

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

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		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.
2. Name of Operator		9. API Well No. 30-025-55148
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.



(Continued on page 2)

*(Instructions on page 2)

Additional Operator Remarks

Location of Well

0. SHL: LOT 1 / 270 FNL / 1255 FWL / TWSP: 26S / RANGE: 33E / SECTION: 30 / LAT: 32.021008 / LONG: -103.615769 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 100 FNL / 330 FWL / TWSP: 26S / RANGE: 33E / SECTION: 30 / LAT: 32.021472 / LONG: -103.618752 (TVD: 12033 feet, MD: 12181 feet)

BHL: LOT 2 / 50 FSL / 330 FWL / TWSP: 26S / RANGE: 33E / SECTION: 31 / LAT: 32.000376 / LONG: -103.618749 (TVD: 12150 feet, MD: 19768 feet)

BLM Point of Contact

Name: JANET D ESTES

Title: ADJUDICATOR

Phone: (575) 234-6233

Email: JESTES@BLM.GOV

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type:	☒ Initial Submittal
			☐ Amended Report
			☐ As Drilled

WELL LOCATION INFORMATION

API Number 30-025- 55148	Pool Code 98097	Pool Name Sanders Tank; Upper Wolfcamp
Property Code 337730	Property Name LIL JOHN FED COM	Well Number 711H
OGRID No. 217817	Operator Name CONOCOPHILLIPS COMPANY	Ground Level Elevation 3,149.02'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL LOT 1	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 270' FNL	Ft. from E/W 1,255' FWL	Latitude 32.021008°	Longitude -103.615769°	County LEA
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Bottom Hole Location

UL LOT 2	Section 31	Township 26S	Range 33E	Lot	Ft. from N/S 50' FSL	Ft. from E/W 330' FWL	Latitude 32.000376°	Longitude -103.618749°	County LEA
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Dedicated Acres 942.88	Infill or Defining Well Infill	Defining Well API Pending 709H	Overlapping Spacing Unit (Y/N)	Consolidation Code Com
Order Numbers.			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL LOT 1	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 270' FNL	Ft. from E/W 1,255' FWL	Latitude 32.021008°	Longitude -103.615769°	County LEA
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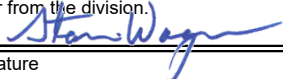
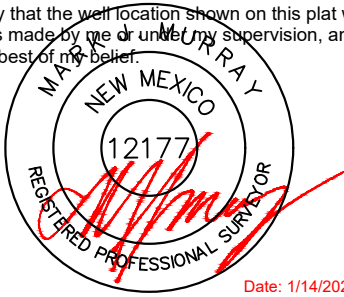
First Take Point (FTP)

UL LOT 1	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 330' FWL	Latitude 32.021472°	Longitude -103.618752°	County LEA
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Last Take Point (LTP)

UL LOT 2	Section 31	Township 26S	Range 33E	Lot	Ft. from N/S 100' FSL	Ft. from E/W 330' FWL	Latitude 32.000513°	Longitude -103.618749°	County LEA
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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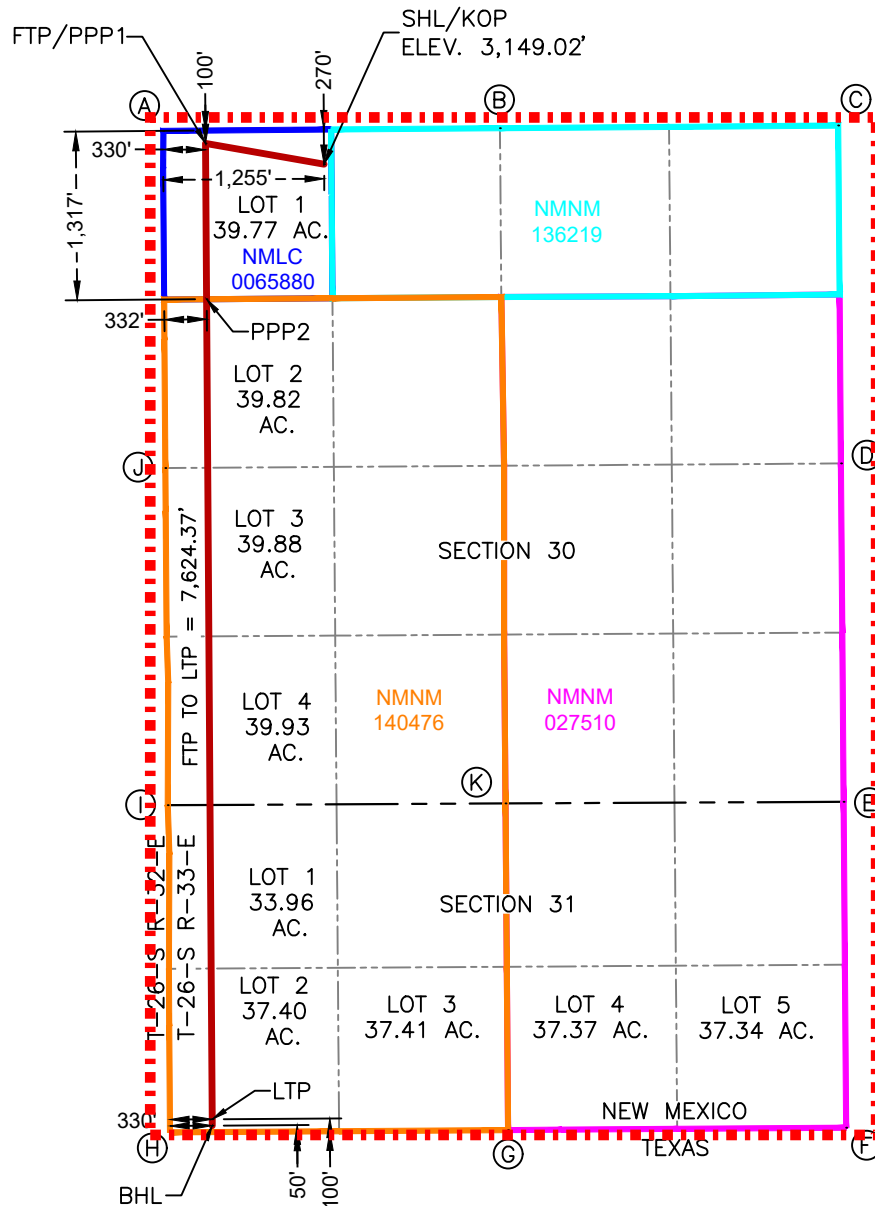
OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.  Signature Stan Wagner Printed Name Email Address		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  Date: 1/14/2025 Signature and Seal of Professional Surveyor Certificate Number 12177 Date of Survey 1/14/2025	
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Note: 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.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



**SURFACE HOLE LOCATION
& KICK-OFF POINT**
270' FNL & 1,255' FWL
ELEV.=3,149.02'

NAD 83 X = 763,725.73'
NAD 83 Y = 372,120.02'
NAD 83 LAT = 32.021008°
NAD 83 LONG = -103.615769°

**FIRST TAKE POINT &
PENETRATION POINT 1**
100' FNL & 330' FWL

NAD 83 X = 762,799.94'
NAD 83 Y = 372,282.49'
NAD 83 LAT = 32.021472°
NAD 83 LONG = -103.618752°

PENETRATION POINT 2
1,317' FNL & 332' FWL

NAD 83 X = 762,808.08'
NAD 83 Y = 371,065.32'
NAD 83 LAT = 32.018126°
NAD 83 LONG = -103.618752°

LAST TAKE POINT
100' FSL & 330' FWL

NAD 83 X = 762,851.30'
NAD 83 Y = 364,658.29'
NAD 83 LAT = 32.000513°
NAD 83 LONG = -103.618749°

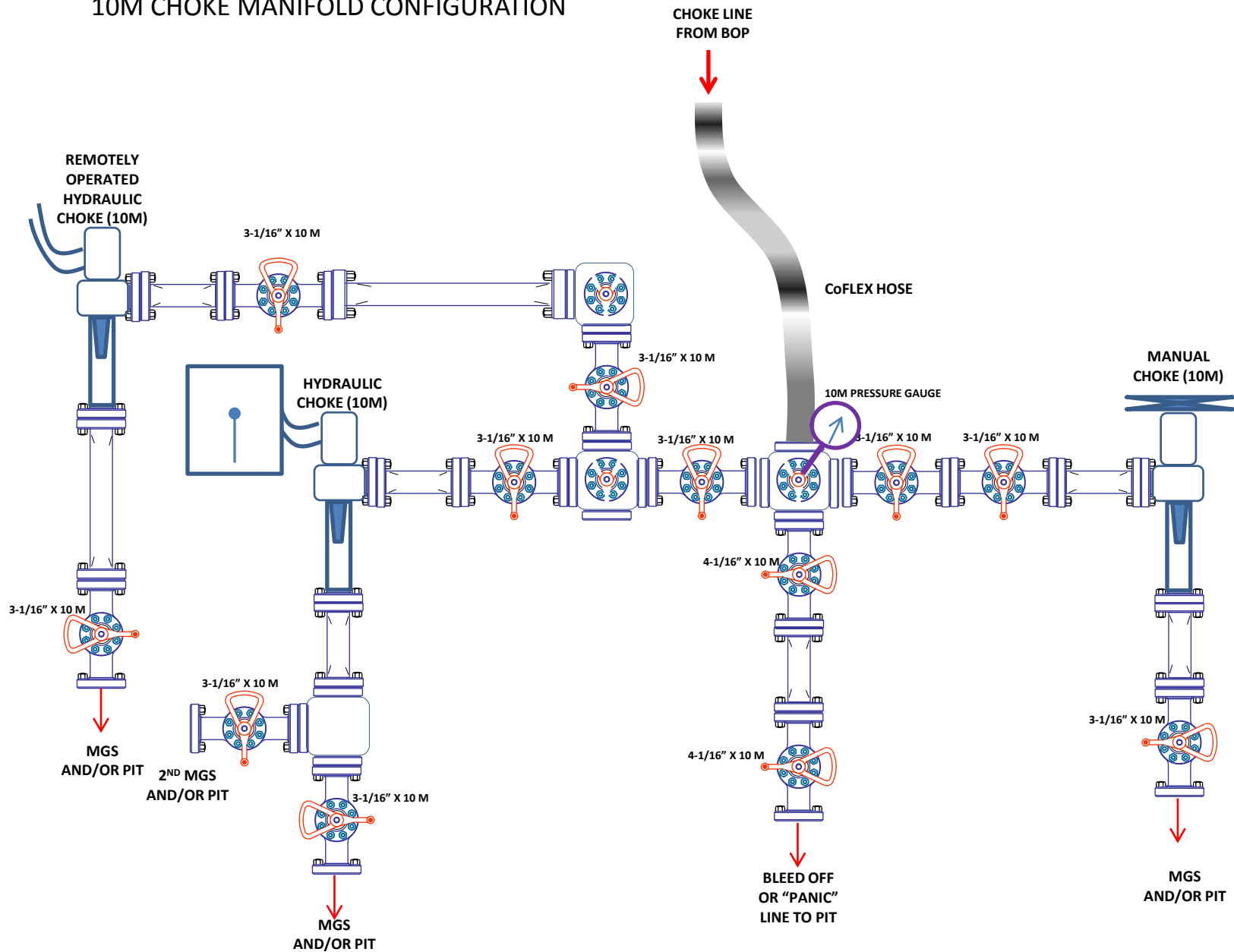
BOTTOM HOLE LOCATION
50' FSL & 330' FWL

NAD 83 X = 762,851.66'
NAD 83 Y = 364,608.29'
NAD 83 LAT = 32.000376°
NAD 83 LONG = -103.618749°

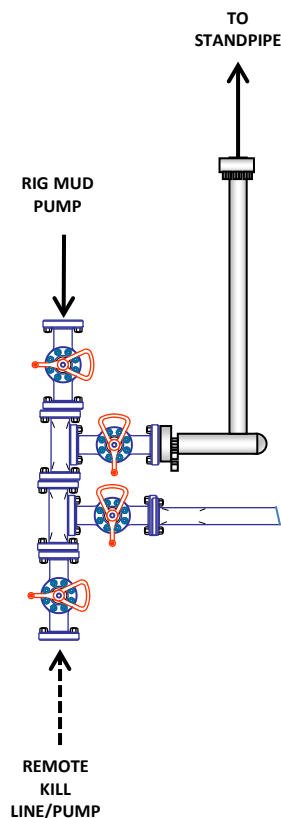
CORNER COORDINATES NEW MEXICO EAST - NAD 83

A	IRON PIPE W/BRASS CAP N:372,380.20' E:762,470.65'	E	IRON PIPE W/BRASS CAP N:367,139.19' E:767,783.76'	I	IRON PIPE W/BRASS CAP N:367,112.42' E:762,504.77'
B	IRON PIPE W/BRASS CAP N:372,401.32' E:765,099.31'	F	CALCULATED CORNER N:364,592.46' E:767,804.03'	J	CALCULATED CORNER N:369,745.90' E:762,486.18'
C	IRON PIPE W/BRASS CAP N:372,422.04' E:767,741.09'	G	CALCULATED CORNER N:364,574.24' E:765,163.03'	K	CALCULATED CORNER N:367,125.78' E:765,142.08'
D	IRON PIPE W/BRASS CAP N:369,782.18' E:767,762.94'	H	IRON PIPE W/BRASS CAP N:364,556.12' E:762,522.14'		

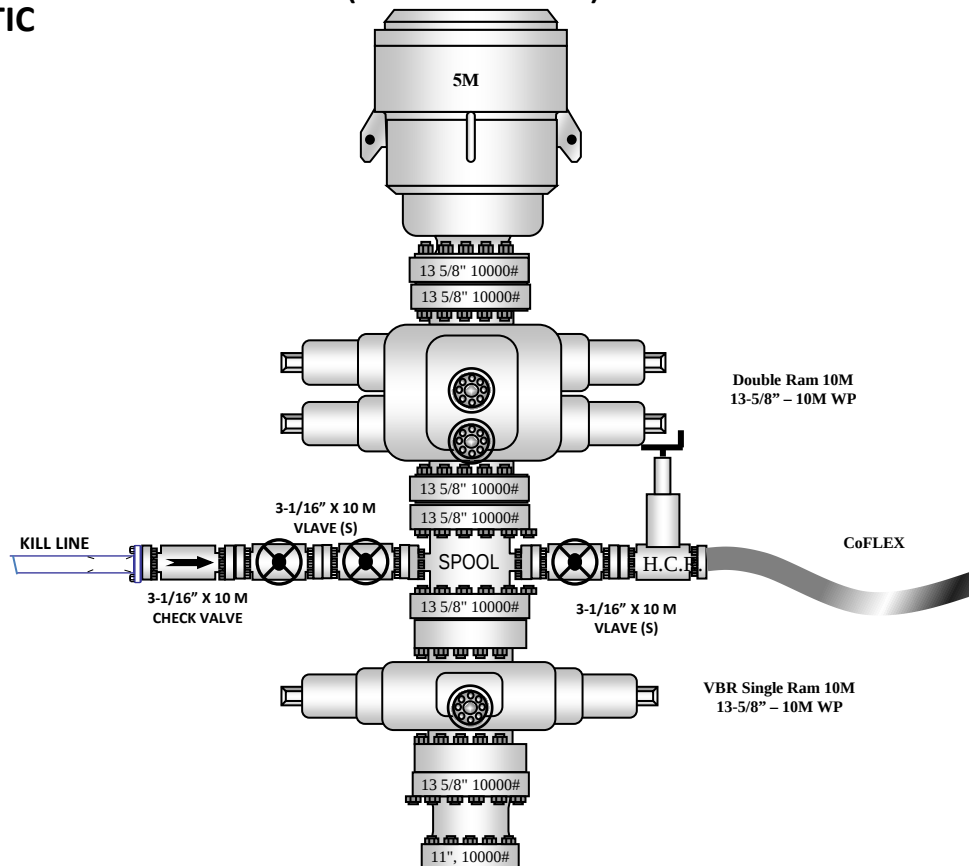
10M CHOKE MANIFOLD CONFIGURATION



10M REMOTE KILL SCHEMATIC



10M BOP Stack (5M Annular)



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1. Geologic Formations

TVD of target	12,150' EOL	Pilot hole depth:	N/A
MD at TD:	19,769'	Deepest expected fresh water:	220'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	494	Water	
Top of Salt	881	Salt	
Base of Salt	4251	Salt	
Lamar	4483	Salt Water	
Bell Canyon	4554	Salt Water	
Cherry Canyon	5730	Oil/Gas	
Brushy Canyon	7440	Oil/Gas	
Bone Spring	8784	Oil/Gas	
1st Bone Spring Sand	9831	Oil/Gas	
2nd Bone Spring Sand	10445	Oil/Gas	
3rd Bone Spring Sand	11533	Oil/Gas	
Wolfcamp Sand	11973	Target Oil/Gas	
Wolfcamp A	12166	Not Penetrated	
Wolfcamp B	12505	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	740	10.75"	45.5	J55	BTC	6.17	7.93	21.24	23.64
9.875"	0	8200	7.625"	29.7	L80-ICY	BTC	3.84	2.28	2.98	3.01
8.750"	8200	11672	7.625"	29.7	P110-ICY	W513	3.25	1.51	3.08	1.85
6.75"	0	11472	5.5"	23	P110-CY	BTC	3.34	1.99	2.76	2.76
6.75"	11472	19,769	5.5"	23	P110-CY	W441	3.24	1.99	2.61	2.37
COP Minimum Safety Factor							1.05	1.15	1.4	1.4

2b. Contingency Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	740	13.375"	54.5	J55	BTC	3.34	6.04	21.15	22.54
12.25"	0	4390	9.625"	40	L80-IC	BTC	1.87	1.17	5.22	5.39
8.75"	4190	11672	7.625"	29.7	P110-ICY	W513	2.61	1.51	3.08	1.85
6.75"	0	11472	5.5"	23	P110-CY	BTC	3.34	1.99	2.76	2.76
6.75"	11472	19,769	5.5"	23	P110-CY	W441	3.24	1.99	2.61	2.37
COP Minimum Safety Factor							1.05	1.15	1.4	1.4

Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface. Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse.

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172

Contingency program will be run if large water flows are encountered.

The 5 1/2" W441 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.

3/24/2025

1

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

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3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	210	12.8	1.75	9	12	Lead: Class C
	190	14.8	1.34	6.34	8	Tail: Class C
Inter. Stage 1	890	10.3	3.3	22	24	Halliburton tuned light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	720	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	630	13.2	1.34	5.7	19	Tail: 50:50:2 Class H Blend

If losses are encountered in the intermediate section a DV/ECP tool will be run ~50' above the Lamar Lime top, cement will be adjusted accordingly if this contingency is necessary.

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% OH
1 st Intermediate	0'	50% OH
Production	11,172'	20% OH in Lateral (KOP to EOL)

3b. Contingency Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	270	13.5	1.75	9	12	Lead: Class C
	240	14.8	1.34	6.34	8	Tail: Class C
Int. #1	950	12.8	1.75	9.21	12	Lead: Class C
	310	14.8	1.35	6.6	8	Tail: Class C
Inter. #2 (Liner)	300	10.5	3.3	22	24	Lead: Class C
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	810	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	630	13.2	1.34	5.7	19	Tail: 50:50:2 Class H Blend

Contingency program will be run if large water flows are encountered.

Casing String	TOC	% Excess
Surface	0'	50% in OH
1 st Intermediate	0'	50% in OH
2 nd Intermediate	4,190'	50% in OH
Production	11,172'	20% OH in Lateral (KOP to EOL)

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4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
Y	A variance is requested for the use of BOPE break testing on intermediate skids (in accordance with the 30 day full BOPE test requirements).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12-1/4" or 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 43 CFR Part 3170 Subpart 3172 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 43 CFR Part 3170 Subpart 3172.
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 43 CFR Part 3170 Subpart 3172 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.

ConocoPhillips - Lil John Federal Com 711H**5. Mud Program**

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine Diesel Emulsion	8.4 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 13.5	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
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5b. Contingency Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	9-5/8" Int shoe	Brine	8.4 - 10	28-34	N/C
9-5/8" Int shoe	7-5/8" Int shoe	Brine	8.4 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 13.5	35-45	<20

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
N	CBL	Production casing
Y	Mud log	Intermediate shoe to TD
N	PEX	

ConocoPhillips - Lil John Federal Com 711H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	8530 psi at 12150' TVD
Abnormal Temperature	NO 175 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 43 CFR Part 3170 Subpart 3176. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other Facets of Operation

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

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

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

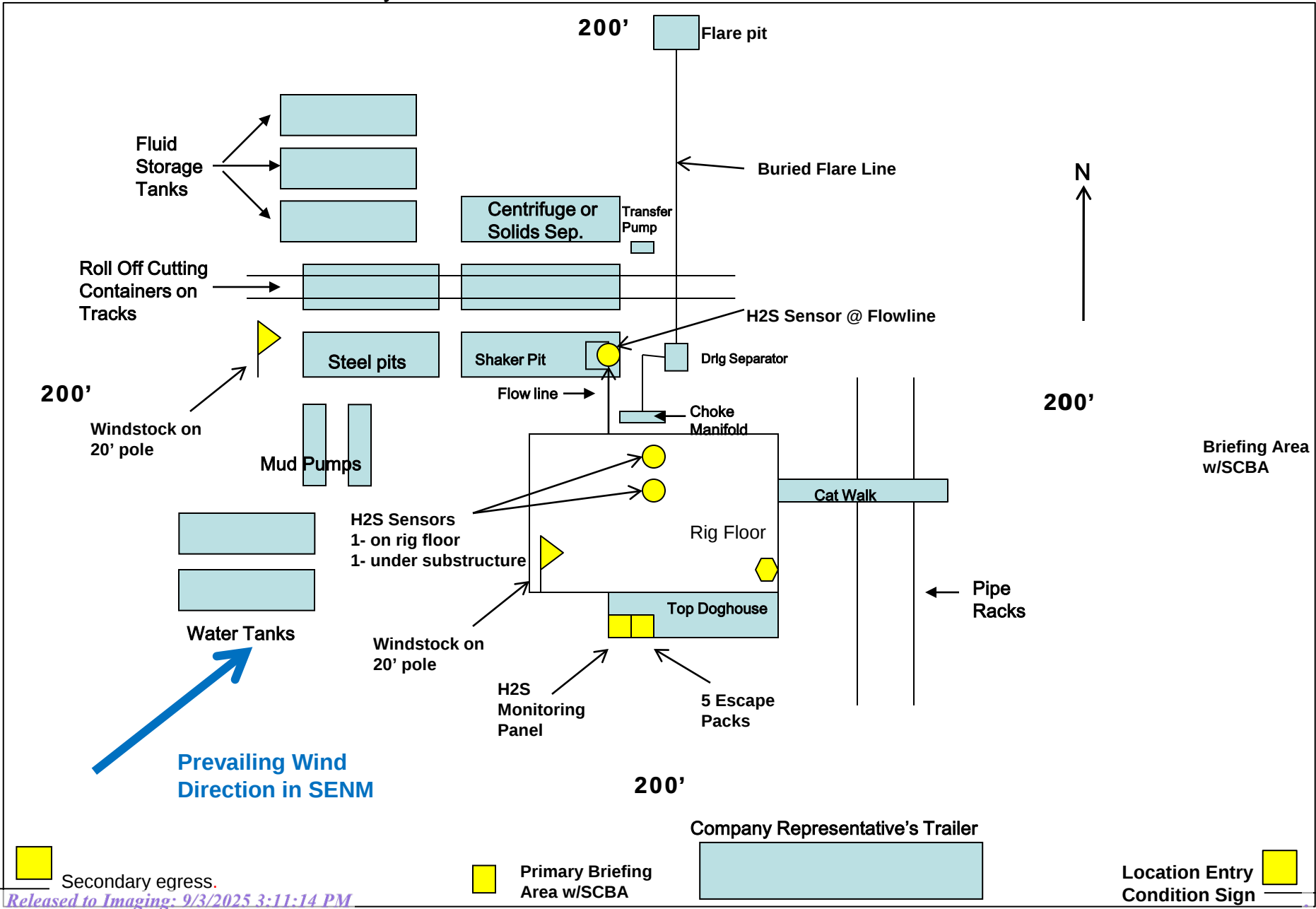
	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
Dallas Daley	432-818-2329	432-631-6977

EMERGENCY RESPONSE NUMBERS

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

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

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



DELAWARE BASIN EAST

ZIA HILLS UNIT AREA

LIL JOHN FEDERAL PROJECT

_LIL JOHN FED COM 711H

OWB

Plan: PWP0

Standard Planning Report

04 February, 2025

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3176.0usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3176.0usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	12/21/2023	6.31	59.53	47,256.91714591

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	186.64

Plan Survey Tool Program	Date	2/4/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	19,768.8 PWP0 (OWB)	r.5 MWD+IFR1	
			OWSG MWD + IFR1	rev.5

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,648.9	12.98	282.91	2,643.3	16.4	-71.3	2.00	2.00	0.00	282.91	
5,902.0	12.98	282.91	5,813.3	179.6	-783.4	0.00	0.00	0.00	0.00	
7,199.7	0.00	0.00	7,100.0	212.3	-926.0	1.00	-1.00	0.00	180.00	
11,772.2	0.00	0.00	11,672.5	212.3	-926.0	0.00	0.00	0.00	0.00	
12,522.2	90.00	179.62	12,150.0	-265.2	-922.8	12.00	12.00	23.95	179.62	
19,768.8	90.00	179.62	12,150.0	-7,511.6	-874.6	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3176.0usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3176.0usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 711H	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	2.00	282.91	2,100.0	0.4	-1.7	-0.2	2.00	2.00	0.00
2,200.0	4.00	282.91	2,199.8	1.6	-6.8	-0.8	2.00	2.00	0.00
2,300.0	6.00	282.91	2,299.5	3.5	-15.3	-1.7	2.00	2.00	0.00
2,400.0	8.00	282.91	2,398.7	6.2	-27.2	-3.0	2.00	2.00	0.00
2,500.0	10.00	282.91	2,497.5	9.7	-42.4	-4.8	2.00	2.00	0.00
2,600.0	12.00	282.91	2,595.6	14.0	-61.0	-6.8	2.00	2.00	0.00
2,648.9	12.98	282.91	2,643.3	16.4	-71.3	-8.0	2.00	2.00	0.00
2,700.0	12.98	282.91	2,693.2	18.9	-82.5	-9.2	0.00	0.00	0.00
2,800.0	12.98	282.91	2,790.6	23.9	-104.4	-11.7	0.00	0.00	0.00
2,900.0	12.98	282.91	2,888.1	29.0	-126.3	-14.2	0.00	0.00	0.00
3,000.0	12.98	282.91	2,985.5	34.0	-148.2	-16.6	0.00	0.00	0.00
3,100.0	12.98	282.91	3,082.9	39.0	-170.1	-19.1	0.00	0.00	0.00
3,200.0	12.98	282.91	3,180.4	44.0	-192.0	-21.5	0.00	0.00	0.00
3,300.0	12.98	282.91	3,277.8	49.0	-213.8	-24.0	0.00	0.00	0.00
3,400.0	12.98	282.91	3,375.3	54.0	-235.7	-26.4	0.00	0.00	0.00
3,500.0	12.98	282.91	3,472.7	59.1	-257.6	-28.9	0.00	0.00	0.00
3,600.0	12.98	282.91	3,570.2	64.1	-279.5	-31.3	0.00	0.00	0.00
3,700.0	12.98	282.91	3,667.6	69.1	-301.4	-33.8	0.00	0.00	0.00
3,800.0	12.98	282.91	3,765.1	74.1	-323.3	-36.2	0.00	0.00	0.00
3,900.0	12.98	282.91	3,862.5	79.1	-345.2	-38.7	0.00	0.00	0.00
4,000.0	12.98	282.91	3,960.0	84.2	-367.1	-41.1	0.00	0.00	0.00
4,100.0	12.98	282.91	4,057.4	89.2	-389.0	-43.6	0.00	0.00	0.00
4,200.0	12.98	282.91	4,154.8	94.2	-410.8	-46.0	0.00	0.00	0.00
4,300.0	12.98	282.91	4,252.3	99.2	-432.7	-48.5	0.00	0.00	0.00
4,400.0	12.98	282.91	4,349.7	104.2	-454.6	-50.9	0.00	0.00	0.00
4,500.0	12.98	282.91	4,447.2	109.2	-476.5	-53.4	0.00	0.00	0.00
4,600.0	12.98	282.91	4,544.6	114.3	-498.4	-55.9	0.00	0.00	0.00
4,700.0	12.98	282.91	4,642.1	119.3	-520.3	-58.3	0.00	0.00	0.00
4,800.0	12.98	282.91	4,739.5	124.3	-542.2	-60.8	0.00	0.00	0.00
4,900.0	12.98	282.91	4,837.0	129.3	-564.1	-63.2	0.00	0.00	0.00
5,000.0	12.98	282.91	4,934.4	134.3	-585.9	-65.7	0.00	0.00	0.00
5,100.0	12.98	282.91	5,031.9	139.4	-607.8	-68.1	0.00	0.00	0.00
5,200.0	12.98	282.91	5,129.3	144.4	-629.7	-70.6	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3176.0usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3176.0usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 711H	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	12.98	282.91	5,226.8	149.4	-651.6	-73.0	0.00	0.00	0.00
5,400.0	12.98	282.91	5,324.2	154.4	-673.5	-75.5	0.00	0.00	0.00
5,500.0	12.98	282.91	5,421.6	159.4	-695.4	-77.9	0.00	0.00	0.00
5,600.0	12.98	282.91	5,519.1	164.4	-717.3	-80.4	0.00	0.00	0.00
5,700.0	12.98	282.91	5,616.5	169.5	-739.2	-82.8	0.00	0.00	0.00
5,800.0	12.98	282.91	5,714.0	174.5	-761.1	-85.3	0.00	0.00	0.00
5,900.0	12.98	282.91	5,811.4	179.5	-782.9	-87.7	0.00	0.00	0.00
5,902.0	12.98	282.91	5,813.3	179.6	-783.4	-87.8	0.00	0.00	0.00
6,000.0	12.00	282.91	5,909.1	184.3	-804.0	-90.1	1.00	-1.00	0.00
6,100.0	11.00	282.91	6,007.1	188.8	-823.5	-92.3	1.00	-1.00	0.00
6,200.0	10.00	282.91	6,105.4	192.9	-841.2	-94.3	1.00	-1.00	0.00
6,300.0	9.00	282.91	6,204.0	196.5	-857.3	-96.1	1.00	-1.00	0.00
6,400.0	8.00	282.91	6,302.9	199.8	-871.7	-97.7	1.00	-1.00	0.00
6,500.0	7.00	282.91	6,402.1	202.8	-884.4	-99.1	1.00	-1.00	0.00
6,600.0	6.00	282.91	6,501.4	205.3	-895.4	-100.4	1.00	-1.00	0.00
6,700.0	5.00	282.91	6,600.9	207.4	-904.8	-101.4	1.00	-1.00	0.00
6,800.0	4.00	282.91	6,700.6	209.2	-912.4	-102.3	1.00	-1.00	0.00
6,900.0	3.00	282.91	6,800.4	210.5	-918.4	-102.9	1.00	-1.00	0.00
7,000.0	2.00	282.91	6,900.4	211.5	-922.6	-103.4	1.00	-1.00	0.00
7,100.0	1.00	282.91	7,000.3	212.1	-925.2	-103.7	1.00	-1.00	0.00
7,199.7	0.00	0.00	7,100.0	212.3	-926.0	-103.8	1.00	-1.00	0.00
7,200.0	0.00	0.00	7,100.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,200.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,300.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,400.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,500.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,700.0	0.00	0.00	7,600.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,700.3	212.3	-926.0	-103.8	0.00	0.00	0.00
7,900.0	0.00	0.00	7,800.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,000.0	0.00	0.00	7,900.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,100.0	0.00	0.00	8,000.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,200.0	0.00	0.00	8,100.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,300.0	0.00	0.00	8,200.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,400.0	0.00	0.00	8,300.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,500.0	0.00	0.00	8,400.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,600.0	0.00	0.00	8,500.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,700.0	0.00	0.00	8,600.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,800.0	0.00	0.00	8,700.3	212.3	-926.0	-103.8	0.00	0.00	0.00
8,900.0	0.00	0.00	8,800.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,000.0	0.00	0.00	8,900.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,100.0	0.00	0.00	9,000.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,200.0	0.00	0.00	9,100.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,300.0	0.00	0.00	9,200.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,400.0	0.00	0.00	9,300.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,500.0	0.00	0.00	9,400.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,600.0	0.00	0.00	9,500.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,700.0	0.00	0.00	9,600.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,800.0	0.00	0.00	9,700.3	212.3	-926.0	-103.8	0.00	0.00	0.00
9,900.0	0.00	0.00	9,800.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,000.0	0.00	0.00	9,900.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,100.0	0.00	0.00	10,000.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,200.0	0.00	0.00	10,100.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,300.0	0.00	0.00	10,200.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,400.0	0.00	0.00	10,300.3	212.3	-926.0	-103.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3176.0usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3176.0usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 711H	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	10,400.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,600.0	0.00	0.00	10,500.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,700.0	0.00	0.00	10,600.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,800.0	0.00	0.00	10,700.3	212.3	-926.0	-103.8	0.00	0.00	0.00
10,900.0	0.00	0.00	10,800.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,000.0	0.00	0.00	10,900.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,100.0	0.00	0.00	11,000.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,200.0	0.00	0.00	11,100.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,300.0	0.00	0.00	11,200.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,400.0	0.00	0.00	11,300.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,500.0	0.00	0.00	11,400.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,600.0	0.00	0.00	11,500.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,700.0	0.00	0.00	11,600.3	212.3	-926.0	-103.8	0.00	0.00	0.00
11,772.2	0.00	0.00	11,672.5	212.3	-926.0	-103.8	0.00	0.00	0.00
11,800.0	3.34	179.62	11,700.3	211.5	-926.0	-103.0	12.00	12.00	0.00
11,900.0	15.34	179.62	11,798.8	195.3	-925.9	-86.9	12.00	12.00	0.00
12,000.0	27.34	179.62	11,891.8	159.0	-925.7	-50.9	12.00	12.00	0.00
12,100.0	39.34	179.62	11,975.2	104.1	-925.3	3.6	12.00	12.00	0.00
12,200.0	51.34	179.62	12,045.3	33.1	-924.8	74.1	12.00	12.00	0.00
12,300.0	63.34	179.62	12,099.2	-50.9	-924.3	157.5	12.00	12.00	0.00
12,400.0	75.34	179.62	12,134.4	-144.3	-923.6	250.2	12.00	12.00	0.00
12,500.0	87.34	179.62	12,149.4	-243.0	-923.0	348.1	12.00	12.00	0.00
12,522.2	90.00	179.62	12,150.0	-265.2	-922.8	370.1	12.00	12.00	0.00
12,600.0	90.00	179.62	12,150.0	-343.0	-922.3	447.3	0.00	0.00	0.00
12,700.0	90.00	179.62	12,150.0	-443.0	-921.7	546.6	0.00	0.00	0.00
12,800.0	90.00	179.62	12,150.0	-543.0	-921.0	645.8	0.00	0.00	0.00
12,900.0	90.00	179.62	12,150.0	-643.0	-920.3	745.1	0.00	0.00	0.00
13,000.0	90.00	179.62	12,150.0	-743.0	-919.7	844.3	0.00	0.00	0.00
13,100.0	90.00	179.62	12,150.0	-843.0	-919.0	943.6	0.00	0.00	0.00
13,200.0	90.00	179.62	12,150.0	-943.0	-918.3	1,042.8	0.00	0.00	0.00
13,300.0	90.00	179.62	12,150.0	-1,042.9	-917.7	1,142.1	0.00	0.00	0.00
13,400.0	90.00	179.62	12,150.0	-1,142.9	-917.0	1,241.3	0.00	0.00	0.00
13,500.0	90.00	179.62	12,150.0	-1,242.9	-916.3	1,340.6	0.00	0.00	0.00
13,600.0	90.00	179.62	12,150.0	-1,342.9	-915.7	1,439.8	0.00	0.00	0.00
13,700.0	90.00	179.62	12,150.0	-1,442.9	-915.0	1,539.1	0.00	0.00	0.00
13,800.0	90.00	179.62	12,150.0	-1,542.9	-914.3	1,638.3	0.00	0.00	0.00
13,900.0	90.00	179.62	12,150.0	-1,642.9	-913.7	1,737.6	0.00	0.00	0.00
14,000.0	90.00	179.62	12,150.0	-1,742.9	-913.0	1,836.8	0.00	0.00	0.00
14,100.0	90.00	179.62	12,150.0	-1,842.9	-912.3	1,936.1	0.00	0.00	0.00
14,200.0	90.00	179.62	12,150.0	-1,942.9	-911.7	2,035.3	0.00	0.00	0.00
14,300.0	90.00	179.62	12,150.0	-2,042.9	-911.0	2,134.6	0.00	0.00	0.00
14,400.0	90.00	179.62	12,150.0	-2,142.9	-910.3	2,233.8	0.00	0.00	0.00
14,500.0	90.00	179.62	12,150.0	-2,242.9	-909.7	2,333.1	0.00	0.00	0.00
14,600.0	90.00	179.62	12,150.0	-2,342.9	-909.0	2,432.3	0.00	0.00	0.00
14,700.0	90.00	179.62	12,150.0	-2,442.9	-908.4	2,531.6	0.00	0.00	0.00
14,800.0	90.00	179.62	12,150.0	-2,542.9	-907.7	2,630.8	0.00	0.00	0.00
14,900.0	90.00	179.62	12,150.0	-2,642.9	-907.0	2,730.1	0.00	0.00	0.00
15,000.0	90.00	179.62	12,150.0	-2,742.9	-906.4	2,829.3	0.00	0.00	0.00
15,100.0	90.00	179.62	12,150.0	-2,842.9	-905.7	2,928.6	0.00	0.00	0.00
15,200.0	90.00	179.62	12,150.0	-2,942.9	-905.0	3,027.8	0.00	0.00	0.00
15,300.0	90.00	179.62	12,150.0	-3,042.9	-904.4	3,127.1	0.00	0.00	0.00
15,400.0	90.00	179.62	12,150.0	-3,142.9	-903.7	3,226.3	0.00	0.00	0.00
15,500.0	90.00	179.62	12,150.0	-3,242.9	-903.0	3,325.6	0.00	0.00	0.00
15,600.0	90.00	179.62	12,150.0	-3,342.9	-902.4	3,424.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3176.0usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3176.0usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

