.9	34.8	18.9	-81.48	271.8	-394.4	1,982.2	1,931.6	50.59	39.185	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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	-11.31	150.0	-30.0	153.0	146.5	6.43	23.794	
100.0	100.0	100.0	100.0	3.2	3.2	-11.31	150.0	-30.0	153.0	146.1	6.89	22.194	
200.0	200.0	200.0	200.0	3.5	3.5	-11.31	150.0	-30.0	153.0	145.6	7.33	20.874	
300.0	300.0	300.0	300.0	3.7	3.7	-11.31	150.0	-30.0	153.0	145.2	7.74	19.760	
400.0	400.0	400.0	400.0	3.9	3.9	-11.31	150.0	-30.0	153.0	144.8	8.14	18.803	
500.0	500.0	500.0	500.0	4.1	4.1	-11.31	150.0	-30.0	153.0	144.5	8.51	17.968	
600.0	600.0	600.0	600.0	4.2	4.2	-11.31	150.0	-30.0	153.0	144.1	8.88	17.231	
700.0	700.0	700.0	700.0	4.4	4.4	-11.31	150.0	-30.0	153.0	143.7	9.23	16.574	
800.0	800.0	800.0	800.0	4.6	4.6	-11.31	150.0	-30.0	153.0	143.4	9.57	15.984	
900.0	900.0	900.0	900.0	4.8	4.8	-11.31	150.0	-30.0	153.0	143.1	9.90	15.449	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	-11.31	150.0	-30.0	153.0	142.7	10.22	14.961	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	-11.31	150.0	-30.0	153.0	142.4	10.54	14.514	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	-11.31	150.0	-30.0	153.0	142.1	10.85	14.102	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	-11.31	150.0	-30.0	153.0	141.8	11.15	13.721	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	-11.31	150.0	-30.0	153.0	141.5	11.44	13.366	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	-11.31	150.0	-30.0	153.0	141.2	11.73	13.036	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	-11.31	150.0	-30.0	153.0	141.0	12.02	12.727	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-11.31	150.0	-30.0	153.0	140.7	12.30	12.437	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	-11.31	150.0	-30.0	153.0	140.4	12.58	12.164	CC, ES
1,900.0	1,900.0	1,899.0	1,899.0	6.3	6.3	-10.84	150.5	-28.8	153.3	140.4	12.84	11.935	
2,000.0	2,000.0	1,997.9	1,997.9	6.4	6.4	-9.46	152.2	-25.4	154.3	141.2	13.10	11.775	
2,100.0	2,100.0	2,096.6	2,096.3	6.5	6.6	-7.20	154.9	-19.6	156.1	142.8	13.36	11.685	
2,200.0	2,200.0	2,194.8	2,194.1	6.7	6.8	-4.15	158.6	-11.5	159.1	145.5	13.62	11.681	
2,300.0	2,300.0	2,292.7	2,291.3	6.8	7.1	-90.81	163.4	-1.2	163.7	149.8	13.88	11.788	
2,400.0	2,399.9	2,393.2	2,390.9	7.0	7.2	-87.69	168.9	11.6	169.3	155.2	14.10	12.004	
2,500.0	2,499.7	2,495.8	2,492.3	7.1	7.5	-84.91	172.8	26.6	173.6	159.2	14.39	12.066	
2,600.0	2,599.3	2,598.1	2,593.1	7.3	7.7	-82.45	174.9	43.6	176.4	161.8	14.65	12.043	
2,700.0	2,698.6	2,697.9	2,691.4	7.5	8.0	-80.68	176.1	60.9	178.5	163.5	14.96	11.926	
2,800.0	2,797.5	2,797.9	2,789.9	7.7	8.3	-79.78	177.3	78.2	180.2	164.9	15.23	11.826	
2,900.0	2,896.1	2,897.9	2,888.3	8.0	8.6	-79.70	178.5	95.5	181.4	165.9	15.50	11.704	
3,000.0	2,994.2	2,997.8	2,986.8	8.3	8.9	-80.45	179.7	112.8	182.2	166.5	15.75	11.567	
3,100.0	3,091.7	3,097.7	3,085.1	8.5	9.2	-82.00	180.9	130.1	182.7	166.7	15.99	11.425	
3,200.0	3,188.8	3,197.5	3,183.4	8.8	9.5	-84.17	182.1	147.4	183.1	166.9	16.16	11.327	
3,300.0	3,285.8	3,297.2	3,281.6	9.1	9.9	-86.38	183.3	164.7	183.7	167.3	16.38	11.215	
3,400.0	3,382.8	3,397.0	3,379.8	9.4	10.2	-88.58	184.5	182.0	184.6	168.0	16.60	11.121	
3,500.0	3,479.8	3,496.7	3,478.1	9.7	10.6	-90.74	185.7	199.2	185.8	169.0	16.82	11.042	
3,600.0	3,576.9	3,596.4	3,576.3	10.1	11.0	-92.88	187.0	216.5	187.2	170.2	17.06	10.974	
3,700.0	3,673.9	3,696.2	3,674.5	10.5	11.3	-94.98	188.2	233.8	188.9	171.6	17.31	10.914	
3,800.0	3,770.9	3,795.9	3,772.8	10.8	11.7	-97.05	189.4	251.1	190.8	173.3	17.58	10.858	
3,900.0	3,868.0	3,895.7	3,871.0	11.2	12.1	-99.06	190.6	268.4	193.0	175.2	17.87	10.803	
4,000.0	3,965.0	3,995.4	3,969.2	11.6	12.5	-101.04	191.8	285.6	195.5	177.3	18.19	10.747	
4,100.0	4,062.0	4,095.2	4,067.5	12.0	12.9	-102.96	193.0	302.9	198.1	179.6	18.54	10.688	
4,200.0	4,159.1	4,194.9	4,165.7	12.4	13.3	-104.83	194.2	320.2	201.0	182.1	18.92	10.624	
4,300.0	4,256.1	4,294.7	4,263.9	12.8	13.7	-106.64	195.4	337.5	204.1	184.7	19.33	10.555	
4,400.0	4,353.1	4,394.4	4,362.2	13.2	14.1	-108.40	196.6	354.7	207.3	187.5	19.78	10.479	
4,500.0	4,450.1	4,494.2	4,460.4	13.6	14.5	-110.10	197.8	372.0	210.8	190.5	20.27	10.398	
4,600.0	4,547.2	4,593.9	4,558.6	14.0	14.9	-111.75	199.0	389.3	214.4	193.6	20.80	10.312	
4,700.0	4,644.2	4,693.7	4,656.8	14.5	15.3	-113.34	200.2	406.6	218.3	196.9	21.35	10.221	
4,800.0	4,741.2	4,793.4	4,755.1	14.9	15.7	-114.87	201.4	423.9	222.2	200.3	21.95	10.126	
4,900.0	4,838.3	4,893.1	4,853.3	15.3	16.1	-116.35	202.7	441.1	226.4	203.8	22.57	10.028	
5,000.0	4,935.3	4,992.9	4,951.5	15.8	16.6	-117.78	203.9	458.4	230.6	207.4	23.23	9.929	
5,100.0	5,032.3	5,092.6	5,049.8	16.2	17.0	-119.15	205.1	475.7	235.1	211.1	23.92	9.829	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,129.4	5,192.4	5,148.0	16.7	17.4	-120.48	206.3	493.0	239.6	215.0	24.63	9.729	
5,300.0	5,226.4	5,292.1	5,246.2	17.1	17.8	-121.75	207.5	510.3	244.3	218.9	25.37	9.630	
5,400.0	5,323.4	5,391.9	5,344.5	17.6	18.2	-122.97	208.7	527.5	249.1	222.9	26.13	9.532	
5,500.0	5,420.4	5,491.6	5,442.7	18.0	18.7	-124.15	209.9	544.8	254.0	227.0	26.91	9.437	
5,600.0	5,517.5	5,591.4	5,540.9	18.5	19.1	-125.28	211.1	562.1	259.0	231.2	27.71	9.344	
5,700.0	5,614.5	5,691.1	5,639.2	18.9	19.5	-126.37	212.3	579.4	264.0	235.5	28.53	9.254	
5,800.0	5,711.5	5,790.9	5,737.4	19.4	20.0	-127.42	213.5	596.6	269.2	239.9	29.37	9.168	
5,900.0	5,808.6	5,890.6	5,835.6	19.8	20.4	-128.43	214.7	613.9	274.5	244.3	30.22	9.084	
6,000.0	5,905.6	5,990.4	5,933.8	20.3	20.8	-129.40	215.9	631.2	279.9	248.8	31.08	9.005	
6,100.0	6,002.6	6,090.1	6,032.1	20.8	21.3	-130.33	217.2	648.5	285.3	253.3	31.95	8.929	
6,200.0	6,099.6	6,189.8	6,130.3	21.2	21.7	-131.23	218.4	665.8	290.8	258.0	32.84	8.856	
6,300.0	6,196.7	6,289.6	6,228.5	21.7	22.1	-132.10	219.6	683.0	296.4	262.7	33.73	8.787	
6,400.0	6,293.7	6,389.3	6,326.8	22.2	22.6	-132.93	220.8	700.3	302.0	267.4	34.63	8.721	
6,500.0	6,390.7	6,489.1	6,425.0	22.6	23.0	-133.73	222.0	717.6	307.7	272.2	35.54	8.658	
6,600.0	6,487.8	6,588.8	6,523.2	23.1	23.4	-134.51	223.2	734.9	313.5	277.0	36.46	8.599	
6,700.0	6,584.8	6,688.6	6,621.5	23.6	23.9	-135.25	224.4	752.2	319.3	281.9	37.38	8.543	
6,800.0	6,681.8	6,785.0	6,716.5	24.0	24.4	-136.03	225.5	768.2	325.6	287.2	38.40	8.480	
6,900.0	6,778.9	6,880.8	6,811.2	24.5	24.8	-136.98	226.5	782.6	333.2	293.7	39.42	8.452	
7,000.0	6,875.9	6,976.3	6,905.9	25.0	25.2	-138.08	227.4	795.3	341.9	301.5	40.48	8.447	SF
7,100.0	6,972.9	7,071.4	7,000.3	25.4	25.6	-139.31	228.2	806.4	352.0	310.4	41.60	8.463	
7,200.0	7,069.9	7,166.1	7,094.5	25.9	25.9	-140.63	228.9	815.9	363.5	320.8	42.75	8.504	
7,300.0	7,167.0	7,260.3	7,188.4	26.4	26.3	-142.03	229.4	823.9	376.4	332.5	43.92	8.570	
7,400.0	7,264.0	7,354.0	7,281.9	26.9	26.6	-143.48	229.9	830.2	390.7	345.6	45.10	8.663	
7,500.0	7,361.0	7,447.1	7,374.9	27.3	26.9	-144.96	230.2	835.0	406.5	360.3	46.28	8.785	
7,600.0	7,458.1	7,539.7	7,467.4	27.8	27.2	-146.44	230.4	838.3	423.9	376.5	47.43	8.939	
7,700.0	7,555.1	7,631.5	7,559.2	28.3	27.4	-147.92	230.6	840.1	442.9	394.4	48.52	9.128	
7,800.0	7,652.1	7,724.4	7,652.1	28.8	27.6	-149.41	230.6	840.5	463.4	413.8	49.55	9.352	
7,900.0	7,749.2	7,821.6	7,749.2	29.2	27.7	-150.90	230.6	840.5	484.2	433.6	50.57	9.575	
8,000.0	7,846.7	7,919.1	7,846.7	29.7	27.7	-152.22	230.6	840.5	503.8	452.4	51.47	9.790	
8,100.0	7,944.6	8,016.9	7,944.6	30.2	27.7	-153.34	230.6	840.5	522.2	469.9	52.29	9.986	
8,200.0	8,042.8	8,115.1	8,042.8	30.6	27.8	-154.31	230.6	840.5	539.1	486.0	53.06	10.161	
8,300.0	8,141.4	8,213.7	8,141.4	31.1	27.8	-155.14	230.6	840.5	554.6	500.8	53.77	10.314	
8,400.0	8,240.2	8,312.5	8,240.2	31.5	27.8	-155.85	230.6	840.5	568.6	514.2	54.44	10.445	
8,500.0	8,339.2	8,411.5	8,339.2	31.9	27.9	-156.45	230.6	840.5	581.1	526.0	55.07	10.553	
8,600.0	8,438.5	8,510.8	8,438.5	32.3	27.9	-156.95	230.6	840.5	592.1	536.4	55.65	10.638	
8,700.0	8,538.0	8,610.3	8,538.0	32.7	27.9	-157.37	230.6	840.5	601.4	545.2	56.20	10.701	
8,800.0	8,637.6	8,709.9	8,637.6	33.1	28.0	-157.70	230.6	840.5	609.2	552.5	56.71	10.743	
8,900.0	8,737.4	8,809.7	8,737.4	33.5	28.0	-157.96	230.6	840.5	615.4	558.3	57.18	10.763	
9,000.0	8,837.3	8,909.6	8,837.3	33.8	28.0	-158.15	230.6	840.5	620.0	562.4	57.61	10.763	
9,100.0	8,937.2	9,009.5	8,937.2	34.1	28.1	-158.27	230.6	840.5	623.0	565.0	57.98	10.745	
9,200.0	9,037.2	9,109.5	9,037.2	34.4	28.1	-158.33	230.6	840.5	624.4	566.1	58.28	10.713	
9,300.0	9,137.2	9,209.5	9,137.2	34.4	28.1	-68.33	230.6	840.5	624.5	566.1	58.36	10.699	
9,400.0	9,237.2	9,284.7	9,212.3	34.4	28.2	-68.06	233.8	840.5	626.2	568.2	57.90	10.814	
9,500.0	9,337.2	9,350.0	9,276.7	34.5	28.2	-67.17	244.3	840.4	632.6	575.7	56.97	11.105	
9,600.0	9,437.2	9,419.2	9,343.2	34.5	28.3	-65.59	263.4	840.4	644.3	588.6	55.74	11.559	
9,700.0	9,537.2	9,479.8	9,399.1	34.5	28.3	-63.73	286.6	840.3	662.0	607.9	54.13	12.230	
9,800.0	9,637.2	9,534.8	9,447.5	34.5	28.4	-61.70	312.7	840.2	686.2	634.0	52.26	13.131	
9,900.0	9,737.2	9,584.2	9,488.7	34.6	28.4	-59.66	339.9	840.0	717.4	667.1	50.25	14.277	
10,000.0	9,837.2	9,628.0	9,523.1	34.6	28.5	-57.71	367.0	839.9	755.5	707.3	48.23	15.665	
10,100.0	9,937.2	9,666.9	9,551.8	34.6	28.5	-55.91	393.2	839.8	800.4	754.1	46.33	17.275	
10,200.0	10,037.2	9,700.0	9,574.9	34.7	28.5	-54.34	417.0	839.7	851.6	807.0	44.65	19.072	
10,300.0	10,137.2	9,731.5	9,595.5	34.7	28.6	-52.82	440.8	839.6	908.6	865.4	43.24	21.012	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.0	10,237.2	9,750.0	9,607.0	34.7	28.6	-51.93	455.3	839.6	970.7	928.6	42.13	23.042	
10,500.0	10,337.2	9,782.2	9,625.8	34.7	28.6	-50.38	481.4	839.5	1,037.2	996.0	41.26	25.136	
10,600.0	10,437.2	9,800.0	9,635.6	34.8	28.6	-49.52	496.3	839.4	1,107.7	1,067.0	40.67	27.236	
10,700.0	10,537.2	9,822.4	9,647.2	34.8	28.7	-48.45	515.4	839.3	1,181.5	1,141.2	40.27	29.335	
10,800.0	10,637.2	9,850.0	9,660.5	34.8	28.7	-47.15	539.6	839.2	1,258.3	1,218.3	40.04	31.425	
10,900.0	10,737.2	9,850.0	9,660.5	34.8	28.7	-47.15	539.6	839.2	1,337.4	1,297.4	40.01	33.423	
11,000.0	10,837.1	9,869.6	9,669.3	34.9	28.7	-44.96	557.1	839.2	1,417.5	1,377.5	40.04	35.401	
11,100.0	10,935.1	9,900.0	9,681.6	34.9	28.7	-36.73	584.9	839.0	1,492.8	1,452.7	40.14	37.189	
11,200.0	11,028.4	9,900.0	9,681.6	35.0	28.7	-31.56	584.9	839.0	1,560.6	1,520.2	40.38	38.645	
11,300.0	11,114.0	9,928.8	9,691.9	35.1	28.8	-27.60	611.8	838.9	1,619.8	1,579.2	40.62	39.873	
11,400.0	11,189.3	9,950.0	9,698.6	35.2	28.8	-24.95	631.9	838.8	1,669.3	1,628.4	40.90	40.813	
11,500.0	11,252.1	9,976.5	9,706.0	35.3	28.8	-23.14	657.4	838.7	1,708.1	1,667.0	41.18	41.483	
11,600.0	11,300.5	10,000.0	9,711.5	35.3	28.8	-22.01	680.2	838.6	1,735.7	1,694.3	41.44	41.881	
11,700.0	11,333.0	10,027.3	9,716.8	35.4	28.9	-21.44	707.0	838.5	1,751.6	1,709.9	41.68	42.020	
11,800.0	11,348.6	10,050.0	9,720.1	35.5	28.9	-21.35	729.4	838.4	1,755.5	1,713.6	41.89	41.902	
11,900.0	11,350.0	10,078.8	9,723.2	35.6	28.9	-21.45	758.1	838.3	1,750.1	1,708.1	42.01	41.663	
12,000.0	11,350.0	10,100.0	9,724.4	35.7	28.9	-21.43	779.2	838.2	1,746.5	1,704.4	42.12	41.470	
12,099.7	11,350.0	10,148.9	9,725.0	35.8	29.0	-21.44	828.2	838.0	1,745.8	1,703.6	42.19	41.380	
12,100.0	11,350.0	10,149.3	9,725.0	35.8	29.0	-21.43	828.5	838.0	1,745.7	1,703.5	42.19	41.377	
12,200.0	11,350.0	10,249.3	9,725.0	35.9	29.1	-21.43	928.5	837.6	1,745.7	1,703.4	42.27	41.297	
12,300.0	11,350.0	10,349.3	9,725.0	36.0	29.2	-21.43	1,028.5	837.2	1,745.7	1,703.3	42.41	41.162	
12,400.0	11,350.0	10,449.3	9,725.0	36.2	29.3	-21.43	1,128.5	836.8	1,745.7	1,703.1	42.60	40.975	
12,500.0	11,350.0	10,549.3	9,725.0	36.4	29.5	-21.43	1,228.5	836.4	1,745.7	1,702.9	42.85	40.736	
12,600.0	11,350.0	10,649.3	9,725.0	36.6	29.7	-21.43	1,328.5	836.0	1,745.7	1,702.6	43.16	40.449	
12,700.0	11,350.0	10,749.3	9,725.0	36.8	29.9	-21.43	1,428.5	835.6	1,745.7	1,702.2	43.52	40.117	
12,800.0	11,350.0	10,849.3	9,725.0	37.0	30.1	-21.43	1,528.5	835.2	1,745.7	1,701.8	43.93	39.743	
12,900.0	11,350.0	10,949.3	9,725.0	37.2	30.4	-21.43	1,628.5	834.8	1,745.7	1,701.3	44.39	39.332	
13,000.0	11,350.0	11,049.3	9,725.0	37.5	30.6	-21.43	1,728.5	834.4	1,745.7	1,700.8	44.89	38.886	
13,100.0	11,350.0	11,149.3	9,725.0	37.7	30.9	-21.43	1,828.5	833.9	1,745.7	1,700.3	45.45	38.411	
13,200.0	11,350.0	11,249.3	9,725.0	38.0	31.2	-21.43	1,928.5	833.5	1,745.7	1,699.7	46.05	37.909	
13,300.0	11,350.0	11,349.3	9,725.0	38.3	31.5	-21.43	2,028.5	833.1	1,745.7	1,699.1	46.70	37.386	
13,400.0	11,350.0	11,449.3	9,725.0	38.6	31.8	-21.44	2,128.5	832.7	1,745.8	1,698.4	47.38	36.844	
13,500.0	11,350.0	11,549.3	9,725.0	38.9	32.2	-21.44	2,228.5	832.3	1,745.8	1,697.6	48.11	36.288	
13,600.0	11,350.0	11,649.3	9,725.0	39.3	32.5	-21.44	2,328.5	831.9	1,745.8	1,696.9	48.87	35.720	
13,700.0	11,350.0	11,749.3	9,725.0	39.6	32.9	-21.44	2,428.5	831.5	1,745.8	1,696.1	49.68	35.143	
13,800.0	11,350.0	11,849.3	9,725.0	40.0	33.3	-21.44	2,528.5	831.1	1,745.8	1,695.3	50.51	34.562	
13,900.0	11,350.0	11,949.3	9,725.0	40.4	33.7	-21.44	2,628.5	830.7	1,745.8	1,694.4	51.38	33.977	
14,000.0	11,350.0	12,049.3	9,725.0	40.7	34.1	-21.44	2,728.5	830.3	1,745.8	1,693.5	52.28	33.392	
14,100.0	11,350.0	12,149.3	9,725.0	41.1	34.6	-21.44	2,828.5	829.8	1,745.8	1,692.6	53.21	32.808	
14,200.0	11,350.0	12,249.3	9,725.0	41.5	35.0	-21.44	2,928.5	829.4	1,745.8	1,691.6	54.17	32.227	
14,300.0	11,350.0	12,349.3	9,725.0	41.9	35.4	-21.44	3,028.5	829.0	1,745.8	1,690.6	55.16	31.652	
14,400.0	11,350.0	12,449.3	9,725.0	42.4	35.9	-21.44	3,128.5	828.6	1,745.8	1,689.6	56.17	31.082	
14,500.0	11,350.0	12,549.3	9,725.0	42.8	36.4	-21.44	3,228.5	828.2	1,745.8	1,688.6	57.20	30.520	
14,600.0	11,350.0	12,649.3	9,725.0	43.3	36.9	-21.44	3,328.5	827.8	1,745.8	1,687.5	58.26	29.967	
14,700.0	11,350.0	12,749.3	9,725.0	43.7	37.4	-21.44	3,428.5	827.4	1,745.8	1,686.5	59.34	29.422	
14,800.0	11,350.0	12,849.3	9,725.0	44.2	37.9	-21.44	3,528.5	827.0	1,745.8	1,685.4	60.44	28.887	
14,900.0	11,350.0	12,949.3	9,725.0	44.6	38.4	-21.44	3,628.5	826.6	1,745.8	1,684.2	61.55	28.362	
15,000.0	11,350.0	13,049.3	9,725.0	45.1	38.9	-21.44	3,728.5	826.2	1,745.8	1,683.1	62.69	27.848	
15,100.0	11,350.0	13,149.3	9,725.0	45.6	39.4	-21.44	3,828.5	825.8	1,745.8	1,682.0	63.84	27.345	
15,200.0	11,350.0	13,249.3	9,725.0	46.1	40.0	-21.44	3,928.5	825.3	1,745.8	1,680.8	65.01	26.853	
15,300.0	11,350.0	13,349.3	9,725.0	46.6	40.5	-21.44	4,028.5	824.9	1,745.8	1,679.6	66.20	26.373	
15,400.0	11,350.0	13,449.3	9,725.0	47.1	41.1	-21.44	4,128.5	824.5	1,745.8	1,678.4	67.40	25.903	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	11,350.0	13,549.3	9,725.0	47.6	41.6	-21.44	4,228.5	824.1	1,745.8	1,677.2	68.61	25.445	
15,600.0	11,350.0	13,649.3	9,725.0	48.2	42.2	-21.44	4,328.5	823.7	1,745.8	1,676.0	69.84	24.999	
15,700.0	11,350.0	13,749.3	9,725.0	48.7	42.8	-21.44	4,428.5	823.3	1,745.8	1,674.7	71.08	24.563	
15,800.0	11,350.0	13,849.3	9,725.0	49.2	43.4	-21.44	4,528.5	822.9	1,745.8	1,673.5	72.33	24.138	
15,900.0	11,350.0	13,949.3	9,725.0	49.8	44.0	-21.44	4,628.4	822.5	1,745.8	1,672.2	73.59	23.725	
16,000.0	11,350.0	14,049.3	9,725.0	50.3	44.5	-21.44	4,728.4	822.1	1,745.8	1,671.0	74.86	23.321	
16,100.0	11,350.0	14,149.3	9,725.0	50.9	45.1	-21.44	4,828.4	821.7	1,745.8	1,669.7	76.14	22.929	
16,200.0	11,350.0	14,249.3	9,725.0	51.4	45.7	-21.44	4,928.4	821.2	1,745.8	1,668.4	77.43	22.546	
16,300.0	11,350.0	14,349.3	9,725.0	52.0	46.4	-21.44	5,028.4	820.8	1,745.8	1,667.1	78.73	22.174	
16,400.0	11,350.0	14,449.3	9,725.0	52.5	47.0	-21.44	5,128.4	820.4	1,745.8	1,665.8	80.04	21.811	
16,500.0	11,350.0	14,549.3	9,725.0	53.1	47.6	-21.44	5,228.4	820.0	1,745.9	1,664.5	81.36	21.458	
16,600.0	11,350.0	14,649.3	9,725.0	53.7	48.2	-21.44	5,328.4	819.6	1,745.9	1,663.2	82.69	21.114	
16,700.0	11,350.0	14,749.3	9,725.0	54.3	48.8	-21.44	5,428.4	819.2	1,745.9	1,661.8	84.02	20.779	
16,800.0	11,350.0	14,849.3	9,725.0	54.9	49.5	-21.44	5,528.4	818.8	1,745.9	1,660.5	85.36	20.453	
16,900.0	11,350.0	14,949.3	9,725.0	55.5	50.1	-21.44	5,628.4	818.4	1,745.9	1,659.2	86.71	20.135	
17,000.0	11,350.0	15,049.3	9,725.0	56.1	50.7	-21.44	5,728.4	818.0	1,745.9	1,657.8	88.06	19.826	
17,100.0	11,350.0	15,149.3	9,725.0	56.7	51.4	-21.45	5,828.4	817.6	1,745.9	1,656.5	89.42	19.524	
17,200.0	11,350.0	15,249.3	9,725.0	57.3	52.0	-21.45	5,928.4	817.2	1,745.9	1,655.1	90.79	19.231	
17,300.0	11,350.0	15,349.3	9,725.0	57.9	52.7	-21.45	6,028.4	816.7	1,745.9	1,653.7	92.16	18.945	
17,400.0	11,350.0	15,449.3	9,725.0	58.5	53.3	-21.45	6,128.4	816.3	1,745.9	1,652.3	93.53	18.666	
17,500.0	11,350.0	15,549.3	9,725.0	59.1	54.0	-21.45	6,228.4	815.9	1,745.9	1,651.0	94.91	18.394	
17,600.0	11,350.0	15,649.3	9,725.0	59.7	54.6	-21.45	6,328.4	815.5	1,745.9	1,649.6	96.30	18.130	
17,700.0	11,350.0	15,749.3	9,725.0	60.3	55.3	-21.45	6,428.4	815.1	1,745.9	1,648.2	97.69	17.872	
17,800.0	11,350.0	15,849.3	9,725.0	61.0	55.9	-21.45	6,528.4	814.7	1,745.9	1,646.8	99.09	17.620	
17,900.0	11,350.0	15,949.3	9,725.0	61.6	56.6	-21.45	6,628.4	814.3	1,745.9	1,645.4	100.49	17.375	
18,000.0	11,350.0	16,049.3	9,725.0	62.2	57.3	-21.45	6,728.4	813.9	1,745.9	1,644.0	101.89	17.135	
18,100.0	11,350.0	16,149.3	9,725.0	62.9	57.9	-21.45	6,828.4	813.5	1,745.9	1,642.6	103.30	16.902	
18,200.0	11,350.0	16,249.3	9,725.0	63.5	58.6	-21.45	6,928.4	813.1	1,745.9	1,641.2	104.71	16.674	
18,300.0	11,350.0	16,349.3	9,725.0	64.1	59.3	-21.45	7,028.4	812.6	1,745.9	1,639.8	106.12	16.452	
18,400.0	11,350.0	16,449.3	9,725.0	64.8	60.0	-21.45	7,128.4	812.2	1,745.9	1,638.4	107.54	16.234	
18,500.0	11,350.0	16,549.3	9,725.0	65.4	60.6	-21.45	7,228.4	811.8	1,745.9	1,637.0	108.97	16.023	
18,600.0	11,350.0	16,649.3	9,725.0	66.1	61.3	-21.45	7,328.4	811.4	1,745.9	1,635.5	110.39	15.816	
18,700.0	11,350.0	16,749.3	9,725.0	66.7	62.0	-21.45	7,428.4	811.0	1,745.9	1,634.1	111.82	15.614	
18,800.0	11,350.0	16,849.3	9,725.0	67.4	62.7	-21.45	7,528.4	810.6	1,745.9	1,632.7	113.25	15.416	
18,900.0	11,350.0	16,949.3	9,725.0	68.0	63.4	-21.45	7,628.4	810.2	1,745.9	1,631.2	114.69	15.224	
19,000.0	11,350.0	17,049.3	9,725.0	68.7	64.1	-21.45	7,728.4	809.8	1,745.9	1,629.8	116.12	15.035	
19,100.0	11,350.0	17,149.3	9,725.0	69.3	64.8	-21.45	7,828.4	809.4	1,745.9	1,628.4	117.56	14.851	
19,200.0	11,350.0	17,249.3	9,725.0	70.0	65.5	-21.45	7,928.4	809.0	1,745.9	1,626.9	119.00	14.671	
19,300.0	11,350.0	17,349.3	9,725.0	70.7	66.1	-21.45	8,028.4	808.6	1,745.9	1,625.5	120.45	14.495	
19,400.0	11,350.0	17,449.3	9,725.0	71.3	66.8	-21.45	8,128.4	808.1	1,745.9	1,624.0	121.90	14.323	
19,500.0	11,350.0	17,549.3	9,725.0	72.0	67.5	-21.45	8,228.4	807.7	1,745.9	1,622.6	123.35	14.155	
19,600.0	11,350.0	17,649.3	9,725.0	72.7	68.2	-21.45	8,328.4	807.3	1,746.0	1,621.2	124.80	13.990	
19,700.0	11,350.0	17,749.3	9,725.0	73.3	68.9	-21.45	8,428.4	806.9	1,746.0	1,619.7	126.25	13.829	
19,800.0	11,350.0	17,849.3	9,725.0	74.0	69.6	-21.45	8,528.4	806.5	1,746.0	1,618.3	127.71	13.671	
19,900.0	11,350.0	17,949.3	9,725.0	74.7	70.3	-21.45	8,628.4	806.1	1,746.0	1,616.8	129.17	13.517	
20,000.0	11,350.0	18,049.3	9,725.0	75.4	71.0	-21.45	8,728.4	805.7	1,746.0	1,615.3	130.63	13.366	
20,100.0	11,350.0	18,149.3	9,725.0	76.1	71.7	-21.45	8,828.4	805.3	1,746.0	1,613.9	132.09	13.218	
20,200.0	11,350.0	18,249.3	9,725.0	76.7	72.5	-21.45	8,928.4	804.9	1,746.0	1,612.4	133.55	13.073	
20,300.0	11,350.0	18,349.3	9,725.0	77.4	73.2	-21.45	9,028.4	804.5	1,746.0	1,611.0	135.02	12.932	
20,400.0	11,350.0	18,449.3	9,725.0	78.1	73.9	-21.45	9,128.4	804.0	1,746.0	1,609.5	136.48	12.793	
20,500.0	11,350.0	18,549.3	9,725.0	78.8	74.6	-21.45	9,228.4	803.6	1,746.0	1,608.0	137.95	12.656	
20,600.0	11,350.0	18,649.3	9,725.0	79.5	75.3	-21.45	9,328.4	803.2	1,746.0	1,606.6	139.42	12.523	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