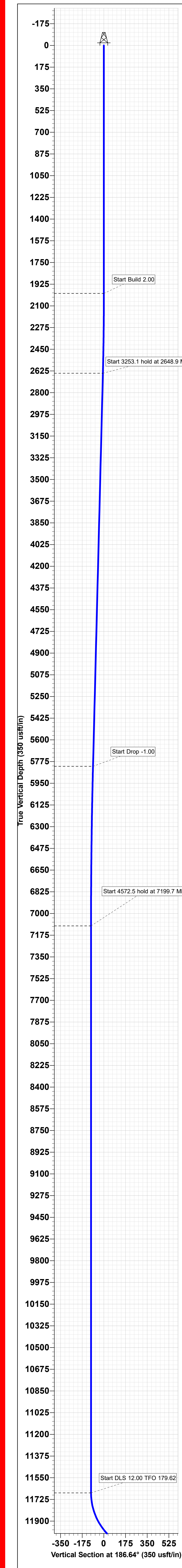
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,700.0	90.00	179.62	12,150.0	-3,442.9	-901.7	3,524.1	0.00	0.00	0.00
15,800.0	90.00	179.62	12,150.0	-3,542.9	-901.0	3,623.3	0.00	0.00	0.00
15,900.0	90.00	179.62	12,150.0	-3,642.9	-900.4	3,722.6	0.00	0.00	0.00
16,000.0	90.00	179.62	12,150.0	-3,742.9	-899.7	3,821.8	0.00	0.00	0.00
16,100.0	90.00	179.62	12,150.0	-3,842.9	-899.0	3,921.1	0.00	0.00	0.00
16,200.0	90.00	179.62	12,150.0	-3,942.9	-898.4	4,020.3	0.00	0.00	0.00
16,300.0	90.00	179.62	12,150.0	-4,042.9	-897.7	4,119.6	0.00	0.00	0.00
16,400.0	90.00	179.62	12,150.0	-4,142.9	-897.0	4,218.8	0.00	0.00	0.00
16,500.0	90.00	179.62	12,150.0	-4,242.9	-896.4	4,318.1	0.00	0.00	0.00
16,600.0	90.00	179.62	12,150.0	-4,342.9	-895.7	4,417.3	0.00	0.00	0.00
16,700.0	90.00	179.62	12,150.0	-4,442.9	-895.1	4,516.6	0.00	0.00	0.00
16,800.0	90.00	179.62	12,150.0	-4,542.9	-894.4	4,615.8	0.00	0.00	0.00
16,900.0	90.00	179.62	12,150.0	-4,642.9	-893.7	4,715.1	0.00	0.00	0.00
17,000.0	90.00	179.62	12,150.0	-4,742.9	-893.1	4,814.3	0.00	0.00	0.00
17,100.0	90.00	179.62	12,150.0	-4,842.9	-892.4	4,913.6	0.00	0.00	0.00
17,200.0	90.00	179.62	12,150.0	-4,942.9	-891.7	5,012.8	0.00	0.00	0.00
17,300.0	90.00	179.62	12,150.0	-5,042.9	-891.1	5,112.1	0.00	0.00	0.00
17,400.0	90.00	179.62	12,150.0	-5,142.9	-890.4	5,211.3	0.00	0.00	0.00
17,500.0	90.00	179.62	12,150.0	-5,242.9	-889.7	5,310.6	0.00	0.00	0.00
17,600.0	90.00	179.62	12,150.0	-5,342.9	-889.1	5,409.8	0.00	0.00	0.00
17,700.0	90.00	179.62	12,150.0	-5,442.9	-888.4	5,509.1	0.00	0.00	0.00
17,800.0	90.00	179.62	12,150.0	-5,542.9	-887.7	5,608.3	0.00	0.00	0.00
17,900.0	90.00	179.62	12,150.0	-5,642.8	-887.1	5,707.6	0.00	0.00	0.00
18,000.0	90.00	179.62	12,150.0	-5,742.8	-886.4	5,806.8	0.00	0.00	0.00
18,100.0	90.00	179.62	12,150.0	-5,842.8	-885.7	5,906.1	0.00	0.00	0.00
18,200.0	90.00	179.62	12,150.0	-5,942.8	-885.1	6,005.3	0.00	0.00	0.00
18,300.0	90.00	179.62	12,150.0	-6,042.8	-884.4	6,104.6	0.00	0.00	0.00
18,400.0	90.00	179.62	12,150.0	-6,142.8	-883.7	6,203.8	0.00	0.00	0.00
18,500.0	90.00	179.62	12,150.0	-6,242.8	-883.1	6,303.1	0.00	0.00	0.00
18,600.0	90.00	179.62	12,150.0	-6,342.8	-882.4	6,402.3	0.00	0.00	0.00
18,700.0	90.00	179.62	12,150.0	-6,442.8	-881.7	6,501.6	0.00	0.00	0.00
18,800.0	90.00	179.62	12,150.0	-6,542.8	-881.1	6,600.8	0.00	0.00	0.00
18,900.0	90.00	179.62	12,150.0	-6,642.8	-880.4	6,700.1	0.00	0.00	0.00
19,000.0	90.00	179.62	12,150.0	-6,742.8	-879.8	6,799.3	0.00	0.00	0.00
19,100.0	90.00	179.62	12,150.0	-6,842.8	-879.1	6,898.6	0.00	0.00	0.00
19,200.0	90.00	179.62	12,150.0	-6,942.8	-878.4	6,997.8	0.00	0.00	0.00
19,300.0	90.00	179.62	12,150.0	-7,042.8	-877.8	7,097.1	0.00	0.00	0.00
19,400.0	90.00	179.62	12,150.0	-7,142.8	-877.1	7,196.3	0.00	0.00	0.00
19,500.0	90.00	179.62	12,150.0	-7,242.8	-876.4	7,295.6	0.00	0.00	0.00
19,600.0	90.00	179.62	12,150.0	-7,342.8	-875.8	7,394.8	0.00	0.00	0.00
19,700.0	90.00	179.62	12,150.0	-7,442.8	-875.1	7,494.1	0.00	0.00	0.00
19,768.8	90.00	179.62	12,150.0	-7,511.6	-874.6	7,562.4	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3176.0usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3176.0usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

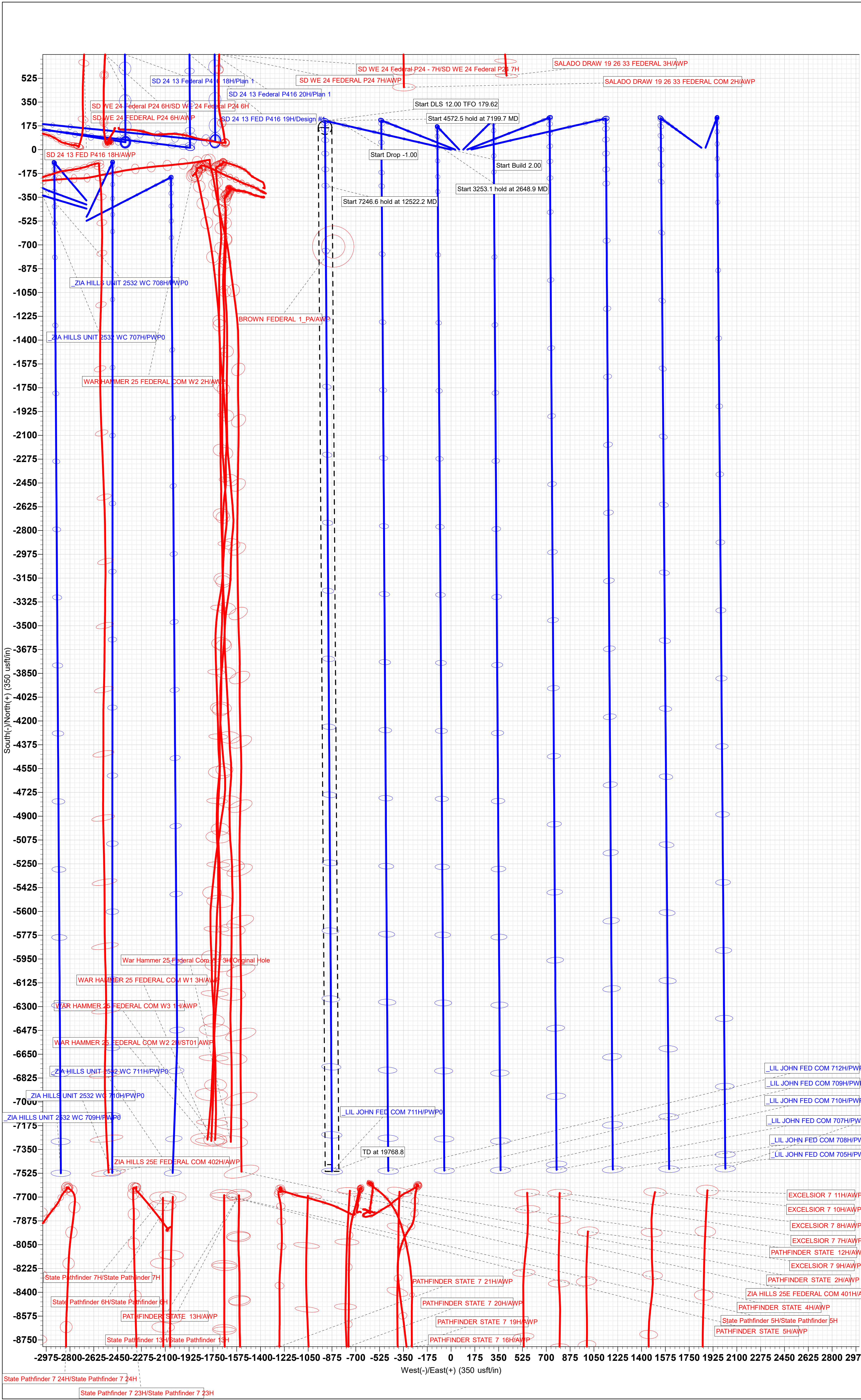
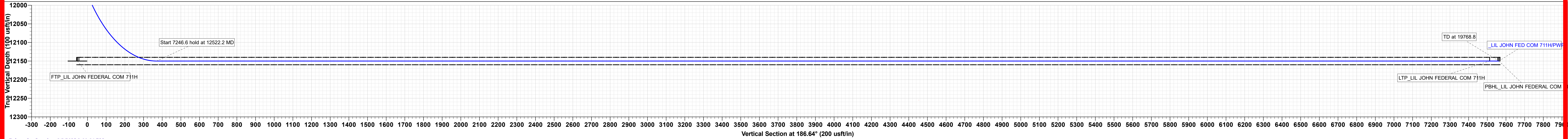
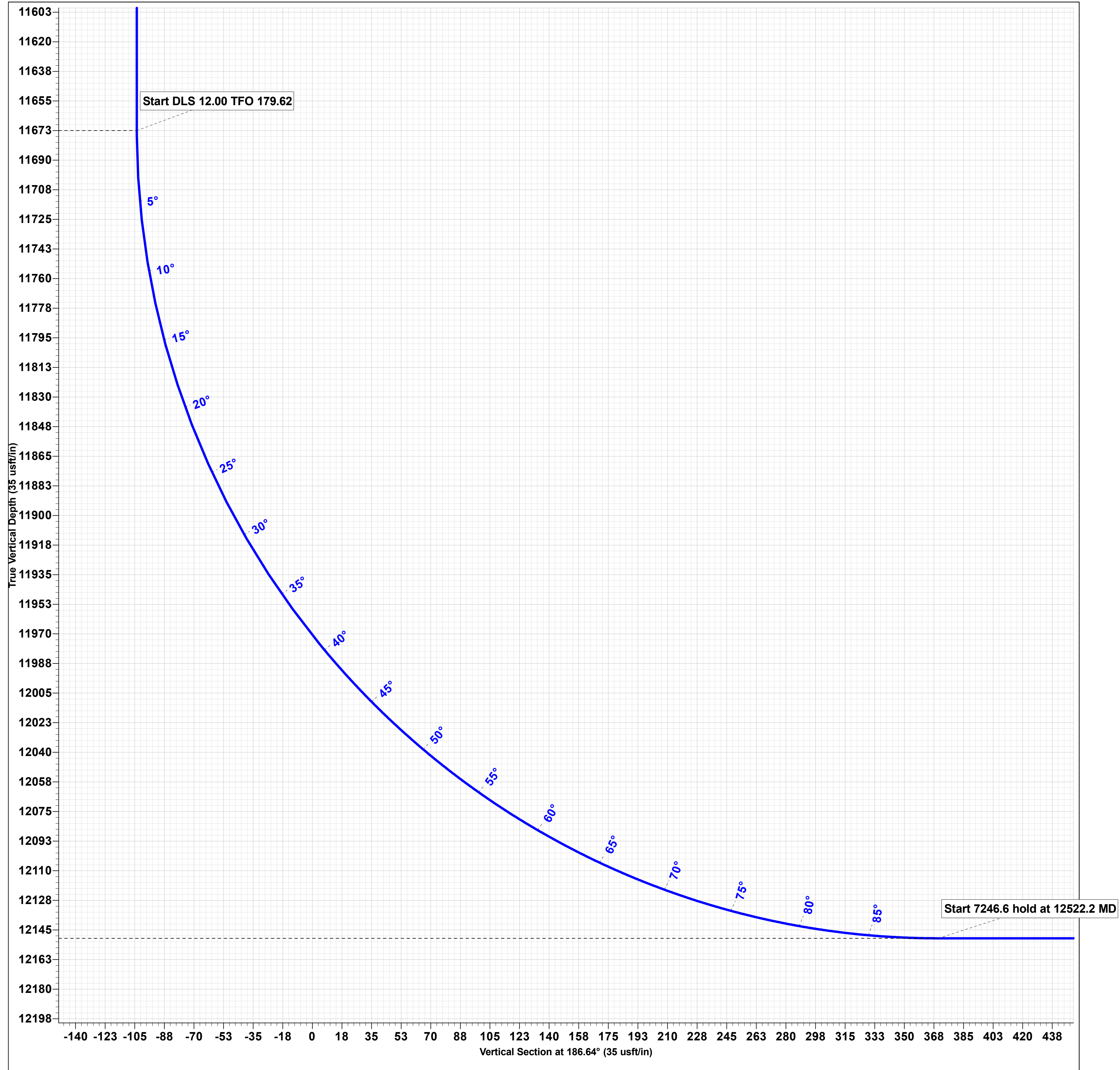
Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
LTP_LIL JOHN FEDER#	0.00	0.00	12,150.0	-7,461.5	-874.7	364,601.47	721,663.40	32° 0' 1.396 N	103° 37' 5.819 W
- plan misses target center by 18.7usft at 19700.0usft MD (12150.0 TVD, -7442.8 N, -875.1 E)									
- Point									
FTP_LIL JOHN FEDER#	0.00	0.00	12,150.0	162.5	-925.8	372,225.48	721,612.39	32° 1' 16.846 N	103° 37' 5.826 W
- plan misses target center by 163.8usft at 12181.6usft MD (12033.5 TVD, 47.3 N, -924.9 E)									
- Circle (radius 50.0)									
PBHL_LIL JOHN FEDEF	0.00	359.62	12,150.0	-7,511.5	-874.4	364,551.48	721,663.76	32° 0' 0.902 N	103° 37' 5.819 W
- plan misses target center by 0.3usft at 19768.7usft MD (12150.0 TVD, -7511.5 N, -874.6 E)									
- Rectangle (sides W100.0 H7,672.4 D20.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	19,768.9	12,150.0	5-1/2" Production Casing	5-1/2	6



Project: ZIA HILLS UNIT AREA
Site: LIL JOHN FEDERAL PROJECT
Well: LIL JOHN FED COM 711H
Wellbore: OWB
Design: PWP0

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
2648.9	12.98	282.91	2643.3	16.4	-71.3	2.00	282.91	-8.0	
5902.0	12.98	282.91	5813.3	179.6	-783.4	0.00	0.00	-87.8	
7199.7	0.00	0.00	7100.0	212.3	-926.0	1.00	180.00	-103.8	
11772.2	0.00	0.00	11672.5	212.3	-926.0	0.00	0.00	-103.8	
12522.2	90.00	179.62	12150.0	-265.2	-922.8	12.00	179.62	370.1	
19768.8	90.00	179.62	12150.0	-7511.6	-874.6	0.00	0.00	7562.4	



DELAWARE BASIN EAST

ZIA HILLS UNIT AREA

LIL JOHN FEDERAL PROJECT

_LIL JOHN FED COM 711H

OWB

PWP0

Anticollision Report

04 February, 2025

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian 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 + Stations Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Max. Cent. Dist. of 1,000.0usft or Max. Ell. Sep. of 500.0usft	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program	Date	2/4/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	19,768.8	PWP0 (OWB)	r.5 MWD+IFR1	OWSG MWD + IFR1 rev.5

Summary						
	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Site Name Offset Well - Wellbore - Design						
Chevron - SD 24 13 Federal P416 17H						
SD 24 13 Federal P416 17H - Original Hole - Plan 1						Out of range
Chevron - SD 24 13 Federal P416 18H						
SD 24 13 Federal P416 18H - Original Hole - Plan 1						Out of range
Chevron - SD 24 13 Federal P416 20H						
SD 24 13 Federal P416 20H - Original Hole - Plan 1	11,975.0	12,103.5	808.0	736.1	11.233 SF	
SD 24 13 Federal P416 20H - Original Hole - Plan 1	11,992.5	12,112.7	807.9	736.0	11.234 CC, ES	
Chevron - SD WE 24 Federal P24 - 6H						
SD WE 24 Federal P24 6H - SD WE 24 Federal P24 6H						Out of range
Chevron - SD WE 24 Federal P24 - 7H						
SD WE 24 Federal P24 - 7H - SD WE 24 Federal P24 7H	7,231.0	7,193.9	745.6	695.9	15.022 CC	
SD WE 24 Federal P24 - 7H - SD WE 24 Federal P24 7H	8,872.9	8,845.0	749.6	693.4	13.337 ES	
SD WE 24 Federal P24 - 7H - SD WE 24 Federal P24 7H	9,000.0	8,934.0	753.2	696.6	13.292 SF	
EOG - State Pathfinder - 13H						
State Pathfinder 13H - State Pathfinder 13H - State Path						Out of range
EOG - State Pathfinder - 5H						
State Pathfinder 5H - State Pathfinder 5H - State Pathfin						Out of range
EOG - State Pathfinder - 6H						
State Pathfinder 6H - State Pathfinder 6H - State Pathfin						Out of range
EOG - State Pathfinder - 7H						
State Pathfinder 7H - State Pathfinder 7H - State Pathfin						Out of range
EOG - State Pathfinder - 9H						
State Pathfinder 9H - State Pathfinder 9H - State Pathfin						Out of range
EOG - State Pathfinder 7 - 23H						
State Pathfinder 7 23H - State Pathfinder 7 23H - State P						Out of range
EOG - State Pathfinder 7 - 24H						
State Pathfinder 7 24H - State Pathfinder 7 24H - State P						Out of range

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Summary							
	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)		Between Ellipses (usft)	Separation Factor	Warning
Site Name Offset Well - Wellbore - Design							
EOG - State Pathfinder 7 - 25H							
State Pathfinder 7 25H - State Pathfinder 7 25H - State P						Out of range	
EOG - State Pathfinder 7 - 27H							
State Pathfinder 7 27H - State Pathfinder 7 27H - State P						Out of range	
LIL JOHN FEDERAL OFFSETS							
BROWN FEDERAL 1_PA - OWB - AWP	4,800.0	4,704.0	897.2	683.7	4.202 SF		
BROWN FEDERAL 1_PA - OWB - AWP	4,820.5	4,704.0	897.0	683.6	4.203 CC, ES		
SALADO DRAW 19 26 33 FEDERAL 3H - OWB - AWP					Out of range		
SALADO DRAW 19 26 33 FEDERAL COM 2H - OWB - A	9,189.0	13,647.0	629.7	516.5	5.563 CC, ES, SF		
LIL JOHN FEDERAL PROJECT							
_LIL JOHN FED COM 705H - OWB - PWP0					Out of range		
_LIL JOHN FED COM 706H - OWB - PWP0					Out of range		
_LIL JOHN FED COM 707H - OWB - PWP0	1,966.0	1,968.0	120.0	108.6	10.564 CC		
_LIL JOHN FED COM 707H - OWB - PWP0	2,000.0	2,001.9	120.0	108.5	10.467 ES		
_LIL JOHN FED COM 707H - OWB - PWP0	2,100.0	2,098.0	123.3	111.4	10.366 SF		
_LIL JOHN FED COM 708H - OWB - PWP0	1,965.9	1,968.2	150.0	138.6	13.206 CC		
_LIL JOHN FED COM 708H - OWB - PWP0	2,000.0	2,000.0	150.0	138.6	13.091 ES		
_LIL JOHN FED COM 708H - OWB - PWP0	2,100.0	2,097.2	153.4	141.5	12.890 SF		
_LIL JOHN FED COM 709H - OWB - PWP0	2,000.0	2,001.3	60.0	48.5	5.235 CC, ES		
_LIL JOHN FED COM 709H - OWB - PWP0	2,100.0	2,101.3	61.7	49.9	5.212 SF		
_LIL JOHN FED COM 710H - OWB - PWP0	1,966.2	1,967.7	90.0	78.6	7.923 CC		
_LIL JOHN FED COM 710H - OWB - PWP0	2,000.0	2,001.5	90.0	78.5	7.851 ES		
_LIL JOHN FED COM 710H - OWB - PWP0	2,100.0	2,100.0	93.0	81.1	7.827 SF		
_LIL JOHN FED COM 712H - OWB - PWP0	2,000.0	2,004.0	30.0	18.4	2.597 Normal Operations, CC, ES, SF		
RED HILLS WEST							
SD WE 24 FEDERAL P24 7H - OWB - AWP	7,231.0	7,193.9	745.6	691.4	13.754 CC, ES		
SD WE 24 FEDERAL P24 7H - OWB - AWP	8,900.0	8,865.8	749.7	692.8	13.159 SF		
SD WE 24 FEDERAL P24 6H - OWB - AWP					Out of range		
STATE LINE OFFSETS							
EXCELSIOR 7 10H - OWB - AWP					Out of range		
EXCELSIOR 7 11H - OWB - AWP					Out of range		
EXCELSIOR 7 7H - OWB - AWP					Out of range		
EXCELSIOR 7 8H - OWB - AWP					Out of range		
EXCELSIOR 7 9H - OWB - AWP					Out of range		
PATHFINDER STATE 12H - OWB - AWP					Out of range		
PATHFINDER STATE 13H - OWB - AWP					Out of range		
PATHFINDER STATE 2H - OWB - AWP					Out of range		
PATHFINDER STATE 4H - OWB - AWP					Out of range		
PATHFINDER STATE 5H - OWB - AWP					Out of range		
PATHFINDER STATE 7 16H - OWB - AWP	19,768.8	12,035.4	308.3	206.7	3.036 CC, ES, SF		
PATHFINDER STATE 7 19H - OWB - AWP	19,768.8	11,958.0	669.7	565.4	6.421 CC, ES, SF		
PATHFINDER STATE 7 20H - OWB - AWP	19,768.8	11,950.4	384.4	313.5	5.419 CC, ES, SF		
PATHFINDER STATE 7 21H - OWB - AWP	19,768.8	11,944.7	509.1	405.5	4.917 CC, ES, SF		
WAR HAMMER 25 FEDERAL COM W1 3H - PS							
War Hammer 25 Federal Com W1 3H - Original Hole - O	14,964.8	14,313.0	702.6	607.4	7.379 CC		
War Hammer 25 Federal Com W1 3H - Original Hole - O	19,300.0	18,638.6	743.3	550.0	3.844 ES		
War Hammer 25 Federal Com W1 3H - Original Hole - O	19,600.0	18,902.0	752.4	552.4	3.762 SF		

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
ZIA HILLS UNIT 2532 PROJECT						
_ZIA HILLS UNIT 2532 WC 707H - OWB - PWP0						Out of range
_ZIA HILLS UNIT 2532 WC 708H - OWB - PWP0						Out of range
_ZIA HILLS UNIT 2532 WC 709H - OWB - PWP0						Out of range
_ZIA HILLS UNIT 2532 WC 710H - OWB - PWP0						Out of range
_ZIA HILLS UNIT 2532 WC 711H - OWB - PWP0						Out of range
SD 24 13 FED P416 18H - OWB - AWP						Out of range
SD 24 13 FED P416 19H - OWB - Design #1	11,850.0	11,979.6	992.9	931.3	16.113 SF	
SD 24 13 FED P416 19H - OWB - Design #1	11,855.9	11,982.9	992.9	931.3	16.114 CC, ES	
WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AW	12,911.0	12,225.3	742.0	692.6	15.041 CC	
WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AW	14,959.5	14,313.0	750.7	672.0	9.540 ES	
WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AW	19,600.0	18,902.0	894.4	702.2	4.654 SF	
WAR HAMMER 25 FEDERAL COM W2 2H - OWB - AW	6,736.6	6,589.2	861.7	817.7	19.588 CC	
WAR HAMMER 25 FEDERAL COM W2 2H - OWB - AW	6,800.0	6,652.5	862.0	817.5	19.403 ES	
WAR HAMMER 25 FEDERAL COM W2 2H - OWB - AW	12,425.0	12,141.4	947.7	876.9	13.375 SF	
WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST0	6,736.6	6,589.2	861.7	817.7	19.584 CC	
WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST0	6,800.0	6,652.5	862.0	817.5	19.399 ES	
WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST0	18,500.0	18,557.1	999.7	846.3	6.517 SF	
WAR HAMMER 25 FEDERAL COM W3 1H - OWB - AW	12,378.1	12,125.5	800.1	732.3	11.803 CC, ES	
WAR HAMMER 25 FEDERAL COM W3 1H - OWB - AW	12,400.0	12,132.2	800.3	732.5	11.794 SF	
ZIA HILLS 25E FEDERAL COM 401H - OWB - AWP	9,169.9	9,275.1	894.2	829.0	13.717 CC, ES	
ZIA HILLS 25E FEDERAL COM 401H - OWB - AWP	9,400.0	9,462.3	899.6	832.5	13.407 SF	
ZIA HILLS 25E FEDERAL COM 402H - OWB - AWP						Out of range

Offset Design:		Chevron - SD 24 13 Federal P416 20H - SD 24 13 Federal P416 20H - Original Hole - Plan 1											Offset Site Error:		0.0 usft	
Survey Program:		0-MWD - OWSG						Rule Assigned:						Offset Well Error:		0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)						
7,600.0	7,500.3	7,941.7	7,744.1	25.6	40.3	-98.39	74.5	-1,860.7	975.8	921.4	54.36	17.950				
7,700.0	7,600.3	8,019.5	7,819.5	25.6	40.7	-98.68	72.6	-1,841.6	951.7	896.8	54.92	17.329				
7,800.0	7,700.3	8,100.0	7,897.9	25.7	41.1	-98.96	70.8	-1,823.4	929.7	874.2	55.46	16.764				
7,900.0	7,800.3	8,177.4	7,973.7	25.7	41.5	-99.22	69.2	-1,807.4	909.6	853.7	55.98	16.249				
8,000.0	7,900.3	8,257.4	8,052.3	25.7	41.9	-99.47	67.7	-1,792.6	891.6	835.1	56.48	15.786				
8,100.0	8,000.3	8,338.0	8,131.8	25.8	42.2	-99.71	66.4	-1,779.3	875.6	818.6	56.96	15.372				
8,200.0	8,100.3	8,419.2	8,212.1	25.8	42.6	-99.91	65.2	-1,767.5	861.6	804.2	57.41	15.008				
8,300.0	8,200.3	8,500.0	8,292.2	25.9	42.9	-100.10	64.2	-1,757.6	849.6	791.8	57.83	14.691				
8,400.0	8,300.3	8,582.8	8,374.6	25.9	43.2	-100.26	63.4	-1,749.1	839.7	781.5	58.23	14.420				
8,500.0	8,400.3	8,665.2	8,456.7	25.9	43.5	-100.38	62.7	-1,742.4	831.9	773.3	58.60	14.196				
8,600.0	8,500.3	8,747.8	8,539.2	26.0	43.7	-100.48	62.2	-1,737.5	826.2	767.2	58.95	14.015				
8,700.0	8,600.3	8,830.6	8,621.9	26.0	44.0	-100.54	61.9	-1,734.4	822.5	763.2	59.26	13.879				
8,800.0	8,700.3	8,913.4	8,704.7	26.1	44.2	-100.57	61.8	-1,733.0	820.9	761.4	59.55	13.786				
8,845.0	8,745.3	8,954.0	8,745.3	26.1	44.3	-100.57	61.8	-1,733.0	820.9	761.2	59.69	13.752				
8,900.0	8,800.3	9,009.0	8,800.3	26.1	44.4	-100.57	61.8	-1,733.0	820.9	761.0	59.90	13.705				
9,000.0	8,900.3	9,109.0	8,900.3	26.1	44.7	-100.57	61.8	-1,733.0	820.9	760.6	60.27	13.619				
9,100.0	9,000.3	9,209.0	9,000.3	26.2	44.9	-100.57	61.8	-1,733.0	820.9	760.2	60.65	13.534				
9,200.0	9,100.3	9,309.0	9,100.3	26.2	45.2	-100.57	61.8	-1,733.0	820.9	759.8	61.04	13.449				
9,300.0	9,200.3	9,409.0	9,200.3	26.3	45.4	-100.57	61.8	-1,733.0	820.9	759.4	61.42	13.365				
9,400.0	9,300.3	9,509.0	9,300.3	26.3	45.7	-100.57	61.8	-1,733.0	820.9	759.1	61.80	13.282				

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: Chevron - SD 24 13 Federal P416 20H - SD 24 13 Federal P416 20H - Original Hole - Plan 1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD - OWSG													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)		
9,500.0	9,400.3	9,609.0	9,400.3	26.3	45.9	-100.57	61.8	-1,733.0	820.9	758.7	62.19	13.199	
9,600.0	9,500.3	9,709.0	9,500.3	26.4	46.2	-100.57	61.8	-1,733.0	820.9	758.3	62.58	13.117	
9,700.0	9,600.3	9,809.0	9,600.3	26.4	46.4	-100.57	61.8	-1,733.0	820.9	757.9	62.97	13.035	
9,800.0	9,700.3	9,909.0	9,700.3	26.5	46.7	-100.57	61.8	-1,733.0	820.9	757.5	63.36	12.955	
9,900.0	9,800.3	10,009.0	9,800.3	26.5	47.0	-100.57	61.8	-1,733.0	820.9	757.1	63.76	12.874	
10,000.0	9,900.3	10,109.0	9,900.3	26.5	47.2	-100.57	61.8	-1,733.0	820.9	756.7	64.16	12.795	
10,100.0	10,000.3	10,209.0	10,000.3	26.6	47.5	-100.57	61.8	-1,733.0	820.9	756.3	64.55	12.716	
10,200.0	10,100.3	10,309.0	10,100.3	26.6	47.7	-100.57	61.8	-1,733.0	820.9	755.9	64.95	12.638	
10,300.0	10,200.3	10,409.0	10,200.3	26.7	48.0	-100.57	61.8	-1,733.0	820.9	755.5	65.35	12.560	
10,400.0	10,300.3	10,509.0	10,300.3	26.7	48.3	-100.57	61.8	-1,733.0	820.9	755.1	65.76	12.483	
10,500.0	10,400.3	10,609.0	10,400.3	26.8	48.5	-100.57	61.8	-1,733.0	820.9	754.7	66.16	12.407	
10,600.0	10,500.3	10,709.0	10,500.3	26.8	48.8	-100.57	61.8	-1,733.0	820.9	754.3	66.57	12.332	
10,700.0	10,600.3	10,809.0	10,600.3	26.9	49.1	-100.57	61.8	-1,733.0	820.9	753.9	66.97	12.257	
10,800.0	10,700.3	10,909.0	10,700.3	26.9	49.3	-100.57	61.8	-1,733.0	820.9	753.5	67.38	12.182	
10,900.0	10,800.3	11,009.0	10,800.3	26.9	49.6	-100.57	61.8	-1,733.0	820.9	753.1	67.79	12.109	
11,000.0	10,900.3	11,109.0	10,900.3	27.0	49.9	-100.57	61.8	-1,733.0	820.9	752.7	68.20	12.036	
11,100.0	11,000.3	11,209.0	11,000.3	27.0	50.2	-100.57	61.8	-1,733.0	820.9	752.2	68.62	11.963	
11,200.0	11,100.3	11,309.0	11,100.3	27.1	50.4	-100.57	61.8	-1,733.0	820.9	751.8	69.03	11.891	
11,300.0	11,200.3	11,409.0	11,200.3	27.1	50.7	-100.57	61.8	-1,733.0	820.9	751.4	69.45	11.820	
11,400.0	11,300.3	11,509.0	11,300.3	27.2	51.0	-100.57	61.8	-1,733.0	820.9	751.0	69.86	11.750	
11,500.0	11,400.3	11,609.0	11,400.3	27.2	51.3	-100.57	61.8	-1,733.0	820.9	750.6	70.28	11.680	
11,600.0	11,500.3	11,709.0	11,500.3	27.3	51.5	-100.57	61.8	-1,733.0	820.9	750.2	70.70	11.611	
11,700.0	11,600.3	11,819.8	11,611.0	27.3	51.8	-100.46	63.3	-1,733.0	820.7	749.5	71.20	11.526	
11,772.2	11,672.5	11,914.0	11,704.0	27.3	52.1	-99.45	78.0	-1,733.1	818.7	747.2	71.58	11.437	
11,775.0	11,675.3	11,917.5	11,707.4	27.3	52.1	81.01	78.9	-1,733.1	818.6	747.0	71.60	11.434	
11,800.0	11,700.3	11,948.3	11,737.1	27.3	52.2	81.78	87.1	-1,733.1	817.5	745.8	71.70	11.402	
11,825.0	11,725.2	11,977.3	11,764.6	27.3	52.2	82.76	96.4	-1,733.2	816.0	744.2	71.77	11.369	
11,850.0	11,750.0	12,004.3	11,789.7	27.3	52.3	83.87	106.2	-1,733.2	814.4	742.5	71.83	11.337	
11,875.0	11,774.5	12,028.9	11,812.2	27.2	52.4	85.06	116.2	-1,733.3	812.7	740.8	71.88	11.306	
11,900.0	11,798.8	12,051.2	11,832.1	27.2	52.4	86.26	126.0	-1,733.3	811.1	739.2	71.91	11.279	
11,925.0	11,822.7	12,071.0	11,849.6	27.2	52.4	87.42	135.4	-1,733.4	809.7	737.8	71.93	11.257	
11,950.0	11,846.2	12,088.4	11,864.6	27.2	52.5	88.49	144.2	-1,733.5	808.6	736.7	71.94	11.241	
11,975.0	11,869.3	12,103.5	11,877.4	27.1	52.5	89.44	152.2	-1,733.5	808.0	736.1	71.93	11.233 SF	
11,992.5	11,885.1	12,112.7	11,885.2	27.1	52.5	90.02	157.3	-1,733.5	807.9	736.0	71.92	11.234 CC, ES	
12,000.0	11,891.8	12,116.4	11,888.2	27.1	52.5	90.24	159.3	-1,733.5	807.9	736.0	71.91	11.235	
12,025.0	11,913.7	12,127.3	11,897.2	27.1	52.5	90.87	165.5	-1,733.6	808.4	736.5	71.87	11.248	
12,050.0	11,934.9	12,136.3	11,904.6	27.0	52.6	91.33	170.7	-1,733.6	809.5	737.7	71.82	11.271	
12,075.0	11,955.4	12,143.6	11,910.4	27.0	52.6	91.59	175.0	-1,733.6	811.4	739.6	71.76	11.307	
12,100.0	11,975.2	12,150.0	11,915.5	27.0	52.6	91.71	178.8	-1,733.7	814.0	742.3	71.70	11.354	
12,125.0	11,994.1	12,150.0	11,915.5	27.0	52.6	91.30	178.8	-1,733.7	817.4	745.8	71.57	11.421	
12,150.0	12,012.1	12,156.5	11,920.7	27.0	52.6	91.26	182.8	-1,733.7	821.5	750.0	71.52	11.486	
12,175.0	12,029.2	12,158.2	11,922.1	26.9	52.6	90.78	183.9	-1,733.7	826.4	754.9	71.44	11.568	
12,200.0	12,045.3	12,158.9	11,922.6	26.9	52.6	90.14	184.3	-1,733.7	832.0	760.6	71.35	11.661	
12,225.0	12,060.4	12,158.6	11,922.3	26.9	52.6	89.33	184.1	-1,733.7	838.3	767.1	71.26	11.764	
12,250.0	12,074.5	12,150.0	11,915.5	26.9	52.6	87.85	178.8	-1,733.7	845.4	774.3	71.08	11.893	
12,275.0	12,087.4	12,150.0	11,915.5	26.9	52.6	86.89	178.8	-1,733.7	853.0	781.9	71.04	12.008	
12,300.0	12,099.2	12,150.0	11,915.5	26.9	52.6	85.85	178.8	-1,733.7	861.2	790.2	71.02	12.126	
12,325.0	12,109.8	12,150.0	11,915.5	26.9	52.6	84.73	178.8	-1,733.7	870.0	798.9	71.03	12.248	
12,350.0	12,119.3	12,150.0	11,915.5	26.9	52.6	83.54	178.8	-1,733.7	879.2	808.2	71.06	12.373	
12,375.0	12,127.5	12,150.0	11,915.5	26.9	52.6	82.28	178.8	-1,733.7	889.0	817.8	71.12	12.499	
12,400.0	12,134.4	12,135.4	11,903.8	26.9	52.6	80.02	170.2	-1,733.6	899.0	828.0	70.98	12.665	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:	Chevron - SD 24 13 Federal P416 20H - SD 24 13 Federal P416 20H - Original Hole - Plan 1											Offset Site Error:	0.0 usft
Survey Program:	0-MWD - OWSG											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
12,425.0	12,140.1	12,129.8	11,899.3	27.0	52.6	78.33	166.9	-1,733.6	909.3	838.3	71.00	12.807	
12,450.0	12,144.5	12,123.8	11,894.4	27.0	52.5	76.58	163.5	-1,733.6	920.0	848.9	71.04	12.950	
12,475.0	12,147.6	12,117.5	11,889.1	27.0	52.5	74.80	159.9	-1,733.6	930.8	859.7	71.10	13.092	
12,500.0	12,149.4	12,100.0	11,874.5	27.0	52.5	72.41	150.3	-1,733.5	941.9	870.9	70.99	13.268	
12,522.2	12,150.0	12,100.0	11,874.5	27.1	52.5	71.17	150.3	-1,733.5	951.7	880.5	71.18	13.370	
12,600.0	12,150.0	12,083.3	11,860.3	27.2	52.5	70.27	141.6	-1,733.4	988.3	916.7	71.59	13.804	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: Chevron - SD WE 24 Federal P24 - 7H - SD WE 24 Federal P24 - 7H - SD WE 24 Federal P24 7H - SD WE 24 Federal P24 7H													Offset Site Error: 0.0 usft		
Survey Program: 33-MWD - OWSG				Rule Assigned:										Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			No-Go Distance (usft)		
5,600.0	5,519.1	5,676.0	5,614.7	19.1	23.3	-20.28	52.7	-1,704.1	997.7	958.9	38.81	25.709			
5,700.0	5,616.5	5,765.5	5,703.7	19.6	23.6	-20.87	51.2	-1,694.8	966.9	927.3	39.54	24.451			
5,800.0	5,714.0	5,853.0	5,790.9	20.1	24.0	-21.43	50.4	-1,687.7	938.1	897.8	40.28	23.290			
5,900.0	5,811.4	5,922.5	5,860.3	20.5	24.2	-21.86	50.1	-1,683.3	911.0	870.0	40.99	22.222			
5,902.0	5,813.3	5,924.1	5,861.9	20.5	24.2	-21.86	50.1	-1,683.2	910.4	869.4	41.01	22.202			
6,000.0	5,909.1	6,003.2	5,940.9	21.0	24.5	-22.23	50.1	-1,679.7	886.4	844.7	41.70	21.256			
6,100.0	6,007.1	6,095.6	6,033.2	21.4	24.8	-22.62	50.5	-1,676.8	864.9	822.5	42.42	20.390			
6,200.0	6,105.4	6,193.7	6,131.3	21.9	25.1	-23.03	50.7	-1,673.9	845.1	801.9	43.13	19.592			
6,300.0	6,204.0	6,290.5	6,228.1	22.3	25.4	-23.42	50.9	-1,670.9	826.9	783.1	43.84	18.863			
6,400.0	6,302.9	6,387.4	6,325.0	22.7	25.7	-23.79	51.0	-1,668.2	810.6	766.0	44.53	18.202			
6,500.0	6,402.1	6,485.3	6,422.8	23.2	26.1	-24.11	51.5	-1,665.6	796.0	750.8	45.22	17.603			
6,600.0	6,501.4	6,583.1	6,520.5	23.6	26.4	-24.35	52.5	-1,663.3	783.1	737.2	45.89	17.063			
6,700.0	6,600.9	6,679.5	6,617.0	23.9	26.7	-24.54	53.5	-1,661.3	772.1	725.6	46.56	16.584			
6,800.0	6,700.6	6,776.5	6,713.9	24.3	27.0	-24.71	54.3	-1,659.5	763.1	715.9	47.21	16.165			
6,900.0	6,800.4	6,873.9	6,811.3	24.7	27.3	-24.84	54.9	-1,658.1	756.0	708.1	47.85	15.801			
7,000.0	6,900.4	6,972.2	6,909.6	25.0	27.6	-24.94	55.4	-1,656.9	750.7	702.3	48.46	15.491			
7,100.0	7,000.3	7,071.2	7,008.6	25.3	28.0	-24.97	56.1	-1,655.8	747.2	698.1	49.05	15.232			
7,199.7	7,100.0	7,164.9	7,102.3	25.4	28.2	-102.04	56.7	-1,655.2	745.6	696.1	49.52	15.058			
7,200.0	7,100.3	7,165.2	7,102.6	25.4	28.2	-102.04	56.7	-1,655.2	745.6	696.1	49.52	15.058			
7,231.0	7,131.3	7,193.9	7,131.3	25.4	28.3	-102.04	56.7	-1,655.2	745.6	695.9	49.63	15.022 CC			
7,300.0	7,200.3	7,257.9	7,195.3	25.5	28.5	-102.07	56.4	-1,655.3	745.8	695.9	49.88	14.952			
7,400.0	7,300.3	7,357.7	7,295.1	25.5	28.8	-102.13	55.5	-1,655.9	746.6	696.3	50.24	14.859			
7,500.0	7,400.3	7,458.2	7,395.5	25.5	29.1	-102.18	54.7	-1,656.4	747.2	696.6	50.61	14.764			
7,600.0	7,500.3	7,556.8	7,494.1	25.6	29.4	-102.22	54.1	-1,657.0	747.9	697.0	50.98	14.673			
7,700.0	7,600.3	7,656.7	7,594.1	25.6	29.7	-102.24	53.6	-1,657.8	748.8	697.5	51.35	14.584			
7,800.0	7,700.3	7,759.5	7,696.9	25.7	30.0	-102.26	53.1	-1,658.4	749.5	697.8	51.73	14.489			
7,900.0	7,800.3	7,861.3	7,798.6	25.7	30.3	-102.30	52.6	-1,658.6	749.8	697.7	52.11	14.388			
8,000.0	7,900.3	7,962.3	7,899.7	25.7	30.6	-102.32	52.3	-1,658.7	749.9	697.4	52.50	14.284			
8,100.0	8,000.3	8,062.6	8,000.0	25.8	30.9	-102.33	52.1	-1,658.7	750.0	697.1	52.89	14.179			
8,200.0	8,100.3	8,162.8	8,100.2	25.8	31.2	-102.35	51.8	-1,658.7	750.0	696.7	53.29	14.074			
8,300.0	8,200.3	8,263.2	8,200.6	25.9	31.6	-102.40	51.3	-1,658.5	750.0	696.3	53.69	13.969			
8,391.9	8,292.2	8,354.9	8,292.2	25.9	31.9	-102.46	50.5	-1,658.3	750.0	695.9	54.06	13.874			
8,400.0	8,300.3	8,362.8	8,300.1	25.9	31.9	-102.46	50.5	-1,658.3	750.0	695.9	54.09	13.866			
8,500.0	8,400.3	8,460.5	8,397.8	25.9	32.2	-102.52	49.7	-1,658.3	750.2	695.7	54.48	13.769			
8,600.0	8,500.3	8,561.0	8,498.3	26.0	32.5	-102.57	49.0	-1,658.5	750.5	695.6	54.88	13.675			
8,700.0	8,600.3	8,658.2	8,595.4	26.0	32.8	-102.34	51.9	-1,659.6	750.9	695.6	55.28	13.583			
8,800.0	8,700.3	8,778.1	8,711.1	26.1	33.1	-100.09	81.0	-1,664.5	750.1	694.3	55.84	13.435			
8,872.9	8,773.2	8,845.0	8,773.0	26.1	33.3	-98.14	106.2	-1,668.0	749.6	693.4	56.20	13.337 ES			
8,900.0	8,800.3	8,865.8	8,792.0	26.1	33.3	-97.50	114.5	-1,669.3	749.7	693.4	56.32	13.311			
9,000.0	8,900.3	8,934.0	8,852.6	26.1	33.5	-95.11	145.3	-1,674.7	753.2	696.6	56.67	13.292 SF			
9,100.0	9,000.3	8,994.4	8,902.7	26.2	33.5	-92.59	178.1	-1,681.5	762.5	705.7	56.83	13.418			
9,200.0	9,100.3	9,048.6	8,943.8	26.2	33.6	-89.97	212.7	-1,689.2	779.1	722.3	56.75	13.729			
9,300.0	9,200.3	9,111.0	8,985.4	26.3	33.7	-86.60	258.1	-1,698.5	803.1	746.5	56.56	14.198			
9,400.0	9,300.3	9,210.5	9,039.9	26.3	33.8	-80.65	340.8	-1,706.6	832.8	776.2	56.66	14.699			
9,500.0	9,400.3	9,236.7	9,051.7	26.3	33.8	-79.00	364.1	-1,707.2	868.8	813.2	55.61	15.623			
9,600.0	9,500.3	9,263.4	9,062.5	26.4	33.8	-77.29	388.5	-1,707.5	912.9	858.5	54.42	16.775			
9,700.0	9,600.3	9,288.0	9,071.4	26.4	33.8	-75.70	411.5	-1,707.5	964.4	911.3	53.15	18.145			

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL OFFSETS - BROWN FEDERAL 1_PA - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 500-r.5 INC-ONLY												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
3,400.0	3,375.3	3,344.6	3,372.7	9.7	111.8	-64.02	-711.6	-865.8	991.5	834.7	156.78	6.324	
3,500.0	3,472.7	3,439.5	3,467.6	10.0	114.6	-65.16	-712.0	-865.8	982.1	821.3	160.78	6.108	
3,600.0	3,570.2	3,542.4	3,570.2	10.4	117.7	-66.41	-712.5	-865.8	973.0	807.9	165.11	5.893	
3,700.0	3,667.6	3,639.8	3,667.6	10.8	120.6	-67.61	-712.5	-865.8	964.1	794.9	169.20	5.698	
3,800.0	3,765.1	3,737.3	3,765.1	11.2	123.6	-68.83	-712.5	-865.8	955.5	782.2	173.30	5.514	
3,900.0	3,862.5	3,828.3	3,856.0	11.6	126.3	-69.88	-709.6	-865.8	945.0	767.9	177.13	5.335	
4,000.0	3,960.0	3,918.5	3,946.1	12.1	129.0	-71.08	-710.7	-865.8	938.5	757.6	180.90	5.188	
4,100.0	4,057.4	4,029.9	4,057.4	12.5	132.4	-72.60	-712.5	-865.8	932.8	747.2	185.61	5.025	
4,200.0	4,154.8	4,127.4	4,154.8	12.9	135.3	-73.89	-712.5	-865.8	926.1	736.4	189.70	4.882	
4,300.0	4,252.3	4,224.8	4,252.3	13.3	138.2	-75.20	-712.5	-865.8	920.0	726.2	193.79	4.747	
4,400.0	4,349.7	4,320.3	4,347.7	13.8	141.1	-76.48	-711.5	-865.8	913.5	715.7	197.80	4.618	
4,500.0	4,447.2	4,415.0	4,442.5	14.2	144.0	-77.79	-711.9	-865.8	908.7	707.0	201.78	4.504	
4,600.0	4,544.6	4,517.5	4,544.6	14.6	147.0	-79.23	-712.5	-865.8	904.7	698.7	206.05	4.391	
4,700.0	4,642.1	4,614.9	4,642.1	15.1	149.8	-80.60	-712.5	-865.8	900.7	690.7	209.95	4.290	
4,800.0	4,739.5	4,704.0	4,731.0	15.5	152.4	-81.86	-712.5	-865.8	897.2	683.7	213.52	4.202 SF	
4,820.5	4,759.5	4,704.0	4,731.0	15.6	152.4	-81.86	-712.5	-865.8	897.0	683.6	213.42	4.203 CC, ES	
4,900.0	4,837.0	4,704.0	4,731.0	16.0	152.4	-81.86	-712.5	-865.8	900.5	688.4	212.08	4.246	
5,000.0	4,934.4	4,704.0	4,731.0	16.4	152.4	-81.86	-712.5	-865.8	914.8	706.5	208.29	4.392	
5,100.0	5,031.9	4,704.0	4,731.0	16.9	152.4	-81.86	-712.5	-865.8	939.5	737.0	202.50	4.640	
5,200.0	5,129.3	4,704.0	4,731.0	17.3	152.4	-81.86	-712.5	-865.8	974.0	778.8	195.20	4.990	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL OFFSETS - SALADO DRAW 19 26 33 FEDERAL COM 2H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 152-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,500.0	8,400.3	13,647.0	9,089.3	25.9	83.2	66.95	458.9	-346.6	933.4	840.7	92.68	10.071	
8,600.0	8,500.3	13,647.0	9,089.3	26.0	83.2	66.95	458.9	-346.6	862.3	765.8	96.43	8.942	
8,700.0	8,600.3	13,647.0	9,089.3	26.0	83.2	66.95	458.9	-346.6	797.3	696.8	100.47	7.936	
8,800.0	8,700.3	13,647.0	9,089.3	26.1	83.2	66.95	458.9	-346.6	740.2	635.6	104.60	7.076	
8,900.0	8,800.3	13,647.0	9,089.3	26.1	83.2	66.95	458.9	-346.6	692.9	584.4	108.47	6.388	
9,000.0	8,900.3	13,647.0	9,089.3	26.1	83.2	66.95	458.9	-346.6	657.5	545.9	111.54	5.894	
9,100.0	9,000.3	13,647.0	9,089.3	26.2	83.2	66.95	458.9	-346.6	636.0	522.7	113.23	5.616	
9,189.0	9,089.3	13,647.0	9,089.3	26.2	83.2	66.95	458.9	-346.6	629.7	516.5	113.20	5.563 CC, ES, SF	
9,200.0	9,100.3	13,647.0	9,089.3	26.2	83.2	66.95	458.9	-346.6	629.8	516.7	113.08	5.569	
9,300.0	9,200.3	13,647.0	9,089.3	26.3	83.2	66.95	458.9	-346.6	639.4	528.4	111.01	5.760	
9,400.0	9,300.3	13,647.0	9,089.3	26.3	83.2	66.95	458.9	-346.6	664.1	556.7	107.38	6.185	
9,500.0	9,400.3	13,647.0	9,089.3	26.3	83.2	66.95	458.9	-346.6	702.3	599.5	102.82	6.831	
9,600.0	9,500.3	13,647.0	9,089.3	26.4	83.2	66.95	458.9	-346.6	752.0	654.0	97.97	7.676	
9,700.0	9,600.3	13,647.0	9,089.3	26.4	83.2	66.95	458.9	-346.6	811.0	717.7	93.29	8.693	
9,800.0	9,700.3	13,647.0	9,089.3	26.5	83.2	66.95	458.9	-346.6	877.4	788.4	89.06	9.852	
9,900.0	9,800.3	13,647.0	9,089.3	26.5	83.2	66.95	458.9	-346.6	949.8	864.4	85.38	11.124	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:		LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 707H - OWB - PWP0												Offset Site Error:		0.0 usft	
Survey Program:		0-r.5 MWD+IFR1						Rule Assigned:						Offset Well Error:		0.0 usft	
Measured Depth	Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance				Warning						
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor					
0.0	0.0	2.0	0.0	0.0	0.0	89.54	1.0	120.0	120.0								
100.0	100.0	102.0	100.0	0.8	0.8	89.54	1.0	120.0	120.0	117.9	2.13	56.301					
200.0	200.0	202.0	200.0	1.5	1.5	89.54	1.0	120.0	120.0	116.6	3.39	35.389					
300.0	300.0	302.0	300.0	1.9	1.9	89.54	1.0	120.0	120.0	115.7	4.26	28.189					
400.0	400.0	402.0	400.0	2.3	2.3	89.54	1.0	120.0	120.0	115.0	4.96	24.173					
500.0	500.0	502.0	500.0	2.6	2.6	89.54	1.0	120.0	120.0	114.4	5.58	21.508					
600.0	600.0	602.0	600.0	2.9	2.9	89.54	1.0	120.0	120.0	113.9	6.13	19.568					
700.0	700.0	702.0	700.0	3.1	3.1	89.54	1.0	120.0	120.0	113.4	6.64	18.072					
800.0	800.0	802.0	800.0	3.4	3.4	89.54	1.0	120.0	120.0	112.9	7.11	16.870					
900.0	900.0	902.0	900.0	3.6	3.6	89.54	1.0	120.0	120.0	112.4	7.56	15.877					
1,000.0	1,000.0	1,002.0	1,000.0	3.8	3.8	89.54	1.0	120.0	120.0	112.0	7.98	15.037					
1,100.0	1,100.0	1,102.0	1,100.0	4.0	4.0	89.54	1.0	120.0	120.0	111.6	8.38	14.314					
1,200.0	1,200.0	1,202.0	1,200.0	4.2	4.2	89.54	1.0	120.0	120.0	111.2	8.77	13.684					
1,300.0	1,300.0	1,302.0	1,300.0	4.4	4.4	89.54	1.0	120.0	120.0	110.9	9.14	13.127					
1,400.0	1,400.0	1,402.0	1,400.0	4.6	4.6	89.54	1.0	120.0	120.0	110.5	9.50	12.630					
1,500.0	1,500.0	1,502.0	1,500.0	4.7	4.8	89.54	1.0	120.0	120.0	110.1	9.85	12.183					
1,600.0	1,600.0	1,602.0	1,600.0	4.9	4.9	89.54	1.0	120.0	120.0	109.8	10.19	11.777					
1,700.0	1,700.0	1,702.0	1,700.0	5.1	5.1	89.54	1.0	120.0	120.0	109.5	10.52	11.408					
1,800.0	1,800.0	1,802.0	1,800.0	5.3	5.3	89.54	1.0	120.0	120.0	109.2	10.84	11.069					
1,900.0	1,900.0	1,902.0	1,900.0	5.4	5.4	89.54	1.0	120.0	120.0	108.8	11.16	10.757					
1,966.0	1,966.0	1,968.0	1,966.0	5.5	5.5	89.54	1.0	120.0	120.0	108.6	11.36	10.564 CC					
2,000.0	2,000.0	2,001.9	1,999.9	5.6	5.6	89.54	1.0	120.0	120.0	108.5	11.46	10.467 ES					
2,100.0	2,100.0	2,098.0	2,096.0	5.8	5.8	166.51	1.6	121.6	123.3	111.4	11.90	10.366 SF					
2,200.0	2,199.8	2,193.6	2,191.4	6.0	6.0	166.23	3.3	126.1	133.2	120.8	12.32	10.811					
2,300.0	2,299.5	2,287.9	2,285.4	6.3	6.3	165.84	6.2	133.5	149.4	136.7	12.75	11.718					
2,400.0	2,398.7	2,380.4	2,377.3	6.5	6.5	165.40	10.1	143.5	172.1	158.9	13.21	13.030					
2,500.0	2,497.5	2,470.6	2,466.5	6.8	6.8	164.97	14.9	155.9	200.8	187.2	13.67	14.688					
2,600.0	2,595.6	2,558.1	2,552.6	7.1	7.0	164.55	20.6	170.5	235.6	221.5	14.13	16.670					
2,648.9	2,643.3	2,600.7	2,594.3	7.2	7.1	164.35	23.7	178.5	254.6	240.3	14.31	17.801					
2,700.0	2,693.2	2,647.6	2,640.2	7.4	7.2	164.28	27.1	187.4	275.1	260.6	14.54	18.921					
2,800.0	2,790.6	2,739.2	2,729.9	7.6	7.5	164.17	33.9	204.8	315.2	300.2	15.05	20.940					
2,900.0	2,888.1	2,830.8	2,819.6	7.9	7.8	164.09	40.6	222.2	355.3	339.7	15.57	22.816					
3,000.0	2,985.5	2,922.4	2,909.3	8.3	8.1	164.02	47.4	239.6	395.4	379.3	16.12	24.527					
3,100.0	3,082.9	3,014.0	2,999.0	8.6	8.3	163.97	54.1	257.0	435.5	418.8	16.70	26.084					
3,200.0	3,180.4	3,105.6	3,088.6	8.9	8.6	163.92	60.9	274.4	475.6	458.3	17.29	27.500					
3,300.0	3,277.8	3,197.2	3,178.3	9.3	9.0	163.89	67.6	291.8	515.6	497.7	17.91	28.787					
3,400.0	3,375.3	3,288.9	3,268.0	9.7	9.3	163.85	74.4	309.2	555.7	537.2	18.55	29.956					
3,500.0	3,472.7	3,380.5	3,357.7	10.0	9.6	163.83	81.1	326.6	595.8	576.6	19.21	31.020					
3,600.0	3,570.2	3,472.1	3,447.4	10.4	9.9	163.80	87.9	344.0	635.9	616.0	19.88	31.990					
3,700.0	3,667.6	3,563.7	3,537.1	10.8	10.3	163.78	94.6	361.4	676.0	655.4	20.56	32.874					
3,800.0	3,765.1	3,655.3	3,626.8	11.2	10.6	163.76	101.4	378.8	716.1	694.8	21.26	33.681					
3,900.0	3,862.5	3,746.9	3,716.5	11.6	11.0	163.74	108.1	396.2	756.2	734.2	21.97	34.419					
4,000.0	3,960.0	3,838.5	3,806.2	12.1	11.4	163.73	114.9	413.6	796.2	773.6	22.69	35.096					
4,100.0	4,057.4	3,930.2	3,895.9	12.5	11.7	163.71	121.6	431.0	836.3	812.9	23.42	35.716					
4,200.0	4,154.8	4,021.8	3,985.6	12.9	12.1	163.70	128.4	448.4	876.4	852.3	24.15	36.287					
4,300.0	4,252.3	4,113.4	4,075.3	13.3	12.5	163.69	135.1	465.8	916.5	891.6	24.90	36.813					
4,400.0	4,349.7	4,205.0	4,165.0	13.8	12.9	163.68	141.9	483.2	956.6	930.9	25.65	37.297					
4,500.0	4,447.2	4,296.6	4,254.6	14.2	13.2	163.67	148.6	500.6	996.7	970.3	26.41	37.745					