Offset Design: THUNDERDOME PROJECT - *THUNDERDOME FED COM 504H - OWB - PWP0

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,700.0	11,350.0	18,749.3	9,725.0	80.2	76.0	-21.45	9,428.4	802.8	1,746.0	1,605.1	140.89	12.392	
20,800.0	11,350.0	18,849.3	9,725.0	80.8	76.7	-21.46	9,528.4	802.4	1,746.0	1,603.6	142.37	12.264	
20,900.0	11,350.0	18,949.3	9,725.0	81.5	77.4	-21.46	9,628.4	802.0	1,746.0	1,602.2	143.84	12.138	
21,000.0	11,350.0	19,049.3	9,725.0	82.2	78.1	-21.46	9,728.4	801.6	1,746.0	1,600.7	145.32	12.015	
21,100.0	11,350.0	19,149.3	9,725.0	82.9	78.9	-21.46	9,828.4	801.2	1,746.0	1,599.2	146.80	11.894	
21,200.0	11,350.0	19,249.3	9,725.0	83.6	79.6	-21.46	9,928.4	800.8	1,746.0	1,597.7	148.28	11.775	
21,300.0	11,350.0	19,349.3	9,725.0	84.3	80.3	-21.46	10,028.4	800.4	1,746.0	1,596.3	149.76	11.659	
21,400.0	11,350.0	19,449.3	9,725.0	85.0	81.0	-21.46	10,128.4	799.9	1,746.0	1,594.8	151.24	11.545	
21,500.0	11,350.0	19,549.3	9,725.0	85.7	81.7	-21.46	10,228.4	799.5	1,746.0	1,593.3	152.72	11.433	
21,600.0	11,350.0	19,649.3	9,725.0	86.4	82.5	-21.46	10,328.4	799.1	1,746.0	1,591.8	154.20	11.323	
21,700.0	11,350.0	19,749.3	9,725.0	87.1	83.2	-21.46	10,428.4	798.7	1,746.0	1,590.3	155.69	11.215	
21,800.0	11,350.0	19,849.3	9,725.0	87.8	83.9	-21.46	10,528.4	798.3	1,746.0	1,588.8	157.17	11.109	
21,900.0	11,350.0	19,949.3	9,725.0	88.5	84.6	-21.46	10,628.4	797.9	1,746.0	1,587.4	158.66	11.005	
22,000.0	11,350.0	20,049.3	9,725.0	89.2	85.3	-21.46	10,728.4	797.5	1,746.0	1,585.9	160.15	10.903	
22,100.0	11,350.0	20,149.3	9,725.0	89.9	86.1	-21.46	10,828.4	797.1	1,746.0	1,584.4	161.64	10.802	
22,200.0	11,350.0	20,249.3	9,725.0	90.6	86.8	-21.46	10,928.4	796.7	1,746.0	1,582.9	163.13	10.703	
22,300.0	11,350.0	20,349.3	9,725.0	91.3	87.5	-21.46	11,028.4	796.3	1,746.0	1,581.4	164.62	10.606	
22,400.0	11,350.0	20,449.3	9,725.0	92.0	88.2	-21.46	11,128.4	795.9	1,746.0	1,579.9	166.11	10.511	
22,500.0	11,350.0	20,549.3	9,725.0	92.7	89.0	-21.46	11,228.4	795.4	1,746.0	1,578.4	167.60	10.418	
22,600.0	11,350.0	20,649.3	9,725.0	93.5	89.7	-21.46	11,328.4	795.0	1,746.0	1,577.0	169.10	10.326	
22,700.0	11,350.0	20,749.3	9,725.0	94.2	90.4	-21.46	11,428.4	794.6	1,746.1	1,575.5	170.59	10.235	
22,800.0	11,350.0	20,849.3	9,725.0	94.9	91.2	-21.46	11,528.4	794.2	1,746.1	1,574.0	172.09	10.146	
22,900.0	11,350.0	20,949.3	9,725.0	95.6	91.9	-21.46	11,628.4	793.8	1,746.1	1,572.5	173.58	10.059	
23,000.0	11,350.0	21,049.3	9,725.0	96.3	92.6	-21.46	11,728.4	793.4	1,746.1	1,571.0	175.08	9.973	
23,100.0	11,350.0	21,149.3	9,725.0	97.0	93.3	-21.46	11,828.4	793.0	1,746.1	1,569.5	176.58	9.888	
23,200.0	11,350.0	21,249.3	9,725.0	97.7	94.1	-21.46	11,928.4	792.6	1,746.1	1,568.0	178.08	9.805	
23,300.0	11,350.0	21,349.3	9,725.0	98.4	94.8	-21.46	12,028.4	792.2	1,746.1	1,566.5	179.58	9.723	
23,400.0	11,350.0	21,449.3	9,725.0	99.2	95.5	-21.46	12,128.4	791.8	1,746.1	1,565.0	181.08	9.643	
23,500.0	11,350.0	21,549.3	9,725.0	99.9	96.3	-21.46	12,228.4	791.3	1,746.1	1,563.5	182.58	9.563	
23,600.0	11,350.0	21,649.3	9,725.0	100.6	97.0	-21.46	12,328.4	790.9	1,746.1	1,562.0	184.08	9.485	
23,700.0	11,350.0	21,749.3	9,725.0	101.3	97.7	-21.46	12,428.4	790.5	1,746.1	1,560.5	185.58	9.409	
23,800.0	11,350.0	21,849.3	9,725.0	102.0	98.5	-21.46	12,528.4	790.1	1,746.1	1,559.0	187.09	9.333	
23,900.0	11,350.0	21,949.3	9,725.0	102.7	99.2	-21.46	12,628.4	789.7	1,746.1	1,557.5	188.59	9.259	
24,000.0	11,350.0	22,049.3	9,725.0	103.5	99.9	-21.46	12,728.4	789.3	1,746.1	1,556.0	190.09	9.185	
24,100.0	11,350.0	22,149.3	9,725.0	104.2	100.7	-21.46	12,828.4	788.9	1,746.1	1,554.5	191.60	9.113	
24,200.0	11,350.0	22,249.3	9,725.0	104.9	101.4	-21.46	12,928.4	788.5	1,746.1	1,553.0	193.10	9.042	
24,300.0	11,350.0	22,349.3	9,725.0	105.6	102.2	-21.46	13,028.4	788.1	1,746.1	1,551.5	194.61	8.972	
24,400.0	11,350.0	22,449.3	9,725.0	106.3	102.9	-21.46	13,128.4	787.7	1,746.1	1,550.0	196.11	8.903	
24,500.0	11,350.0	22,549.3	9,725.0	107.1	103.6	-21.47	13,228.4	787.3	1,746.1	1,548.5	197.62	8.836	
24,600.0	11,350.0	22,649.3	9,725.0	107.8	104.4	-21.47	13,328.4	786.8	1,746.1	1,547.0	199.13	8.769	
24,700.0	11,350.0	22,749.3	9,725.0	108.5	105.1	-21.47	13,428.4	786.4	1,746.1	1,545.5	200.64	8.703	
24,800.0	11,350.0	22,849.3	9,725.0	109.2	105.8	-21.47	13,528.4	786.0	1,746.1	1,544.0	202.15	8.638	
24,802.4	11,350.0	22,851.7	9,725.0	109.3	105.9	-21.47	13,530.8	786.0	1,746.1	1,543.9	202.18	8.636	