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 708H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	2.3	0.0	0.0	0.0	89.54	1.2	150.0	150.0				
100.0	100.0	102.3	100.0	0.8	0.8	89.54	1.2	150.0	150.0	147.9	2.13	70.314	
200.0	200.0	202.3	200.0	1.5	1.5	89.54	1.2	150.0	150.0	146.6	3.39	44.220	
300.0	300.0	302.3	300.0	1.9	1.9	89.54	1.2	150.0	150.0	145.7	4.26	35.228	
400.0	400.0	402.3	400.0	2.3	2.3	89.54	1.2	150.0	150.0	145.0	4.96	30.211	
500.0	500.0	502.3	500.0	2.6	2.6	89.54	1.2	150.0	150.0	144.4	5.58	26.881	
600.0	600.0	602.3	600.0	2.9	2.9	89.54	1.2	150.0	150.0	143.9	6.13	24.457	
700.0	700.0	702.3	700.0	3.1	3.1	89.54	1.2	150.0	150.0	143.4	6.64	22.588	
800.0	800.0	802.3	800.0	3.4	3.4	89.54	1.2	150.0	150.0	142.9	7.11	21.086	
900.0	900.0	902.3	900.0	3.6	3.6	89.54	1.2	150.0	150.0	142.4	7.56	19.845	
1,000.0	1,000.0	1,002.3	1,000.0	3.8	3.8	89.54	1.2	150.0	150.0	142.0	7.98	18.795	
1,100.0	1,100.0	1,102.3	1,100.0	4.0	4.0	89.54	1.2	150.0	150.0	141.6	8.38	17.892	
1,200.0	1,200.0	1,202.3	1,200.0	4.2	4.2	89.54	1.2	150.0	150.0	141.2	8.77	17.104	
1,300.0	1,300.0	1,302.3	1,300.0	4.4	4.4	89.54	1.2	150.0	150.0	140.9	9.14	16.408	
1,400.0	1,400.0	1,402.3	1,400.0	4.6	4.6	89.54	1.2	150.0	150.0	140.5	9.50	15.786	
1,500.0	1,500.0	1,502.3	1,500.0	4.7	4.8	89.54	1.2	150.0	150.0	140.1	9.85	15.228	
1,600.0	1,600.0	1,602.3	1,600.0	4.9	4.9	89.54	1.2	150.0	150.0	139.8	10.19	14.721	
1,700.0	1,700.0	1,702.3	1,700.0	5.1	5.1	89.54	1.2	150.0	150.0	139.5	10.52	14.260	
1,800.0	1,800.0	1,802.3	1,800.0	5.3	5.3	89.54	1.2	150.0	150.0	139.2	10.84	13.836	
1,900.0	1,900.0	1,902.3	1,900.0	5.4	5.4	89.54	1.2	150.0	150.0	138.8	11.16	13.446	
1,965.9	1,965.9	1,968.2	1,965.9	5.5	5.5	89.54	1.2	150.0	150.0	138.6	11.36	13.206 CC	
2,000.0	2,000.0	2,000.0	1,997.7	5.6	5.6	89.54	1.2	150.0	150.0	138.6	11.46	13.091 ES	
2,100.0	2,100.0	2,097.2	2,094.9	5.8	5.8	166.62	1.6	151.6	153.4	141.5	11.90	12.890 SF	
2,200.0	2,199.8	2,191.6	2,189.2	6.0	6.0	166.61	2.6	156.2	163.4	151.1	12.32	13.260	
2,300.0	2,299.5	2,284.8	2,282.0	6.3	6.2	166.60	4.4	163.8	179.9	167.2	12.76	14.101	
2,400.0	2,398.7	2,376.2	2,372.8	6.5	6.5	166.58	6.7	174.0	202.9	189.6	13.21	15.354	
2,500.0	2,497.5	2,465.2	2,460.9	6.8	6.7	166.53	9.7	186.7	232.0	218.4	13.68	16.959	
2,600.0	2,595.6	2,551.5	2,545.8	7.1	7.0	166.47	13.1	201.6	267.3	253.1	14.17	18.867	
2,648.9	2,643.3	2,592.5	2,586.0	7.2	7.1	166.43	14.9	209.5	286.6	272.2	14.36	19.961	
2,700.0	2,693.2	2,634.7	2,627.2	7.4	7.3	166.47	16.9	218.2	307.9	293.3	14.56	21.144	
2,800.0	2,790.6	2,715.7	2,706.0	7.6	7.5	166.47	21.2	236.7	351.4	336.4	15.01	23.413	
2,900.0	2,888.1	2,800.0	2,787.3	7.9	7.8	166.38	26.1	258.1	397.4	381.9	15.53	25.593	
3,000.0	2,985.5	2,871.1	2,855.4	8.3	8.0	166.25	30.7	278.0	445.6	429.7	15.92	27.994	
3,100.0	3,082.9	2,954.6	2,935.0	8.6	8.3	166.08	36.4	302.9	495.6	479.1	16.48	30.070	
3,200.0	3,180.4	3,041.2	3,017.4	8.9	8.7	165.94	42.4	328.7	545.6	528.5	17.10	31.914	
3,300.0	3,277.8	3,127.8	3,099.9	9.3	9.0	165.82	48.3	354.5	595.6	577.9	17.71	33.639	
3,400.0	3,375.3	3,214.4	3,182.3	9.7	9.3	165.72	54.3	380.4	645.6	627.3	18.34	35.207	
3,500.0	3,472.7	3,301.0	3,264.8	10.0	9.6	165.63	60.2	406.2	695.6	676.6	18.99	36.634	
3,600.0	3,570.2	3,387.6	3,347.2	10.4	9.9	165.56	66.2	432.0	745.6	726.0	19.66	37.930	
3,700.0	3,667.6	3,474.2	3,429.6	10.8	10.2	165.49	72.1	457.8	795.6	775.3	20.34	39.111	
3,800.0	3,765.1	3,560.8	3,512.1	11.2	10.6	165.43	78.1	483.6	845.7	824.6	21.04	40.188	
3,900.0	3,862.5	3,647.4	3,594.5	11.6	10.9	165.38	84.0	509.4	895.7	873.9	21.75	41.172	
4,000.0	3,960.0	3,734.0	3,676.9	12.1	11.3	165.34	90.0	535.3	945.7	923.2	22.48	42.072	
4,100.0	4,057.4	3,820.6	3,759.4	12.5	11.7	165.29	95.9	561.1	995.7	972.5	23.21	42.898	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 709H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	1.3	0.0	0.0	0.0	89.53	0.5	60.0	60.0					
100.0	100.0	101.3	100.0	0.8	0.8	89.53	0.5	60.0	60.0	57.9	2.13	28.212		
200.0	200.0	201.3	200.0	1.5	1.5	89.53	0.5	60.0	60.0	56.6	3.39	17.712		
300.0	300.0	301.3	300.0	1.9	1.9	89.53	0.5	60.0	60.0	55.7	4.25	14.104		
400.0	400.0	401.3	400.0	2.3	2.3	89.53	0.5	60.0	60.0	55.0	4.96	12.093		
500.0	500.0	501.3	500.0	2.6	2.6	89.53	0.5	60.0	60.0	54.4	5.58	10.759		
600.0	600.0	601.3	600.0	2.9	2.9	89.53	0.5	60.0	60.0	53.9	6.13	9.788		
700.0	700.0	701.3	700.0	3.1	3.1	89.53	0.5	60.0	60.0	53.4	6.64	9.039		
800.0	800.0	801.3	800.0	3.4	3.4	89.53	0.5	60.0	60.0	52.9	7.11	8.438		
900.0	900.0	901.3	900.0	3.6	3.6	89.53	0.5	60.0	60.0	52.4	7.56	7.941		
1,000.0	1,000.0	1,001.3	1,000.0	3.8	3.8	89.53	0.5	60.0	60.0	52.0	7.98	7.521		
1,100.0	1,100.0	1,101.3	1,100.0	4.0	4.0	89.53	0.5	60.0	60.0	51.6	8.38	7.159		
1,200.0	1,200.0	1,201.3	1,200.0	4.2	4.2	89.53	0.5	60.0	60.0	51.2	8.77	6.843		
1,300.0	1,300.0	1,301.3	1,300.0	4.4	4.4	89.53	0.5	60.0	60.0	50.9	9.14	6.565		
1,400.0	1,400.0	1,401.3	1,400.0	4.6	4.6	89.53	0.5	60.0	60.0	50.5	9.50	6.316		
1,500.0	1,500.0	1,501.3	1,500.0	4.7	4.8	89.53	0.5	60.0	60.0	50.2	9.85	6.093		
1,600.0	1,600.0	1,601.3	1,600.0	4.9	4.9	89.53	0.5	60.0	60.0	49.8	10.19	5.890		
1,700.0	1,700.0	1,701.3	1,700.0	5.1	5.1	89.53	0.5	60.0	60.0	49.5	10.52	5.705		
1,800.0	1,800.0	1,801.3	1,800.0	5.3	5.3	89.53	0.5	60.0	60.0	49.2	10.84	5.536		
1,900.0	1,900.0	1,901.3	1,900.0	5.4	5.4	89.53	0.5	60.0	60.0	48.8	11.15	5.379		
2,000.0	2,000.0	2,001.3	2,000.0	5.6	5.6	89.53	0.5	60.0	60.0	48.5	11.46	5.235 CC, ES		
2,100.0	2,100.0	2,101.3	2,100.0	5.8	5.7	166.99	0.5	60.0	61.7	49.9	11.84	5.212 SF		
2,200.0	2,199.8	2,202.8	2,201.5	6.0	6.0	166.85	1.8	58.7	65.5	53.3	12.25	5.352		
2,300.0	2,299.5	2,304.3	2,302.8	6.3	6.2	165.25	5.8	55.0	70.4	57.7	12.66	5.561		
2,400.0	2,398.7	2,405.7	2,403.8	6.5	6.5	162.53	12.3	48.7	76.3	63.3	13.06	5.843		
2,500.0	2,497.5	2,506.2	2,503.6	6.8	6.6	159.33	21.0	40.5	83.9	70.5	13.40	6.259		
2,600.0	2,595.6	2,605.6	2,602.2	7.1	6.8	157.27	29.9	32.0	94.6	80.7	13.82	6.841		
2,648.9	2,643.3	2,654.0	2,650.3	7.2	6.9	156.70	34.2	27.8	101.0	87.0	13.99	7.218		
2,700.0	2,693.2	2,704.6	2,700.5	7.4	7.0	156.31	38.7	23.5	108.1	93.9	14.17	7.631		
2,800.0	2,790.6	2,803.6	2,798.8	7.6	7.3	155.69	47.6	15.0	122.0	107.5	14.59	8.365		
2,900.0	2,888.1	2,902.7	2,897.0	7.9	7.6	155.19	56.5	6.6	136.0	121.0	15.04	9.045		
3,000.0	2,985.5	3,001.7	2,995.3	8.3	7.8	154.78	65.3	-1.9	149.9	134.4	15.50	9.674		
3,100.0	3,082.9	3,100.7	3,093.5	8.6	8.1	154.45	74.2	-10.3	163.9	147.9	15.98	10.256		
3,200.0	3,180.4	3,199.7	3,191.8	8.9	8.4	154.16	83.1	-18.8	177.9	161.4	16.48	10.794		
3,300.0	3,277.8	3,298.7	3,290.0	9.3	8.7	153.92	91.9	-27.2	191.9	174.9	16.99	11.291		
3,400.0	3,375.3	3,397.7	3,388.3	9.7	9.1	153.71	100.8	-35.7	205.8	188.3	17.52	11.751		
3,500.0	3,472.7	3,496.8	3,486.5	10.0	9.4	153.53	109.7	-44.2	219.8	201.7	18.05	12.175		
3,600.0	3,570.2	3,595.8	3,584.8	10.4	9.7	153.37	118.5	-52.6	233.8	215.2	18.60	12.569		
3,700.0	3,667.6	3,694.8	3,683.1	10.8	10.1	153.23	127.4	-61.1	247.8	228.6	19.16	12.933		
3,800.0	3,765.1	3,793.8	3,781.3	11.2	10.4	153.10	136.2	-69.5	261.7	242.0	19.73	13.269		
3,900.0	3,862.5	3,890.7	3,877.5	11.6	10.7	153.11	144.4	-77.4	276.1	255.8	20.30	13.601		
4,000.0	3,960.0	3,987.1	3,973.5	12.1	11.1	153.40	151.4	-84.0	291.2	270.3	20.90	13.937		
4,100.0	4,057.4	4,083.2	4,069.2	12.5	11.4	153.92	157.2	-89.5	307.3	285.8	21.52	14.279		
4,200.0	4,154.8	4,179.0	4,164.8	12.9	11.7	154.64	161.8	-93.9	324.2	302.0	22.16	14.627		
4,300.0	4,252.3	4,274.3	4,260.0	13.3	12.0	155.51	165.3	-97.2	342.0	319.2	22.82	14.985		
4,400.0	4,349.7	4,369.1	4,354.8	13.8	12.3	156.51	167.6	-99.4	360.8	337.3	23.50	15.355		
4,500.0	4,447.2	4,463.4	4,449.1	14.2	12.5	157.61	168.7	-100.5	380.7	356.5	24.18	15.745		
4,600.0	4,544.6	4,559.0	4,544.6	14.6	12.6	158.77	168.9	-100.7	401.5	376.6	24.84	16.159		
4,700.0	4,642.1	4,656.5	4,642.1	15.1	12.7	159.87	168.9	-100.7	422.5	397.0	25.51	16.564		
4,800.0	4,739.5	4,753.9	4,739.5	15.5	12.8	160.87	168.9	-100.7	443.7	417.6	26.16	16.960		
4,900.0	4,837.0	4,851.4	4,837.0	16.0	12.9	161.77	168.9	-100.7	465.1	438.3	26.82	17.343		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,000.0	4,934.4	4,948.8	4,934.4	16.4	12.9	162.60	168.9	-100.7	486.5	459.0	27.47	17.713	
5,100.0	5,031.9	5,046.2	5,031.9	16.9	13.0	163.35	168.9	-100.7	508.0	479.9	28.11	18.071	
5,200.0	5,129.3	5,143.7	5,129.3	17.3	13.1	164.05	168.9	-100.7	529.6	500.9	28.76	18.417	
5,300.0	5,226.8	5,241.1	5,226.8	17.8	13.2	164.69	168.9	-100.7	551.3	521.9	29.40	18.750	
5,400.0	5,324.2	5,338.6	5,324.2	18.2	13.3	165.28	168.9	-100.7	573.0	543.0	30.05	19.072	
5,500.0	5,421.6	5,436.0	5,421.6	18.7	13.3	165.83	168.9	-100.7	594.8	564.1	30.69	19.382	
5,600.0	5,519.1	5,533.5	5,519.1	19.1	13.4	166.34	168.9	-100.7	616.6	585.3	31.33	19.681	
5,700.0	5,616.5	5,630.9	5,616.5	19.6	13.5	166.82	168.9	-100.7	638.5	606.5	31.97	19.970	
5,800.0	5,714.0	5,728.4	5,714.0	20.1	13.6	167.26	168.9	-100.7	660.4	627.8	32.62	20.248	
5,900.0	5,811.4	5,825.8	5,811.4	20.5	13.6	167.67	168.9	-100.7	682.4	649.1	33.26	20.516	
5,902.0	5,813.3	5,827.7	5,813.3	20.5	13.6	167.68	168.9	-100.7	682.8	649.5	33.27	20.521	
6,000.0	5,909.1	5,923.4	5,909.1	21.0	13.7	168.09	168.9	-100.7	703.5	669.6	33.90	20.755	
6,100.0	6,007.1	6,021.4	6,007.1	21.4	13.8	168.46	168.9	-100.7	723.1	688.5	34.52	20.944	
6,200.0	6,105.4	6,119.8	6,105.4	21.9	13.9	168.78	168.9	-100.7	740.9	705.8	35.14	21.086	
6,300.0	6,204.0	6,218.4	6,204.0	22.3	13.9	169.05	168.9	-100.7	757.1	721.4	35.74	21.183	
6,400.0	6,302.9	6,317.3	6,302.9	22.7	14.0	169.29	168.9	-100.7	771.7	735.3	36.33	21.239	
6,500.0	6,402.1	6,416.4	6,402.1	23.2	14.1	169.49	168.9	-100.7	784.5	747.6	36.91	21.256	
6,600.0	6,501.4	6,515.8	6,501.4	23.6	14.2	169.66	168.9	-100.7	795.6	758.2	37.46	21.237	
6,700.0	6,600.9	6,615.3	6,600.9	23.9	14.3	169.80	168.9	-100.7	805.0	767.0	38.00	21.184	
6,800.0	6,700.6	6,715.0	6,700.6	24.3	14.3	169.91	168.9	-100.7	812.8	774.2	38.52	21.100	
6,900.0	6,800.4	6,814.8	6,800.4	24.7	14.4	169.99	168.9	-100.7	818.8	779.8	39.01	20.989	
7,000.0	6,900.4	6,914.7	6,900.4	25.0	14.5	170.05	168.9	-100.7	823.1	783.6	39.47	20.854	
7,100.0	7,000.3	7,014.7	7,000.3	25.3	14.6	170.09	168.9	-100.7	825.6	785.8	39.88	20.704	
7,199.7	7,100.0	7,114.4	7,100.0	25.4	14.7	93.01	168.9	-100.7	826.5	786.4	40.12	20.600	
7,200.0	7,100.3	7,114.7	7,100.3	25.4	14.7	93.01	168.9	-100.7	826.5	786.4	40.12	20.600	
7,300.0	7,200.3	7,214.7	7,200.3	25.5	14.7	93.01	168.9	-100.7	826.5	786.3	40.22	20.547	
7,400.0	7,300.3	7,314.7	7,300.3	25.5	14.8	93.01	168.9	-100.7	826.5	786.2	40.33	20.495	
7,500.0	7,400.3	7,414.7	7,400.3	25.5	14.9	93.01	168.9	-100.7	826.5	786.1	40.43	20.443	
7,600.0	7,500.3	7,514.7	7,500.3	25.6	15.0	93.01	168.9	-100.7	826.5	786.0	40.53	20.390	
7,700.0	7,600.3	7,614.7	7,600.3	25.6	15.0	93.01	168.9	-100.7	826.5	785.8	40.64	20.338	
7,800.0	7,700.3	7,714.7	7,700.3	25.7	15.1	93.01	168.9	-100.7	826.5	785.7	40.74	20.286	
7,900.0	7,800.3	7,814.7	7,800.3	25.7	15.2	93.01	168.9	-100.7	826.5	785.6	40.85	20.234	
8,000.0	7,900.3	7,914.7	7,900.3	25.7	15.3	93.01	168.9	-100.7	826.5	785.5	40.95	20.182	
8,100.0	8,000.3	8,014.7	8,000.3	25.8	15.4	93.01	168.9	-100.7	826.5	785.4	41.06	20.130	
8,200.0	8,100.3	8,114.7	8,100.3	25.8	15.4	93.01	168.9	-100.7	826.5	785.3	41.16	20.079	
8,300.0	8,200.3	8,214.7	8,200.3	25.9	15.5	93.01	168.9	-100.7	826.5	785.2	41.27	20.027	
8,400.0	8,300.3	8,314.7	8,300.3	25.9	15.6	93.01	168.9	-100.7	826.5	785.1	41.37	19.976	
8,500.0	8,400.3	8,414.7	8,400.3	25.9	15.7	93.01	168.9	-100.7	826.5	785.0	41.48	19.924	
8,600.0	8,500.3	8,514.7	8,500.3	26.0	15.8	93.01	168.9	-100.7	826.5	784.9	41.59	19.873	
8,700.0	8,600.3	8,614.7	8,600.3	26.0	15.8	93.01	168.9	-100.7	826.5	784.8	41.70	19.821	
8,800.0	8,700.3	8,714.7	8,700.3	26.1	15.9	93.01	168.9	-100.7	826.5	784.7	41.80	19.770	
8,900.0	8,800.3	8,814.7	8,800.3	26.1	16.0	93.01	168.9	-100.7	826.5	784.6	41.91	19.719	
9,000.0	8,900.3	8,914.7	8,900.3	26.1	16.1	93.01	168.9	-100.7	826.5	784.5	42.02	19.668	
9,100.0	9,000.3	9,014.7	9,000.3	26.2	16.2	93.01	168.9	-100.7	826.5	784.4	42.13	19.617	
9,200.0	9,100.3	9,114.7	9,100.3	26.2	16.2	93.01	168.9	-100.7	826.5	784.2	42.24	19.567	
9,300.0	9,200.3	9,214.7	9,200.3	26.3	16.3	93.01	168.9	-100.7	826.5	784.1	42.35	19.516	
9,400.0	9,300.3	9,314.7	9,300.3	26.3	16.4	93.01	168.9	-100.7	826.5	784.0	42.46	19.466	
9,500.0	9,400.3	9,414.7	9,400.3	26.3	16.5	93.01	168.9	-100.7	826.5	783.9	42.57	19.415	
9,600.0	9,500.3	9,514.7	9,500.3	26.4	16.6	93.01	168.9	-100.7	826.5	783.8	42.68	19.365	
9,700.0	9,600.3	9,614.7	9,600.3	26.4	16.6	93.01	168.9	-100.7	826.5	783.7	42.79	19.315	
9,800.0	9,700.3	9,714.7	9,700.3	26.5	16.7	93.01	168.9	-100.7	826.5	783.6	42.90	19.265	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,900.0	9,800.3	9,814.7	9,800.3	26.5	16.8	93.01	168.9	-100.7	826.5	783.5	43.01	19.215	
10,000.0	9,900.3	9,914.7	9,900.3	26.5	16.9	93.01	168.9	-100.7	826.5	783.4	43.13	19.165	
10,100.0	10,000.3	10,014.7	10,000.3	26.6	17.0	93.01	168.9	-100.7	826.5	783.2	43.24	19.115	
10,200.0	10,100.3	10,114.7	10,100.3	26.6	17.0	93.01	168.9	-100.7	826.5	783.1	43.35	19.065	
10,300.0	10,200.3	10,214.7	10,200.3	26.7	17.1	93.01	168.9	-100.7	826.5	783.0	43.46	19.016	
10,400.0	10,300.3	10,314.7	10,300.3	26.7	17.2	93.01	168.9	-100.7	826.5	782.9	43.58	18.967	
10,500.0	10,400.3	10,414.7	10,400.3	26.8	17.3	93.01	168.9	-100.7	826.5	782.8	43.69	18.917	
10,600.0	10,500.3	10,514.7	10,500.3	26.8	17.3	93.01	168.9	-100.7	826.5	782.7	43.80	18.868	
10,700.0	10,600.3	10,614.7	10,600.3	26.9	17.4	93.01	168.9	-100.7	826.5	782.6	43.92	18.819	
10,800.0	10,700.3	10,714.7	10,700.3	26.9	17.5	93.01	168.9	-100.7	826.5	782.5	44.03	18.770	
10,900.0	10,800.3	10,814.7	10,800.3	26.9	17.6	93.01	168.9	-100.7	826.5	782.3	44.15	18.722	
11,000.0	10,900.3	10,914.7	10,900.3	27.0	17.7	93.01	168.9	-100.7	826.5	782.2	44.26	18.673	
11,100.0	11,000.3	11,014.7	11,000.3	27.0	17.7	93.01	168.9	-100.7	826.5	782.1	44.38	18.625	
11,200.0	11,100.3	11,114.7	11,100.3	27.1	17.8	93.01	168.9	-100.7	826.5	782.0	44.49	18.576	
11,300.0	11,200.3	11,214.7	11,200.3	27.1	17.9	93.01	168.9	-100.7	826.5	781.9	44.61	18.528	
11,400.0	11,300.3	11,314.7	11,300.3	27.2	18.0	93.01	168.9	-100.7	826.5	781.8	44.72	18.480	
11,500.0	11,400.3	11,414.7	11,400.3	27.2	18.1	93.01	168.9	-100.7	826.5	781.6	44.84	18.432	
11,600.0	11,500.3	11,514.7	11,500.3	27.3	18.1	93.01	168.9	-100.7	826.5	781.5	44.96	18.384	
11,700.0	11,600.3	11,614.7	11,600.3	27.3	18.2	93.01	168.9	-100.7	826.5	781.4	45.07	18.337	
11,747.7	11,648.0	11,662.4	11,648.0	27.3	18.3	93.01	168.9	-100.7	826.5	781.4	45.12	18.318	
11,772.2	11,672.5	11,686.8	11,672.4	27.3	18.3	93.01	168.9	-100.7	826.5	781.3	45.14	18.308	
11,775.0	11,675.3	11,689.3	11,674.9	27.3	18.3	-86.61	168.9	-100.7	826.5	781.3	45.14	18.309	
11,800.0	11,700.3	11,712.0	11,697.6	27.3	18.3	-86.61	168.1	-100.7	826.5	781.4	45.12	18.316	
11,825.0	11,725.2	11,734.7	11,720.2	27.3	18.2	-86.62	166.3	-100.7	826.5	781.4	45.09	18.328	
11,850.0	11,750.0	11,757.4	11,742.7	27.3	18.2	-86.63	163.5	-100.6	826.5	781.4	45.06	18.341	
11,875.0	11,774.5	11,780.1	11,765.1	27.2	18.1	-86.66	159.6	-100.6	826.4	781.4	45.03	18.355	
11,900.0	11,798.8	11,802.8	11,787.2	27.2	18.1	-86.70	154.6	-100.6	826.4	781.4	44.99	18.370	
11,925.0	11,822.7	11,825.0	11,808.6	27.2	18.1	-86.74	148.7	-100.5	826.4	781.4	44.94	18.387	
11,950.0	11,846.2	11,848.3	11,830.7	27.2	18.0	-86.79	141.4	-100.5	826.3	781.4	44.90	18.402	
11,975.0	11,869.3	11,871.1	11,852.0	27.1	18.0	-86.85	133.3	-100.4	826.3	781.4	44.86	18.419	
12,000.0	11,891.8	11,893.9	11,873.0	27.1	17.9	-86.92	124.1	-100.4	826.2	781.4	44.82	18.435	
12,025.0	11,913.7	11,916.8	11,893.4	27.1	17.9	-86.99	114.0	-100.3	826.2	781.4	44.78	18.451	
12,050.0	11,934.9	11,939.7	11,913.5	27.0	17.8	-87.07	102.8	-100.2	826.1	781.4	44.73	18.467	
12,075.0	11,955.4	11,962.6	11,933.0	27.0	17.8	-87.16	90.7	-100.1	826.1	781.4	44.69	18.482	
12,100.0	11,975.2	11,985.7	11,951.9	27.0	17.8	-87.26	77.6	-100.1	826.0	781.3	44.66	18.497	
12,125.0	11,994.1	12,008.7	11,970.2	27.0	17.7	-87.37	63.6	-100.0	825.9	781.3	44.62	18.510	
12,150.0	12,012.1	12,031.9	11,987.9	27.0	17.7	-87.48	48.7	-99.9	825.8	781.3	44.59	18.522	
12,175.0	12,029.2	12,055.1	12,004.9	26.9	17.6	-87.59	32.9	-99.8	825.8	781.2	44.56	18.532	
12,200.0	12,045.3	12,078.4	12,021.2	26.9	17.6	-87.72	16.2	-99.6	825.7	781.2	44.53	18.541	
12,225.0	12,060.4	12,101.7	12,036.6	26.9	17.6	-87.85	-1.3	-99.5	825.6	781.1	44.51	18.547	
12,250.0	12,074.5	12,125.0	12,051.2	26.9	17.6	-87.98	-19.5	-99.4	825.6	781.1	44.50	18.552	
12,275.0	12,087.4	12,148.7	12,065.0	26.9	17.5	-88.13	-38.7	-99.3	825.5	781.0	44.49	18.553	
12,300.0	12,099.2	12,172.3	12,077.9	26.9	17.5	-88.27	-58.5	-99.1	825.4	780.9	44.49	18.551	
12,325.0	12,109.8	12,196.1	12,089.8	26.9	17.5	-88.42	-79.0	-99.0	825.4	780.9	44.50	18.547	
12,350.0	12,119.3	12,219.9	12,100.8	26.9	17.5	-88.58	-100.1	-98.9	825.3	780.8	44.52	18.539	
12,375.0	12,127.5	12,243.8	12,110.7	26.9	17.5	-88.74	-121.9	-98.7	825.2	780.7	44.54	18.528	
12,400.0	12,134.4	12,267.8	12,119.5	26.9	17.5	-88.90	-144.3	-98.6	825.2	780.6	44.57	18.514	
12,425.0	12,140.1	12,292.0	12,127.2	27.0	17.5	-89.07	-167.1	-98.4	825.2	780.5	44.61	18.497	
12,450.0	12,144.5	12,316.2	12,133.8	27.0	17.5	-89.24	-190.5	-98.3	825.1	780.5	44.66	18.476	
12,475.0	12,147.6	12,340.6	12,139.2	27.0	17.5	-89.41	-214.2	-98.1	825.1	780.4	44.72	18.451	
12,500.0	12,149.4	12,365.1	12,143.5	27.0	17.5	-89.58	-238.4	-97.9	825.1	780.3	44.78	18.423	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 709H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,522.2	12,150.0	12,386.9	12,146.2	27.1	17.5	-89.74	-260.0	-97.8	825.1	780.2	44.85	18.396	
12,562.0	12,150.0	12,426.5	12,148.6	27.1	17.6	-89.90	-299.5	-97.5	825.1	780.1	44.98	18.344	
12,600.0	12,150.0	12,464.5	12,148.7	27.2	17.6	-89.91	-337.5	-97.3	825.1	780.0	45.09	18.298	
12,700.0	12,150.0	12,564.5	12,148.7	27.3	17.8	-89.91	-437.4	-96.6	825.1	779.6	45.46	18.151	
12,800.0	12,150.0	12,664.5	12,148.7	27.5	18.0	-89.91	-537.4	-95.9	825.1	779.2	45.90	17.976	
12,900.0	12,150.0	12,764.5	12,148.7	27.8	18.3	-89.91	-637.4	-95.3	825.1	778.6	46.42	17.776	
13,000.0	12,150.0	12,864.5	12,148.7	28.1	18.6	-89.91	-737.4	-94.6	825.1	778.1	47.00	17.553	
13,100.0	12,150.0	12,964.5	12,148.7	28.4	19.0	-89.91	-837.4	-93.9	825.1	777.4	47.66	17.311	
13,200.0	12,150.0	13,064.5	12,148.7	28.7	19.4	-89.91	-937.4	-93.3	825.1	776.7	48.39	17.051	
13,300.0	12,150.0	13,164.5	12,148.7	29.0	19.9	-89.91	-1,037.4	-92.6	825.1	775.9	49.18	16.778	
13,400.0	12,150.0	13,264.5	12,148.7	29.4	20.4	-89.91	-1,137.4	-91.9	825.1	775.1	50.02	16.494	
13,500.0	12,150.0	13,364.5	12,148.7	29.8	20.9	-89.91	-1,237.4	-91.3	825.1	774.2	50.93	16.200	
13,600.0	12,150.0	13,464.5	12,148.7	30.3	21.5	-89.91	-1,337.4	-90.6	825.1	773.2	51.89	15.901	
13,700.0	12,150.0	13,564.5	12,148.7	30.7	22.1	-89.91	-1,437.4	-89.9	825.1	772.2	52.90	15.597	
13,800.0	12,150.0	13,664.5	12,148.7	31.2	22.7	-89.91	-1,537.4	-89.3	825.1	771.1	53.96	15.291	
13,900.0	12,150.0	13,764.5	12,148.7	31.7	23.3	-89.91	-1,637.4	-88.6	825.1	770.0	55.07	14.984	
14,000.0	12,150.0	13,864.5	12,148.7	32.2	24.0	-89.91	-1,737.4	-87.9	825.1	768.9	56.21	14.678	
14,100.0	12,150.0	13,964.5	12,148.7	32.7	24.7	-89.91	-1,837.4	-87.3	825.1	767.7	57.40	14.374	
14,200.0	12,150.0	14,064.5	12,148.7	33.3	25.4	-89.91	-1,937.4	-86.6	825.1	766.5	58.63	14.073	
14,300.0	12,150.0	14,164.5	12,148.7	33.9	26.1	-89.91	-2,037.4	-85.9	825.1	765.2	59.89	13.777	
14,400.0	12,150.0	14,264.5	12,148.7	34.5	26.9	-89.91	-2,137.4	-85.3	825.1	763.9	61.19	13.485	
14,500.0	12,150.0	14,364.5	12,148.7	35.1	27.6	-89.91	-2,237.4	-84.6	825.1	762.6	62.51	13.199	
14,600.0	12,150.0	14,464.5	12,148.7	35.7	28.4	-89.91	-2,337.4	-83.9	825.1	761.3	63.87	12.919	
14,700.0	12,150.0	14,564.5	12,148.7	36.3	29.2	-89.91	-2,437.4	-83.2	825.1	759.9	65.25	12.646	
14,800.0	12,150.0	14,664.5	12,148.7	37.0	30.0	-89.91	-2,537.4	-82.6	825.1	758.5	66.66	12.378	
14,900.0	12,150.0	14,764.5	12,148.7	37.7	30.8	-89.91	-2,637.4	-81.9	825.1	757.0	68.09	12.118	
15,000.0	12,150.0	14,864.5	12,148.7	38.3	31.6	-89.91	-2,737.4	-81.2	825.1	755.6	69.55	11.865	
15,100.0	12,150.0	14,964.5	12,148.7	39.0	32.4	-89.91	-2,837.4	-80.6	825.1	754.1	71.02	11.618	
15,200.0	12,150.0	15,064.5	12,148.7	39.7	33.2	-89.91	-2,937.4	-79.9	825.1	752.6	72.52	11.378	
15,300.0	12,150.0	15,164.5	12,148.7	40.5	34.1	-89.91	-3,037.4	-79.2	825.1	751.1	74.03	11.146	
15,400.0	12,150.0	15,264.5	12,148.7	41.2	34.9	-89.91	-3,137.4	-78.6	825.1	749.6	75.57	10.920	
15,500.0	12,150.0	15,364.5	12,148.7	41.9	35.8	-89.91	-3,237.4	-77.9	825.1	748.0	77.11	10.700	
15,600.0	12,150.0	15,464.5	12,148.7	42.7	36.6	-89.91	-3,337.4	-77.2	825.1	746.5	78.68	10.488	
15,700.0	12,150.0	15,564.5	12,148.7	43.4	37.5	-89.91	-3,437.4	-76.6	825.2	744.9	80.26	10.281	
15,800.0	12,150.0	15,664.5	12,148.7	44.2	38.3	-89.91	-3,537.4	-75.9	825.2	743.3	81.85	10.081	
15,900.0	12,150.0	15,764.5	12,148.7	44.9	39.2	-89.91	-3,637.4	-75.2	825.2	741.7	83.45	9.888	
16,000.0	12,150.0	15,864.5	12,148.7	45.7	40.1	-89.91	-3,737.4	-74.6	825.2	740.1	85.07	9.700	
16,100.0	12,150.0	15,964.5	12,148.7	46.5	41.0	-89.91	-3,837.4	-73.9	825.2	738.5	86.70	9.517	
16,200.0	12,150.0	16,064.5	12,148.7	47.3	41.8	-89.91	-3,937.4	-73.2	825.2	736.8	88.34	9.341	
16,300.0	12,150.0	16,164.5	12,148.7	48.1	42.7	-89.91	-4,037.4	-72.6	825.2	735.2	89.99	9.169	
16,400.0	12,150.0	16,264.5	12,148.7	48.9	43.6	-89.91	-4,137.4	-71.9	825.2	733.5	91.65	9.003	
16,500.0	12,150.0	16,364.5	12,148.7	49.7	44.5	-89.91	-4,237.4	-71.2	825.2	731.9	93.32	8.842	
16,600.0	12,150.0	16,464.5	12,148.7	50.5	45.4	-89.91	-4,337.4	-70.6	825.2	730.2	95.00	8.686	
16,700.0	12,150.0	16,564.5	12,148.7	51.3	46.3	-89.91	-4,437.4	-69.9	825.2	728.5	96.69	8.535	
16,800.0	12,150.0	16,664.5	12,148.7	52.1	47.2	-89.91	-4,537.4	-69.2	825.2	726.8	98.38	8.388	
16,900.0	12,150.0	16,764.5	12,148.7	52.9	48.1	-89.91	-4,637.4	-68.5	825.2	725.1	100.08	8.245	
17,000.0	12,150.0	16,864.5	12,148.7	53.8	49.0	-89.91	-4,737.4	-67.9	825.2	723.4	101.79	8.107	
17,100.0	12,150.0	16,964.5	12,148.7	54.6	49.9	-89.91	-4,837.4	-67.2	825.2	721.7	103.51	7.973	
17,200.0	12,150.0	17,064.5	12,148.7	55.5	50.8	-89.91	-4,937.3	-66.5	825.2	720.0	105.23	7.842	
17,300.0	12,150.0	17,164.5	12,148.7	56.3	51.7	-89.91	-5,037.3	-65.9	825.2	718.3	106.95	7.715	
17,400.0	12,150.0	17,264.5	12,148.7	57.1	52.6	-89.91	-5,137.3	-65.2	825.2	716.5	108.69	7.592	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 709H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
17,500.0	12,150.0	17,364.5	12,148.7	58.0	53.5	-89.91	-5,237.3	-64.5	825.2	714.8	110.43	7.473		
17,600.0	12,150.0	17,464.5	12,148.7	58.8	54.5	-89.91	-5,337.3	-63.9	825.2	713.0	112.17	7.357		
17,700.0	12,150.0	17,564.5	12,148.7	59.7	55.4	-89.91	-5,437.3	-63.2	825.2	711.3	113.92	7.244		
17,800.0	12,150.0	17,664.5	12,148.7	60.6	56.3	-89.91	-5,537.3	-62.5	825.2	709.5	115.67	7.134		
17,900.0	12,150.0	17,764.5	12,148.7	61.4	57.2	-89.91	-5,637.3	-61.9	825.2	707.8	117.43	7.027		
18,000.0	12,150.0	17,864.5	12,148.7	62.3	58.1	-89.91	-5,737.3	-61.2	825.2	706.0	119.20	6.923		
18,100.0	12,150.0	17,964.5	12,148.7	63.2	59.1	-89.91	-5,837.3	-60.5	825.2	704.3	120.96	6.822		
18,200.0	12,150.0	18,064.5	12,148.7	64.0	60.0	-89.91	-5,937.3	-59.9	825.2	702.5	122.73	6.724		
18,300.0	12,150.0	18,164.5	12,148.7	64.9	60.9	-89.91	-6,037.3	-59.2	825.2	700.7	124.51	6.628		
18,400.0	12,150.0	18,264.5	12,148.7	65.8	61.8	-89.91	-6,137.3	-58.5	825.2	699.0	126.29	6.535		
18,500.0	12,150.0	18,364.5	12,148.7	66.7	62.8	-89.91	-6,237.3	-57.9	825.2	697.2	128.07	6.444		
18,600.0	12,150.0	18,464.5	12,148.7	67.5	63.7	-89.91	-6,337.3	-57.2	825.2	695.4	129.85	6.355		
18,700.0	12,150.0	18,564.5	12,148.7	68.4	64.6	-89.91	-6,437.3	-56.5	825.2	693.6	131.64	6.269		
18,800.0	12,150.0	18,664.5	12,148.7	69.3	65.5	-89.91	-6,537.3	-55.9	825.3	691.8	133.44	6.185		
18,900.0	12,150.0	18,764.5	12,148.7	70.2	66.5	-89.91	-6,637.3	-55.2	825.3	690.0	135.23	6.103		
19,000.0	12,150.0	18,864.5	12,148.7	71.1	67.4	-89.91	-6,737.3	-54.5	825.3	688.2	137.03	6.023		
19,100.0	12,150.0	18,964.5	12,148.7	72.0	68.3	-89.91	-6,837.3	-53.8	825.3	686.4	138.83	5.945		
19,200.0	12,150.0	19,064.5	12,148.7	72.9	69.3	-89.91	-6,937.3	-53.2	825.3	684.6	140.63	5.868		
19,300.0	12,150.0	19,164.5	12,148.7	73.8	70.2	-89.91	-7,037.3	-52.5	825.3	682.8	142.44	5.794		
19,400.0	12,150.0	19,264.5	12,148.7	74.7	71.1	-89.91	-7,137.3	-51.8	825.3	681.0	144.24	5.721		
19,500.0	12,150.0	19,364.5	12,148.7	75.6	72.1	-89.91	-7,237.3	-51.2	825.3	679.2	146.05	5.650		
19,600.0	12,150.0	19,464.5	12,148.7	76.5	73.0	-89.91	-7,337.3	-50.5	825.3	677.4	147.87	5.581		
19,700.0	12,150.0	19,564.5	12,148.7	77.4	74.0	-89.91	-7,437.3	-49.8	825.3	675.6	149.68	5.514		
19,702.4	12,150.0	19,566.8	12,148.7	77.4	74.0	-89.91	-7,439.7	-49.8	825.3	675.6	149.72	5.512		
19,768.8	12,150.0	19,633.1	12,148.7	78.0	74.6	-89.91	-7,505.9	-49.4	825.3	674.4	150.93	5.468		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 710H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	1.5	0.0	0.0	0.0	89.54	0.7	90.0	90.0				
100.0	100.0	101.5	100.0	0.8	0.8	89.54	0.7	90.0	90.0	87.9	2.13	42.288	
200.0	200.0	201.5	200.0	1.5	1.5	89.54	0.7	90.0	90.0	86.6	3.39	26.558	
300.0	300.0	301.5	300.0	1.9	1.9	89.54	0.7	90.0	90.0	85.7	4.25	21.150	
400.0	400.0	401.5	400.0	2.3	2.3	89.54	0.7	90.0	90.0	85.0	4.96	18.135	
500.0	500.0	501.5	500.0	2.6	2.6	89.54	0.7	90.0	90.0	84.4	5.58	16.134	
600.0	600.0	601.5	600.0	2.9	2.9	89.54	0.7	90.0	90.0	83.9	6.13	14.679	
700.0	700.0	701.5	700.0	3.1	3.1	89.54	0.7	90.0	90.0	83.4	6.64	13.556	
800.0	800.0	801.5	800.0	3.4	3.4	89.54	0.7	90.0	90.0	82.9	7.11	12.654	
900.0	900.0	901.5	900.0	3.6	3.6	89.54	0.7	90.0	90.0	82.4	7.56	11.909	
1,000.0	1,000.0	1,001.5	1,000.0	3.8	3.8	89.54	0.7	90.0	90.0	82.0	7.98	11.279	
1,100.0	1,100.0	1,101.5	1,100.0	4.0	4.0	89.54	0.7	90.0	90.0	81.6	8.38	10.737	
1,200.0	1,200.0	1,201.5	1,200.0	4.2	4.2	89.54	0.7	90.0	90.0	81.2	8.77	10.264	
1,300.0	1,300.0	1,301.5	1,300.0	4.4	4.4	89.54	0.7	90.0	90.0	80.9	9.14	9.846	
1,400.0	1,400.0	1,401.5	1,400.0	4.6	4.6	89.54	0.7	90.0	90.0	80.5	9.50	9.473	
1,500.0	1,500.0	1,501.5	1,500.0	4.7	4.8	89.54	0.7	90.0	90.0	80.1	9.85	9.137	
1,600.0	1,600.0	1,601.5	1,600.0	4.9	4.9	89.54	0.7	90.0	90.0	79.8	10.19	8.834	
1,700.0	1,700.0	1,701.5	1,700.0	5.1	5.1	89.54	0.7	90.0	90.0	79.5	10.52	8.556	
1,800.0	1,800.0	1,801.5	1,800.0	5.3	5.3	89.54	0.7	90.0	90.0	79.2	10.84	8.302	
1,900.0	1,900.0	1,901.5	1,900.0	5.4	5.4	89.54	0.7	90.0	90.0	78.8	11.15	8.068	
1,966.2	1,966.2	1,967.7	1,966.2	5.5	5.5	89.54	0.7	90.0	90.0	78.6	11.36	7.923 CC	
2,000.0	2,000.0	2,001.5	2,000.0	5.6	5.6	89.54	0.7	90.0	90.0	78.5	11.46	7.851 ES	
2,100.0	2,100.0	2,100.0	2,098.5	5.8	5.8	166.10	2.0	91.2	93.0	81.1	11.88	7.827 SF	
2,200.0	2,199.8	2,196.4	2,194.7	6.0	6.0	164.79	5.5	94.8	101.8	89.5	12.28	8.289	
2,300.0	2,299.5	2,292.5	2,290.5	6.3	6.3	163.04	11.3	100.6	116.5	103.8	12.70	9.173	
2,400.0	2,398.7	2,387.1	2,384.4	6.5	6.5	161.21	19.2	108.5	137.0	123.9	13.13	10.436	
2,500.0	2,497.5	2,479.6	2,475.9	6.8	6.8	159.50	29.0	118.4	163.4	149.8	13.58	12.030	
2,600.0	2,595.6	2,572.8	2,567.6	7.1	7.0	158.07	40.6	130.0	194.9	180.9	14.03	13.895	
2,648.9	2,643.3	2,618.7	2,612.8	7.2	7.2	157.60	46.4	135.9	211.6	197.3	14.22	14.878	
2,700.0	2,693.2	2,666.6	2,659.9	7.4	7.3	157.34	52.5	141.9	229.4	214.9	14.42	15.904	
2,800.0	2,790.6	2,760.4	2,752.1	7.6	7.5	156.93	64.3	153.8	264.2	249.3	14.89	17.746	
2,900.0	2,888.1	2,854.1	2,844.3	7.9	7.8	156.62	76.1	165.7	299.0	283.6	15.38	19.441	
3,000.0	2,985.5	2,947.8	2,936.6	8.3	8.1	156.37	88.0	177.6	333.8	317.9	15.90	20.998	
3,100.0	3,082.9	3,041.5	3,028.8	8.6	8.4	156.17	99.8	189.5	368.7	352.2	16.44	22.425	
3,200.0	3,180.4	3,135.3	3,121.0	8.9	8.7	156.00	111.7	201.4	403.5	386.5	17.00	23.733	
3,300.0	3,277.8	3,229.0	3,213.2	9.3	9.0	155.86	123.5	213.3	438.4	420.8	17.58	24.930	
3,400.0	3,375.3	3,322.7	3,305.4	9.7	9.4	155.74	135.3	225.2	473.2	455.0	18.18	26.027	
3,500.0	3,472.7	3,416.5	3,397.6	10.0	9.7	155.64	147.2	237.1	508.1	489.3	18.79	27.035	
3,600.0	3,570.2	3,511.7	3,491.3	10.4	10.0	155.55	159.2	249.1	542.9	523.5	19.43	27.943	
3,700.0	3,667.6	3,614.0	3,592.2	10.8	10.5	155.54	171.2	261.2	576.8	556.6	20.19	28.573	
3,800.0	3,765.1	3,717.4	3,694.5	11.2	10.8	155.63	182.1	272.2	609.3	588.4	20.89	29.167	
3,900.0	3,862.5	3,821.8	3,798.0	11.6	11.2	155.82	191.8	281.9	640.4	618.8	21.60	29.649	
4,000.0	3,960.0	3,927.2	3,902.7	12.1	11.6	156.08	200.2	290.3	670.0	647.7	22.31	30.034	
4,100.0	4,057.4	4,033.5	4,008.5	12.5	12.0	156.42	207.3	297.5	698.2	675.2	23.02	30.334	
4,200.0	4,154.8	4,140.6	4,115.3	12.9	12.3	156.83	213.1	303.3	725.0	701.3	23.72	30.561	
4,300.0	4,252.3	4,248.5	4,223.0	13.3	12.7	157.30	217.5	307.7	750.3	725.9	24.42	30.727	
4,400.0	4,349.7	4,357.1	4,331.5	13.8	13.0	157.83	220.4	310.6	774.2	749.1	25.10	30.843	
4,500.0	4,447.2	4,466.4	4,440.8	14.2	13.3	158.42	221.9	312.1	796.7	770.9	25.76	30.931	
4,600.0	4,544.6	4,570.3	4,544.6	14.6	13.4	159.02	222.1	312.4	817.9	791.6	26.30	31.097	
4,700.0	4,642.1	4,667.7	4,642.1	15.1	13.5	159.57	222.1	312.4	839.0	812.2	26.81	31.295	
4,800.0	4,739.5	4,765.2	4,739.5	15.5	13.6	160.09	222.1	312.4	860.1	832.8	27.33	31.472	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 710H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
4,900.0	4,837.0	4,862.6	4,837.0	16.0	13.6	160.58	222.1	312.4	881.3	853.5		27.86	31.635
5,000.0	4,934.4	4,960.0	4,934.4	16.4	13.7	161.05	222.1	312.4	902.6	874.2		28.40	31.784
5,100.0	5,031.9	5,057.5	5,031.9	16.9	13.8	161.51	222.1	312.4	923.9	895.0		28.94	31.922
5,200.0	5,129.3	5,154.9	5,129.3	17.3	13.8	161.94	222.1	312.4	945.3	915.8		29.50	32.048
5,300.0	5,226.8	5,252.4	5,226.8	17.8	13.9	162.35	222.1	312.4	966.7	936.7		30.06	32.164
5,400.0	5,324.2	5,349.8	5,324.2	18.2	14.0	162.74	222.1	312.4	988.2	957.6		30.62	32.270