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Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	0.00	150.0	0.0	150.0	143.6	6.43	23.332	
100.0	100.0	100.0	100.0	3.2	3.2	0.00	150.0	0.0	150.0	143.1	6.89	21.763	
200.0	200.0	200.0	200.0	3.5	3.5	0.00	150.0	0.0	150.0	142.7	7.33	20.469	
300.0	300.0	300.0	300.0	3.7	3.7	0.00	150.0	0.0	150.0	142.3	7.74	19.377	
400.0	400.0	400.0	400.0	3.9	3.9	0.00	150.0	0.0	150.0	141.9	8.14	18.438	
500.0	500.0	500.0	500.0	4.1	4.1	0.00	150.0	0.0	150.0	141.5	8.51	17.619	
600.0	600.0	600.0	600.0	4.2	4.2	0.00	150.0	0.0	150.0	141.1	8.88	16.896	
700.0	700.0	700.0	700.0	4.4	4.4	0.00	150.0	0.0	150.0	140.8	9.23	16.252	
800.0	800.0	800.0	800.0	4.6	4.6	0.00	150.0	0.0	150.0	140.4	9.57	15.673	
900.0	900.0	900.0	900.0	4.8	4.8	0.00	150.0	0.0	150.0	140.1	9.90	15.149	
1,000.0	1,000.0	1,000.0	1,000.0	4.9	4.9	0.00	150.0	0.0	150.0	139.8	10.22	14.670	
1,100.0	1,100.0	1,100.0	1,100.0	5.1	5.1	0.00	150.0	0.0	150.0	139.5	10.54	14.232	
1,200.0	1,200.0	1,200.0	1,200.0	5.2	5.2	0.00	150.0	0.0	150.0	139.2	10.85	13.828	
1,300.0	1,300.0	1,300.0	1,300.0	5.4	5.4	0.00	150.0	0.0	150.0	138.9	11.15	13.454	
1,400.0	1,400.0	1,400.0	1,400.0	5.5	5.5	0.00	150.0	0.0	150.0	138.6	11.44	13.107	
1,500.0	1,500.0	1,500.0	1,500.0	5.7	5.7	0.00	150.0	0.0	150.0	138.3	11.73	12.783	
1,600.0	1,600.0	1,600.0	1,600.0	5.8	5.8	0.00	150.0	0.0	150.0	138.0	12.02	12.480	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	0.00	150.0	0.0	150.0	137.7	12.30	12.195	
1,800.0	1,800.0	1,800.0	1,800.0	6.1	6.1	0.00	150.0	0.0	150.0	137.4	12.58	11.928 CC	
1,900.0	1,900.0	1,899.8	1,899.8	6.3	6.3	0.50	150.0	1.3	150.1	137.2	12.84	11.688	
2,000.0	2,000.0	1,999.5	1,999.5	6.4	6.4	1.99	150.2	5.2	150.3	137.2	13.09	11.481 ES	
2,100.0	2,100.0	2,099.0	2,098.7	6.5	6.6	4.44	150.4	11.7	150.9	137.5	13.34	11.310	
2,200.0	2,200.0	2,198.0	2,197.3	6.7	6.8	7.82	150.7	20.7	152.2	138.6	13.59	11.197	
2,300.0	2,300.0	2,296.7	2,295.3	6.8	7.0	-78.40	151.1	32.2	154.3	140.5	13.83	11.156	
2,400.0	2,399.9	2,395.0	2,392.6	7.0	7.3	-74.76	151.6	46.2	157.2	143.1	14.08	11.168	
2,500.0	2,499.7	2,493.2	2,489.4	7.1	7.5	-71.28	152.2	62.7	160.8	146.5	14.34	11.214	
2,600.0	2,599.3	2,591.1	2,585.4	7.3	7.8	-68.00	152.8	81.6	165.0	150.4	14.62	11.284	
2,700.0	2,698.6	2,688.7	2,680.7	7.5	8.1	-64.91	153.6	102.9	169.8	154.9	14.94	11.368	
2,800.0	2,797.5	2,786.1	2,775.1	7.7	8.4	-62.03	154.4	126.5	175.1	159.8	15.29	11.456	
2,900.0	2,896.1	2,885.3	2,871.0	8.0	8.7	-59.56	155.3	152.1	180.4	164.7	15.68	11.502	
3,000.0	2,994.2	2,985.1	2,967.4	8.3	9.1	-57.90	156.2	178.0	184.5	168.4	16.10	11.460	
3,100.0	3,091.7	3,085.0	3,063.9	8.5	9.4	-57.00	157.1	203.8	187.4	170.8	16.53	11.334	
3,200.0	3,188.8	3,185.0	3,160.5	8.8	9.8	-56.67	158.0	229.7	189.2	172.2	16.92	11.179	
3,300.0	3,285.8	3,285.0	3,257.1	9.1	10.1	-56.38	158.9	255.5	190.9	173.5	17.38	10.985	
3,400.0	3,382.8	3,385.0	3,353.6	9.4	10.5	-56.10	159.8	281.4	192.6	174.7	17.85	10.791	
3,500.0	3,479.8	3,484.9	3,450.2	9.7	10.9	-55.83	160.7	307.2	194.3	176.0	18.34	10.596	
3,600.0	3,576.9	3,584.9	3,546.8	10.1	11.3	-55.56	161.6	333.1	196.0	177.2	18.84	10.402	
3,700.0	3,673.9	3,684.9	3,643.4	10.5	11.7	-55.29	162.5	359.0	197.7	178.4	19.37	10.210	
3,800.0	3,770.9	3,784.9	3,739.9	10.8	12.1	-55.03	163.4	384.8	199.5	179.6	19.91	10.021	
3,900.0	3,868.0	3,884.9	3,836.5	11.2	12.5	-54.77	164.3	410.7	201.2	180.8	20.46	9.834	
4,000.0	3,965.0	3,984.8	3,933.1	11.6	13.0	-54.52	165.2	436.5	202.9	181.9	21.03	9.652	
4,100.0	4,062.0	4,084.8	4,029.7	12.0	13.4	-54.27	166.1	462.4	204.7	183.1	21.61	9.473	
4,200.0	4,159.1	4,184.8	4,126.2	12.4	13.8	-54.03	167.1	488.3	206.4	184.2	22.20	9.299	
4,300.0	4,256.1	4,284.8	4,222.8	12.8	14.3	-53.79	168.0	514.1	208.2	185.4	22.80	9.129	
4,400.0	4,353.1	4,384.8	4,319.4	13.2	14.7	-53.56	168.9	540.0	209.9	186.5	23.42	8.964	
4,500.0	4,450.1	4,484.7	4,416.0	13.6	15.2	-53.33	169.8	565.9	211.7	187.6	24.04	8.804	
4,600.0	4,547.2	4,584.7	4,512.5	14.0	15.6	-53.10	170.7	591.7	213.5	188.8	24.68	8.649	
4,700.0	4,644.2	4,684.7	4,609.1	14.5	16.1	-52.87	171.6	617.6	215.2	189.9	25.33	8.498	
4,800.0	4,741.2	4,784.7	4,705.7	14.9	16.5	-52.65	172.5	643.4	217.0	191.0	25.98	8.352	
4,900.0	4,838.3	4,884.7	4,802.2	15.3	17.0	-52.44	173.4	669.3	218.8	192.1	26.64	8.211	
5,000.0	4,935.3	4,984.6	4,898.8	15.8	17.4	-52.22	174.3	695.2	220.5	193.2	27.31	8.074	
5,100.0	5,032.3	5,084.6	4,995.4	16.2	17.9	-52.01	175.2	721.0	222.3	194.3	27.99	7.941	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,129.4	5,184.6	5,092.0	16.7	18.4	-51.81	176.1	746.9	224.1	195.4	28.68	7.813	
5,300.0	5,226.4	5,284.6	5,188.5	17.1	18.8	-51.60	177.0	772.7	225.9	196.5	29.37	7.690	
5,400.0	5,323.4	5,384.6	5,285.1	17.6	19.3	-51.40	177.9	798.6	227.6	197.6	30.07	7.570	
5,500.0	5,420.4	5,484.6	5,381.7	18.0	19.8	-51.21	178.8	824.5	229.4	198.6	30.78	7.454	
5,600.0	5,517.5	5,584.5	5,478.3	18.5	20.2	-51.01	179.7	850.3	231.2	199.7	31.49	7.343	
5,700.0	5,614.5	5,684.5	5,574.8	18.9	20.7	-50.82	180.6	876.2	233.0	200.8	32.21	7.234	
5,800.0	5,711.5	5,784.5	5,671.4	19.4	21.2	-50.63	181.5	902.0	234.8	201.9	32.93	7.130	
5,900.0	5,808.6	5,884.5	5,768.0	19.8	21.7	-50.45	182.4	927.9	236.6	202.9	33.66	7.029	
6,000.0	5,905.6	5,984.5	5,864.6	20.3	22.1	-50.27	183.3	953.8	238.4	204.0	34.40	6.931	
6,100.0	6,002.6	6,084.4	5,961.1	20.8	22.6	-50.09	184.2	979.6	240.2	205.1	35.14	6.836	
6,200.0	6,099.6	6,184.4	6,057.7	21.2	23.1	-49.91	185.1	1,005.5	242.0	206.1	35.88	6.745	
6,300.0	6,196.7	6,284.4	6,154.3	21.7	23.6	-49.74	186.0	1,031.4	243.8	207.2	36.63	6.656	
6,400.0	6,293.7	6,384.4	6,250.9	22.2	24.0	-49.56	186.9	1,057.2	245.6	208.2	37.38	6.570	
6,500.0	6,390.7	6,484.4	6,347.4	22.6	24.5	-49.40	187.8	1,083.1	247.4	209.3	38.14	6.487	
6,600.0	6,487.8	6,584.3	6,444.0	23.1	25.0	-49.23	188.7	1,108.9	249.2	210.3	38.90	6.407	
6,700.0	6,584.8	6,684.3	6,540.6	23.6	25.5	-49.06	189.6	1,134.8	251.1	211.4	39.67	6.329	
6,800.0	6,681.8	6,784.3	6,637.2	24.0	26.0	-48.90	190.5	1,160.7	252.9	212.4	40.44	6.254	
6,900.0	6,778.9	6,884.3	6,733.7	24.5	26.4	-48.74	191.4	1,186.5	254.7	213.5	41.21	6.181	
7,000.0	6,875.9	6,984.3	6,830.3	25.0	26.9	-48.58	192.3	1,212.4	256.5	214.5	41.99	6.110	
7,100.0	6,972.9	7,084.2	6,926.9	25.4	27.4	-48.43	193.2	1,238.2	258.3	215.6	42.77	6.041	
7,200.0	7,069.9	7,184.2	7,023.5	25.9	27.9	-48.28	194.1	1,264.1	260.2	216.6	43.55	5.974	
7,300.0	7,167.0	7,284.2	7,120.0	26.4	28.4	-48.13	195.0	1,290.0	262.0	217.7	44.33	5.909	
7,400.0	7,264.0	7,384.2	7,216.6	26.9	28.9	-47.98	195.9	1,315.8	263.8	218.7	45.12	5.846	
7,500.0	7,361.0	7,484.2	7,313.2	27.3	29.4	-47.83	196.9	1,341.7	265.6	219.7	45.92	5.785	
7,600.0	7,458.1	7,584.2	7,409.8	27.8	29.8	-47.69	197.8	1,367.5	267.5	220.8	46.71	5.726	
7,700.0	7,555.1	7,684.1	7,506.3	28.3	30.3	-47.54	198.7	1,393.4	269.3	221.8	47.51	5.669	
7,800.0	7,652.1	7,784.1	7,602.9	28.8	30.8	-47.40	199.6	1,419.3	271.1	222.8	48.31	5.613	
7,900.0	7,749.2	7,884.1	7,699.5	29.2	31.3	-47.21	200.5	1,445.1	273.2	224.1	49.13	5.562	
8,000.0	7,846.7	7,984.0	7,796.0	29.7	31.8	-46.79	201.4	1,471.0	276.5	226.4	50.07	5.521	
8,100.0	7,944.6	8,083.9	7,892.4	30.2	32.3	-46.14	202.3	1,496.8	280.9	229.8	51.15	5.492	
8,200.0	8,042.8	8,183.6	7,988.8	30.6	32.8	-45.26	203.2	1,522.6	286.6	234.3	52.33	5.477	
8,300.0	8,141.4	8,283.2	8,085.0	31.1	33.3	-44.19	204.1	1,548.4	293.6	240.0	53.63	5.476 SF	
8,400.0	8,240.2	8,384.0	8,182.4	31.5	33.7	-42.94	205.0	1,574.4	302.0	247.0	55.00	5.491	
8,500.0	8,339.2	8,489.9	8,285.2	31.9	34.3	-41.72	205.9	1,599.7	310.3	254.0	56.36	5.506	
8,600.0	8,438.5	8,596.3	8,389.1	32.3	34.8	-40.67	206.7	1,622.3	317.9	260.3	57.59	5.520	
8,700.0	8,538.0	8,703.0	8,494.0	32.7	35.3	-39.77	207.3	1,642.0	324.8	266.1	58.70	5.533	
8,800.0	8,637.6	8,810.0	8,599.7	33.1	35.7	-39.02	207.9	1,658.9	330.8	271.1	59.68	5.543	
8,900.0	8,737.4	8,917.3	8,706.1	33.5	36.2	-38.39	208.4	1,672.8	336.0	275.5	60.52	5.552	
9,000.0	8,837.3	9,024.9	8,813.1	33.8	36.6	-37.88	208.8	1,683.7	340.3	279.1	61.24	5.558	
9,100.0	8,937.2	9,132.6	8,920.5	34.1	37.0	-37.48	209.1	1,691.7	343.8	282.0	61.81	5.562	
9,200.0	9,037.2	9,240.6	9,028.3	34.4	37.4	-37.18	209.2	1,696.6	346.3	284.1	62.23	5.566	
9,300.0	9,137.2	9,348.6	9,136.3	34.4	37.6	52.98	209.3	1,698.4	347.7	285.4	62.29	5.582	
9,400.0	9,237.2	9,416.4	9,204.1	34.4	37.7	52.80	211.8	1,699.9	351.9	288.6	63.31	5.558	
9,500.0	9,337.2	9,477.8	9,264.6	34.5	37.9	52.21	220.2	1,704.7	366.5	302.6	63.92	5.734	
9,600.0	9,437.2	9,536.3	9,321.0	34.5	38.1	51.31	233.6	1,712.5	391.3	327.4	63.92	6.122	
9,700.0	9,537.2	9,600.0	9,380.1	34.5	38.3	50.06	254.1	1,724.3	425.8	362.3	63.50	6.706	
9,800.0	9,637.2	9,650.0	9,424.4	34.5	38.4	48.97	274.2	1,735.9	468.8	406.1	62.76	7.470	
9,900.0	9,737.2	9,686.5	9,455.2	34.6	38.5	48.13	291.1	1,745.7	519.5	457.8	61.68	8.422	
10,000.0	9,837.2	9,727.3	9,488.1	34.6	38.6	47.19	312.1	1,757.8	576.9	516.3	60.64	9.515	
10,100.0	9,937.2	9,763.8	9,515.8	34.6	38.8	46.36	332.6	1,769.6	640.2	580.6	59.60	10.741	
10,200.0	10,037.2	9,800.0	9,541.8	34.7	38.9	45.56	354.4	1,782.2	708.3	649.6	58.70	12.066	
10,300.0	10,137.2	9,825.3	9,558.9	34.7	38.9	45.01	370.6	1,791.6	780.6	722.8	57.73	13.521	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 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
10,400.0	10,237.2	9,850.0	9,574.7	34.7	39.0	44.49	387.0	1,801.0	856.3	799.4	56.90	15.049	
10,500.0	10,337.2	9,874.3	9,589.4	34.7	39.1	44.00	403.7	1,810.7	935.0	878.7	56.22	16.630	
10,600.0	10,437.2	9,900.0	9,604.1	34.8	39.1	43.50	422.0	1,821.3	1,016.2	960.4	55.71	18.239	
10,700.0	10,537.2	9,913.5	9,611.4	34.8	39.2	43.24	431.9	1,827.0	1,099.4	1,044.3	55.08	19.959	
10,800.0	10,637.2	9,932.0	9,620.9	34.8	39.2	42.90	445.6	1,834.9	1,184.5	1,129.8	54.66	21.669	
10,900.0	10,737.2	9,950.0	9,629.7	34.8	39.2	42.56	459.3	1,842.6	1,271.0	1,216.7	54.33	23.395	
11,000.0	10,837.1	9,970.2	9,639.2	34.9	39.3	31.90	475.0	1,851.0	1,357.4	1,303.2	54.17	25.060	
11,100.0	10,935.1	10,000.0	9,652.3	34.9	39.3	25.38	498.9	1,863.0	1,437.6	1,383.3	54.34	26.458	
11,200.0	11,028.4	10,019.1	9,660.2	35.0	39.4	21.34	514.6	1,870.5	1,509.4	1,455.0	54.47	27.713	
11,300.0	11,114.0	10,050.0	9,672.1	35.1	39.4	18.77	540.7	1,882.0	1,571.6	1,516.7	54.86	28.644	
11,400.0	11,189.3	10,077.7	9,681.8	35.2	39.5	17.08	564.7	1,891.9	1,622.9	1,567.6	55.29	29.354	
11,500.0	11,252.1	10,100.0	9,688.9	35.3	39.5	15.98	584.5	1,899.4	1,662.6	1,607.0	55.69	29.856	
11,600.0	11,300.5	10,150.0	9,702.5	35.3	39.6	15.51	629.9	1,915.0	1,690.0	1,633.5	56.51	29.908	
11,700.0	11,333.0	10,176.8	9,708.5	35.4	39.6	15.28	654.9	1,922.7	1,704.7	1,647.7	57.05	29.882	
11,800.0	11,348.6	10,200.0	9,713.0	35.5	39.6	15.38	676.8	1,928.9	1,706.7	1,649.1	57.57	29.643	
11,900.0	11,350.0	10,250.0	9,720.2	35.6	39.7	15.88	724.8	1,940.8	1,698.7	1,640.3	58.42	29.078	
12,000.0	11,350.0	10,280.9	9,723.1	35.7	39.7	16.16	754.9	1,947.2	1,694.2	1,635.1	59.04	28.694	
12,047.7	11,350.0	10,300.0	9,724.2	35.7	39.7	16.28	773.6	1,950.8	1,693.7	1,634.3	59.40	28.514	
12,100.0	11,350.0	10,316.4	9,724.7	35.8	39.7	16.38	789.8	1,953.6	1,694.5	1,634.7	59.74	28.365	
12,200.0	11,350.0	10,394.1	9,725.0	35.9	39.8	16.75	866.6	1,964.9	1,698.3	1,637.4	60.89	27.892	
12,300.0	11,350.0	10,514.4	9,725.0	36.0	39.9	17.19	986.2	1,978.1	1,701.7	1,639.2	62.47	27.241	
12,400.0	11,350.0	10,635.7	9,725.0	36.2	40.1	17.47	1,107.2	1,986.3	1,703.8	1,639.8	63.97	26.635	
12,500.0	11,350.0	10,757.5	9,725.0	36.4	40.2	17.59	1,229.0	1,989.4	1,704.7	1,639.3	65.38	26.075	
12,600.0	11,350.0	10,861.7	9,725.0	36.6	40.4	17.59	1,333.1	1,989.1	1,704.7	1,638.1	66.59	25.601	
12,700.0	11,350.0	10,961.7	9,725.0	36.8	40.5	17.59	1,433.1	1,988.7	1,704.7	1,636.9	67.78	25.150	
12,800.0	11,350.0	11,061.7	9,725.0	37.0	40.7	17.59	1,533.1	1,988.3	1,704.7	1,635.7	68.99	24.710	
12,900.0	11,350.0	11,161.7	9,725.0	37.2	40.9	17.59	1,633.1	1,987.9	1,704.7	1,634.5	70.21	24.280	
13,000.0	11,350.0	11,261.7	9,725.0	37.5	41.1	17.59	1,733.1	1,987.5	1,704.7	1,633.3	71.45	23.860	
13,100.0	11,350.0	11,361.7	9,725.0	37.7	41.3	17.59	1,833.1	1,987.1	1,704.7	1,632.0	72.69	23.451	
13,200.0	11,350.0	11,461.7	9,725.0	38.0	41.5	17.59	1,933.1	1,986.7	1,704.7	1,630.8	73.95	23.053	
13,300.0	11,350.0	11,561.7	9,725.0	38.3	41.8	17.59	2,033.1	1,986.3	1,704.7	1,629.5	75.22	22.664	
13,400.0	11,350.0	11,661.7	9,725.0	38.6	42.0	17.59	2,133.1	1,985.9	1,704.7	1,628.2	76.50	22.285	
13,500.0	11,350.0	11,761.7	9,725.0	38.9	42.3	17.59	2,233.1	1,985.5	1,704.7	1,627.0	77.79	21.916	
13,600.0	11,350.0	11,861.7	9,725.0	39.3	42.6	17.59	2,333.1	1,985.2	1,704.7	1,625.7	79.08	21.556	
13,700.0	11,350.0	11,961.7	9,725.0	39.6	42.9	17.59	2,433.1	1,984.8	1,704.7	1,624.4	80.39	21.206	
13,800.0	11,350.0	12,061.7	9,725.0	40.0	43.2	17.59	2,533.1	1,984.4	1,704.7	1,623.0	81.71	20.865	
13,900.0	11,350.0	12,161.7	9,725.0	40.4	43.5	17.59	2,633.1	1,984.0	1,704.7	1,621.7	83.03	20.532	
14,000.0	11,350.0	12,261.7	9,725.0	40.7	43.9	17.59	2,733.1	1,983.6	1,704.8	1,620.4	84.36	20.208	
14,100.0	11,350.0	12,361.7	9,725.0	41.1	44.2	17.59	2,833.1	1,983.2	1,704.8	1,619.1	85.70	19.893	
14,200.0	11,350.0	12,461.7	9,725.0	41.5	44.6	17.59	2,933.1	1,982.8	1,704.8	1,617.7	87.04	19.585	
14,300.0	11,350.0	12,561.7	9,725.0	41.9	44.9	17.59	3,033.1	1,982.4	1,704.8	1,616.4	88.39	19.286	
14,400.0	11,350.0	12,661.7	9,725.0	42.4	45.3	17.59	3,133.1	1,982.0	1,704.8	1,615.0	89.75	18.994	
14,500.0	11,350.0	12,761.7	9,725.0	42.8	45.7	17.60	3,233.1	1,981.6	1,704.8	1,613.6	91.12	18.710	
14,600.0	11,350.0	12,861.7	9,725.0	43.3	46.1	17.60	3,333.1	1,981.2	1,704.8	1,612.3	92.48	18.433	
14,700.0	11,350.0	12,961.7	9,725.0	43.7	46.5	17.60	3,433.1	1,980.8	1,704.8	1,610.9	93.86	18.163	
14,800.0	11,350.0	13,061.7	9,725.0	44.2	46.9	17.60	3,533.1	1,980.4	1,704.8	1,609.5	95.24	17.900	
14,900.0	11,350.0	13,161.7	9,725.0	44.6	47.4	17.60	3,633.1	1,980.0	1,704.8	1,608.1	96.63	17.643	
15,000.0	11,350.0	13,261.7	9,725.0	45.1	47.8	17.60	3,733.1	1,979.6	1,704.8	1,606.8	98.02	17.393	
15,100.0	11,350.0	13,361.7	9,725.0	45.6	48.2	17.60	3,833.1	1,979.2	1,704.8	1,605.4	99.41	17.149	
15,200.0	11,350.0	13,461.7	9,725.0	46.1	48.7	17.60	3,933.1	1,978.8	1,704.8	1,604.0	100.81	16.911	
15,300.0	11,350.0	13,561.7	9,725.0	46.6	49.2	17.60	4,033.1	1,978.5	1,704.8	1,602.6	102.21	16.678	
15,400.0	11,350.0	13,661.7	9,725.0	47.1	49.6	17.60	4,133.1	1,978.1	1,704.8	1,601.2	103.62	16.452	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	11,350.0	13,761.7	9,725.0	47.6	50.1	17.60	4,233.1	1,977.7	1,704.8	1,599.7	105.03	16.231	
15,600.0	11,350.0	13,861.7	9,725.0	48.2	50.6	17.60	4,333.1	1,977.3	1,704.8	1,598.3	106.45	16.015	
15,700.0	11,350.0	13,961.7	9,725.0	48.7	51.1	17.60	4,433.1	1,976.9	1,704.8	1,596.9	107.87	15.804	
15,800.0	11,350.0	14,061.7	9,725.0	49.2	51.6	17.60	4,533.1	1,976.5	1,704.8	1,595.5	109.29	15.599	
15,900.0	11,350.0	14,161.7	9,725.0	49.8	52.1	17.60	4,633.1	1,976.1	1,704.8	1,594.1	110.72	15.398	
16,000.0	11,350.0	14,261.7	9,725.0	50.3	52.6	17.60	4,733.1	1,975.7	1,704.8	1,592.6	112.15	15.202	
16,100.0	11,350.0	14,361.7	9,725.0	50.9	53.1	17.60	4,833.1	1,975.3	1,704.8	1,591.2	113.58	15.010	
16,200.0	11,350.0	14,461.7	9,725.0	51.4	53.6	17.60	4,933.1	1,974.9	1,704.8	1,589.8	115.01	14.823	
16,300.0	11,350.0	14,561.7	9,725.0	52.0	54.1	17.60	5,033.1	1,974.5	1,704.8	1,588.3	116.45	14.640	
16,400.0	11,350.0	14,661.7	9,725.0	52.5	54.7	17.60	5,133.1	1,974.1	1,704.8	1,586.9	117.89	14.461	
16,500.0	11,350.0	14,761.7	9,725.0	53.1	55.2	17.60	5,233.1	1,973.7	1,704.8	1,585.5	119.33	14.286	
16,600.0	11,350.0	14,861.7	9,725.0	53.7	55.8	17.60	5,333.1	1,973.3	1,704.8	1,584.0	120.78	14.115	
16,700.0	11,350.0	14,961.7	9,725.0	54.3	56.3	17.60	5,433.1	1,972.9	1,704.8	1,582.6	122.23	13.948	
16,800.0	11,350.0	15,061.7	9,725.0	54.9	56.9	17.60	5,533.1	1,972.5	1,704.8	1,581.1	123.68	13.784	
16,900.0	11,350.0	15,161.7	9,725.0	55.5	57.4	17.60	5,633.1	1,972.1	1,704.8	1,579.7	125.13	13.624	
17,000.0	11,350.0	15,261.7	9,725.0	56.1	58.0	17.60	5,733.1	1,971.8	1,704.8	1,578.2	126.59	13.468	
17,100.0	11,350.0	15,361.7	9,725.0	56.7	58.6	17.60	5,833.1	1,971.4	1,704.8	1,576.8	128.04	13.314	
17,200.0	11,350.0	15,461.7	9,725.0	57.3	59.1	17.60	5,933.1	1,971.0	1,704.8	1,575.3	129.50	13.164	
17,300.0	11,350.0	15,561.7	9,725.0	57.9	59.7	17.60	6,033.1	1,970.6	1,704.8	1,573.8	130.96	13.017	
17,400.0	11,350.0	15,661.7	9,725.0	58.5	60.3	17.60	6,133.1	1,970.2	1,704.8	1,572.4	132.43	12.874	
17,500.0	11,350.0	15,761.7	9,725.0	59.1	60.9	17.60	6,233.1	1,969.8	1,704.8	1,570.9	133.89	12.733	
17,600.0	11,350.0	15,861.7	9,725.0	59.7	61.5	17.60	6,333.1	1,969.4	1,704.8	1,569.5	135.36	12.595	
17,700.0	11,350.0	15,961.7	9,725.0	60.3	62.1	17.60	6,433.1	1,969.0	1,704.8	1,568.0	136.83	12.460	
17,800.0	11,350.0	16,061.7	9,725.0	61.0	62.7	17.60	6,533.1	1,968.6	1,704.8	1,566.5	138.30	12.327	
17,900.0	11,350.0	16,161.7	9,725.0	61.6	63.3	17.60	6,633.1	1,968.2	1,704.8	1,565.1	139.77	12.197	
18,000.0	11,350.0	16,261.7	9,725.0	62.2	63.9	17.60	6,733.1	1,967.8	1,704.8	1,563.6	141.25	12.070	
18,100.0	11,350.0	16,361.7	9,725.0	62.9	64.5	17.60	6,833.1	1,967.4	1,704.8	1,562.1	142.72	11.945	
18,200.0	11,350.0	16,461.7	9,725.0	63.5	65.1	17.60	6,933.1	1,967.0	1,704.8	1,560.6	144.20	11.823	
18,300.0	11,350.0	16,561.7	9,725.0	64.1	65.7	17.60	7,033.1	1,966.6	1,704.8	1,559.2	145.68	11.703	
18,400.0	11,350.0	16,661.7	9,725.0	64.8	66.3	17.60	7,133.1	1,966.2	1,704.8	1,557.7	147.15	11.585	
18,500.0	11,350.0	16,761.7	9,725.0	65.4	66.9	17.60	7,233.1	1,965.8	1,704.8	1,556.2	148.64	11.470	
18,600.0	11,350.0	16,861.7	9,725.0	66.1	67.5	17.60	7,333.1	1,965.4	1,704.8	1,554.7	150.12	11.357	
18,700.0	11,350.0	16,961.7	9,725.0	66.7	68.2	17.60	7,433.1	1,965.1	1,704.8	1,553.2	151.60	11.246	
18,800.0	11,350.0	17,061.7	9,725.0	67.4	68.8	17.60	7,533.1	1,964.7	1,704.8	1,551.8	153.09	11.137	
18,900.0	11,350.0	17,161.7	9,725.0	68.0	69.4	17.60	7,633.1	1,964.3	1,704.8	1,550.3	154.57	11.029	
19,000.0	11,350.0	17,261.7	9,725.0	68.7	70.1	17.60	7,733.1	1,963.9	1,704.8	1,548.8	156.06	10.924	
19,100.0	11,350.0	17,361.7	9,725.0	69.3	70.7	17.60	7,833.1	1,963.5	1,704.8	1,547.3	157.55	10.821	
19,200.0	11,350.0	17,461.7	9,725.0	70.0	71.3	17.60	7,933.1	1,963.1	1,704.9	1,545.8	159.04	10.720	
19,300.0	11,350.0	17,561.7	9,725.0	70.7	72.0	17.61	8,033.1	1,962.7	1,704.9	1,544.3	160.53	10.620	
19,400.0	11,350.0	17,661.7	9,725.0	71.3	72.6	17.61	8,133.1	1,962.3	1,704.9	1,542.8	162.02	10.523	
19,500.0	11,350.0	17,761.7	9,725.0	72.0	73.3	17.61	8,233.1	1,961.9	1,704.9	1,541.3	163.51	10.427	
19,600.0	11,350.0	17,861.7	9,725.0	72.7	73.9	17.61	8,333.1	1,961.5	1,704.9	1,539.9	165.00	10.332	
19,700.0	11,350.0	17,961.7	9,725.0	73.3	74.6	17.61	8,433.1	1,961.1	1,704.9	1,538.4	166.50	10.239	
19,800.0	11,350.0	18,061.7	9,725.0	74.0	75.2	17.61	8,533.1	1,960.7	1,704.9	1,536.9	167.99	10.148	
19,900.0	11,350.0	18,161.7	9,725.0	74.7	75.9	17.61	8,633.1	1,960.3	1,704.9	1,535.4	169.49	10.059	
20,000.0	11,350.0	18,261.7	9,725.0	75.4	76.5	17.61	8,733.1	1,959.9	1,704.9	1,533.9	170.99	9.971	
20,100.0	11,350.0	18,361.7	9,725.0	76.1	77.2	17.61	8,833.1	1,959.5	1,704.9	1,532.4	172.49	9.884	
20,200.0	11,350.0	18,461.7	9,725.0	76.7	77.8	17.61	8,933.1	1,959.1	1,704.9	1,530.9	173.98	9.799	
20,300.0	11,350.0	18,561.7	9,725.0	77.4	78.5	17.61	9,033.1	1,958.7	1,704.9	1,529.4	175.48	9.715	
20,400.0	11,350.0	18,661.7	9,725.0	78.1	79.2	17.61	9,133.1	1,958.4	1,704.9	1,527.9	176.98	9.633	
20,500.0	11,350.0	18,761.7	9,725.0	78.8	79.8	17.61	9,233.1	1,958.0	1,704.9	1,526.4	178.49	9.552	
20,600.0	11,350.0	18,861.7	9,725.0	79.5	80.5	17.61	9,333.1	1,957.6	1,704.9	1,524.9	179.99	9.472	