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	4.0	0.0	0.0	0.0	89.38	0.3	30.0	30.0				
100.0	100.0	104.0	100.0	0.8	1.2	89.38	0.3	30.0	30.0	27.4	2.55	11.752	
200.0	200.0	204.0	200.0	1.5	1.7	89.38	0.3	30.0	30.0	26.3	3.65	8.215	
300.0	300.0	304.0	300.0	1.9	2.1	89.38	0.3	30.0	30.0	25.5	4.46	6.720	
400.0	400.0	404.0	400.0	2.3	2.4	89.38	0.3	30.0	30.0	24.8	5.14	5.834	
500.0	500.0	504.0	500.0	2.6	2.7	89.38	0.3	30.0	30.0	24.2	5.73	5.228	
600.0	600.0	604.0	600.0	2.9	3.0	89.38	0.3	30.0	30.0	23.7	6.27	4.779	
700.0	700.0	704.0	700.0	3.1	3.3	89.38	0.3	30.0	30.0	23.2	6.77	4.428	
800.0	800.0	804.0	800.0	3.4	3.5	89.38	0.3	30.0	30.0	22.7	7.23	4.144	
900.0	900.0	904.0	900.0	3.6	3.7	89.38	0.3	30.0	30.0	22.3	7.67	3.907	
1,000.0	1,000.0	1,004.0	1,000.0	3.8	3.9	89.38	0.3	30.0	30.0	21.9	8.09	3.706	
1,100.0	1,100.0	1,104.0	1,100.0	4.0	4.1	89.38	0.3	30.0	30.0	21.5	8.49	3.532	
1,200.0	1,200.0	1,204.0	1,200.0	4.2	4.3	89.38	0.3	30.0	30.0	21.1	8.87	3.380	
1,300.0	1,300.0	1,304.0	1,300.0	4.4	4.5	89.38	0.3	30.0	30.0	20.7	9.24	3.245	
1,400.0	1,400.0	1,404.0	1,400.0	4.6	4.7	89.38	0.3	30.0	30.0	20.4	9.59	3.125	
1,500.0	1,500.0	1,504.0	1,500.0	4.7	4.8	89.38	0.3	30.0	30.0	20.0	9.94	3.016	
1,600.0	1,600.0	1,604.0	1,600.0	4.9	5.0	89.38	0.3	30.0	30.0	19.7	10.27	2.917 Normal Operations	
1,700.0	1,700.0	1,704.0	1,700.0	5.1	5.2	89.38	0.3	30.0	30.0	19.4	10.60	2.827 Normal Operations	
1,800.0	1,800.0	1,804.0	1,800.0	5.3	5.3	89.38	0.3	30.0	30.0	19.1	10.92	2.744 Normal Operations	
1,900.0	1,900.0	1,904.0	1,900.0	5.4	5.5	89.38	0.3	30.0	30.0	18.7	11.23	2.668 Normal Operations	
2,000.0	2,000.0	2,004.0	2,000.0	5.6	5.6	89.38	0.3	30.0	30.0	18.4	11.54	2.597 Normal Operations, CC, ES, SF	
2,100.0	2,100.0	2,104.0	2,100.0	5.8	5.8	167.20	0.3	30.0	31.7	19.8	11.91	2.658 Normal Operations	
2,200.0	2,199.8	2,203.9	2,199.9	6.0	5.9	168.99	0.3	30.0	36.8	24.5	12.29	2.994 Normal Operations	
2,300.0	2,299.5	2,305.0	2,301.0	6.3	6.2	170.33	1.0	28.2	43.6	30.8	12.74	3.420	
2,400.0	2,398.7	2,406.3	2,402.2	6.5	6.4	170.70	3.1	23.1	50.5	37.3	13.20	3.822	
2,500.0	2,497.5	2,507.9	2,503.3	6.8	6.6	170.43	6.4	14.6	57.4	43.7	13.69	4.195	
2,600.0	2,595.6	2,609.7	2,604.3	7.1	6.9	169.74	11.1	2.8	64.5	50.3	14.20	4.539	
2,648.9	2,643.3	2,659.5	2,653.6	7.2	7.0	169.29	13.9	-4.2	67.9	53.5	14.41	4.715	
2,700.0	2,693.2	2,711.8	2,705.0	7.4	7.2	168.69	17.1	-12.4	71.1	56.5	14.61	4.869	
2,800.0	2,790.6	2,812.7	2,804.2	7.6	7.4	167.09	24.2	-30.2	75.4	60.4	15.03	5.016	
2,900.0	2,888.1	2,912.6	2,902.2	7.9	7.6	165.57	31.3	-48.2	79.4	63.8	15.55	5.105	
3,000.0	2,985.5	3,012.5	3,000.2	8.3	7.9	164.20	38.5	-66.2	83.4	67.3	16.10	5.183	
3,100.0	3,082.9	3,112.4	3,098.2	8.6	8.2	162.96	45.6	-84.1	87.5	70.9	16.67	5.251	
3,200.0	3,180.4	3,212.3	3,196.2	8.9	8.5	161.83	52.7	-102.1	91.7	74.4	17.26	5.311	
3,300.0	3,277.8	3,312.2	3,294.2	9.3	8.8	160.79	59.8	-120.1	95.8	78.0	17.87	5.364	
3,400.0	3,375.3	3,412.1	3,392.3	9.7	9.2	159.84	67.0	-138.0	100.0	81.5	18.49	5.410	
3,500.0	3,472.7	3,512.0	3,490.3	10.0	9.5	158.97	74.1	-156.0	104.2	85.1	19.12	5.451	
3,600.0	3,570.2	3,611.9	3,588.3	10.4	9.8	158.17	81.2	-174.0	108.5	88.7	19.76	5.488	
3,700.0	3,667.6	3,711.8	3,686.3	10.8	10.2	157.43	88.4	-191.9	112.7	92.3	20.42	5.521	
3,800.0	3,765.1	3,811.7	3,784.3	11.2	10.6	156.74	95.5	-209.9	117.0	95.9	21.08	5.550	
3,900.0	3,862.5	3,911.6	3,882.3	11.6	11.0	156.10	102.6	-227.9	121.3	99.5	21.75	5.577	
4,000.0	3,960.0	4,011.5	3,980.3	12.1	11.3	155.50	109.7	-245.8	125.6	103.2	22.42	5.601	
4,100.0	4,057.4	4,111.4	4,078.3	12.5	11.7	154.94	116.9	-263.8	129.9	106.8	23.10	5.623	
4,200.0	4,154.8	4,211.3	4,176.3	12.9	12.1	154.42	124.0	-281.7	134.2	110.4	23.79	5.643	
4,300.0	4,252.3	4,311.2	4,274.4	13.3	12.5	153.93	131.1	-299.7	138.6	114.1	24.47	5.661	
4,400.0	4,349.7	4,411.1	4,372.4	13.8	12.9	153.48	138.2	-317.7	142.9	117.7	25.17	5.678	
4,500.0	4,447.2	4,511.0	4,470.4	14.2	13.4	153.04	145.4	-335.6	147.3	121.4	25.86	5.694	
4,600.0	4,544.6	4,610.9	4,568.4	14.6	13.8	152.64	152.5	-353.6	151.6	125.1	26.56	5.708	
4,700.0	4,642.1	4,710.8	4,666.4	15.1	14.2	152.25	159.6	-371.6	156.0	128.7	27.26	5.722	
4,800.0	4,739.5	4,810.7	4,764.4	15.5	14.6	151.89	166.8	-389.5	160.4	132.4	27.97	5.734	
4,900.0	4,837.0	4,910.6	4,862.4	16.0	15.0	151.55	173.9	-407.5	164.7	136.1	28.67	5.746	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,000.0	4,934.4	5,008.8	4,958.8	16.4	15.4	151.32	180.7	-424.7	169.5	140.1	29.36	5.773	
5,100.0	5,031.9	5,106.3	5,054.9	16.9	15.8	151.43	186.9	-440.4	175.6	145.5	30.13	5.829	
5,200.0	5,129.3	5,203.6	5,151.0	17.3	16.2	151.84	192.5	-454.5	183.0	152.1	30.93	5.917	
5,300.0	5,226.8	5,300.0	5,246.4	17.8	16.6	152.51	197.5	-467.0	191.8	160.1	31.76	6.039	
5,400.0	5,324.2	5,397.3	5,343.0	18.2	17.0	153.40	201.9	-478.0	202.0	169.4	32.64	6.190	
5,500.0	5,421.6	5,493.7	5,438.9	18.7	17.4	154.44	205.6	-487.5	213.7	180.1	33.53	6.372	
5,600.0	5,519.1	5,589.7	5,534.4	19.1	17.7	155.60	208.8	-495.4	226.8	192.3	34.43	6.586	
5,700.0	5,616.5	5,685.1	5,629.7	19.6	18.1	156.84	211.3	-501.8	241.4	206.0	35.33	6.832	
5,800.0	5,714.0	5,780.1	5,724.5	20.1	18.4	158.11	213.2	-506.7	257.5	221.3	36.21	7.110	
5,900.0	5,811.4	5,874.5	5,818.9	20.5	18.7	159.39	214.6	-510.2	275.1	238.0	37.07	7.421	
5,902.0	5,813.3	5,876.4	5,820.7	20.5	18.7	159.42	214.6	-510.2	275.5	238.4	37.09	7.427	
6,000.0	5,909.1	5,968.5	5,912.8	21.0	18.9	160.67	215.4	-512.2	293.5	255.7	37.88	7.749	
6,100.0	6,007.1	6,062.8	6,007.1	21.4	19.1	161.84	215.6	-512.7	311.9	273.3	38.57	8.086	
6,200.0	6,105.4	6,161.1	6,105.4	21.9	19.1	162.88	215.6	-512.7	329.3	290.1	39.22	8.396	
6,300.0	6,204.0	6,259.7	6,204.0	22.3	19.2	163.73	215.6	-512.7	345.1	305.3	39.84	8.662	
6,400.0	6,302.9	6,358.6	6,302.9	22.7	19.2	164.43	215.6	-512.7	359.3	318.9	40.43	8.888	
6,500.0	6,402.1	6,457.8	6,402.1	23.2	19.3	165.00	215.6	-512.7	371.9	330.9	40.99	9.073	
6,600.0	6,501.4	6,557.1	6,501.4	23.6	19.3	165.47	215.6	-512.7	382.9	341.3	41.53	9.220	
6,700.0	6,600.9	6,656.7	6,600.9	23.9	19.4	165.84	215.6	-512.7	392.1	350.1	42.04	9.329	
6,800.0	6,700.6	6,756.3	6,700.6	24.3	19.4	166.13	215.6	-512.7	399.8	357.2	42.52	9.402	
6,900.0	6,800.4	6,856.2	6,800.4	24.7	19.5	166.35	215.6	-512.7	405.7	362.7	42.97	9.440	
7,000.0	6,900.4	6,956.1	6,900.4	25.0	19.5	166.51	215.6	-512.7	409.9	366.5	43.39	9.447	
7,100.0	7,000.3	7,056.0	7,000.3	25.3	19.6	166.60	215.6	-512.7	412.5	368.7	43.76	9.425	
7,199.7	7,100.0	7,155.7	7,100.0	25.4	19.7	89.54	215.6	-512.7	413.3	369.3	43.98	9.398	
7,200.0	7,100.3	7,156.0	7,100.3	25.4	19.7	89.54	215.6	-512.7	413.3	369.3	43.98	9.398	
7,300.0	7,200.3	7,256.0	7,200.3	25.5	19.7	89.54	215.6	-512.7	413.3	369.2	44.07	9.379	
7,400.0	7,300.3	7,356.0	7,300.3	25.5	19.8	89.54	215.6	-512.7	413.3	369.1	44.16	9.360	
7,500.0	7,400.3	7,456.0	7,400.3	25.5	19.8	89.54	215.6	-512.7	413.3	369.1	44.25	9.341	
7,600.0	7,500.3	7,556.0	7,500.3	25.6	19.9	89.54	215.6	-512.7	413.3	369.0	44.34	9.322	
7,700.0	7,600.3	7,656.0	7,600.3	25.6	19.9	89.54	215.6	-512.7	413.3	368.9	44.43	9.303	
7,800.0	7,700.3	7,756.0	7,700.3	25.7	20.0	89.54	215.6	-512.7	413.3	368.8	44.52	9.284	
7,900.0	7,800.3	7,856.0	7,800.3	25.7	20.0	89.54	215.6	-512.7	413.3	368.7	44.61	9.265	
8,000.0	7,900.3	7,956.0	7,900.3	25.7	20.1	89.54	215.6	-512.7	413.3	368.6	44.70	9.246	
8,100.0	8,000.3	8,056.0	8,000.3	25.8	20.1	89.54	215.6	-512.7	413.3	368.5	44.79	9.227	
8,200.0	8,100.3	8,156.0	8,100.3	25.8	20.2	89.54	215.6	-512.7	413.3	368.4	44.88	9.208	
8,300.0	8,200.3	8,256.0	8,200.3	25.9	20.3	89.54	215.6	-512.7	413.3	368.3	44.98	9.189	
8,400.0	8,300.3	8,356.0	8,300.3	25.9	20.3	89.54	215.6	-512.7	413.3	368.2	45.07	9.170	
8,500.0	8,400.3	8,456.0	8,400.3	25.9	20.4	89.54	215.6	-512.7	413.3	368.1	45.16	9.151	
8,600.0	8,500.3	8,556.0	8,500.3	26.0	20.4	89.54	215.6	-512.7	413.3	368.0	45.26	9.132	
8,700.0	8,600.3	8,656.0	8,600.3	26.0	20.5	89.54	215.6	-512.7	413.3	367.9	45.35	9.113	
8,800.0	8,700.3	8,756.0	8,700.3	26.1	20.5	89.54	215.6	-512.7	413.3	367.9	45.45	9.094	
8,900.0	8,800.3	8,856.0	8,800.3	26.1	20.6	89.54	215.6	-512.7	413.3	367.8	45.54	9.075	
9,000.0	8,900.3	8,956.0	8,900.3	26.1	20.6	89.54	215.6	-512.7	413.3	367.7	45.64	9.056	
9,100.0	9,000.3	9,056.0	9,000.3	26.2	20.7	89.54	215.6	-512.7	413.3	367.6	45.73	9.037	
9,200.0	9,100.3	9,156.0	9,100.3	26.2	20.8	89.54	215.6	-512.7	413.3	367.5	45.83	9.018	
9,300.0	9,200.3	9,256.0	9,200.3	26.3	20.8	89.54	215.6	-512.7	413.3	367.4	45.92	9.000	
9,400.0	9,300.3	9,356.0	9,300.3	26.3	20.9	89.54	215.6	-512.7	413.3	367.3	46.02	8.981	
9,500.0	9,400.3	9,456.0	9,400.3	26.3	20.9	89.54	215.6	-512.7	413.3	367.2	46.12	8.962	
9,600.0	9,500.3	9,556.0	9,500.3	26.4	21.0	89.54	215.6	-512.7	413.3	367.1	46.22	8.943	
9,700.0	9,600.3	9,656.0	9,600.3	26.4	21.0	89.54	215.6	-512.7	413.3	367.0	46.31	8.924	
9,800.0	9,700.3	9,756.0	9,700.3	26.5	21.1	89.54	215.6	-512.7	413.3	366.9	46.41	8.905	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,900.0	9,800.3	9,856.0	9,800.3	26.5	21.2	89.54	215.6	-512.7	413.3	366.8	46.51	8.886	
10,000.0	9,900.3	9,956.0	9,900.3	26.5	21.2	89.54	215.6	-512.7	413.3	366.7	46.61	8.867	
10,100.0	10,000.3	10,056.0	10,000.3	26.6	21.3	89.54	215.6	-512.7	413.3	366.6	46.71	8.848	
10,200.0	10,100.3	10,156.0	10,100.3	26.6	21.3	89.54	215.6	-512.7	413.3	366.5	46.81	8.830	
10,300.0	10,200.3	10,256.0	10,200.3	26.7	21.4	89.54	215.6	-512.7	413.3	366.4	46.91	8.811	
10,400.0	10,300.3	10,356.0	10,300.3	26.7	21.4	89.54	215.6	-512.7	413.3	366.3	47.01	8.792	
10,500.0	10,400.3	10,456.0	10,400.3	26.8	21.5	89.54	215.6	-512.7	413.3	366.2	47.11	8.773	
10,600.0	10,500.3	10,556.0	10,500.3	26.8	21.6	89.54	215.6	-512.7	413.3	366.1	47.21	8.754	
10,700.0	10,600.3	10,656.0	10,600.3	26.9	21.6	89.54	215.6	-512.7	413.3	366.0	47.31	8.736	
10,800.0	10,700.3	10,756.0	10,700.3	26.9	21.7	89.54	215.6	-512.7	413.3	365.9	47.41	8.717	
10,900.0	10,800.3	10,856.0	10,800.3	26.9	21.7	89.54	215.6	-512.7	413.3	365.8	47.52	8.698	
11,000.0	10,900.3	10,956.0	10,900.3	27.0	21.8	89.54	215.6	-512.7	413.3	365.7	47.62	8.679	
11,100.0	11,000.3	11,056.0	11,000.3	27.0	21.9	89.54	215.6	-512.7	413.3	365.6	47.72	8.661	
11,200.0	11,100.3	11,156.0	11,100.3	27.1	21.9	89.54	215.6	-512.7	413.3	365.5	47.82	8.642	
11,300.0	11,200.3	11,256.0	11,200.3	27.1	22.0	89.54	215.6	-512.7	413.3	365.4	47.93	8.623	
11,400.0	11,300.3	11,356.0	11,300.3	27.2	22.0	89.54	215.6	-512.7	413.3	365.3	48.03	8.605	
11,500.0	11,400.3	11,456.0	11,400.3	27.2	22.1	89.54	215.6	-512.7	413.3	365.2	48.13	8.586	
11,600.0	11,500.3	11,556.0	11,500.3	27.3	22.2	89.54	215.6	-512.7	413.3	365.1	48.24	8.568	
11,700.0	11,600.3	11,656.0	11,600.3	27.3	22.2	89.54	215.6	-512.7	413.3	365.0	48.34	8.549	
11,772.2	11,672.5	11,728.2	11,672.5	27.3	22.3	89.54	215.6	-512.7	413.3	364.9	48.41	8.537	
11,775.0	11,675.3	11,731.0	11,675.3	27.3	22.3	-90.08	215.6	-512.7	413.3	364.9	48.41	8.537	
11,800.0	11,700.3	11,756.0	11,700.3	27.3	22.3	-90.19	215.6	-512.7	413.3	364.9	48.41	8.537	
11,825.0	11,725.2	11,780.9	11,725.2	27.3	22.3	-90.48	215.6	-512.7	413.3	364.9	48.38	8.542	
11,850.0	11,750.0	11,805.7	11,750.0	27.3	22.3	-90.94	215.6	-512.7	413.4	365.0	48.33	8.552	
11,875.0	11,774.5	11,830.2	11,774.5	27.2	22.3	-91.57	215.6	-512.7	413.5	365.2	48.25	8.568	
11,900.0	11,798.8	11,854.5	11,798.8	27.2	22.3	-92.35	215.6	-512.7	413.7	365.5	48.15	8.591	
11,925.0	11,822.7	11,878.4	11,822.7	27.2	22.4	-93.26	215.6	-512.7	414.0	366.0	48.02	8.622	
11,950.0	11,846.2	11,901.9	11,846.2	27.2	22.4	-94.29	215.6	-512.7	414.6	366.8	47.86	8.663	
11,975.0	11,869.3	11,925.0	11,869.3	27.1	22.4	-95.42	215.6	-512.7	415.5	367.9	47.67	8.716	
12,000.0	11,891.8	11,947.9	11,892.2	27.1	22.4	-96.63	215.6	-512.7	416.8	369.3	47.45	8.783	
12,025.0	11,913.7	11,973.4	11,917.6	27.1	22.4	-98.01	214.7	-512.7	418.4	371.2	47.25	8.856	
12,050.0	11,934.9	11,999.6	11,943.7	27.0	22.3	-99.38	212.4	-512.7	420.3	373.2	47.06	8.931	
12,075.0	11,955.4	12,026.6	11,970.5	27.0	22.3	-100.75	208.5	-512.7	422.5	375.6	46.90	9.008	
12,100.0	11,975.2	12,054.4	11,997.7	27.0	22.3	-102.10	203.0	-512.6	424.9	378.1	46.77	9.084	
12,125.0	11,994.1	12,083.2	12,025.5	27.0	22.2	-103.45	195.5	-512.6	427.6	380.9	46.69	9.158	
12,150.0	12,012.1	12,113.0	12,053.8	27.0	22.2	-104.77	186.1	-512.5	430.5	383.8	46.66	9.225	
12,175.0	12,029.2	12,143.8	12,082.3	26.9	22.1	-106.08	174.5	-512.5	433.5	386.8	46.69	9.284	
12,200.0	12,045.3	12,175.7	12,111.0	26.9	22.1	-107.36	160.6	-512.4	436.7	389.9	46.80	9.331	
12,225.0	12,060.4	12,208.8	12,139.8	26.9	22.0	-108.62	144.2	-512.3	439.9	393.0	46.98	9.365	
12,250.0	12,074.5	12,243.2	12,168.3	26.9	22.0	-109.83	125.0	-512.1	443.2	396.0	47.24	9.382	
12,275.0	12,087.4	12,278.9	12,196.4	26.9	21.9	-111.00	103.1	-512.0	446.5	398.9	47.60	9.381	
12,300.0	12,099.2	12,315.9	12,223.7	26.9	21.9	-112.12	78.1	-511.8	449.8	401.7	48.04	9.362	
12,325.0	12,109.8	12,354.2	12,249.9	26.9	21.8	-113.17	50.2	-511.6	452.8	404.3	48.56	9.325	
12,350.0	12,119.3	12,393.9	12,274.6	26.9	21.8	-114.14	19.1	-511.4	455.8	406.6	49.15	9.272	
12,375.0	12,127.5	12,434.8	12,297.2	26.9	21.8	-115.02	-15.0	-511.2	458.4	408.6	49.80	9.205	
12,400.0	12,134.4	12,477.0	12,317.4	26.9	21.8	-115.79	-52.0	-510.9	460.8	410.3	50.49	9.126	
12,425.0	12,140.1	12,520.3	12,334.6	27.0	21.8	-116.44	-91.7	-510.7	462.8	411.6	51.18	9.041	
12,450.0	12,144.5	12,564.5	12,348.4	27.0	21.8	-116.95	-133.7	-510.4	464.4	412.5	51.87	8.953	
12,475.0	12,147.6	12,609.4	12,358.4	27.0	21.8	-117.32	-177.4	-510.1	465.5	413.0	52.51	8.866	
12,500.0	12,149.4	12,654.8	12,364.3	27.0	21.9	-117.54	-222.4	-509.8	466.2	413.1	53.08	8.782	
12,522.2	12,150.0	12,695.3	12,366.0	27.1	21.9	-117.59	-262.9	-509.5	466.3	412.8	53.52	8.714	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,548.1	12,150.0	12,720.7	12,366.0	27.1	21.9	-117.59	-288.3	-509.4	466.3	412.6	53.69	8.686	
12,600.0	12,150.0	12,772.6	12,366.0	27.2	22.0	-117.59	-340.2	-509.0	466.3	412.3	54.06	8.627	
12,700.0	12,150.0	12,872.6	12,366.0	27.3	22.2	-117.59	-440.2	-508.4	466.3	411.5	54.81	8.508	
12,800.0	12,150.0	12,972.6	12,366.0	27.5	22.5	-117.59	-540.2	-507.7	466.3	410.7	55.61	8.385	
12,900.0	12,150.0	13,072.6	12,366.0	27.8	22.8	-117.59	-640.2	-507.0	466.3	409.9	56.47	8.259	
13,000.0	12,150.0	13,172.6	12,366.0	28.1	23.1	-117.59	-740.2	-506.4	466.3	409.0	57.36	8.129	
13,100.0	12,150.0	13,272.6	12,366.0	28.4	23.4	-117.59	-840.2	-505.7	466.3	408.0	58.30	7.998	
13,200.0	12,150.0	13,372.6	12,366.0	28.7	23.8	-117.59	-940.2	-505.0	466.3	407.0	59.29	7.865	
13,300.0	12,150.0	13,472.6	12,366.0	29.0	24.2	-117.59	-1,040.2	-504.4	466.3	406.0	60.31	7.732	
13,400.0	12,150.0	13,572.6	12,366.0	29.4	24.6	-117.59	-1,140.2	-503.7	466.3	405.0	61.37	7.598	
13,500.0	12,150.0	13,672.6	12,366.0	29.8	25.1	-117.59	-1,240.2	-503.1	466.3	403.9	62.47	7.465	
13,600.0	12,150.0	13,772.6	12,366.0	30.3	25.6	-117.59	-1,340.2	-502.4	466.3	402.7	63.60	7.332	
13,700.0	12,150.0	13,872.6	12,366.0	30.7	26.1	-117.59	-1,440.2	-501.7	466.3	401.6	64.76	7.201	
13,800.0	12,150.0	13,972.6	12,366.0	31.2	26.7	-117.59	-1,540.2	-501.1	466.3	400.4	65.96	7.070	
13,900.0	12,150.0	14,072.6	12,366.0	31.7	27.2	-117.59	-1,640.2	-500.4	466.3	399.1	67.18	6.942	
14,000.0	12,150.0	14,172.6	12,366.0	32.2	27.8	-117.59	-1,740.2	-499.7	466.3	397.9	68.43	6.815	
14,100.0	12,150.0	14,272.6	12,366.0	32.7	28.4	-117.59	-1,840.2	-499.1	466.3	396.6	69.70	6.690	
14,200.0	12,150.0	14,372.6	12,366.0	33.3	29.1	-117.59	-1,940.2	-498.4	466.3	395.3	71.00	6.568	
14,300.0	12,150.0	14,472.6	12,366.0	33.9	29.7	-117.59	-2,040.2	-497.7	466.3	394.0	72.33	6.448	
14,400.0	12,150.0	14,572.6	12,366.0	34.5	30.4	-117.59	-2,140.2	-497.1	466.3	392.7	73.67	6.330	
14,500.0	12,150.0	14,672.6	12,366.0	35.1	31.1	-117.59	-2,240.2	-496.4	466.3	391.3	75.03	6.215	
14,600.0	12,150.0	14,772.6	12,366.0	35.7	31.8	-117.59	-2,340.2	-495.7	466.3	389.9	76.42	6.102	
14,700.0	12,150.0	14,872.6	12,366.0	36.3	32.5	-117.59	-2,440.2	-495.1	466.3	388.5	77.82	5.992	
14,800.0	12,150.0	14,972.6	12,366.0	37.0	33.2	-117.59	-2,540.2	-494.4	466.3	387.1	79.24	5.885	
14,900.0	12,150.0	15,072.6	12,366.0	37.7	33.9	-117.59	-2,640.2	-493.8	466.3	385.6	80.68	5.780	
15,000.0	12,150.0	15,172.6	12,366.0	38.3	34.7	-117.59	-2,740.2	-493.1	466.3	384.2	82.13	5.678	
15,100.0	12,150.0	15,272.6	12,366.0	39.0	35.4	-117.59	-2,840.2	-492.4	466.3	382.7	83.60	5.578	
15,200.0	12,150.0	15,372.6	12,366.0	39.7	36.2	-117.59	-2,940.2	-491.8	466.3	381.2	85.08	5.481	
15,300.0	12,150.0	15,472.6	12,366.0	40.5	37.0	-117.59	-3,040.2	-491.1	466.3	379.7	86.58	5.386	
15,400.0	12,150.0	15,572.6	12,366.0	41.2	37.8	-117.59	-3,140.2	-490.4	466.3	378.2	88.09	5.294	
15,500.0	12,150.0	15,672.6	12,366.0	41.9	38.6	-117.59	-3,240.2	-489.8	466.3	376.7	89.61	5.204	
15,600.0	12,150.0	15,772.6	12,366.0	42.7	39.4	-117.59	-3,340.2	-489.1	466.3	375.2	91.14	5.117	
15,700.0	12,150.0	15,872.6	12,366.0	43.4	40.2	-117.59	-3,440.1	-488.4	466.3	373.6	92.68	5.032	
15,800.0	12,150.0	15,972.6	12,366.0	44.2	41.0	-117.59	-3,540.1	-487.8	466.3	372.1	94.23	4.949	
15,900.0	12,150.0	16,072.6	12,366.0	44.9	41.8	-117.59	-3,640.1	-487.1	466.3	370.5	95.79	4.868	
16,000.0	12,150.0	16,172.6	12,366.0	45.7	42.6	-117.59	-3,740.1	-486.4	466.3	369.0	97.36	4.789	
16,100.0	12,150.0	16,272.6	12,366.0	46.5	43.5	-117.59	-3,840.1	-485.8	466.3	367.4	98.95	4.713	
16,200.0	12,150.0	16,372.6	12,366.0	47.3	44.3	-117.59	-3,940.1	-485.1	466.3	365.8	100.53	4.638	
16,300.0	12,150.0	16,472.6	12,366.0	48.1	45.1	-117.59	-4,040.1	-484.4	466.3	364.2	102.13	4.566	
16,400.0	12,150.0	16,572.6	12,366.0	48.9	46.0	-117.59	-4,140.1	-483.8	466.3	362.6	103.74	4.495	
16,500.0	12,150.0	16,672.6	12,366.0	49.7	46.8	-117.59	-4,240.1	-483.1	466.3	361.0	105.35	4.426	
16,600.0	12,150.0	16,772.6	12,366.0	50.5	47.7	-117.59	-4,340.1	-482.5	466.3	359.3	106.97	4.359	
16,700.0	12,150.0	16,872.6	12,366.0	51.3	48.6	-117.59	-4,440.1	-481.8	466.3	357.7	108.59	4.294	
16,800.0	12,150.0	16,972.6	12,366.0	52.1	49.4	-117.59	-4,540.1	-481.1	466.3	356.1	110.23	4.231	
16,900.0	12,150.0	17,072.6	12,366.0	52.9	50.3	-117.59	-4,640.1	-480.5	466.3	354.4	111.86	4.169	
17,000.0	12,150.0	17,172.6	12,366.0	53.8	51.2	-117.59	-4,740.1	-479.8	466.3	352.8	113.51	4.108	
17,100.0	12,150.0	17,272.6	12,366.0	54.6	52.0	-117.59	-4,840.1	-479.1	466.3	351.2	115.16	4.049	
17,200.0	12,150.0	17,372.6	12,366.0	55.5	52.9	-117.59	-4,940.1	-478.5	466.3	349.5	116.81	3.992	
17,300.0	12,150.0	17,472.6	12,366.0	56.3	53.8	-117.59	-5,040.1	-477.8	466.3	347.8	118.47	3.936	
17,400.0	12,150.0	17,572.6	12,366.0	57.1	54.7	-117.59	-5,140.1	-477.1	466.3	346.2	120.14	3.881	
17,500.0	12,150.0	17,672.6	12,366.0	58.0	55.6	-117.59	-5,240.1	-476.5	466.3	344.5	121.81	3.828	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
17,600.0	12,150.0	17,772.6	12,366.0	58.8	56.5	-117.59	-5,340.1	-475.8	466.3	342.8	123.48	3.776		
17,700.0	12,150.0	17,872.6	12,366.0	59.7	57.3	-117.59	-5,440.1	-475.1	466.3	341.1	125.16	3.726		
17,800.0	12,150.0	17,972.6	12,366.0	60.6	58.2	-117.59	-5,540.1	-474.5	466.3	339.5	126.84	3.676		
17,900.0	12,150.0	18,072.6	12,366.0	61.4	59.1	-117.59	-5,640.1	-473.8	466.3	337.8	128.53	3.628		
18,000.0	12,150.0	18,172.6	12,366.0	62.3	60.0	-117.59	-5,740.1	-473.2	466.3	336.1	130.22	3.581		
18,100.0	12,150.0	18,272.6	12,366.0	63.2	60.9	-117.59	-5,840.1	-472.5	466.3	334.4	131.92	3.535		
18,200.0	12,150.0	18,372.6	12,366.0	64.0	61.8	-117.59	-5,940.1	-471.8	466.3	332.7	133.61	3.490		
18,300.0	12,150.0	18,472.6	12,366.0	64.9	62.7	-117.59	-6,040.1	-471.2	466.3	331.0	135.32	3.446		
18,400.0	12,150.0	18,572.6	12,366.0	65.8	63.6	-117.59	-6,140.1	-470.5	466.3	329.3	137.02	3.403		
18,500.0	12,150.0	18,672.6	12,366.0	66.7	64.6	-117.59	-6,240.1	-469.8	466.3	327.6	138.73	3.361		
18,600.0	12,150.0	18,772.6	12,366.0	67.5	65.5	-117.59	-6,340.1	-469.2	466.3	325.9	140.44	3.320		
18,700.0	12,150.0	18,872.6	12,366.0	68.4	66.4	-117.59	-6,440.1	-468.5	466.3	324.1	142.15	3.280		
18,800.0	12,150.0	18,972.6	12,366.0	69.3	67.3	-117.59	-6,540.1	-467.8	466.3	322.4	143.87	3.241		
18,900.0	12,150.0	19,072.6	12,366.0	70.2	68.2	-117.60	-6,640.1	-467.2	466.3	320.7	145.59	3.203		
19,000.0	12,150.0	19,172.6	12,366.0	71.1	69.1	-117.60	-6,740.1	-466.5	466.3	319.0	147.31	3.165		
19,100.0	12,150.0	19,272.6	12,366.0	72.0	70.0	-117.60	-6,840.1	-465.8	466.3	317.3	149.04	3.129		
19,200.0	12,150.0	19,372.6	12,366.0	72.9	70.9	-117.60	-6,940.1	-465.2	466.3	315.5	150.76	3.093		
19,300.0	12,150.0	19,472.6	12,366.0	73.8	71.9	-117.60	-7,040.1	-464.5	466.3	313.8	152.49	3.058		
19,400.0	12,150.0	19,572.6	12,366.0	74.7	72.8	-117.60	-7,140.1	-463.8	466.3	312.1	154.23	3.023		
19,500.0	12,150.0	19,672.6	12,366.0	75.6	73.7	-117.60	-7,240.1	-463.2	466.3	310.3	155.96	2.990 Normal Operations		
19,600.0	12,150.0	19,772.6	12,366.0	76.5	74.6	-117.60	-7,340.1	-462.5	466.3	308.6	157.70	2.957 Normal Operations		
19,700.0	12,150.0	19,872.6	12,366.0	77.4	75.5	-117.60	-7,440.1	-461.9	466.3	306.9	159.44	2.925 Normal Operations		
19,766.9	12,150.0	19,939.5	12,366.0	78.0	76.2	-117.60	-7,506.9	-461.4	466.3	305.7	160.60	2.904 Normal Operations		
19,768.8	12,150.0	19,941.2	12,366.0	78.0	76.2	-117.60	-7,508.7	-461.4	466.3	305.7	160.62	2.903 Normal Operations		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: RED HILLS WEST - SD WE 24 FEDERAL P24 7H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 33-r.5 MWD												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		No-Go	Separation	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor	
5,600.0	5,519.1	5,676.0	5,614.7	19.1	26.8	-20.28	52.7	-1,704.1	997.7	952.5	45.23	22.057	
5,700.0	5,616.5	5,765.5	5,703.7	19.6	27.2	-20.87	51.2	-1,694.8	966.9	920.9	45.93	21.049	
5,800.0	5,714.0	5,853.0	5,790.9	20.1	27.5	-21.43	50.4	-1,687.7	938.1	891.4	46.63	20.118	
5,900.0	5,811.4	5,922.5	5,860.3	20.5	27.8	-21.86	50.1	-1,683.3	911.0	863.7	47.22	19.293	
5,902.0	5,813.3	5,924.1	5,861.9	20.5	27.8	-21.86	50.1	-1,683.2	910.4	863.2	47.23	19.277	
6,000.0	5,909.1	6,003.2	5,940.9	21.0	28.0	-22.23	50.1	-1,679.7	886.4	838.6	47.82	18.537	
6,100.0	6,007.1	6,095.6	6,033.2	21.4	28.3	-22.62	50.5	-1,676.8	864.9	816.5	48.43	17.861	
6,200.0	6,105.4	6,193.7	6,131.3	21.9	28.6	-23.03	50.7	-1,673.9	845.1	796.0	49.03	17.237	
6,300.0	6,204.0	6,290.5	6,228.1	22.3	28.9	-23.42	50.9	-1,670.9	826.9	777.3	49.62	16.666	
6,400.0	6,302.9	6,387.4	6,325.0	22.7	29.2	-23.79	51.0	-1,668.2	810.6	760.4	50.20	16.147	
6,500.0	6,402.1	6,485.3	6,422.8	23.2	29.5	-24.11	51.5	-1,665.6	796.0	745.2	50.77	15.678	
6,600.0	6,501.4	6,583.1	6,520.5	23.6	29.7	-24.35	52.5	-1,663.3	783.1	731.8	51.34	15.253	
6,700.0	6,600.9	6,679.5	6,617.0	23.9	30.0	-24.54	53.5	-1,661.3	772.1	720.2	51.89	14.880	
6,800.0	6,700.6	6,776.5	6,713.9	24.3	30.2	-24.71	54.3	-1,659.5	763.1	710.7	52.43	14.554	
6,900.0	6,800.4	6,873.9	6,811.3	24.7	30.5	-24.84	54.9	-1,658.1	756.0	703.0	52.96	14.276	
7,000.0	6,900.4	6,972.2	6,909.6	25.0	30.7	-24.94	55.4	-1,656.9	750.7	697.3	53.45	14.044	
7,100.0	7,000.3	7,071.2	7,008.6	25.3	30.9	-24.97	56.1	-1,655.8	747.2	693.3	53.93	13.855	
7,199.7	7,100.0	7,164.9	7,102.3	25.4	31.0	-102.04	56.7	-1,655.2	745.6	691.5	54.17	13.764	
7,200.0	7,100.3	7,165.2	7,102.6	25.4	31.0	-102.04	56.7	-1,655.2	745.6	691.5	54.17	13.764	
7,231.0	7,131.3	7,193.9	7,131.3	25.4	31.0	-102.04	56.7	-1,655.2	745.6	691.4	54.21	13.754 CC, ES	
7,300.0	7,200.3	7,257.9	7,195.3	25.5	31.1	-102.07	56.4	-1,655.3	745.8	691.5	54.28	13.740	
7,400.0	7,300.3	7,357.7	7,295.1	25.5	31.1	-102.13	55.5	-1,655.9	746.6	692.3	54.26	13.759	
7,500.0	7,400.3	7,458.2	7,395.5	25.5	31.1	-102.18	54.7	-1,656.4	747.2	693.0	54.22	13.780	
7,600.0	7,500.3	7,556.8	7,494.1	25.6	31.0	-102.22	54.1	-1,657.0	747.9	693.8	54.17	13.809	
7,700.0	7,600.3	7,656.7	7,594.1	25.6	31.0	-102.24	53.6	-1,657.8	748.8	694.7	54.12	13.837	
7,800.0	7,700.3	7,759.5	7,696.9	25.7	30.9	-102.26	53.1	-1,658.4	749.5	695.4	54.09	13.857	
7,900.0	7,800.3	7,861.3	7,798.6	25.7	31.0	-102.30	52.6	-1,658.6	749.8	695.7	54.10	13.860	
8,000.0	7,900.3	7,962.3	7,899.7	25.7	31.0	-102.32	52.3	-1,658.7	749.9	695.8	54.14	13.853	
8,100.0	8,000.3	8,062.6	8,000.0	25.8	31.1	-102.33	52.1	-1,658.7	750.0	695.8	54.21	13.834	
8,200.0	8,100.3	8,162.8	8,100.2	25.8	31.2	-102.35	51.8	-1,658.7	750.0	695.7	54.30	13.814	
8,300.0	8,200.3	8,263.2	8,200.6	25.9	31.3	-102.40	51.3	-1,658.5	750.0	695.6	54.41	13.786	
8,391.9	8,292.2	8,354.9	8,292.2	25.9	31.4	-102.46	50.5	-1,658.3	750.0	695.5	54.49	13.764	
8,400.0	8,300.3	8,362.8	8,300.1	25.9	31.4	-102.46	50.5	-1,658.3	750.0	695.5	54.49	13.763	
8,500.0	8,400.3	8,460.5	8,397.8	25.9	31.5	-102.52	49.7	-1,658.3	750.2	695.6	54.54	13.755	
8,600.0	8,500.3	8,561.0	8,498.3	26.0	31.5	-102.57	49.0	-1,658.5	750.5	696.0	54.54	13.761	
8,700.0	8,600.3	8,658.2	8,595.4	26.0	32.4	-102.34	51.9	-1,659.6	750.9	695.0	55.87	13.440	
8,800.0	8,700.3	8,778.1	8,711.1	26.1	32.5	-100.09	81.0	-1,664.5	750.1	693.6	56.53	13.269	
8,872.9	8,773.2	8,845.0	8,773.0	26.1	32.5	-98.14	106.2	-1,668.0	749.6	692.7	56.87	13.180	
8,900.0	8,800.3	8,865.8	8,792.0	26.1	32.5	-97.50	114.5	-1,669.3	749.7	692.8	56.97	13.159 SF	
9,000.0	8,900.3	8,934.0	8,852.6	26.1	32.4	-95.11	145.3	-1,674.7	753.2	696.0	57.23	13.161	
9,100.0	9,000.3	8,994.4	8,902.7	26.2	32.4	-92.59	178.1	-1,681.5	762.5	705.3	57.29	13.311	
9,200.0	9,100.3	9,048.6	8,943.8	26.2	32.4	-89.97	212.7	-1,689.2	779.1	722.0	57.08	13.648	
9,300.0	9,200.3	9,111.0	8,985.4	26.3	32.5	-86.60	258.1	-1,698.5	803.1	746.3	56.77	14.145	
9,400.0	9,300.3	9,210.5	9,039.9	26.3	32.8	-80.65	340.8	-1,706.6	832.8	775.9	56.93	14.629	
9,500.0	9,400.3	9,236.7	9,051.7	26.3	32.9	-79.00	364.1	-1,707.2	868.8	813.0	55.75	15.583	
9,600.0	9,500.3	9,263.4	9,062.5	26.4	32.9	-77.29	388.5	-1,707.5	912.9	858.4	54.49	16.754	
9,700.0	9,600.3	9,288.0	9,071.4	26.4	33.0	-75.70	411.5	-1,707.5	964.4	911.3	53.19	18.132	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 16H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 94-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)		
19,000.0	12,150.0	11,989.0	12,040.3	71.1	17.6	-68.33	-7,607.3	-597.9	915.8	866.0	49.85	18.370	
19,100.0	12,150.0	11,989.0	12,040.3	72.0	17.6	-68.33	-7,607.3	-597.9	821.9	769.8	52.05	15.789	
19,200.0	12,150.0	11,989.0	12,040.3	72.9	17.6	-68.33	-7,607.3	-597.9	729.5	674.6	54.93	13.281	
19,300.0	12,150.0	11,999.6	12,050.7	73.8	17.6	-70.32	-7,608.3	-596.4	639.4	580.2	59.13	10.813	
19,400.0	12,150.0	12,005.9	12,057.0	74.7	17.6	-71.53	-7,608.9	-595.4	552.5	487.9	64.62	8.550	
19,500.0	12,150.0	12,012.7	12,063.7	75.6	17.6	-72.84	-7,609.6	-594.3	470.7	398.7	72.07	6.532	
19,600.0	12,150.0	12,020.0	12,070.8	76.5	17.5	-74.25	-7,610.4	-593.0	397.2	315.3	81.92	4.849	
19,700.0	12,150.0	12,028.7	12,079.3	77.4	17.5	-75.95	-7,611.3	-591.5	337.4	243.6	93.76	3.598	
19,768.8	12,150.0	12,035.4	12,085.9	78.0	17.5	-77.26	-7,612.1	-590.3	308.3	206.7	101.54	3.036 CC, ES, SF	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 19H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 356-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Warning
19,200.0	12,150.0	11,864.0	11,897.4	72.9	28.8	-67.56	-7,677.9	-261.9	992.1	917.3	74.78	13.267	
19,300.0	12,150.0	11,864.0	11,897.4	73.8	28.8	-67.56	-7,677.9	-261.9	920.0	840.8	79.13	11.625	
19,400.0	12,150.0	11,864.0	11,897.4	74.7	28.8	-67.56	-7,677.9	-261.9	853.5	769.5	84.02	10.159	
19,500.0	12,150.0	11,894.6	11,924.5	75.6	28.7	-69.70	-7,691.9	-263.7	792.4	703.1	89.32	8.872	
19,600.0	12,150.0	11,912.0	11,939.3	76.5	28.7	-70.91	-7,701.1	-264.5	739.2	644.2	94.93	7.787	
19,700.0	12,150.0	11,936.6	11,959.4	77.4	28.7	-72.59	-7,715.2	-265.2	694.6	594.0	100.56	6.907	
19,768.8	12,150.0	11,958.0	11,976.3	78.0	28.7	-74.05	-7,728.3	-265.3	669.7	565.4	104.29	6.421 CC, ES, SF	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 20H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 136-r.5 MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
19,100.0	12,150.0	11,756.1	11,782.7	72.0	26.3	-27.51	-7,684.7	-682.2	939.4	885.0	54.32	17.292		
19,200.0	12,150.0	11,770.0	11,795.2	72.9	26.3	-28.16	-7,690.6	-683.5	850.3	794.4	55.88	15.216		
19,300.0	12,150.0	11,796.5	11,818.7	73.8	26.2	-29.48	-7,702.6	-686.1	762.7	705.4	57.37	13.295		
19,400.0	12,150.0	11,816.0	11,835.7	74.7	26.2	-30.52	-7,712.0	-688.0	677.1	617.5	59.64	11.353		
19,500.0	12,150.0	11,849.4	11,864.1	75.6	26.1	-32.41	-7,729.2	-691.7	593.7	531.9	61.81	9.604		
19,600.0	12,150.0	11,883.3	11,891.8	76.5	26.1	-34.42	-7,748.0	-696.1	513.0	448.3	64.66	7.934		
19,700.0	12,150.0	11,921.9	11,922.1	77.4	26.0	-36.83	-7,771.1	-702.3	435.4	367.3	68.08	6.396		
19,768.8	12,150.0	11,950.4	11,943.4	78.0	26.0	-38.66	-7,789.4	-707.5	384.4	313.5	70.94	5.419 CC, ES, SF		

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 21H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 198-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
19,200.0	12,150.0	11,811.0	11,833.5	72.9	31.8	50.57	-7,721.1	-1,258.2	922.0	853.3		68.65	13.431
19,300.0	12,150.0	11,826.5	11,847.4	73.8	31.7	51.72	-7,727.8	-1,256.6	839.2	766.3		72.89	11.513
19,400.0	12,150.0	11,858.0	11,875.0	74.7	31.7	54.16	-7,742.7	-1,253.9	759.9	682.8		77.07	9.860
19,500.0	12,150.0	11,858.0	11,875.0	75.6	31.7	54.16	-7,742.7	-1,253.9	684.1	599.7		84.32	8.113
19,600.0	12,150.0	11,904.0	11,914.1	76.5	31.7	58.03	-7,766.7	-1,250.9	613.2	523.7		89.53	6.850
19,700.0	12,150.0	11,923.6	11,930.3	77.4	31.7	59.77	-7,777.7	-1,250.0	548.6	450.8		97.85	5.607
19,768.8	12,150.0	11,944.7	11,947.2	78.0	31.7	61.69	-7,790.3	-1,249.2	509.1	405.5		103.53	4.917 CC, ES, SF

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: WAR HAMMER 25 FEDERAL COM W1 3H - PS - War Hammer 25 Federal Com W1 3H - Original Hole - Original Hole													Offset Site Error: 0.0 usft	
Survey Program: 133-MWD - OWSG		Offset		Semi Major Axis			Offset Wellbore Centre			Rule Assigned: Distance			Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
5,800.0	5,714.0	5,709.5	5,708.0	20.1	20.2	-41.43	-285.9	-1,633.1	986.1	948.7	37.44	26.338		
5,900.0	5,811.4	5,807.4	5,805.9	20.5	20.6	-42.26	-285.6	-1,633.9	969.8	931.7	38.06	25.484		
5,902.0	5,813.3	5,809.3	5,807.9	20.5	20.6	-42.28	-285.6	-1,633.9	969.5	931.4	38.07	25.467		
6,000.0	5,909.1	5,906.4	5,904.9	21.0	20.9	-42.99	-285.3	-1,634.6	954.2	915.5	38.66	24.682		
6,100.0	6,007.1	6,005.3	6,003.8	21.4	21.3	-43.68	-285.0	-1,635.3	939.9	900.7	39.26	23.944		
6,200.0	6,105.4	6,104.5	6,103.0	21.9	21.6	-44.33	-284.6	-1,635.8	927.0	887.2	39.84	23.266		
6,300.0	6,204.0	6,205.7	6,204.2	22.3	22.0	-44.95	-284.2	-1,636.2	915.3	874.9	40.43	22.643		
6,400.0	6,302.9	6,304.2	6,302.7	22.7	22.3	-45.51	-283.9	-1,636.4	904.9	863.9	41.00	22.072		
6,500.0	6,402.1	6,403.7	6,402.2	23.2	22.7	-46.03	-283.8	-1,636.5	895.7	854.2	41.56	21.553		
6,600.0	6,501.4	6,504.6	6,503.1	23.6	23.0	-46.51	-283.8	-1,636.3	887.8	845.7	42.11	21.084		
6,700.0	6,600.9	6,607.2	6,605.7	23.9	23.3	-46.94	-283.8	-1,635.9	880.8	838.2	42.64	20.657		
6,800.0	6,700.6	6,707.8	6,706.3	24.3	23.7	-47.29	-283.6	-1,635.3	874.9	831.7	43.17	20.266		
6,900.0	6,800.4	6,808.3	6,806.8	24.7	24.0	-47.58	-283.7	-1,634.4	870.1	826.4	43.69	19.914		
7,000.0	6,900.4	6,910.4	6,908.9	25.0	24.3	-47.84	-284.0	-1,633.1	866.3	822.1	44.20	19.597		
7,100.0	7,000.3	7,011.0	7,009.5	25.3	24.7	-48.03	-284.4	-1,631.6	863.5	818.8	44.71	19.316		
7,199.7	7,100.0	7,111.2	7,109.7	25.4	25.0	-125.21	-284.6	-1,630.1	861.8	816.6	45.15	19.088		
7,200.0	7,100.3	7,111.5	7,110.0	25.4	25.0	-125.21	-284.6	-1,630.1	861.8	816.6	45.15	19.087		
7,300.0	7,200.3	7,210.3	7,208.8	25.5	25.3	-125.27	-284.6	-1,628.7	860.7	815.2	45.55	18.896		
7,400.0	7,300.3	7,307.8	7,306.2	25.5	25.7	-125.33	-284.9	-1,627.5	859.9	813.9	45.95	18.712		
7,500.0	7,400.3	7,402.7	7,401.1	25.5	26.0	-125.37	-285.2	-1,626.8	859.4	813.1	46.36	18.538		
7,512.2	7,412.5	7,414.0	7,412.5	25.6	26.0	-125.38	-285.3	-1,626.7	859.4	813.0	46.41	18.518		
7,600.0	7,500.3	7,499.5	7,498.0	25.6	26.3	-125.43	-286.0	-1,626.5	859.6	812.8	46.77	18.380		
7,700.0	7,600.3	7,599.6	7,598.0	25.6	26.6	-125.50	-287.0	-1,626.1	859.9	812.7	47.18	18.227		
7,800.0	7,700.3	7,698.3	7,696.8	25.7	27.0	-125.58	-288.2	-1,625.6	860.2	812.6	47.59	18.077		
7,900.0	7,800.3	7,797.0	7,795.5	25.7	27.3	-125.67	-289.5	-1,625.3	860.7	812.7	48.00	17.933		
8,000.0	7,900.3	7,897.8	7,896.2	25.7	27.6	-125.76	-291.0	-1,624.9	861.2	812.8	48.41	17.792		
8,100.0	8,000.3	7,997.4	7,995.8	25.8	28.0	-125.85	-292.3	-1,624.5	861.7	812.9	48.82	17.651		
8,200.0	8,100.3	8,094.8	8,093.2	25.8	28.3	-125.92	-293.6	-1,624.4	862.4	813.2	49.24	17.515		
8,300.0	8,200.3	8,194.6	8,193.0	25.9	28.7	-125.98	-294.8	-1,624.6	863.2	813.6	49.66	17.382		
8,400.0	8,300.3	8,295.9	8,294.3	25.9	29.0	-126.05	-296.1	-1,624.6	864.0	813.9	50.09	17.250		
8,500.0	8,400.3	8,394.3	8,392.7	25.9	29.3	-126.13	-297.6	-1,624.4	864.8	814.3	50.51	17.121		
8,600.0	8,500.3	8,491.3	8,489.6	26.0	29.7	-126.22	-299.2	-1,624.5	865.9	814.9	50.93	17.000		
8,700.0	8,600.3	8,588.2	8,586.5	26.0	30.0	-126.29	-300.9	-1,625.0	867.3	815.9	51.36	16.887		
8,800.0	8,700.3	8,684.5	8,682.8	26.1	30.4	-126.37	-302.9	-1,625.7	869.1	817.3	51.78	16.783		
8,900.0	8,800.3	8,783.4	8,781.7	26.1	30.7	-126.45	-305.1	-1,626.6	871.2	819.0	52.21	16.685		
9,000.0	8,900.3	8,884.6	8,882.8	26.1	31.1	-126.49	-307.0	-1,627.9	873.3	820.6	52.66	16.584		
9,100.0	9,000.3	8,985.7	8,983.9	26.2	31.4	-126.52	-308.4	-1,629.2	875.2	822.1	53.10	16.481		
9,200.0	9,100.3	9,085.1	9,083.3	26.2	31.8	-126.56	-310.1	-1,630.4	877.1	823.5	53.55	16.380		
9,300.0	9,200.3	9,182.5	9,180.6	26.3	32.1	-126.62	-312.0	-1,631.4	879.1	825.1	53.98	16.285		
9,400.0	9,300.3	9,280.4	9,278.6	26.3	32.4	-126.73	-314.8	-1,632.3	881.6	827.1	54.41	16.202		
9,500.0	9,400.3	9,384.4	9,382.5	26.3	32.8	-126.80	-317.0	-1,633.6	883.8	829.0	54.86	16.110		
9,600.0	9,500.3	9,486.1	9,484.2	26.4	33.2	-126.84	-318.7	-1,634.7	885.7	830.4	55.31	16.012		
9,700.0	9,600.3	9,582.5	9,580.6	26.4	33.5	-126.86	-320.0	-1,636.1	887.6	831.9	55.76	15.919		
9,800.0	9,700.3	9,679.1	9,677.2	26.5	33.8	-126.90	-321.9	-1,637.6	890.1	833.9	56.20	15.837		
9,900.0	9,800.3	9,777.1	9,775.2	26.5	34.2	-126.94	-324.1	-1,639.3	892.8	836.2	56.65	15.760		
10,000.0	9,900.3	9,879.7	9,877.6	26.5	34.6	-126.94	-325.8	-1,641.6	895.6	838.5	57.12	15.680		
10,100.0	10,000.3	9,983.4	9,981.4	26.6	34.9	-126.92	-326.9	-1,643.7	897.8	840.3	57.59	15.591		
10,200.0	10,100.3	10,083.2	10,081.1	26.6	35.3	-126.89	-327.8	-1,645.6	899.9	841.9	58.05	15.502		
10,300.0	10,200.3	10,191.2	10,189.1	26.7	35.7	-126.85	-328.4	-1,647.6	901.8	843.2	58.54	15.405		
10,400.0	10,300.3	10,296.0	10,293.9	26.7	36.0	-126.83	-328.8	-1,648.5	902.7	843.7	59.01	15.297		
10,500.0	10,400.3	10,398.2	10,396.1	26.8	36.4	-126.85	-329.4	-1,648.8	903.3	843.8	59.47	15.188		