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 #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Central Planning Prod
Reference Design:	PWP0	**Offset TVD Reference:**	Reference Datum

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

Offset Site Error: 0.0 usft

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

Rule Assigned:

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,700.0	11,350.0	18,961.7	9,725.0	80.2	81.2	17.61	9,433.1	1,957.2	1,704.9	1,523.4	181.49	9.394	
20,800.0	11,350.0	19,061.7	9,725.0	80.8	81.8	17.61	9,533.1	1,956.8	1,704.9	1,521.9	182.99	9.317	
20,900.0	11,350.0	19,161.7	9,725.0	81.5	82.5	17.61	9,633.1	1,956.4	1,704.9	1,520.4	184.50	9.241	
21,000.0	11,350.0	19,261.7	9,725.0	82.2	83.2	17.61	9,733.1	1,956.0	1,704.9	1,518.9	186.00	9.166	
21,100.0	11,350.0	19,361.7	9,725.0	82.9	83.9	17.61	9,833.1	1,955.6	1,704.9	1,517.4	187.51	9.092	
21,200.0	11,350.0	19,461.7	9,725.0	83.6	84.5	17.61	9,933.1	1,955.2	1,704.9	1,515.9	189.02	9.020	
21,300.0	11,350.0	19,561.7	9,725.0	84.3	85.2	17.61	10,033.1	1,954.8	1,704.9	1,514.4	190.52	8.949	
21,400.0	11,350.0	19,661.7	9,725.0	85.0	85.9	17.61	10,133.1	1,954.4	1,704.9	1,512.9	192.03	8.878	
21,500.0	11,350.0	19,761.7	9,725.0	85.7	86.6	17.61	10,233.1	1,954.0	1,704.9	1,511.4	193.54	8.809	
21,600.0	11,350.0	19,861.7	9,725.0	86.4	87.3	17.61	10,333.1	1,953.6	1,704.9	1,509.9	195.05	8.741	
21,700.0	11,350.0	19,961.7	9,725.0	87.1	87.9	17.61	10,433.1	1,953.2	1,704.9	1,508.3	196.56	8.674	
21,800.0	11,350.0	20,061.7	9,725.0	87.8	88.6	17.61	10,533.1	1,952.8	1,704.9	1,506.8	198.07	8.608	
21,900.0	11,350.0	20,161.7	9,725.0	88.5	89.3	17.61	10,633.0	1,952.4	1,704.9	1,505.3	199.58	8.543	
22,000.0	11,350.0	20,261.7	9,725.0	89.2	90.0	17.61	10,733.0	1,952.0	1,704.9	1,503.8	201.09	8.478	
22,100.0	11,350.0	20,361.7	9,725.0	89.9	90.7	17.61	10,833.0	1,951.7	1,704.9	1,502.3	202.60	8.415	
22,200.0	11,350.0	20,461.7	9,725.0	90.6	91.4	17.61	10,933.0	1,951.3	1,704.9	1,500.8	204.11	8.353	
22,300.0	11,350.0	20,561.7	9,725.0	91.3	92.1	17.61	11,033.0	1,950.9	1,704.9	1,499.3	205.62	8.291	
22,400.0	11,350.0	20,661.7	9,725.0	92.0	92.8	17.61	11,133.0	1,950.5	1,704.9	1,497.8	207.14	8.231	
22,500.0	11,350.0	20,761.7	9,725.0	92.7	93.5	17.61	11,233.0	1,950.1	1,704.9	1,496.3	208.65	8.171	
22,600.0	11,350.0	20,861.7	9,725.0	93.5	94.2	17.61	11,333.0	1,949.7	1,704.9	1,494.8	210.16	8.112	
22,700.0	11,350.0	20,961.7	9,725.0	94.2	94.9	17.61	11,433.0	1,949.3	1,704.9	1,493.2	211.68	8.054	
22,800.0	11,350.0	21,061.7	9,725.0	94.9	95.6	17.61	11,533.0	1,948.9	1,704.9	1,491.7	213.19	7.997	
22,900.0	11,350.0	21,161.7	9,725.0	95.6	96.2	17.61	11,633.0	1,948.5	1,704.9	1,490.2	214.71	7.941	
23,000.0	11,350.0	21,261.7	9,725.0	96.3	96.9	17.61	11,733.0	1,948.1	1,704.9	1,488.7	216.22	7.885	
23,100.0	11,350.0	21,361.7	9,725.0	97.0	97.6	17.61	11,833.0	1,947.7	1,704.9	1,487.2	217.74	7.830	
23,200.0	11,350.0	21,461.7	9,725.0	97.7	98.3	17.61	11,933.0	1,947.3	1,704.9	1,485.7	219.26	7.776	
23,300.0	11,350.0	21,561.7	9,725.0	98.4	99.1	17.61	12,033.0	1,946.9	1,704.9	1,484.2	220.77	7.723	
23,400.0	11,350.0	21,661.7	9,725.0	99.2	99.8	17.61	12,133.0	1,946.5	1,704.9	1,482.6	222.29	7.670	
23,500.0	11,350.0	21,761.7	9,725.0	99.9	100.5	17.61	12,233.0	1,946.1	1,704.9	1,481.1	223.81	7.618	
23,600.0	11,350.0	21,861.7	9,725.0	100.6	101.2	17.61	12,333.0	1,945.7	1,704.9	1,479.6	225.33	7.566	
23,700.0	11,350.0	21,961.7	9,725.0	101.3	101.9	17.61	12,433.0	1,945.3	1,704.9	1,478.1	226.85	7.516	
23,800.0	11,350.0	22,061.7	9,725.0	102.0	102.6	17.61	12,533.0	1,945.0	1,704.9	1,476.6	228.36	7.466	
23,900.0	11,350.0	22,161.7	9,725.0	102.7	103.3	17.61	12,633.0	1,944.6	1,704.9	1,475.1	229.88	7.417	
24,000.0	11,350.0	22,261.7	9,725.0	103.5	104.0	17.62	12,733.0	1,944.2	1,704.9	1,473.5	231.40	7.368	
24,100.0	11,350.0	22,361.7	9,725.0	104.2	104.7	17.62	12,833.0	1,943.8	1,704.9	1,472.0	232.92	7.320	
24,200.0	11,350.0	22,461.7	9,725.0	104.9	105.4	17.62	12,933.0	1,943.4	1,704.9	1,470.5	234.44	7.272	
24,300.0	11,350.0	22,561.7	9,725.0	105.6	106.1	17.62	13,033.0	1,943.0	1,704.9	1,469.0	235.96	7.225	
24,400.0	11,350.0	22,661.7	9,725.0	106.3	106.8	17.62	13,133.0	1,942.6	1,705.0	1,467.5	237.49	7.179	
24,500.0	11,350.0	22,761.7	9,725.0	107.1	107.5	17.62	13,233.0	1,942.2	1,705.0	1,465.9	239.01	7.133	
24,600.0	11,350.0	22,861.7	9,725.0	107.8	108.3	17.62	13,333.0	1,941.8	1,705.0	1,464.4	240.53	7.088	
24,700.0	11,350.0	22,961.7	9,725.0	108.5	109.0	17.62	13,433.0	1,941.4	1,705.0	1,462.9	242.05	7.044	
24,800.0	11,350.0	23,061.6	9,725.0	109.2	109.7	17.62	13,533.0	1,941.0	1,705.0	1,461.4	243.57	7.000	
24,802.4	11,350.0	23,061.6	9,725.0	109.3	109.7	17.62	13,533.0	1,941.0	1,705.0	1,461.4	243.60	6.999	

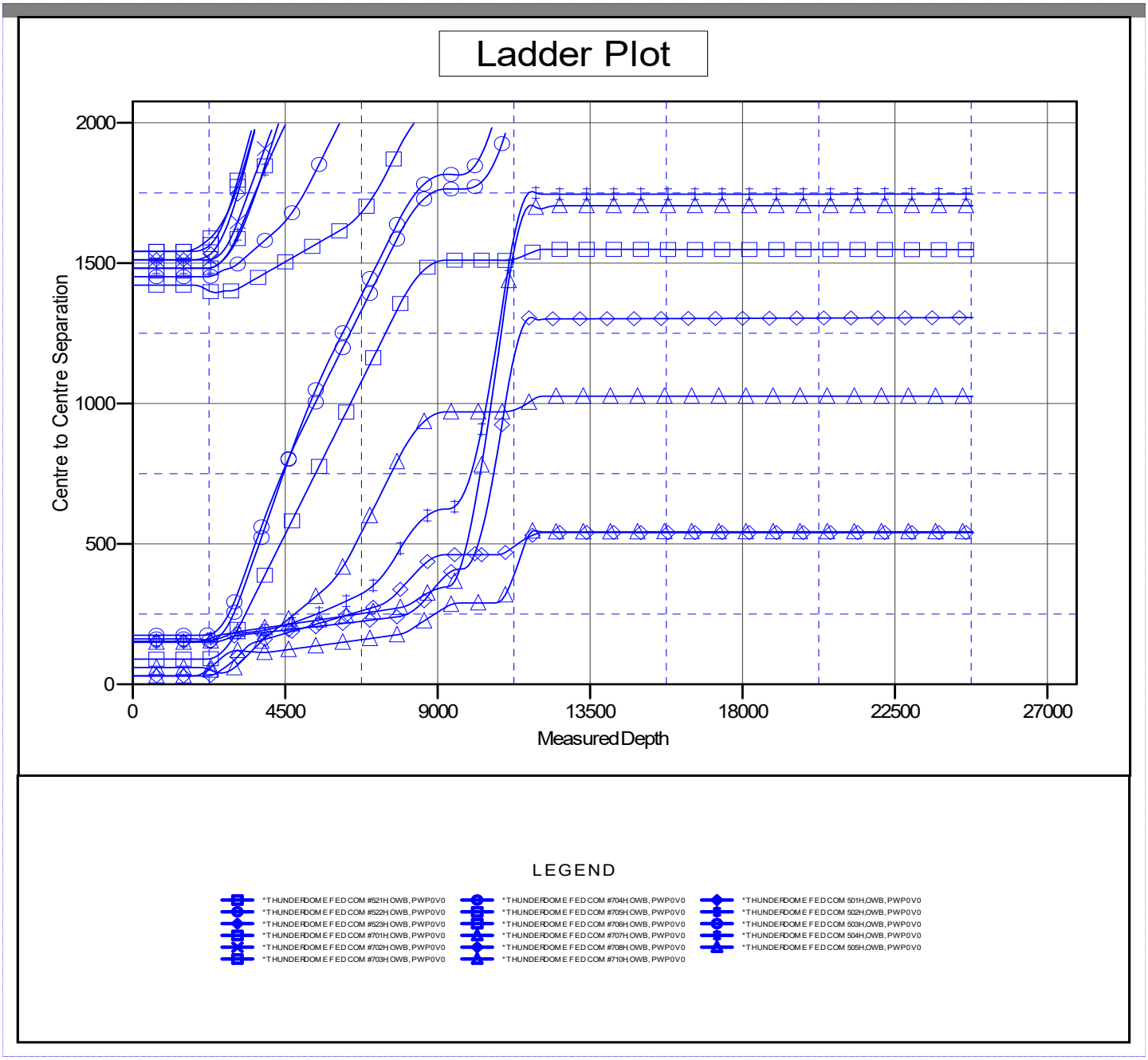
ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 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 #709H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°



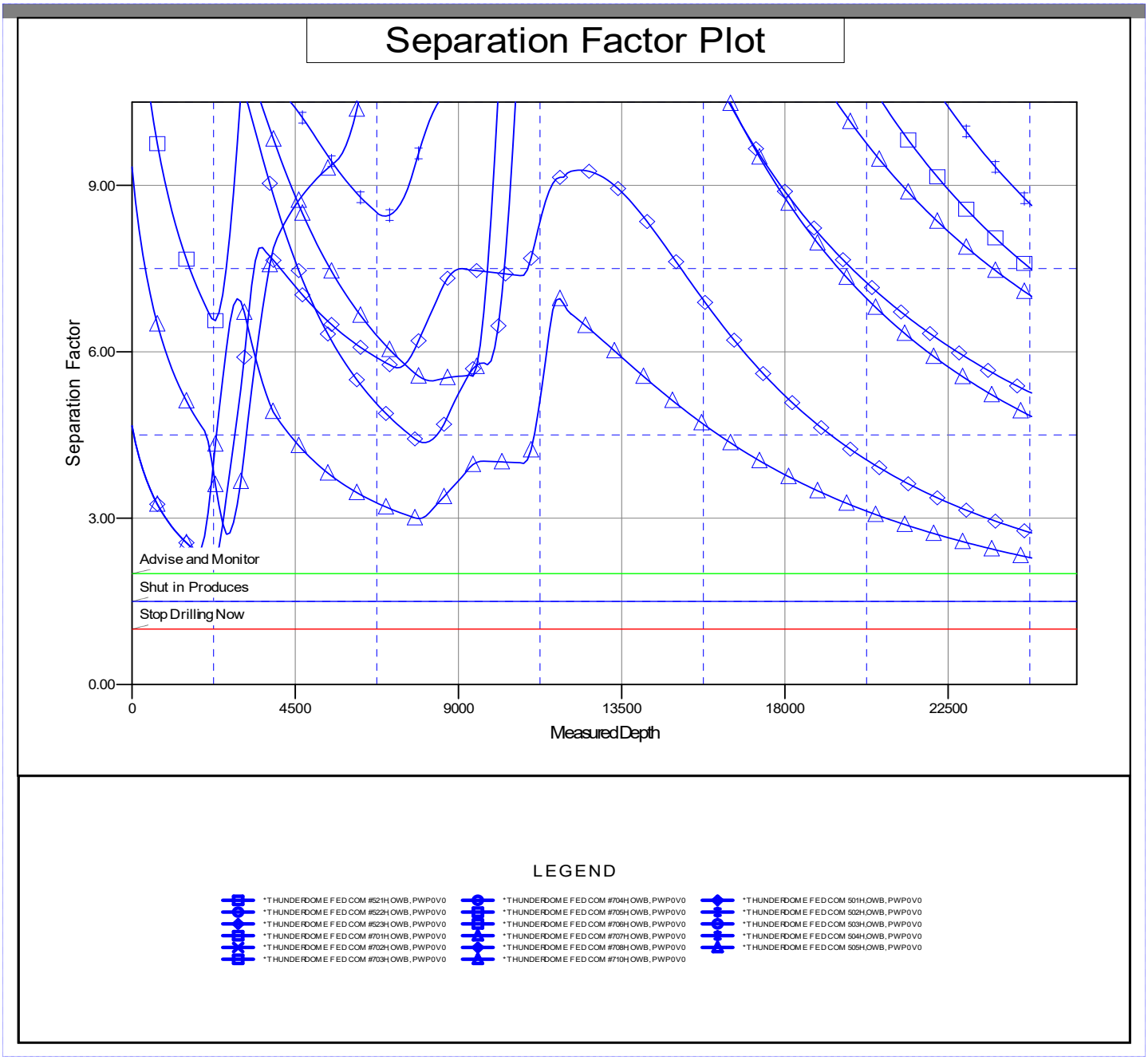
ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
Project:	ATLAS PROSPECT (NM-W)	**TVD Reference:**	GL @ 3243.0usft
Reference Site:	THUNDERDOME PROJECT	**MD Reference:**	GL @ 3243.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*THUNDERDOME FED COM #709H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 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 #709H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.26°

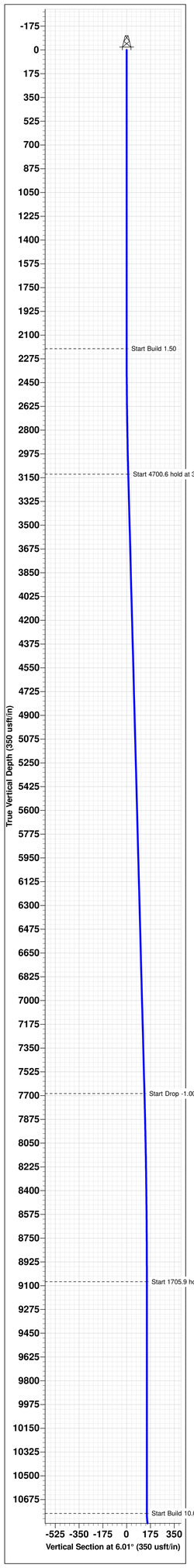


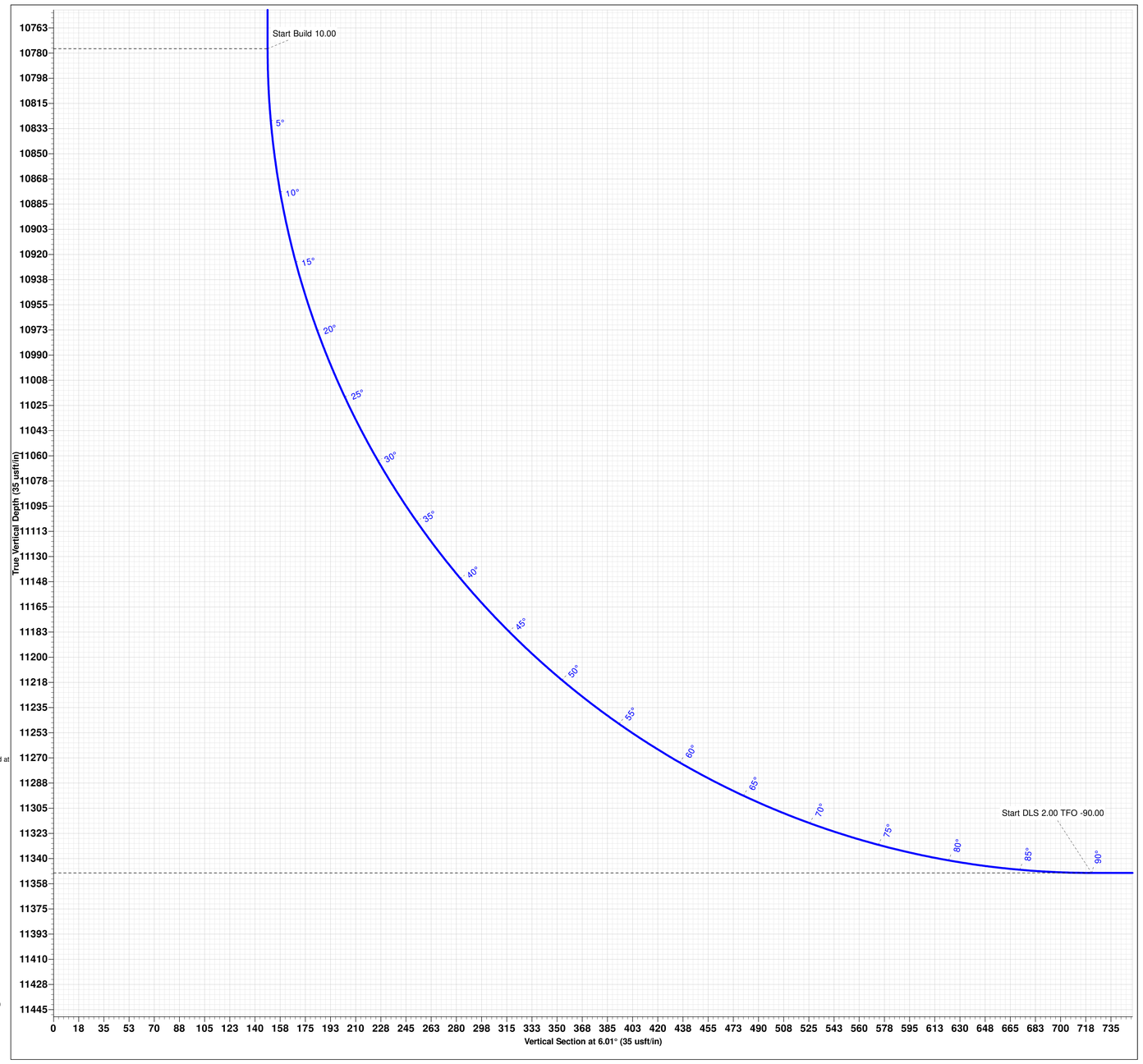
ConocoPhillips

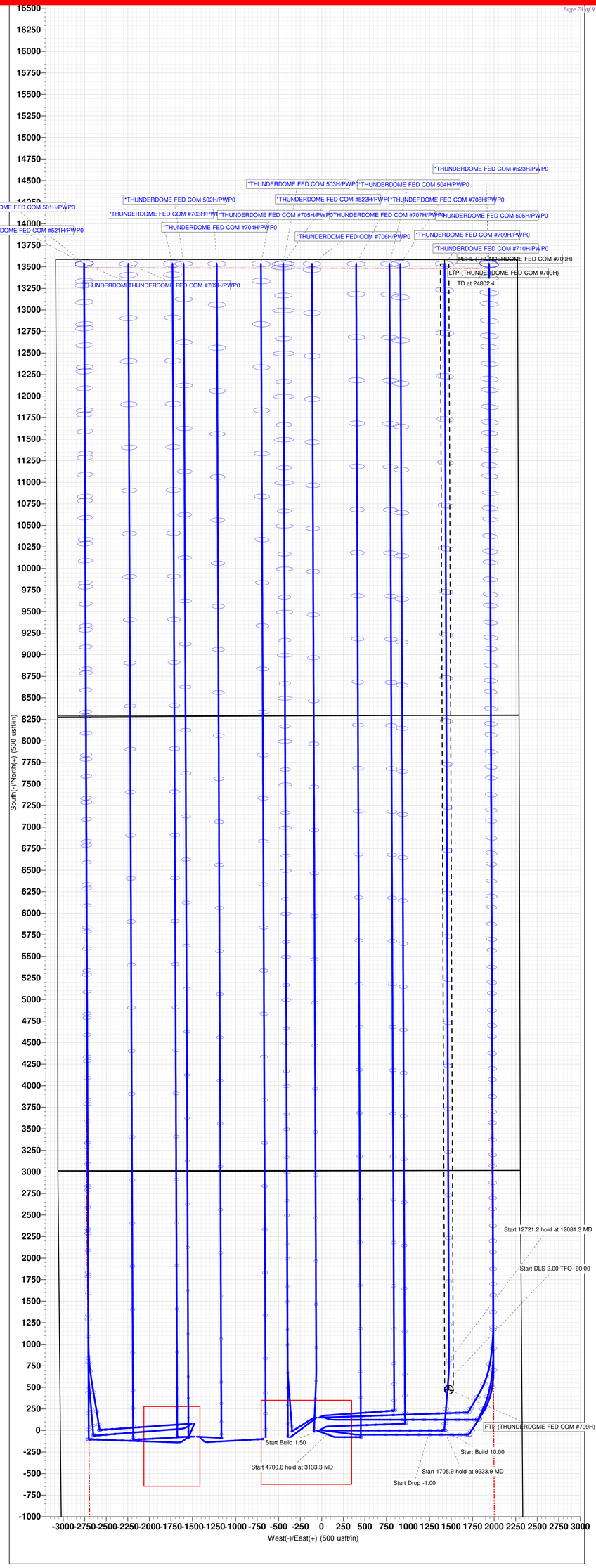
Site:	THUNDERDOME PROJECT
Well:	*THUNDERDOME FED COM #709H
Wellbore:	OWB
Design:	PWP0

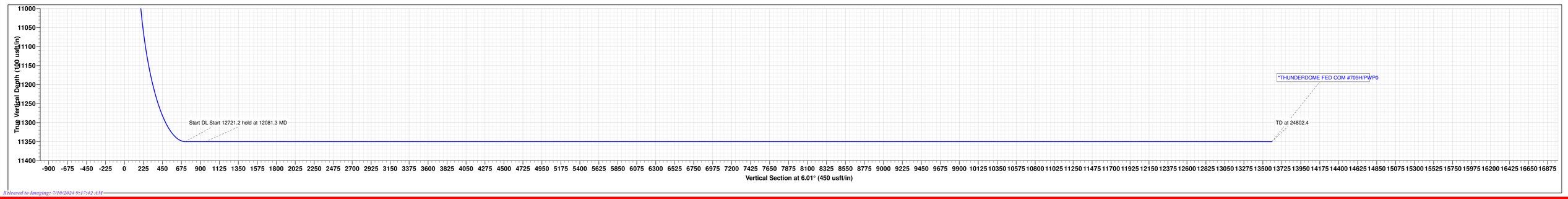
SECTION DETAILS

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
2200.0	0.00	0.00	2200.0	0.0	0.0	0.00	0.00	0.0
3133.3	14.00	90.00	3124.1	0.0	113.5	1.50	90.00	11.9
7833.9	14.00	90.00	7685.0	0.0	1250.6	0.00	0.00	131.0
9233.9	0.00	0.00	9071.1	0.0	1420.8	1.00	180.00	148.8
10939.8	0.00	0.00	10777.0	0.0	1420.8	0.00	0.00	148.8
11839.8	90.00	4.60	11350.0	571.1	1466.8	10.00	4.60	721.6
12081.3	90.00	359.77	11350.0	812.3	1476.0	2.00	-90.00	962.4
24802.4	90.00	359.77	11350.0	13533.4	1425.0	0.00	0.00	13608.2









DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)
THUNDERDOME PROJECT
***THUNDERDOME FED COM #709H**

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 #709H
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 #709H	**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 #709H

Well Position	**+N/-S**	0.0 usft	**Northing:**	469,314.63 usft	**Latitude:**	32° 17' 21.615 N
	+E/-W	0.0 usft	**Easting:**	649,357.41 usft	**Longitude:**	103° 51' 0.020 W
Position Uncertainty		3.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,243.0 usft
Grid Convergence:		0.26 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	12/2/2022	6.70	59.95	47,541.42326484