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: WAR HAMMER 25 FEDERAL COM W1 3H - PS - War Hammer 25 Federal Com W1 3H - Original Hole -											Offset Site Error:	0.0 usft
Original Hole											Offset Well Error:	0.0 usft
Survey Program:		133-MWD - OWSG		Rule Assigned:								
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor
10,600.0	10,500.3	10,495.8	10,493.6	26.8	36.7	-126.91	-330.5	-1,648.7	903.9	844.0	59.92	15.084
10,700.0	10,600.3	10,596.2	10,594.0	26.9	37.1	-127.00	-332.1	-1,648.4	904.6	844.2	60.37	14.984
10,800.0	10,700.3	10,692.6	10,690.4	26.9	37.4	-127.10	-333.9	-1,648.1	905.4	844.6	60.81	14.889
10,900.0	10,800.3	10,785.8	10,783.7	26.9	37.7	-127.21	-336.0	-1,648.3	907.0	845.7	61.25	14.809
11,000.0	10,900.3	10,888.6	10,886.4	27.0	38.1	-127.28	-338.0	-1,648.9	908.6	846.9	61.71	14.724
11,100.0	11,000.3	10,985.5	10,983.3	27.0	38.4	-127.35	-339.8	-1,649.5	910.2	848.0	62.16	14.643
11,200.0	11,100.3	11,075.8	11,073.5	27.1	38.8	-127.43	-342.1	-1,650.5	912.6	850.1	62.59	14.581
11,300.0	11,200.3	11,176.0	11,173.7	27.1	39.1	-127.48	-344.8	-1,652.5	915.8	852.8	63.05	14.525
11,400.0	11,300.3	11,289.0	11,286.6	27.2	39.5	-127.47	-345.9	-1,654.4	917.8	854.2	63.56	14.440
11,500.0	11,400.3	11,390.4	11,388.1	27.2	39.9	-127.40	-345.9	-1,656.1	919.2	855.1	64.04	14.353
11,600.0	11,500.3	11,479.1	11,476.7	27.3	40.2	-127.39	-346.6	-1,657.5	920.9	856.4	64.48	14.280
11,700.0	11,600.3	11,557.0	11,554.6	27.3	40.5	-127.46	-349.4	-1,659.1	924.7	859.8	64.87	14.254
11,772.2	11,672.5	11,608.5	11,605.9	27.3	40.7	-127.59	-353.1	-1,660.4	929.2	864.1	65.10	14.274
11,775.0	11,675.3	11,610.7	11,608.1	27.3	40.7	52.76	-353.3	-1,660.5	929.4	864.3	65.11	14.275
11,800.0	11,700.3	11,620.0	11,617.4	27.3	40.7	52.60	-354.1	-1,660.7	930.9	865.7	65.16	14.287
11,825.0	11,725.2	11,640.5	11,637.8	27.3	40.8	52.51	-356.2	-1,661.3	931.8	866.5	65.26	14.277
11,850.0	11,750.0	11,651.0	11,648.2	27.3	40.8	52.48	-357.5	-1,661.6	932.2	866.9	65.32	14.270
11,875.0	11,774.5	11,665.3	11,662.4	27.2	40.9	52.53	-359.5	-1,662.0	932.2	866.8	65.41	14.252
11,900.0	11,798.8	11,682.0	11,678.7	27.2	40.9	52.65	-362.5	-1,662.5	931.7	866.2	65.50	14.224
11,925.0	11,822.7	11,689.7	11,686.3	27.2	40.9	52.79	-364.0	-1,662.7	930.8	865.2	65.55	14.200
11,950.0	11,846.2	11,702.8	11,699.1	27.2	41.0	53.01	-366.9	-1,663.0	929.4	863.8	65.63	14.162
11,975.0	11,869.3	11,717.4	11,713.2	27.1	41.0	53.31	-370.6	-1,663.2	927.6	861.8	65.72	14.115
12,000.0	11,891.8	11,740.6	11,735.4	27.1	41.1	53.74	-377.1	-1,663.2	925.1	859.2	65.86	14.046
12,025.0	11,913.7	11,760.0	11,753.9	27.1	41.2	54.21	-383.2	-1,662.8	921.9	855.9	65.99	13.972
12,050.0	11,934.9	11,777.0	11,769.9	27.0	41.2	54.74	-388.9	-1,662.2	918.2	852.1	66.10	13.891
12,075.0	11,955.4	11,795.5	11,787.1	27.0	41.3	55.37	-395.6	-1,661.3	913.9	847.7	66.22	13.800
12,100.0	11,975.2	11,808.0	11,798.6	27.0	41.3	56.00	-400.4	-1,660.7	909.1	842.8	66.32	13.708
12,125.0	11,994.1	11,826.6	11,815.7	27.0	41.4	56.79	-407.9	-1,659.6	903.8	837.3	66.46	13.600
12,150.0	12,012.1	11,840.0	11,827.7	27.0	41.4	57.58	-413.6	-1,658.8	898.1	831.5	66.57	13.491
12,175.0	12,029.2	11,852.5	11,838.9	26.9	41.5	58.44	-419.1	-1,658.0	892.0	825.3	66.68	13.377
12,200.0	12,045.3	11,871.0	11,855.2	26.9	41.5	59.48	-427.8	-1,656.9	885.7	818.9	66.84	13.252
12,225.0	12,060.4	11,871.0	11,855.2	26.9	41.5	60.20	-427.8	-1,656.9	879.0	812.1	66.89	13.141
12,250.0	12,074.5	11,883.3	11,865.9	26.9	41.6	61.25	-433.8	-1,656.3	872.2	805.1	67.03	13.012
12,275.0	12,087.4	11,892.2	11,873.5	26.9	41.6	62.26	-438.3	-1,655.9	865.1	798.0	67.15	12.883
12,300.0	12,099.2	11,902.0	11,881.9	26.9	41.6	63.36	-443.4	-1,655.6	858.0	790.7	67.29	12.749
12,325.0	12,109.8	11,911.4	11,889.9	26.9	41.6	64.50	-448.4	-1,655.4	850.7	783.2	67.44	12.613
12,350.0	12,119.3	11,922.1	11,898.8	26.9	41.7	65.74	-454.2	-1,655.2	843.2	775.6	67.61	12.472
12,375.0	12,127.5	11,934.0	11,908.7	26.9	41.7	67.07	-460.8	-1,655.0	835.7	767.9	67.80	12.327
12,400.0	12,134.4	11,942.7	11,915.9	26.9	41.7	68.32	-465.8	-1,654.9	828.2	760.2	67.98	12.183
12,425.0	12,140.1	11,952.7	11,924.0	27.0	41.8	69.66	-471.6	-1,654.8	820.6	752.4	68.17	12.037
12,450.0	12,144.5	11,965.0	11,934.0	27.0	41.8	71.15	-478.9	-1,654.9	813.1	744.7	68.39	11.888
12,475.0	12,147.6	11,972.5	11,940.0	27.0	41.8	72.42	-483.4	-1,654.9	805.6	737.0	68.59	11.745
12,500.0	12,149.4	11,982.7	11,948.0	27.0	41.8	73.85	-489.6	-1,655.0	798.3	729.4	68.81	11.600
12,522.2	12,150.0	11,997.0	11,959.2	27.1	41.9	75.43	-498.5	-1,655.1	791.9	722.9	69.04	11.470
12,600.0	12,150.0	12,028.0	11,982.8	27.2	42.0	77.18	-518.6	-1,655.6	772.4	702.6	69.73	11.077
12,700.0	12,150.0	12,097.1	12,032.8	27.3	42.2	80.95	-566.3	-1,656.3	754.0	683.5	70.58	10.683
12,800.0	12,150.0	12,162.3	12,076.4	27.5	42.5	84.28	-614.7	-1,655.2	741.4	670.2	71.23	10.408
12,900.0	12,150.0	12,224.5	12,114.4	27.8	42.7	87.23	-663.9	-1,654.9	735.7	664.0	71.72	10.258
12,934.0	12,150.0	12,248.0	12,128.2	27.9	42.8	88.30	-683.0	-1,655.1	735.3	663.5	71.85	10.235
13,000.0	12,150.0	12,289.9	12,151.4	28.1	43.0	90.11	-717.8	-1,656.0	736.8	664.7	72.06	10.225
13,100.0	12,150.0	12,385.9	12,195.4	28.4	43.4	93.52	-803.1	-1,658.4	741.8	669.6	72.25	10.268

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: WAR HAMMER 25 FEDERAL COM W1 3H - PS - War Hammer 25 Federal Com W1 3H - Original Hole -												Offset Site Error:	0.0 usft
Original Hole												Offset Well Error:	0.0 usft
Survey Program:		133-MWD - OWSG		Rule Assigned:									
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Separation	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor	Warning
13,200.0	12,150.0	12,478.9	12,231.4	28.7	43.8	96.26	-888.8	-1,660.7	748.8	676.4	72.43	10.338	
13,300.0	12,150.0	12,700.0	12,281.8	29.0	44.8	100.12	-1,102.1	-1,656.1	752.4	679.9	72.56	10.369	
13,400.0	12,150.0	12,796.0	12,279.6	29.4	45.3	100.04	-1,197.8	-1,649.1	745.5	672.1	73.39	10.157	
13,500.0	12,150.0	12,858.6	12,278.3	29.8	45.7	99.96	-1,260.4	-1,646.7	741.8	667.6	74.25	9.991	
13,545.9	12,150.0	12,891.0	12,279.1	30.0	45.9	100.03	-1,292.7	-1,646.1	741.4	666.8	74.62	9.936	
13,600.0	12,150.0	12,941.6	12,281.2	30.3	46.2	100.19	-1,343.3	-1,645.6	741.6	666.5	75.10	9.875	
13,700.0	12,150.0	13,034.8	12,284.6	30.7	46.8	100.44	-1,436.4	-1,645.4	742.7	666.7	76.04	9.768	
13,800.0	12,150.0	13,132.3	12,286.9	31.2	47.5	100.60	-1,533.9	-1,646.1	744.5	667.4	77.08	9.659	
13,900.0	12,150.0	13,237.2	12,287.8	31.7	48.3	100.64	-1,638.8	-1,647.0	746.2	667.9	78.27	9.534	
14,000.0	12,150.0	13,342.1	12,284.4	32.2	49.1	100.37	-1,743.7	-1,647.8	747.0	667.4	79.63	9.381	
14,100.0	12,150.0	13,450.3	12,280.2	32.7	50.0	100.04	-1,851.7	-1,647.9	747.1	666.0	81.10	9.212	
14,200.0	12,150.0	13,551.9	12,277.6	33.3	50.9	99.84	-1,953.3	-1,647.0	746.4	663.8	82.57	9.040	
14,300.0	12,150.0	13,654.5	12,275.2	33.9	51.8	99.67	-2,055.9	-1,645.8	745.5	661.4	84.10	8.865	
14,400.0	12,150.0	13,773.6	12,271.5	34.5	53.0	99.41	-2,174.9	-1,643.6	743.9	658.1	85.80	8.671	
14,500.0	12,150.0	13,925.3	12,269.6	35.1	54.5	99.41	-2,326.0	-1,630.9	735.8	648.2	87.54	8.405	
14,600.0	12,150.0	14,003.4	12,267.7	35.7	55.3	99.36	-2,403.7	-1,623.2	726.4	637.2	89.17	8.145	
14,700.0	12,150.0	14,099.6	12,267.6	36.3	56.3	99.44	-2,499.6	-1,615.8	719.4	628.6	90.84	7.919	
14,800.0	12,150.0	14,214.1	12,267.9	37.0	57.6	99.58	-2,613.7	-1,605.5	711.2	618.7	92.57	7.683	
14,900.0	12,150.0	14,278.8	12,267.4	37.7	58.3	99.61	-2,678.1	-1,600.6	704.3	610.1	94.24	7.473	
14,964.8	12,150.0	14,313.0	12,267.3	38.1	58.7	99.61	-2,712.3	-1,599.3	702.6	607.4	95.22	7.379 CC	
15,000.0	12,150.0	14,313.0	12,267.3	38.3	58.7	99.61	-2,712.3	-1,599.3	703.5	608.0	95.53	7.365	
15,100.0	12,150.0	14,408.0	12,267.1	39.0	59.8	99.52	-2,807.1	-1,603.9	708.9	611.6	97.31	7.285	
15,200.0	12,150.0	14,506.3	12,266.4	39.7	60.9	99.35	-2,905.0	-1,612.4	717.9	618.7	99.18	7.238	
15,300.0	12,150.0	14,622.6	12,266.3	40.5	62.3	99.26	-3,021.2	-1,617.6	723.0	621.7	101.29	7.138	
15,400.0	12,150.0	14,721.9	12,266.0	41.2	63.5	99.21	-3,120.5	-1,619.5	725.5	622.3	103.23	7.028	
15,500.0	12,150.0	14,787.0	12,264.5	41.9	64.3	99.04	-3,185.5	-1,623.6	731.9	627.1	104.79	6.984	
15,600.0	12,150.0	14,849.2	12,262.7	42.7	65.0	98.81	-3,247.2	-1,630.6	743.1	636.9	106.17	6.999	
15,700.0	12,150.0	14,937.1	12,260.8	43.4	66.1	98.50	-3,334.1	-1,643.8	758.1	650.1	108.01	7.019	
15,800.0	12,150.0	15,108.3	12,259.4	44.2	68.2	98.19	-3,504.3	-1,661.6	769.3	658.0	111.35	6.909	
15,900.0	12,150.0	15,282.0	12,258.3	44.9	70.4	98.09	-3,677.9	-1,662.0	770.1	655.9	114.13	6.747	
16,000.0	12,150.0	15,385.0	12,257.2	45.7	71.8	98.05	-3,780.8	-1,657.3	766.1	649.8	116.29	6.587	
16,100.0	12,150.0	15,492.6	12,256.1	46.5	73.3	98.02	-3,888.2	-1,651.5	761.2	642.8	118.49	6.425	
16,200.0	12,150.0	15,589.4	12,255.7	47.3	74.6	98.05	-3,984.8	-1,645.6	755.8	635.2	120.65	6.265	
16,300.0	12,150.0	15,682.3	12,257.3	48.1	75.9	98.22	-4,077.6	-1,640.8	751.6	628.9	122.75	6.123	
16,400.0	12,150.0	15,790.7	12,258.4	48.9	77.4	98.36	-4,185.8	-1,635.2	747.4	622.4	124.95	5.982	
16,500.0	12,150.0	15,875.6	12,260.1	49.7	78.5	98.53	-4,270.5	-1,630.2	742.5	615.5	127.04	5.845	
16,600.0	12,150.0	15,993.3	12,261.7	50.5	80.2	98.69	-4,388.2	-1,626.6	740.7	611.5	129.30	5.729	
16,700.0	12,150.0	16,111.8	12,262.9	51.3	81.9	98.89	-4,506.2	-1,616.5	733.0	601.5	131.51	5.574	
16,800.0	12,150.0	16,159.1	12,263.0	52.1	82.6	98.92	-4,553.5	-1,614.0	728.5	595.0	133.54	5.455	
16,810.7	12,150.0	16,163.9	12,263.0	52.2	82.6	98.92	-4,558.3	-1,613.9	728.5	594.7	133.73	5.447	
16,900.0	12,150.0	16,210.0	12,263.0	52.9	83.3	98.90	-4,604.4	-1,615.4	731.5	596.3	135.16	5.412	
17,000.0	12,150.0	16,291.7	12,262.8	53.8	84.4	98.81	-4,685.8	-1,621.5	739.3	602.2	137.09	5.393	
17,100.0	12,150.0	16,445.9	12,261.6	54.6	86.6	98.63	-4,839.9	-1,627.5	743.5	603.2	140.33	5.298	
17,200.0	12,150.0	16,559.3	12,260.8	55.5	88.3	98.57	-4,953.2	-1,626.9	743.6	600.8	142.81	5.207	
17,300.0	12,150.0	16,704.5	12,260.1	56.3	90.4	98.57	-5,098.3	-1,621.2	740.4	595.1	145.36	5.094	
17,400.0	12,150.0	16,803.9	12,261.3	57.1	91.9	98.77	-5,197.2	-1,611.5	731.7	584.0	147.64	4.956	
17,500.0	12,150.0	16,869.0	12,261.8	58.0	92.8	98.83	-5,262.3	-1,609.4	728.6	578.7	149.85	4.862	
17,600.0	12,150.0	16,973.3	12,260.9	58.8	94.4	98.76	-5,366.6	-1,608.4	728.3	576.0	152.27	4.783	
17,700.0	12,150.0	17,058.0	12,260.9	59.7	95.6	98.79	-5,451.2	-1,605.8	726.0	571.4	154.52	4.698	
17,729.6	12,150.0	17,084.0	12,261.1	60.0	96.0	98.81	-5,477.2	-1,605.2	725.6	570.4	155.17	4.676	
17,800.0	12,150.0	17,124.5	12,261.1	60.6	96.6	98.80	-5,517.7	-1,605.8	727.1	570.6	156.43	4.648	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: WAR HAMMER 25 FEDERAL COM W1 3H - PS - War Hammer 25 Federal Com W1 3H - Original Hole - Original Hole											Offset Site Error:	0.0 usft
Survey Program: 133-MWD - OWSG											Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor
17,900.0	12,150.0	17,234.6	12,259.9	61.4	98.2	98.64	-5,627.6	-1,610.9	732.3	573.2	159.03	4.604
18,000.0	12,150.0	17,343.3	12,259.2	62.3	99.9	98.56	-5,736.3	-1,612.3	734.1	572.5	161.58	4.543
18,100.0	12,150.0	17,443.9	12,258.5	63.2	101.4	98.48	-5,836.9	-1,613.3	735.6	571.6	164.03	4.485
18,200.0	12,150.0	17,544.0	12,257.3	64.0	102.9	98.37	-5,937.0	-1,614.3	737.1	570.6	166.49	4.427
18,300.0	12,150.0	17,647.0	12,261.0	64.9	104.4	98.65	-6,039.9	-1,614.1	738.1	569.3	168.81	4.372
18,400.0	12,150.0	17,733.9	12,265.5	65.8	105.8	98.99	-6,126.7	-1,614.6	740.1	569.3	170.87	4.332
18,500.0	12,150.0	17,830.3	12,267.1	66.7	107.2	99.07	-6,223.0	-1,616.7	743.2	570.0	173.18	4.291
18,600.0	12,150.0	17,931.3	12,265.2	67.5	108.7	98.88	-6,324.0	-1,620.2	746.9	571.2	175.73	4.251
18,700.0	12,150.0	18,066.4	12,263.9	68.4	110.8	98.77	-6,459.0	-1,619.7	746.9	568.2	178.66	4.180
18,800.0	12,150.0	18,170.3	12,265.3	69.3	112.4	98.91	-6,562.9	-1,616.8	745.0	563.9	181.08	4.114
18,900.0	12,150.0	18,266.5	12,267.2	70.2	113.9	99.08	-6,659.0	-1,614.0	743.1	559.7	183.43	4.051
19,000.0	12,150.0	18,361.5	12,267.9	71.1	115.4	99.14	-6,754.0	-1,612.2	741.9	556.1	185.82	3.993
19,100.0	12,150.0	18,457.2	12,263.6	72.0	116.8	98.82	-6,849.7	-1,611.7	741.4	552.9	188.43	3.934
19,134.4	12,150.0	18,489.6	12,262.2	72.3	117.3	98.71	-6,882.0	-1,611.6	741.3	552.0	189.32	3.916
19,200.0	12,150.0	18,547.9	12,260.1	72.9	118.2	98.53	-6,940.2	-1,611.9	741.7	550.7	190.95	3.884
19,300.0	12,150.0	18,638.6	12,258.2	73.8	119.6	98.37	-7,030.9	-1,613.1	743.3	550.0	193.38	3.844 ES
19,400.0	12,150.0	18,736.4	12,258.6	74.7	121.2	98.37	-7,128.7	-1,614.9	745.9	550.1	195.81	3.809
19,500.0	12,150.0	18,832.5	12,259.2	75.6	122.6	98.39	-7,224.8	-1,616.8	748.6	550.4	198.21	3.777
19,600.0	12,150.0	18,902.0	12,260.0	76.5	123.7	98.43	-7,294.2	-1,618.5	752.4	552.4	199.98	3.762 SF
19,700.0	12,150.0	18,902.0	12,260.0	77.4	123.7	98.43	-7,294.2	-1,618.5	766.0	567.7	198.27	3.863
19,768.8	12,150.0	18,902.0	12,260.0	78.0	123.7	98.43	-7,294.2	-1,618.5	782.7	587.1	195.54	4.003

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - SD 24 13 FED P416 19H - OWB - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
11,700.0	11,600.3	11,858.6	11,662.5	27.3	34.7	-95.47	117.2	-1,918.4	998.8	937.6		61.29	16.296
11,772.2	11,672.5	11,925.4	11,714.9	27.3	34.7	-93.10	158.5	-1,918.6	995.0	933.4		61.56	16.162
11,775.0	11,675.3	11,927.7	11,716.6	27.3	34.7	87.39	160.1	-1,918.6	994.9	933.3		61.57	16.158
11,800.0	11,700.3	11,947.3	11,731.0	27.3	34.7	88.29	173.4	-1,918.7	993.9	932.3		61.61	16.132
11,825.0	11,725.2	11,964.6	11,743.3	27.3	34.7	89.13	185.6	-1,918.8	993.3	931.6		61.63	16.116
11,850.0	11,750.0	11,979.6	11,753.7	27.3	34.7	89.87	196.4	-1,918.9	992.9	931.3		61.62	16.113 SF
11,855.9	11,755.8	11,982.9	11,755.9	27.3	34.7	90.03	198.8	-1,918.9	992.9	931.3		61.62	16.114 CC, ES
11,875.0	11,774.5	11,992.6	11,762.4	27.2	34.7	90.49	206.0	-1,918.9	993.1	931.5		61.59	16.123
11,900.0	11,798.8	12,003.5	11,769.6	27.2	34.7	90.98	214.2	-1,919.0	993.7	932.1		61.54	16.148
11,925.0	11,822.7	12,012.6	11,775.4	27.2	34.7	91.32	221.2	-1,919.0	994.8	933.4		61.46	16.187
11,950.0	11,846.2	12,020.0	11,780.1	27.2	34.7	91.51	226.9	-1,919.0	996.6	935.2		61.36	16.242
11,975.0	11,869.3	12,025.8	11,783.7	27.1	34.7	91.55	231.4	-1,919.1	998.9	937.7		61.24	16.311