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	6.01

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

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	24,802.4	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 #709H
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 #709H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,133.3	14.00	90.00	3,124.1	0.0	113.5	1.50	1.50	0.00	90.00	
7,833.9	14.00	90.00	7,685.0	0.0	1,250.6	0.00	0.00	0.00	0.00	
9,233.9	0.00	0.00	9,071.1	0.0	1,420.8	1.00	-1.00	0.00	180.00	
10,939.8	0.00	0.00	10,777.0	0.0	1,420.8	0.00	0.00	0.00	0.00	
11,839.8	90.00	4.60	11,350.0	571.1	1,466.8	10.00	10.00	0.00	4.60	
12,081.3	90.00	359.77	11,350.0	812.3	1,476.0	2.00	0.00	-2.00	-90.00	
24,802.4	90.00	359.77	11,350.0	13,533.4	1,425.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
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 #709H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	1.50	90.00	2,300.0	0.0	1.3	0.1	1.50	1.50	0.00
2,400.0	3.00	90.00	2,399.9	0.0	5.2	0.5	1.50	1.50	0.00
2,500.0	4.50	90.00	2,499.7	0.0	11.8	1.2	1.50	1.50	0.00
2,600.0	6.00	90.00	2,599.3	0.0	20.9	2.2	1.50	1.50	0.00
2,700.0	7.50	90.00	2,698.6	0.0	32.7	3.4	1.50	1.50	0.00
2,800.0	9.00	90.00	2,797.5	0.0	47.0	4.9	1.50	1.50	0.00
2,900.0	10.50	90.00	2,896.1	0.0	64.0	6.7	1.50	1.50	0.00
3,000.0	12.00	90.00	2,994.2	0.0	83.5	8.7	1.50	1.50	0.00
3,100.0	13.50	90.00	3,091.7	0.0	105.5	11.1	1.50	1.50	0.00
3,133.3	14.00	90.00	3,124.1	0.0	113.5	11.9	1.50	1.50	0.00
3,200.0	14.00	90.00	3,188.8	0.0	129.6	13.6	0.00	0.00	0.00
3,300.0	14.00	90.00	3,285.8	0.0	153.8	16.1	0.00	0.00	0.00
3,400.0	14.00	90.00	3,382.8	0.0	178.0	18.6	0.00	0.00	0.00
3,500.0	14.00	90.00	3,479.8	0.0	202.2	21.2	0.00	0.00	0.00
3,600.0	14.00	90.00	3,576.9	0.0	226.4	23.7	0.00	0.00	0.00
3,700.0	14.00	90.00	3,673.9	0.0	250.6	26.2	0.00	0.00	0.00
3,800.0	14.00	90.00	3,770.9	0.0	274.7	28.8	0.00	0.00	0.00
3,900.0	14.00	90.00	3,868.0	0.0	298.9	31.3	0.00	0.00	0.00
4,000.0	14.00	90.00	3,965.0	0.0	323.1	33.8	0.00	0.00	0.00
4,100.0	14.00	90.00	4,062.0	0.0	347.3	36.4	0.00	0.00	0.00
4,200.0	14.00	90.00	4,159.1	0.0	371.5	38.9	0.00	0.00	0.00
4,300.0	14.00	90.00	4,256.1	0.0	395.7	41.4	0.00	0.00	0.00
4,400.0	14.00	90.00	4,353.1	0.0	419.9	44.0	0.00	0.00	0.00
4,500.0	14.00	90.00	4,450.1	0.0	444.1	46.5	0.00	0.00	0.00
4,600.0	14.00	90.00	4,547.2	0.0	468.3	49.0	0.00	0.00	0.00
4,700.0	14.00	90.00	4,644.2	0.0	492.5	51.6	0.00	0.00	0.00
4,800.0	14.00	90.00	4,741.2	0.0	516.7	54.1	0.00	0.00	0.00
4,900.0	14.00	90.00	4,838.3	0.0	540.9	56.6	0.00	0.00	0.00
5,000.0	14.00	90.00	4,935.3	0.0	565.0	59.2	0.00	0.00	0.00
5,100.0	14.00	90.00	5,032.3	0.0	589.2	61.7	0.00	0.00	0.00
5,200.0	14.00	90.00	5,129.4	0.0	613.4	64.2	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
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 #709H	**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)
5,300.0	14.00	90.00	5,226.4	0.0	637.6	66.8	0.00	0.00	0.00
5,400.0	14.00	90.00	5,323.4	0.0	661.8	69.3	0.00	0.00	0.00
5,500.0	14.00	90.00	5,420.4	0.0	686.0	71.8	0.00	0.00	0.00
5,600.0	14.00	90.00	5,517.5	0.0	710.2	74.4	0.00	0.00	0.00
5,700.0	14.00	90.00	5,614.5	0.0	734.4	76.9	0.00	0.00	0.00
5,800.0	14.00	90.00	5,711.5	0.0	758.6	79.4	0.00	0.00	0.00
5,900.0	14.00	90.00	5,808.6	0.0	782.8	82.0	0.00	0.00	0.00
6,000.0	14.00	90.00	5,905.6	0.0	807.0	84.5	0.00	0.00	0.00
6,100.0	14.00	90.00	6,002.6	0.0	831.2	87.0	0.00	0.00	0.00
6,200.0	14.00	90.00	6,099.6	0.0	855.4	89.6	0.00	0.00	0.00
6,300.0	14.00	90.00	6,196.7	0.0	879.5	92.1	0.00	0.00	0.00
6,400.0	14.00	90.00	6,293.7	0.0	903.7	94.6	0.00	0.00	0.00
6,500.0	14.00	90.00	6,390.7	0.0	927.9	97.2	0.00	0.00	0.00
6,600.0	14.00	90.00	6,487.8	0.0	952.1	99.7	0.00	0.00	0.00
6,700.0	14.00	90.00	6,584.8	0.0	976.3	102.2	0.00	0.00	0.00
6,800.0	14.00	90.00	6,681.8	0.0	1,000.5	104.8	0.00	0.00	0.00
6,900.0	14.00	90.00	6,778.9	0.0	1,024.7	107.3	0.00	0.00	0.00
7,000.0	14.00	90.00	6,875.9	0.0	1,048.9	109.8	0.00	0.00	0.00
7,100.0	14.00	90.00	6,972.9	0.0	1,073.1	112.4	0.00	0.00	0.00
7,200.0	14.00	90.00	7,069.9	0.0	1,097.3	114.9	0.00	0.00	0.00
7,300.0	14.00	90.00	7,167.0	0.0	1,121.5	117.4	0.00	0.00	0.00
7,400.0	14.00	90.00	7,264.0	0.0	1,145.7	120.0	0.00	0.00	0.00
7,500.0	14.00	90.00	7,361.0	0.0	1,169.9	122.5	0.00	0.00	0.00
7,600.0	14.00	90.00	7,458.1	0.0	1,194.0	125.0	0.00	0.00	0.00
7,700.0	14.00	90.00	7,555.1	0.0	1,218.2	127.6	0.00	0.00	0.00
7,800.0	14.00	90.00	7,652.1	0.0	1,242.4	130.1	0.00	0.00	0.00
7,833.9	14.00	90.00	7,685.0	0.0	1,250.6	131.0	0.00	0.00	0.00
7,900.0	13.34	90.00	7,749.2	0.0	1,266.3	132.6	1.00	-1.00	0.00
8,000.0	12.34	90.00	7,846.7	0.0	1,288.5	134.9	1.00	-1.00	0.00
8,100.0	11.34	90.00	7,944.6	0.0	1,309.0	137.1	1.00	-1.00	0.00
8,200.0	10.34	90.00	8,042.8	0.0	1,327.8	139.0	1.00	-1.00	0.00
8,300.0	9.34	90.00	8,141.4	0.0	1,344.9	140.8	1.00	-1.00	0.00
8,400.0	8.34	90.00	8,240.2	0.0	1,360.2	142.4	1.00	-1.00	0.00
8,500.0	7.34	90.00	8,339.2	0.0	1,373.9	143.9	1.00	-1.00	0.00
8,600.0	6.34	90.00	8,438.5	0.0	1,385.8	145.1	1.00	-1.00	0.00
8,700.0	5.34	90.00	8,538.0	0.0	1,396.0	146.2	1.00	-1.00	0.00
8,800.0	4.34	90.00	8,637.6	0.0	1,404.4	147.1	1.00	-1.00	0.00
8,900.0	3.34	90.00	8,737.4	0.0	1,411.1	147.8	1.00	-1.00	0.00
9,000.0	2.34	90.00	8,837.3	0.0	1,416.0	148.3	1.00	-1.00	0.00
9,100.0	1.34	90.00	8,937.2	0.0	1,419.3	148.6	1.00	-1.00	0.00
9,200.0	0.34	90.00	9,037.2	0.0	1,420.7	148.8	1.00	-1.00	0.00
9,233.9	0.00	0.00	9,071.1	0.0	1,420.8	148.8	1.00	-1.00	0.00
9,300.0	0.00	0.00	9,137.2	0.0	1,420.8	148.8	0.00	0.00	0.00
9,400.0	0.00	0.00	9,237.2	0.0	1,420.8	148.8	0.00	0.00	0.00
9,500.0	0.00	0.00	9,337.2	0.0	1,420.8	148.8	0.00	0.00	0.00
9,600.0	0.00	0.00	9,437.2	0.0	1,420.8	148.8	0.00	0.00	0.00
9,700.0	0.00	0.00	9,537.2	0.0	1,420.8	148.8	0.00	0.00	0.00
9,800.0	0.00	0.00	9,637.2	0.0	1,420.8	148.8	0.00	0.00	0.00
9,900.0	0.00	0.00	9,737.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,000.0	0.00	0.00	9,837.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,100.0	0.00	0.00	9,937.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,200.0	0.00	0.00	10,037.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,300.0	0.00	0.00	10,137.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,400.0	0.00	0.00	10,237.2	0.0	1,420.8	148.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
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 #709H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,500.0	0.00	0.00	10,337.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,600.0	0.00	0.00	10,437.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,700.0	0.00	0.00	10,537.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,800.0	0.00	0.00	10,637.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,900.0	0.00	0.00	10,737.2	0.0	1,420.8	148.8	0.00	0.00	0.00
10,939.8	0.00	0.00	10,777.0	0.0	1,420.8	148.8	0.00	0.00	0.00
10,950.0	1.02	4.60	10,787.2	0.1	1,420.8	148.9	10.00	10.00	0.00
11,000.0	6.02	4.60	10,837.1	3.2	1,421.1	151.9	10.00	10.00	0.00
11,050.0	11.02	4.60	10,886.5	10.5	1,421.7	159.3	10.00	10.00	0.00
11,100.0	16.02	4.60	10,935.1	22.2	1,422.6	171.0	10.00	10.00	0.00
11,150.0	21.02	4.60	10,982.5	38.0	1,423.9	186.9	10.00	10.00	0.00
11,200.0	26.02	4.60	11,028.4	57.9	1,425.5	206.9	10.00	10.00	0.00
11,250.0	31.02	4.60	11,072.3	81.7	1,427.4	230.7	10.00	10.00	0.00
11,300.0	36.02	4.60	11,114.0	109.2	1,429.6	258.3	10.00	10.00	0.00
11,350.0	41.02	4.60	11,153.1	140.2	1,432.1	289.4	10.00	10.00	0.00
11,400.0	46.02	4.60	11,189.3	174.5	1,434.9	323.8	10.00	10.00	0.00
11,450.0	51.02	4.60	11,222.4	211.9	1,437.9	361.3	10.00	10.00	0.00
11,500.0	56.02	4.60	11,252.1	251.9	1,441.1	401.5	10.00	10.00	0.00
11,550.0	61.02	4.60	11,278.2	294.4	1,444.5	444.1	10.00	10.00	0.00
11,600.0	66.02	4.60	11,300.5	339.0	1,448.1	488.8	10.00	10.00	0.00
11,650.0	71.02	4.60	11,318.8	385.4	1,451.8	535.3	10.00	10.00	0.00
11,700.0	76.02	4.60	11,333.0	433.2	1,455.7	583.2	10.00	10.00	0.00
11,750.0	81.02	4.60	11,342.9	482.0	1,459.6	632.2	10.00	10.00	0.00
11,800.0	86.02	4.60	11,348.6	531.5	1,463.6	681.8	10.00	10.00	0.00
11,839.8	90.00	4.60	11,350.0	571.1	1,466.8	721.6	10.00	10.00	0.00
11,900.0	90.00	3.40	11,350.0	631.2	1,471.0	781.8	2.00	0.00	-2.00
12,000.0	90.00	1.40	11,350.0	731.1	1,475.2	881.5	2.00	0.00	-2.00
12,081.3	90.00	359.77	11,350.0	812.3	1,476.0	962.4	2.00	0.00	-2.00
12,100.0	90.00	359.77	11,350.0	831.1	1,475.9	981.1	0.00	0.00	0.00
12,200.0	90.00	359.77	11,350.0	931.1	1,475.5	1,080.5	0.00	0.00	0.00
12,300.0	90.00	359.77	11,350.0	1,031.1	1,475.1	1,179.9	0.00	0.00	0.00
12,400.0	90.00	359.77	11,350.0	1,131.1	1,474.7	1,279.3	0.00	0.00	0.00
12,500.0	90.00	359.77	11,350.0	1,231.1	1,474.3	1,378.7	0.00	0.00	0.00
12,600.0	90.00	359.77	11,350.0	1,331.1	1,473.9	1,478.1	0.00	0.00	0.00
12,700.0	90.00	359.77	11,350.0	1,431.1	1,473.5	1,577.5	0.00	0.00	0.00
12,800.0	90.00	359.77	11,350.0	1,531.1	1,473.1	1,676.9	0.00	0.00	0.00
12,900.0	90.00	359.77	11,350.0	1,631.1	1,472.7	1,776.3	0.00	0.00	0.00
13,000.0	90.00	359.77	11,350.0	1,731.1	1,472.3	1,875.7	0.00	0.00	0.00
13,100.0	90.00	359.77	11,350.0	1,831.1	1,471.9	1,975.1	0.00	0.00	0.00
13,200.0	90.00	359.77	11,350.0	1,931.1	1,471.5	2,074.6	0.00	0.00	0.00
13,300.0	90.00	359.77	11,350.0	2,031.1	1,471.1	2,174.0	0.00	0.00	0.00
13,400.0	90.00	359.77	11,350.0	2,131.1	1,470.7	2,273.4	0.00	0.00	0.00
13,500.0	90.00	359.77	11,350.0	2,231.1	1,470.3	2,372.8	0.00	0.00	0.00
13,600.0	90.00	359.77	11,350.0	2,331.1	1,469.9	2,472.2	0.00	0.00	0.00
13,700.0	90.00	359.77	11,350.0	2,431.1	1,469.5	2,571.6	0.00	0.00	0.00
13,800.0	90.00	359.77	11,350.0	2,531.1	1,469.1	2,671.0	0.00	0.00	0.00
13,900.0	90.00	359.77	11,350.0	2,631.1	1,468.7	2,770.4	0.00	0.00	0.00
14,000.0	90.00	359.77	11,350.0	2,731.1	1,468.3	2,869.8	0.00	0.00	0.00
14,100.0	90.00	359.77	11,350.0	2,831.1	1,467.9	2,969.2	0.00	0.00	0.00
14,200.0	90.00	359.77	11,350.0	2,931.1	1,467.5	3,068.6	0.00	0.00	0.00
14,300.0	90.00	359.77	11,350.0	3,031.1	1,467.1	3,168.0	0.00	0.00	0.00
14,400.0	90.00	359.77	11,350.0	3,131.1	1,466.7	3,267.4	0.00	0.00	0.00
14,500.0	90.00	359.77	11,350.0	3,231.1	1,466.3	3,366.8	0.00	0.00	0.00
14,600.0	90.00	359.77	11,350.0	3,331.1	1,465.9	3,466.3	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
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 #709H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,700.0	90.00	359.77	11,350.0	3,431.1	1,465.5	3,565.7	0.00	0.00	0.00
14,800.0	90.00	359.77	11,350.0	3,531.1	1,465.1	3,665.1	0.00	0.00	0.00
14,900.0	90.00	359.77	11,350.0	3,631.1	1,464.7	3,764.5	0.00	0.00	0.00
15,000.0	90.00	359.77	11,350.0	3,731.1	1,464.3	3,863.9	0.00	0.00	0.00
15,100.0	90.00	359.77	11,350.0	3,831.1	1,463.9	3,963.3	0.00	0.00	0.00
15,200.0	90.00	359.77	11,350.0	3,931.1	1,463.5	4,062.7	0.00	0.00	0.00
15,300.0	90.00	359.77	11,350.0	4,031.1	1,463.1	4,162.1	0.00	0.00	0.00
15,400.0	90.00	359.77	11,350.0	4,131.1	1,462.7	4,261.5	0.00	0.00	0.00
15,500.0	90.00	359.77	11,350.0	4,231.1	1,462.3	4,360.9	0.00	0.00	0.00
15,600.0	90.00	359.77	11,350.0	4,331.1	1,461.9	4,460.3	0.00	0.00	0.00
15,700.0	90.00	359.77	11,350.0	4,431.1	1,461.5	4,559.7	0.00	0.00	0.00
15,800.0	90.00	359.77	11,350.0	4,531.1	1,461.1	4,659.1	0.00	0.00	0.00
15,900.0	90.00	359.77	11,350.0	4,631.1	1,460.7	4,758.6	0.00	0.00	0.00
16,000.0	90.00	359.77	11,350.0	4,731.1	1,460.3	4,858.0	0.00	0.00	0.00
16,100.0	90.00	359.77	11,350.0	4,831.1	1,459.9	4,957.4	0.00	0.00	0.00
16,200.0	90.00	359.77	11,350.0	4,931.1	1,459.5	5,056.8	0.00	0.00	0.00
16,300.0	90.00	359.77	11,350.0	5,031.1	1,459.1	5,156.2	0.00	0.00	0.00
16,400.0	90.00	359.77	11,350.0	5,131.1	1,458.7	5,255.6	0.00	0.00	0.00
16,500.0	90.00	359.77	11,350.0	5,231.1	1,458.3	5,355.0	0.00	0.00	0.00
16,600.0	90.00	359.77	11,350.0	5,331.1	1,457.9	5,454.4	0.00	0.00	0.00
16,700.0	90.00	359.77	11,350.0	5,431.1	1,457.5	5,553.8	0.00	0.00	0.00
16,800.0	90.00	359.77	11,350.0	5,531.1	1,457.1	5,653.2	0.00	0.00	0.00
16,900.0	90.00	359.77	11,350.0	5,631.1	1,456.7	5,752.6	0.00	0.00	0.00
17,000.0	90.00	359.77	11,350.0	5,731.0	1,456.3	5,852.0	0.00	0.00	0.00
17,100.0	90.00	359.77	11,350.0	5,831.0	1,455.9	5,951.4	0.00	0.00	0.00
17,200.0	90.00	359.77	11,350.0	5,931.0	1,455.5	6,050.9	0.00	0.00	0.00
17,300.0	90.00	359.77	11,350.0	6,031.0	1,455.1	6,150.3	0.00	0.00	0.00
17,400.0	90.00	359.77	11,350.0	6,131.0	1,454.7	6,249.7	0.00	0.00	0.00
17,500.0	90.00	359.77	11,350.0	6,231.0	1,454.3	6,349.1	0.00	0.00	0.00
17,600.0	90.00	359.77	11,350.0	6,331.0	1,453.9	6,448.5	0.00	0.00	0.00
17,700.0	90.00	359.77	11,350.0	6,431.0	1,453.5	6,547.9	0.00	0.00	0.00
17,800.0	90.00	359.77	11,350.0	6,531.0	1,453.1	6,647.3	0.00	0.00	0.00
17,900.0	90.00	359.77	11,350.0	6,631.0	1,452.7	6,746.7	0.00	0.00	0.00
18,000.0	90.00	359.77	11,350.0	6,731.0	1,452.3	6,846.1	0.00	0.00	0.00
18,100.0	90.00	359.77	11,350.0	6,831.0	1,451.9	6,945.5	0.00	0.00	0.00
18,200.0	90.00	359.77	11,350.0	6,931.0	1,451.5	7,044.9	0.00	0.00	0.00
18,300.0	90.00	359.77	11,350.0	7,031.0	1,451.1	7,144.3	0.00	0.00	0.00
18,400.0	90.00	359.77	11,350.0	7,131.0	1,450.7	7,243.7	0.00	0.00	0.00
18,500.0	90.00	359.77	11,350.0	7,231.0	1,450.3	7,343.1	0.00	0.00	0.00
18,600.0	90.00	359.77	11,350.0	7,331.0	1,449.9	7,442.6	0.00	0.00	0.00
18,700.0	90.00	359.77	11,350.0	7,431.0	1,449.5	7,542.0	0.00	0.00	0.00
18,800.0	90.00	359.77	11,350.0	7,531.0	1,449.1	7,641.4	0.00	0.00	0.00
18,900.0	90.00	359.77	11,350.0	7,631.0	1,448.7	7,740.8	0.00	0.00	0.00
19,000.0	90.00	359.77	11,350.0	7,731.0	1,448.3	7,840.2	0.00	0.00	0.00
19,100.0	90.00	359.77	11,350.0	7,831.0	1,447.9	7,939.6	0.00	0.00	0.00
19,200.0	90.00	359.77	11,350.0	7,931.0	1,447.5	8,039.0	0.00	0.00	0.00
19,300.0	90.00	359.77	11,350.0	8,031.0	1,447.0	8,138.4	0.00	0.00	0.00
19,400.0	90.00	359.77	11,350.0	8,131.0	1,446.6	8,237.8	0.00	0.00	0.00
19,500.0	90.00	359.77	11,350.0	8,231.0	1,446.2	8,337.2	0.00	0.00	0.00
19,600.0	90.00	359.77	11,350.0	8,331.0	1,445.8	8,436.6	0.00	0.00	0.00
19,700.0	90.00	359.77	11,350.0	8,431.0	1,445.4	8,536.0	0.00	0.00	0.00
19,800.0	90.00	359.77	11,350.0	8,531.0	1,445.0	8,635.4	0.00	0.00	0.00
19,900.0	90.00	359.77	11,350.0	8,631.0	1,444.6	8,734.9	0.00	0.00	0.00
20,000.0	90.00	359.77	11,350.0	8,731.0	1,444.2	8,834.3	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
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 #709H	**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)
20,100.0	90.00	359.77	11,350.0	8,831.0	1,443.8	8,933.7	0.00	0.00	0.00
20,200.0	90.00	359.77	11,350.0	8,931.0	1,443.4	9,033.1	0.00	0.00	0.00
20,300.0	90.00	359.77	11,350.0	9,031.0	1,443.0	9,132.5	0.00	0.00	0.00
20,400.0	90.00	359.77	11,350.0	9,131.0	1,442.6	9,231.9	0.00	0.00	0.00
20,500.0	90.00	359.77	11,350.0	9,231.0	1,442.2	9,331.3	0.00	0.00	0.00
20,600.0	90.00	359.77	11,350.0	9,331.0	1,441.8	9,430.7	0.00	0.00	0.00
20,700.0	90.00	359.77	11,350.0	9,431.0	1,441.4	9,530.1	0.00	0.00	0.00
20,800.0	90.00	359.77	11,350.0	9,531.0	1,441.0	9,629.5	0.00	0.00	0.00
20,900.0	90.00	359.77	11,350.0	9,631.0	1,440.6	9,728.9	0.00	0.00	0.00
21,000.0	90.00	359.77	11,350.0	9,731.0	1,440.2	9,828.3	0.00	0.00	0.00
21,100.0	90.00	359.77	11,350.0	9,831.0	1,439.8	9,927.7	0.00	0.00	0.00
21,200.0	90.00	359.77	11,350.0	9,931.0	1,439.4	10,027.1	0.00	0.00	0.00
21,300.0	90.00	359.77	11,350.0	10,031.0	1,439.0	10,126.6	0.00	0.00	0.00
21,400.0	90.00	359.77	11,350.0	10,131.0	1,438.6	10,226.0	0.00	0.00	0.00
21,500.0	90.00	359.77	11,350.0	10,231.0	1,438.2	10,325.4	0.00	0.00	0.00
21,600.0	90.00	359.77	11,350.0	10,331.0	1,437.8	10,424.8	0.00	0.00	0.00
21,700.0	90.00	359.77	11,350.0	10,431.0	1,437.4	10,524.2	0.00	0.00	0.00
21,800.0	90.00	359.77	11,350.0	10,531.0	1,437.0	10,623.6	0.00	0.00	0.00
21,900.0	90.00	359.77	11,350.0	10,631.0	1,436.6	10,723.0	0.00	0.00	0.00
22,000.0	90.00	359.77	11,350.0	10,731.0	1,436.2	10,822.4	0.00	0.00	0.00
22,100.0	90.00	359.77	11,350.0	10,831.0	1,435.8	10,921.8	0.00	0.00	0.00
22,200.0	90.00	359.77	11,350.0	10,931.0	1,435.4	11,021.2	0.00	0.00	0.00
22,300.0	90.00	359.77	11,350.0	11,031.0	1,435.0	11,120.6	0.00	0.00	0.00
22,400.0	90.00	359.77	11,350.0	11,131.0	1,434.6	11,220.0	0.00	0.00	0.00
22,500.0	90.00	359.77	11,350.0	11,231.0	1,434.2	11,319.4	0.00	0.00	0.00
22,600.0	90.00	359.77	11,350.0	11,331.0	1,433.8	11,418.9	0.00	0.00	0.00
22,700.0	90.00	359.77	11,350.0	11,431.0	1,433.4	11,518.3	0.00	0.00	0.00
22,800.0	90.00	359.77	11,350.0	11,531.0	1,433.0	11,617.7	0.00	0.00	0.00
22,900.0	90.00	359.77	11,350.0	11,631.0	1,432.6	11,717.1	0.00	0.00	0.00
23,000.0	90.00	359.77	11,350.0	11,731.0	1,432.2	11,816.5	0.00	0.00	0.00
23,100.0	90.00	359.77	11,350.0	11,831.0	1,431.8	11,915.9	0.00	0.00	0.00
23,200.0	90.00	359.77	11,350.0	11,931.0	1,431.4	12,015.3	0.00	0.00	0.00
23,300.0	90.00	359.77	11,350.0	12,031.0	1,431.0	12,114.7	0.00	0.00	0.00
23,400.0	90.00	359.77	11,350.0	12,131.0	1,430.6	12,214.1	0.00	0.00	0.00
23,500.0	90.00	359.77	11,350.0	12,231.0	1,430.2	12,313.5	0.00	0.00	0.00
23,600.0	90.00	359.77	11,350.0	12,331.0	1,429.8	12,412.9	0.00	0.00	0.00
23,700.0	90.00	359.77	11,350.0	12,431.0	1,429.4	12,512.3	0.00	0.00	0.00
23,800.0	90.00	359.77	11,350.0	12,531.0	1,429.0	12,611.7	0.00	0.00	0.00
23,900.0	90.00	359.77	11,350.0	12,631.0	1,428.6	12,711.2	0.00	0.00	0.00
24,000.0	90.00	359.77	11,350.0	12,731.0	1,428.2	12,810.6	0.00	0.00	0.00
24,100.0	90.00	359.77	11,350.0	12,831.0	1,427.8	12,910.0	0.00	0.00	0.00
24,200.0	90.00	359.77	11,350.0	12,931.0	1,427.4	13,009.4	0.00	0.00	0.00
24,300.0	90.00	359.77	11,350.0	13,031.0	1,427.0	13,108.8	0.00	0.00	0.00
24,400.0	90.00	359.77	11,350.0	13,131.0	1,426.6	13,208.2	0.00	0.00	0.00
24,500.0	90.00	359.77	11,350.0	13,231.0	1,426.2	13,307.6	0.00	0.00	0.00
24,600.0	90.00	359.77	11,350.0	13,331.0	1,425.8	13,407.0	0.00	0.00	0.00
24,700.0	90.00	359.77	11,350.0	13,431.0	1,425.4	13,506.4	0.00	0.00	0.00
24,802.4	90.00	359.77	11,350.0	13,533.4	1,425.0	13,608.2	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well *THUNDERDOME FED COM #709H
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 #709H	**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	179.78	11,350.0	13,533.4	1,425.0	482,848.06	650,782.41	32° 19' 35.476 N	103° 50' 42.702 W
FTP (THUNDERDOME - plan misses target center by 17.7usft at 11745.2usft MD (11342.2 TVD, 477.3 N, 1459.2 E) - Circle (radius 50.0)	0.00	0.00	11,350.0	474.4	1,474.9	469,789.06	650,832.27	32° 17' 26.244 N	103° 50' 42.814 W
LTP (THUNDERDOME - plan misses target center by 0.1usft at 24752.4usft MD (11350.0 TVD, 13483.4 N, 1425.2 E) - Circle (radius 50.0)	90.00	359.77	11,350.0	13,483.4	1,425.3	482,798.06	650,782.67	32° 19' 34.981 N	103° 50' 42.701 W

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	THUNDERDOME FEDERAL COM 709H
SURFACE HOLE FOOTAGE:	2275'/S & 2324'/E
BOTTOM HOLE FOOTAGE	50'/N & 846'/E
LOCATION:	Section 30, T.24 S., R.28 E.
COUNTY:	Eddy County, New Mexico

COA

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

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

Approval Date: 06/07/2024

A. HYDROGEN SULFIDE

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

B. CASING

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

1. The **13-3/8** inch surface casing shall be set at approximately **445** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

    Option 1 (Single Stage):

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

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

3. The **7-5/8** inch second intermediate casing shall be set at approximately **10,800** 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 **24,802** 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.

 Approval Date: 06/07/2024

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

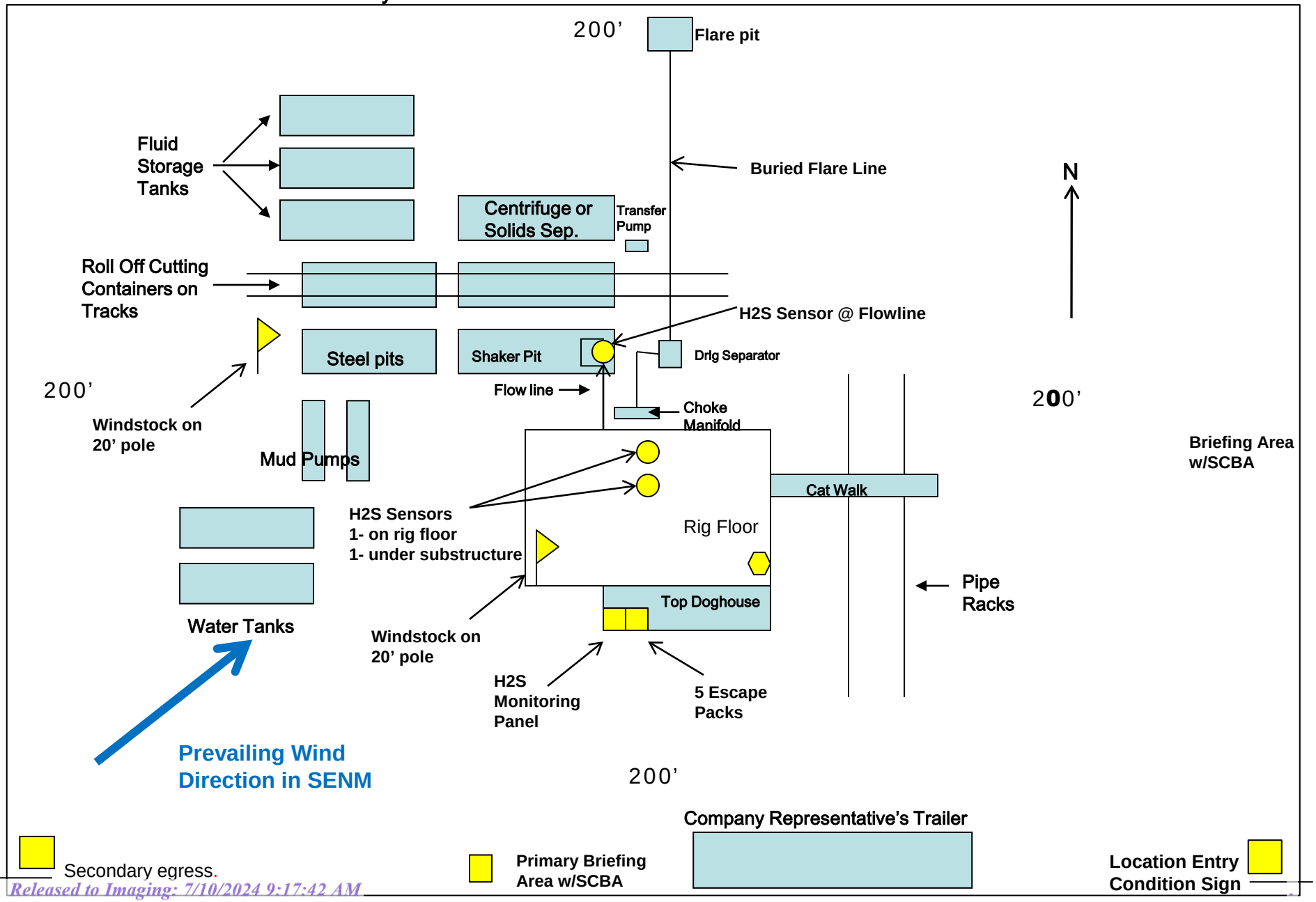
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location 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 352721

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 352721
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

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