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 133-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
5,700.0	5,616.5	5,610.4	5,608.9	19.6	14.8	-40.38	-281.0	-1,630.9	999.1	968.4	30.68	32.560	
5,800.0	5,714.0	5,709.6	5,708.1	20.1	15.0	-41.20	-280.7	-1,631.7	982.5	951.4	31.08	31.615	
5,900.0	5,811.4	5,807.5	5,806.1	20.5	15.2	-42.03	-280.4	-1,632.6	966.1	934.7	31.46	30.713	
5,902.0	5,813.3	5,809.5	5,808.0	20.5	15.2	-42.04	-280.4	-1,632.6	965.8	934.3	31.46	30.696	
6,000.0	5,909.1	5,906.5	5,905.0	21.0	15.4	-42.76	-280.1	-1,633.3	950.5	918.7	31.81	29.881	
6,100.0	6,007.1	6,005.4	6,003.9	21.4	15.6	-43.45	-279.7	-1,633.9	936.2	904.0	32.14	29.127	
6,200.0	6,105.4	6,104.6	6,103.1	21.9	15.8	-44.10	-279.3	-1,634.5	923.2	890.7	32.45	28.447	
6,300.0	6,204.0	6,205.7	6,204.3	22.3	16.0	-44.71	-278.9	-1,634.9	911.4	878.7	32.72	27.857	
6,400.0	6,302.9	6,304.2	6,302.7	22.7	16.1	-45.27	-278.6	-1,635.0	900.9	867.9	32.97	27.325	
6,500.0	6,402.1	6,403.7	6,402.2	23.2	16.3	-45.79	-278.5	-1,635.1	891.7	858.5	33.21	26.853	
6,600.0	6,501.4	6,504.5	6,503.0	23.6	16.2	-46.27	-278.6	-1,635.0	883.8	850.4	33.39	26.468	
6,700.0	6,600.9	6,607.1	6,605.6	23.9	16.1	-46.70	-278.5	-1,634.6	876.8	843.3	33.51	26.163	
6,800.0	6,700.6	6,707.7	6,706.3	24.3	16.0	-47.05	-278.4	-1,633.9	870.8	837.2	33.63	25.893	
6,900.0	6,800.4	6,808.2	6,806.7	24.7	15.9	-47.35	-278.5	-1,633.1	866.0	832.3	33.76	25.654	
7,000.0	6,900.4	6,910.2	6,908.7	25.0	15.7	-47.61	-278.8	-1,631.8	862.2	828.3	33.87	25.454	
7,100.0	7,000.3	7,010.8	7,009.3	25.3	15.6	-47.79	-279.2	-1,630.3	859.4	825.4	33.99	25.287	
7,199.7	7,100.0	7,111.1	7,109.5	25.4	15.4	-124.98	-279.4	-1,628.7	857.7	823.7	34.03	25.206	
7,200.0	7,100.3	7,111.4	7,109.8	25.4	15.4	-124.98	-279.4	-1,628.7	857.7	823.7	34.03	25.206	
7,300.0	7,200.3	7,210.1	7,208.6	25.5	15.3	-125.04	-279.5	-1,627.4	856.7	822.7	34.02	25.181	
7,400.0	7,300.3	7,307.6	7,306.1	25.5	15.1	-125.10	-279.8	-1,626.2	855.8	821.8	34.03	25.148	
7,500.0	7,400.3	7,402.5	7,401.0	25.5	15.0	-125.15	-280.1	-1,625.5	855.4	821.3	34.10	25.088	
7,510.6	7,410.9	7,412.5	7,410.9	25.6	15.0	-125.15	-280.2	-1,625.4	855.4	821.3	34.11	25.080	
7,600.0	7,500.3	7,499.4	7,497.8	25.6	15.0	-125.20	-280.9	-1,625.2	855.6	821.4	34.20	25.019	
7,700.0	7,600.3	7,599.4	7,597.8	25.6	14.9	-125.27	-282.0	-1,624.8	855.9	821.6	34.29	24.958	
7,800.0	7,700.3	7,698.2	7,696.6	25.7	14.9	-125.36	-283.2	-1,624.3	856.2	821.8	34.40	24.893	
7,900.0	7,800.3	7,796.9	7,795.3	25.7	14.9	-125.44	-284.5	-1,624.0	856.8	822.3	34.51	24.827	
8,000.0	7,900.3	7,897.6	7,896.0	25.7	14.9	-125.53	-286.0	-1,623.7	857.3	822.7	34.61	24.768	
8,100.0	8,000.3	7,997.2	7,995.6	25.8	14.8	-125.62	-287.3	-1,623.3	857.8	823.1	34.73	24.703	
8,200.0	8,100.3	8,094.7	8,093.1	25.8	14.9	-125.69	-288.6	-1,623.3	858.5	823.7	34.87	24.621	
8,300.0	8,200.3	8,194.5	8,192.9	25.9	14.9	-125.75	-289.8	-1,623.4	859.4	824.4	35.02	24.537	
8,400.0	8,300.3	8,295.8	8,294.2	25.9	15.0	-125.82	-291.1	-1,623.5	860.2	825.0	35.16	24.462	
8,500.0	8,400.3	8,394.2	8,392.5	25.9	15.0	-125.90	-292.6	-1,623.4	861.0	825.7	35.31	24.386	
8,600.0	8,500.3	8,491.2	8,489.5	26.0	15.1	-125.99	-294.2	-1,623.5	862.1	826.6	35.47	24.304	
8,700.0	8,600.3	8,588.1	8,586.4	26.0	15.2	-126.06	-295.9	-1,624.0	863.5	827.8	35.66	24.217	
8,800.0	8,700.3	8,684.4	8,682.7	26.1	15.3	-126.13	-297.9	-1,624.7	865.3	829.5	35.86	24.132	
8,900.0	8,800.3	8,783.3	8,781.6	26.1	15.5	-126.21	-300.0	-1,625.7	867.4	831.4	36.06	24.053	
9,000.0	8,900.3	8,884.6	8,882.8	26.1	15.6	-126.26	-301.9	-1,627.0	869.5	833.3	36.28	23.966	
9,100.0	9,000.3	8,985.7	8,983.9	26.2	15.8	-126.28	-303.3	-1,628.4	871.4	834.9	36.51	23.867	
9,200.0	9,100.3	9,085.1	9,083.3	26.2	16.0	-126.32	-304.9	-1,629.6	873.4	836.6	36.74	23.772	
9,300.0	9,200.3	9,182.3	9,180.5	26.3	16.2	-126.38	-306.8	-1,630.6	875.4	838.4	36.96	23.682	
9,400.0	9,300.3	9,280.3	9,278.5	26.3	16.3	-126.49	-309.6	-1,631.6	877.9	840.7	37.18	23.612	
9,500.0	9,400.3	9,384.3	9,382.5	26.3	16.5	-126.55	-311.7	-1,632.9	880.2	842.8	37.40	23.534	
9,600.0	9,500.3	9,486.1	9,484.2	26.4	16.7	-126.59	-313.4	-1,634.1	882.0	844.4	37.63	23.438	
9,700.0	9,600.3	9,582.5	9,580.6	26.4	16.9	-126.61	-314.7	-1,635.4	884.0	846.1	37.89	23.330	
9,800.0	9,700.3	9,679.1	9,677.1	26.5	17.1	-126.65	-316.6	-1,637.0	886.5	848.3	38.15	23.236	
9,900.0	9,800.3	9,777.2	9,775.2	26.5	17.4	-126.69	-318.7	-1,638.8	889.2	850.8	38.43	23.140	
10,000.0	9,900.3	9,879.8	9,877.8	26.5	17.6	-126.69	-320.4	-1,641.1	892.0	853.3	38.71	23.045	
10,100.0	10,000.3	9,983.6	9,981.5	26.6	17.9	-126.66	-321.5	-1,643.2	894.2	855.2	38.98	22.941	
10,200.0	10,100.3	10,083.4	10,081.3	26.6	18.1	-126.63	-322.3	-1,645.2	896.3	857.0	39.26	22.832	
10,300.0	10,200.3	10,191.3	10,189.2	26.7	18.4	-126.58	-322.9	-1,647.2	898.1	858.6	39.51	22.729	
10,400.0	10,300.3	10,296.0	10,293.9	26.7	18.6	-126.57	-323.3	-1,648.1	899.1	859.3	39.75	22.617	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 133-r.5 MWD													Offset Well Error: 0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
10,500.0	10,400.3	10,398.2	10,396.1	26.8	18.8	-126.58	-323.9	-1,648.4	899.6	859.7	39.95	22.517	
10,600.0	10,500.3	10,495.6	10,493.5	26.8	18.9	-126.64	-325.0	-1,648.3	900.3	860.1	40.13	22.435	
10,700.0	10,600.3	10,596.0	10,593.8	26.9	18.9	-126.74	-326.6	-1,648.0	901.0	860.7	40.27	22.372	
10,800.0	10,700.3	10,692.4	10,690.3	26.9	19.0	-126.84	-328.3	-1,647.8	901.8	861.4	40.44	22.303	
10,900.0	10,800.3	10,785.7	10,783.5	26.9	19.1	-126.94	-330.5	-1,648.0	903.4	862.8	40.64	22.228	
11,000.0	10,900.3	10,888.5	10,886.3	27.0	19.3	-127.01	-332.4	-1,648.7	905.1	864.2	40.87	22.146	
11,100.0	11,000.3	10,985.4	10,983.2	27.0	19.5	-127.08	-334.2	-1,649.3	906.7	865.6	41.11	22.055	
11,200.0	11,100.3	11,075.7	11,073.4	27.1	19.7	-127.15	-336.5	-1,650.3	909.1	867.8	41.37	21.974	
11,300.0	11,200.3	11,176.0	11,173.7	27.1	19.9	-127.21	-339.2	-1,652.4	912.4	870.7	41.66	21.901	
11,400.0	11,300.3	11,289.1	11,286.8	27.2	20.2	-127.19	-340.3	-1,654.3	914.3	872.4	41.92	21.809	
11,500.0	11,400.3	11,390.6	11,388.2	27.2	20.4	-127.12	-340.2	-1,656.1	915.7	873.5	42.19	21.704	
11,600.0	11,500.3	11,479.1	11,476.7	27.3	20.6	-127.10	-340.9	-1,657.4	917.3	874.9	42.48	21.594	
11,700.0	11,600.3	11,557.0	11,554.6	27.3	20.8	-127.17	-343.6	-1,659.1	921.2	878.4	42.79	21.526	
11,772.2	11,672.5	11,608.1	11,605.5	27.3	20.9	-127.31	-347.3	-1,660.5	925.8	882.8	43.01	21.525	
11,775.0	11,675.3	11,610.4	11,607.8	27.3	20.9	53.05	-347.5	-1,660.5	926.0	883.0	43.02	21.526	
11,800.0	11,700.3	11,620.0	11,617.4	27.3	20.9	52.89	-348.3	-1,660.8	927.5	884.3	43.14	21.500	
11,825.0	11,725.2	11,640.1	11,637.4	27.3	21.0	52.79	-350.3	-1,661.4	928.4	885.1	43.25	21.465	
11,850.0	11,750.0	11,651.0	11,648.2	27.3	21.0	52.77	-351.7	-1,661.8	928.8	885.4	43.40	21.401	
11,875.0	11,774.5	11,664.8	11,661.8	27.2	21.0	52.81	-353.6	-1,662.2	928.8	885.3	43.56	21.322	
11,900.0	11,798.8	11,682.0	11,678.8	27.2	21.1	52.94	-356.6	-1,662.8	928.5	884.7	43.72	21.236	
11,925.0	11,822.7	11,682.0	11,678.8	27.2	21.1	53.02	-356.6	-1,662.8	927.6	883.7	43.96	21.100	
11,950.0	11,846.2	11,701.8	11,698.1	27.2	21.1	53.29	-360.8	-1,663.3	926.3	882.1	44.13	20.989	
11,975.0	11,869.3	11,714.0	11,709.9	27.1	21.1	53.56	-363.8	-1,663.6	924.5	880.2	44.34	20.849	
12,000.0	11,891.8	11,737.9	11,732.9	27.1	21.2	54.00	-370.4	-1,663.8	922.2	877.7	44.49	20.727	
12,025.0	11,913.7	11,757.5	11,751.6	27.1	21.2	54.47	-376.5	-1,663.5	919.1	874.5	44.66	20.580	
12,050.0	11,934.9	11,777.0	11,769.9	27.0	21.3	55.02	-383.1	-1,663.0	915.5	870.7	44.83	20.421	
12,075.0	11,955.4	11,792.8	11,784.5	27.0	21.3	55.61	-388.8	-1,662.4	911.4	866.3	45.03	20.238	
12,100.0	11,975.2	11,808.0	11,798.6	27.0	21.3	56.27	-394.6	-1,661.7	906.7	861.5	45.24	20.041	
12,125.0	11,994.1	11,823.9	11,813.2	27.0	21.3	57.02	-401.0	-1,660.9	901.6	856.2	45.45	19.837	
12,150.0	12,012.1	11,840.0	11,827.7	27.0	21.3	57.85	-407.8	-1,660.1	896.1	850.4	45.66	19.625	
12,175.0	12,029.2	11,850.2	11,836.8	26.9	21.4	58.66	-412.3	-1,659.5	890.2	844.2	45.92	19.384	
12,200.0	12,045.3	11,861.5	11,846.8	26.9	21.4	59.54	-417.5	-1,659.0	884.0	837.8	46.18	19.142	
12,225.0	12,060.4	11,871.0	11,855.2	26.9	21.4	60.45	-422.0	-1,658.5	877.5	831.1	46.45	18.890	
12,250.0	12,074.5	11,881.3	11,864.2	26.9	21.4	61.43	-427.1	-1,658.1	870.8	824.1	46.72	18.638	
12,275.0	12,087.4	11,890.1	11,871.8	26.9	21.4	62.44	-431.6	-1,657.8	864.0	817.0	47.00	18.381	
12,300.0	12,099.2	11,902.0	11,881.9	26.9	21.4	63.58	-437.7	-1,657.5	857.0	809.8	47.25	18.137	
12,325.0	12,109.8	11,902.0	11,881.9	26.9	21.4	64.38	-437.7	-1,657.5	850.0	802.4	47.61	17.853	
12,350.0	12,119.3	11,919.4	11,896.6	26.9	21.5	65.83	-447.0	-1,657.3	842.7	794.9	47.79	17.633	
12,375.0	12,127.5	11,934.0	11,908.7	26.9	21.5	67.25	-455.1	-1,657.3	835.4	787.5	47.99	17.409	
12,400.0	12,134.4	11,934.0	11,908.7	26.9	21.5	68.10	-455.1	-1,657.3	828.1	779.8	48.31	17.140	
12,425.0	12,140.1	11,949.7	11,921.7	27.0	21.5	69.66	-464.2	-1,657.3	820.7	772.3	48.47	16.932	
12,450.0	12,144.5	11,965.0	11,934.0	27.0	21.6	71.27	-473.2	-1,657.5	813.5	764.9	48.62	16.731	
12,475.0	12,147.6	11,965.0	11,934.0	27.0	21.6	72.13	-473.2	-1,657.5	806.3	757.4	48.89	16.490	
12,500.0	12,149.4	11,979.2	11,945.3	27.0	21.6	73.74	-481.8	-1,657.8	799.1	750.1	49.01	16.305	
12,522.2	12,150.0	11,987.9	11,952.1	27.1	21.6	74.96	-487.1	-1,658.0	793.0	743.9	49.13	16.140	
12,600.0	12,150.0	12,019.5	11,976.4	27.2	21.7	76.76	-507.3	-1,658.8	774.3	724.9	49.46	15.656	
12,700.0	12,150.0	12,088.4	12,026.7	27.3	21.9	80.54	-554.3	-1,660.7	757.5	707.9	49.50	15.301	
12,800.0	12,150.0	12,154.0	12,071.1	27.5	22.1	83.92	-602.6	-1,660.7	746.3	696.8	49.46	15.089	
12,900.0	12,150.0	12,217.0	12,110.0	27.8	22.3	86.91	-652.2	-1,661.2	742.0	692.7	49.35	15.036	
12,911.0	12,150.0	12,225.3	12,114.9	27.8	22.3	87.29	-658.9	-1,661.4	742.0	692.6	49.33	15.041 CC	
13,000.0	12,150.0	12,281.2	12,146.7	28.1	22.5	89.75	-704.7	-1,663.2	744.6	695.4	49.18	15.139	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 133-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
13,100.0	12,150.0	12,377.0	12,191.7	28.4	22.9	93.19	-789.1	-1,667.3	751.4	702.3	49.16	15.285	
13,200.0	12,150.0	12,469.6	12,227.8	28.7	23.3	95.91	-874.3	-1,671.4	760.2	711.0	49.22	15.445	
13,300.0	12,150.0	12,700.0	12,281.9	29.0	24.6	99.92	-1,096.3	-1,671.6	767.3	716.7	50.56	15.174	
13,400.0	12,150.0	12,779.6	12,280.4	29.4	25.3	99.86	-1,175.7	-1,667.1	762.0	710.5	51.52	14.791	
13,500.0	12,150.0	12,852.0	12,278.3	29.8	25.9	99.72	-1,248.0	-1,665.6	760.2	707.7	52.49	14.482	
13,504.4	12,150.0	12,855.2	12,278.3	29.8	25.9	99.72	-1,251.2	-1,665.5	760.2	707.6	52.53	14.471	
13,600.0	12,150.0	12,932.7	12,280.8	30.3	26.6	99.90	-1,328.7	-1,665.9	761.7	708.2	53.52	14.234	
13,700.0	12,150.0	13,025.5	12,284.3	30.7	27.5	100.12	-1,421.4	-1,667.6	764.8	710.0	54.73	13.973	
13,800.0	12,150.0	13,122.2	12,286.7	31.2	28.5	100.26	-1,518.0	-1,670.2	768.6	712.5	56.10	13.699	
13,900.0	12,150.0	13,226.3	12,287.9	31.7	29.7	100.29	-1,622.1	-1,673.3	772.3	714.6	57.67	13.391	
14,000.0	12,150.0	13,331.7	12,284.8	32.2	30.9	100.02	-1,727.4	-1,676.3	775.2	715.8	59.43	13.045	
14,100.0	12,150.0	13,439.5	12,280.6	32.7	32.2	99.67	-1,835.1	-1,678.7	777.5	716.2	61.31	12.680	
14,200.0	12,150.0	13,542.2	12,277.8	33.3	33.5	99.44	-1,937.7	-1,680.0	778.9	715.7	63.17	12.329	
14,300.0	12,150.0	13,644.5	12,275.4	33.9	34.9	99.26	-2,040.1	-1,680.9	780.1	715.0	65.08	11.986	
14,400.0	12,150.0	13,755.5	12,272.0	34.5	36.4	98.99	-2,150.9	-1,681.5	780.8	713.6	67.19	11.621	
14,500.0	12,150.0	13,917.8	12,269.8	35.1	38.7	98.93	-2,312.9	-1,672.3	775.2	705.4	69.77	11.109	
14,600.0	12,150.0	13,998.4	12,267.8	35.7	39.9	98.84	-2,393.3	-1,665.9	767.6	696.0	71.66	10.712	
14,700.0	12,150.0	14,092.4	12,267.6	36.3	41.2	98.88	-2,487.1	-1,660.6	762.6	689.0	73.63	10.357	
14,800.0	12,150.0	14,207.5	12,267.9	37.0	42.9	98.99	-2,601.9	-1,652.7	756.6	680.9	75.78	9.984	
14,900.0	12,150.0	14,274.0	12,267.5	37.7	43.9	99.00	-2,668.3	-1,648.8	751.4	673.8	77.63	9.679	
14,959.5	12,150.0	14,313.0	12,267.3	38.1	44.5	98.99	-2,707.3	-1,648.1	750.7	672.0	78.69	9.540 ES	
15,000.0	12,150.0	14,313.0	12,267.3	38.3	44.5	98.99	-2,707.3	-1,648.1	751.8	672.8	78.96	9.521	
15,100.0	12,150.0	14,378.1	12,267.1	39.0	45.6	98.94	-2,772.3	-1,651.1	757.9	677.3	80.62	9.400	
15,200.0	12,150.0	14,479.9	12,266.7	39.7	47.1	98.76	-2,873.4	-1,662.9	770.0	687.0	82.98	9.279	
15,300.0	12,150.0	14,606.3	12,266.2	40.5	49.0	98.62	-2,999.5	-1,671.8	777.5	691.7	85.73	9.069	
15,400.0	12,150.0	14,714.5	12,266.1	41.2	50.6	98.55	-3,107.6	-1,676.3	782.1	693.9	88.14	8.873	
15,500.0	12,150.0	14,787.0	12,264.5	41.9	51.8	98.37	-3,179.8	-1,682.1	789.9	699.9	90.00	8.777	
15,600.0	12,150.0	14,837.1	12,263.1	42.7	52.5	98.19	-3,229.5	-1,688.6	802.3	711.1	91.21	8.796	
15,700.0	12,150.0	14,914.5	12,261.2	43.4	53.7	97.93	-3,305.8	-1,701.5	819.0	726.0	93.00	8.806	
15,800.0	12,150.0	15,050.8	12,259.8	44.2	55.7	97.63	-3,440.6	-1,721.1	833.7	737.3	96.38	8.650	
15,900.0	12,150.0	15,245.4	12,258.5	44.9	58.7	97.44	-3,634.8	-1,730.9	837.7	737.1	100.55	8.330	
16,000.0	12,150.0	15,377.1	12,257.3	45.7	60.8	97.38	-3,766.4	-1,728.3	835.8	732.5	103.28	8.093	
16,100.0	12,150.0	15,485.8	12,256.1	46.5	62.5	97.32	-3,875.0	-1,724.7	833.1	727.4	105.73	7.879	
16,200.0	12,150.0	15,583.8	12,255.7	47.3	64.0	97.32	-3,973.0	-1,720.8	829.7	721.6	108.10	7.676	
16,300.0	12,150.0	15,675.2	12,257.2	48.1	65.4	97.45	-4,064.3	-1,717.9	827.5	717.1	110.35	7.498	
16,400.0	12,150.0	15,783.5	12,258.3	48.9	67.1	97.55	-4,172.6	-1,714.6	825.3	712.5	112.78	7.318	
16,500.0	12,150.0	15,870.6	12,260.0	49.7	68.5	97.69	-4,259.6	-1,711.2	822.4	707.3	115.02	7.150	
16,533.0	12,150.0	15,892.3	12,260.3	49.9	68.8	97.71	-4,281.3	-1,710.8	822.1	706.4	115.69	7.106	
16,600.0	12,150.0	15,975.9	12,261.4	50.5	70.2	97.79	-4,364.9	-1,710.5	822.7	705.2	117.48	7.002	
16,700.0	12,150.0	16,108.3	12,262.9	51.3	72.3	97.96	-4,497.0	-1,702.5	817.1	697.1	120.06	6.806	
16,791.9	12,150.0	16,151.5	12,263.0	52.1	73.0	97.98	-4,540.1	-1,700.7	814.2	692.2	121.99	6.674	
16,800.0	12,150.0	16,155.0	12,263.0	52.1	73.1	97.98	-4,543.6	-1,700.7	814.2	692.1	122.14	6.666	
16,900.0	12,150.0	16,210.0	12,263.0	52.9	74.0	97.95	-4,598.6	-1,703.2	818.5	694.5	123.98	6.602	
17,000.0	12,150.0	16,275.1	12,262.8	53.8	75.0	97.88	-4,663.4	-1,709.3	827.8	702.1	125.66	6.587	
17,100.0	12,150.0	16,432.1	12,261.7	54.6	77.5	97.69	-4,820.0	-1,719.7	835.2	705.8	129.39	6.455	
17,200.0	12,150.0	16,548.4	12,260.8	55.5	79.4	97.60	-4,936.3	-1,721.8	837.5	705.3	132.12	6.339	
17,300.0	12,150.0	16,697.4	12,260.1	56.3	81.7	97.57	-5,085.2	-1,719.5	836.8	701.7	135.07	6.195	
17,400.0	12,150.0	16,802.2	12,261.3	57.1	83.4	97.72	-5,189.7	-1,711.6	830.0	692.5	137.55	6.035	
17,500.0	12,150.0	16,869.0	12,261.8	58.0	84.6	97.75	-5,256.5	-1,710.7	828.7	688.8	139.87	5.925	
17,508.1	12,150.0	16,869.0	12,261.8	58.1	84.6	97.75	-5,256.5	-1,710.7	828.6	688.7	139.98	5.919	
17,600.0	12,150.0	16,961.0	12,261.1	58.8	86.0	97.69	-5,348.4	-1,712.0	830.4	688.1	142.31	5.835	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 133-r.5 MWD													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,698.5	12,150.0	17,058.0	12,260.9	59.7	87.6	97.68	-5,445.4	-1,711.0	830.1	685.3	144.75	5.735	
17,700.0	12,150.0	17,058.0	12,260.9	59.7	87.6	97.68	-5,445.4	-1,711.0	830.1	685.3	144.77	5.734	
17,800.0	12,150.0	17,116.4	12,261.1	60.6	88.5	97.68	-5,503.8	-1,712.0	832.6	686.0	146.64	5.678	
17,900.0	12,150.0	17,210.0	12,260.2	61.4	90.1	97.55	-5,597.2	-1,718.5	840.0	690.9	149.10	5.634	
18,000.0	12,150.0	17,330.3	12,259.3	62.3	92.0	97.44	-5,717.4	-1,723.0	844.1	692.1	152.04	5.552	
18,100.0	12,150.0	17,431.4	12,258.6	63.2	93.6	97.37	-5,818.5	-1,726.1	847.7	693.1	154.61	5.483	
18,200.0	12,150.0	17,530.5	12,257.5	64.0	95.2	97.26	-5,917.5	-1,729.1	851.3	694.1	157.16	5.417	
18,300.0	12,150.0	17,637.9	12,260.5	64.9	96.9	97.43	-6,024.8	-1,731.3	854.3	694.6	159.70	5.349	
18,400.0	12,150.0	17,722.0	12,265.0	65.8	98.2	97.71	-6,108.7	-1,733.4	858.0	696.3	161.78	5.304	
18,500.0	12,150.0	17,817.0	12,267.2	66.7	99.7	97.81	-6,203.6	-1,737.2	863.0	698.9	164.15	5.258	
18,600.0	12,150.0	17,911.0	12,265.7	67.5	101.2	97.67	-6,297.5	-1,742.3	868.8	702.2	166.62	5.214	
18,700.0	12,150.0	18,056.6	12,263.8	68.4	103.6	97.51	-6,443.0	-1,745.7	871.4	701.4	170.00	5.126	
18,800.0	12,150.0	18,162.4	12,265.2	69.3	105.3	97.59	-6,548.8	-1,745.0	871.6	699.0	172.55	5.051	
18,844.0	12,150.0	18,206.2	12,265.9	69.7	106.0	97.64	-6,592.6	-1,744.6	871.6	697.9	173.64	5.019	
18,900.0	12,150.0	18,258.7	12,267.1	70.2	106.8	97.72	-6,645.1	-1,744.2	871.7	696.7	174.98	4.982	
19,000.0	12,150.0	18,351.9	12,268.1	71.1	108.3	97.78	-6,738.3	-1,744.2	872.5	695.1	177.41	4.918	
19,100.0	12,150.0	18,446.4	12,264.1	72.0	109.8	97.50	-6,832.6	-1,745.5	874.0	694.0	180.04	4.855	
19,200.0	12,150.0	18,536.6	12,260.4	72.9	111.3	97.24	-6,922.8	-1,747.5	876.3	693.7	182.58	4.799	
19,300.0	12,150.0	18,625.8	12,258.3	73.8	112.7	97.08	-7,011.9	-1,750.4	879.9	694.9	185.04	4.755	
19,400.0	12,150.0	18,721.9	12,258.5	74.7	114.3	97.06	-7,107.9	-1,754.1	884.4	696.9	187.52	4.716	
19,500.0	12,150.0	18,818.5	12,259.1	75.6	115.8	97.06	-7,204.4	-1,758.0	889.1	699.1	190.00	4.679	
19,600.0	12,150.0	18,902.0	12,260.0	76.5	117.1	97.08	-7,287.8	-1,761.7	894.4	702.2	192.18	4.654 SF	
19,700.0	12,150.0	18,902.0	12,260.0	77.4	117.1	97.08	-7,287.8	-1,761.7	906.7	715.5	191.25	4.741	
19,768.8	12,150.0	18,902.0	12,260.0	78.0	117.1	97.08	-7,287.8	-1,761.7	921.4	732.0	189.43	4.864	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W2 2H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 134-MWD - OWSG R1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,031.9	4,971.0	4,974.2	16.9	17.3	-36.12	-248.4	-1,523.4	996.0	963.4	32.60	30.550	
5,200.0	5,129.3	5,066.1	5,068.9	17.3	17.7	-36.47	-244.4	-1,531.4	983.7	950.4	33.29	29.547	
5,300.0	5,226.8	5,165.9	5,168.2	17.8	18.1	-36.82	-240.0	-1,539.7	971.5	937.5	34.00	28.572	
5,400.0	5,324.2	5,258.4	5,260.3	18.2	18.4	-37.18	-236.3	-1,547.8	959.8	925.1	34.68	27.673	
5,500.0	5,421.6	5,354.6	5,356.0	18.7	18.8	-37.57	-232.9	-1,556.5	948.5	913.2	35.37	26.815	
5,600.0	5,519.1	5,452.0	5,453.0	19.1	19.2	-37.91	-228.5	-1,566.0	937.6	901.5	36.07	25.992	
5,700.0	5,616.5	5,552.0	5,552.2	19.6	19.5	-38.23	-223.5	-1,576.1	926.8	890.0	36.79	25.194	
5,800.0	5,714.0	5,655.8	5,655.4	20.1	19.9	-38.59	-218.6	-1,586.1	915.7	878.2	37.51	24.416	
5,900.0	5,811.4	5,757.7	5,756.9	20.5	20.3	-39.01	-214.2	-1,595.1	904.2	866.0	38.21	23.663	
5,902.0	5,813.3	5,759.6	5,758.8	20.5	20.3	-39.01	-214.1	-1,595.2	904.0	865.7	38.22	23.648	
6,000.0	5,909.1	5,851.8	5,850.5	21.0	20.7	-39.32	-210.6	-1,603.3	893.4	854.5	38.89	22.976	
6,100.0	6,007.1	5,946.7	5,945.0	21.4	21.0	-39.58	-206.9	-1,612.4	884.8	845.2	39.56	22.365	
6,200.0	6,105.4	6,045.3	6,043.0	21.9	21.4	-39.76	-202.9	-1,622.2	877.8	837.5	40.25	21.807	
6,300.0	6,204.0	6,147.9	6,145.0	22.3	21.8	-39.90	-198.9	-1,632.3	872.1	831.1	40.95	21.295	
6,400.0	6,302.9	6,243.0	6,239.6	22.7	22.2	-39.97	-195.2	-1,641.5	867.6	825.9	41.63	20.841	
6,500.0	6,402.1	6,347.6	6,343.5	23.2	22.6	-39.94	-190.6	-1,652.3	864.8	822.5	42.34	20.426	
6,600.0	6,501.4	6,449.1	6,444.4	23.6	23.0	-39.82	-185.7	-1,662.4	862.7	819.7	43.04	20.044	
6,700.0	6,600.9	6,552.8	6,547.6	23.9	23.4	-39.68	-181.2	-1,672.1	861.8	818.0	43.74	19.701	
6,736.6	6,637.4	6,589.2	6,583.8	24.1	23.5	-39.63	-179.7	-1,675.4	861.7	817.7	43.99	19.588 CC	
6,800.0	6,700.6	6,652.5	6,646.8	24.3	23.7	-39.51	-177.2	-1,681.1	862.0	817.5	44.42	19.403 ES	
6,900.0	6,800.4	6,757.3	6,751.1	24.7	24.1	-39.29	-173.3	-1,690.0	863.2	818.1	45.11	19.137	
7,000.0	6,900.4	6,860.8	6,854.2	25.0	24.5	-38.99	-169.0	-1,698.4	865.3	819.5	45.78	18.901	
7,100.0	7,000.3	6,958.9	6,951.9	25.3	24.9	-38.66	-165.1	-1,706.2	868.7	822.3	46.43	18.711	
7,199.7	7,100.0	7,054.1	7,046.7	25.4	25.3	-115.36	-161.3	-1,714.2	873.8	826.9	46.99	18.598	
7,200.0	7,100.3	7,054.4	7,047.0	25.4	25.3	-115.36	-161.3	-1,714.2	873.9	826.9	46.99	18.598	
7,300.0	7,200.3	7,150.6	7,142.7	25.5	25.6	-114.86	-156.9	-1,723.0	880.2	832.7	47.49	18.537	
7,400.0	7,300.3	7,251.5	7,243.0	25.5	26.0	-114.34	-152.4	-1,732.3	886.8	838.8	47.99	18.478	
7,500.0	7,400.3	7,356.3	7,347.4	25.5	26.4	-113.88	-148.6	-1,741.1	893.0	844.5	48.50	18.413	
7,600.0	7,500.3	7,455.2	7,445.9	25.6	26.8	-113.48	-145.2	-1,748.9	898.8	849.9	48.98	18.350	
7,700.0	7,600.3	7,552.2	7,542.4	25.6	27.2	-113.01	-140.9	-1,757.4	905.1	855.7	49.47	18.295	
7,800.0	7,700.3	7,656.9	7,646.7	25.7	27.6	-112.56	-136.7	-1,766.2	911.4	861.4	49.98	18.235	
7,900.0	7,800.3	7,765.0	7,754.5	25.7	28.0	-112.15	-133.0	-1,774.1	916.8	866.3	50.48	18.161	
8,000.0	7,900.3	7,868.2	7,857.4	25.7	28.4	-111.84	-130.1	-1,780.6	921.6	870.7	50.96	18.085	
8,100.0	8,000.3	7,972.1	7,961.1	25.8	28.7	-111.57	-127.8	-1,786.5	926.1	874.6	51.43	18.006	
8,200.0	8,100.3	8,078.5	8,067.4	25.8	29.1	-111.35	-126.0	-1,791.6	929.9	878.0	51.90	17.919	
8,300.0	8,200.3	8,178.2	8,166.9	25.9	29.5	-111.16	-124.5	-1,796.0	933.5	881.2	52.35	17.833	
8,400.0	8,300.3	8,282.6	8,271.3	25.9	29.9	-110.99	-123.1	-1,800.2	936.8	884.0	52.80	17.741	
8,500.0	8,400.3	8,385.4	8,374.0	25.9	30.2	-110.85	-122.1	-1,803.9	939.8	886.6	53.25	17.648	
8,600.0	8,500.3	8,492.4	8,481.0	26.0	30.6	-110.72	-120.9	-1,807.1	942.2	888.5	53.71	17.544	
8,700.0	8,600.3	8,595.4	8,584.0	26.0	31.0	-110.59	-119.6	-1,809.6	944.1	889.9	54.16	17.432	
8,800.0	8,700.3	8,695.8	8,684.2	26.1	31.4	-110.48	-118.6	-1,811.8	945.8	891.2	54.60	17.322	
8,900.0	8,800.3	8,796.1	8,784.6	26.1	31.7	-110.41	-118.0	-1,813.9	947.4	892.4	55.04	17.213	
9,000.0	8,900.3	8,897.6	8,886.0	26.1	32.1	-110.36	-117.9	-1,815.7	949.0	893.6	55.48	17.106	
9,100.0	9,000.3	8,996.3	8,984.7	26.2	32.4	-110.32	-117.7	-1,817.3	950.6	894.7	55.92	17.000	
9,200.0	9,100.3	9,092.0	9,080.4	26.2	32.8	-110.26	-117.5	-1,819.3	952.5	896.1	56.36	16.901	
9,300.0	9,200.3	9,189.7	9,178.0	26.3	33.1	-110.19	-117.1	-1,821.8	954.7	897.9	56.80	16.808	
9,400.0	9,300.3	9,273.3	9,261.7	26.3	33.4	-110.12	-116.9	-1,824.7	957.8	900.6	57.22	16.739	
9,500.0	9,400.3	9,379.8	9,368.0	26.3	33.8	-110.04	-117.1	-1,829.0	961.7	904.0	57.68	16.673	
9,600.0	9,500.3	9,489.3	9,477.5	26.4	34.2	-109.99	-117.3	-1,832.0	964.4	906.3	58.14	16.588	
9,700.0	9,600.3	9,579.9	9,568.0	26.4	34.5	-109.96	-117.8	-1,834.7	967.3	908.7	58.57	16.516	
9,800.0	9,700.3	9,681.6	9,669.7	26.5	34.9	-109.97	-119.0	-1,837.8	970.6	911.6	59.01	16.450	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W2 2H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 134-MWD - OWSG R1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,900.0	9,800.3	9,788.4	9,776.5	26.5	35.2	-110.07	-121.6	-1,840.0	973.3	913.9	59.43	16.377	
10,000.0	9,900.3	9,906.3	9,894.3	26.5	35.6	-110.32	-126.4	-1,840.7	975.4	915.6	59.84	16.301	
10,100.0	10,000.3	10,021.7	10,009.6	26.6	36.0	-110.53	-129.5	-1,838.9	974.8	914.6	60.23	16.186	
10,200.0	10,100.3	10,120.5	10,108.4	26.6	36.3	-110.64	-131.0	-1,837.4	973.9	913.3	60.63	16.062	
10,300.0	10,200.3	10,220.2	10,208.1	26.7	36.6	-110.74	-132.3	-1,836.0	973.1	912.1	61.04	15.942	
10,400.0	10,300.3	10,320.3	10,308.1	26.7	36.9	-110.81	-133.1	-1,834.8	972.3	910.8	61.45	15.822	
10,500.0	10,400.3	10,416.0	10,403.8	26.8	37.2	-110.84	-133.3	-1,834.2	971.8	909.9	61.87	15.707	
10,518.2	10,418.5	10,430.7	10,418.5	26.8	37.3	-110.84	-133.4	-1,834.2	971.8	909.8	61.95	15.686	
10,600.0	10,500.3	10,502.7	10,490.5	26.8	37.5	-110.85	-133.7	-1,834.5	972.2	909.9	62.30	15.606	
10,700.0	10,600.3	10,598.3	10,586.1	26.9	37.9	-110.87	-134.4	-1,835.5	973.4	910.7	62.73	15.517	
10,800.0	10,700.3	10,687.5	10,675.3	26.9	38.2	-110.84	-134.6	-1,837.3	975.4	912.3	63.17	15.441	
10,900.0	10,800.3	10,774.6	10,762.3	26.9	38.5	-110.74	-134.0	-1,840.6	978.6	915.0	63.61	15.385	
11,000.0	10,900.3	10,863.7	10,851.3	27.0	38.8	-110.58	-132.9	-1,845.2	983.1	919.0	64.05	15.348	
11,100.0	11,000.3	10,964.7	10,952.2	27.0	39.2	-110.42	-132.1	-1,851.0	988.2	923.7	64.53	15.313	
11,200.0	11,100.3	11,058.7	11,046.0	27.1	39.5	-110.39	-133.3	-1,855.6	993.3	928.3	64.97	15.288	
11,300.0	11,200.3	11,183.9	11,171.0	27.1	40.0	-110.40	-135.4	-1,860.8	997.8	932.3	65.49	15.237	
11,950.0	11,846.2	11,839.9	11,826.8	27.2	42.2	71.84	-151.7	-1,867.7	998.6	930.1	68.49	14.581	
11,975.0	11,869.3	11,863.1	11,850.0	27.1	42.3	72.61	-152.3	-1,867.9	996.0	927.3	68.64	14.510	
12,000.0	11,891.8	11,885.8	11,872.7	27.1	42.4	73.47	-153.0	-1,868.2	993.0	924.2	68.79	14.435	
12,025.0	11,913.7	11,907.9	11,894.8	27.1	42.4	74.42	-153.6	-1,868.4	989.8	920.8	68.94	14.356	
12,050.0	11,934.9	11,929.4	11,916.3	27.0	42.5	75.44	-154.2	-1,868.7	986.3	917.2	69.10	14.275	
12,075.0	11,955.4	11,950.3	11,937.2	27.0	42.6	76.52	-154.8	-1,868.9	982.7	913.5	69.25	14.191	
12,100.0	11,975.2	11,970.5	11,957.3	27.0	42.6	77.64	-155.3	-1,869.1	979.0	909.6	69.40	14.107	
12,125.0	11,994.1	11,989.8	11,976.6	27.0	42.7	78.80	-155.9	-1,869.3	975.2	905.7	69.55	14.023	
12,150.0	12,012.1	12,008.3	11,995.1	27.0	42.8	79.98	-156.4	-1,869.5	971.5	901.8	69.69	13.940	
12,175.0	12,029.2	12,025.8	12,012.7	26.9	42.8	81.16	-156.9	-1,869.7	967.8	898.0	69.83	13.859	
12,200.0	12,045.3	12,042.4	12,029.2	26.9	42.9	82.32	-157.4	-1,869.9	964.3	894.3	69.97	13.782	
12,225.0	12,060.4	12,057.9	12,044.7	26.9	42.9	83.44	-157.8	-1,870.1	960.9	890.8	70.10	13.708	
12,250.0	12,074.5	12,072.4	12,059.2	26.9	43.0	84.52	-158.2	-1,870.3	957.8	887.6	70.22	13.640	
12,275.0	12,087.4	12,085.8	12,072.6	26.9	43.0	85.53	-158.6	-1,870.4	955.0	884.7	70.34	13.577	
12,300.0	12,099.2	12,098.1	12,084.9	26.9	43.1	86.47	-158.9	-1,870.6	952.6	882.1	70.45	13.522	
12,325.0	12,109.8	12,109.2	12,096.0	26.9	43.1	87.31	-159.2	-1,870.7	950.6	880.0	70.55	13.474	
12,350.0	12,119.3	12,119.1	12,105.9	26.9	43.1	88.04	-159.5	-1,870.8	949.1	878.4	70.64	13.435	
12,375.0	12,127.5	12,127.7	12,114.5	26.9	43.2	88.65	-159.8	-1,870.9	948.1	877.3	70.72	13.405	
12,400.0	12,134.4	12,135.2	12,122.0	26.9	43.2	89.13	-160.0	-1,871.0	947.6	876.8	70.80	13.385	
12,406.6	12,136.0	12,136.9	12,123.7	26.9	43.2	89.23	-160.0	-1,871.1	947.6	876.8	70.81	13.381	
12,425.0	12,140.1	12,141.4	12,128.2	27.0	43.2	89.47	-160.2	-1,871.1	947.7	876.9	70.86	13.375 SF	
12,450.0	12,144.5	12,146.4	12,133.2	27.0	43.2	89.68	-160.3	-1,871.2	948.5	877.6	70.92	13.375	
12,475.0	12,147.6	12,150.0	12,136.8	27.0	43.3	89.73	-160.4	-1,871.2	949.9	878.9	70.96	13.386	
12,500.0	12,149.4	12,152.6	12,139.4	27.0	43.3	89.64	-160.5	-1,871.3	951.9	880.9	71.00	13.408	
12,522.2	12,150.0	12,153.7	12,140.5	27.1	43.3	89.43	-160.5	-1,871.3	954.2	883.2	71.02	13.436	
12,600.0	12,150.0	12,155.9	12,142.7	27.2	43.3	89.56	-160.6	-1,871.3	966.4	895.3	71.07	13.598	
12,700.0	12,150.0	12,158.8	12,145.5	27.3	43.3	89.73	-160.7	-1,871.3	990.8	919.7	71.08	13.939	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST01 AWP												Offset Site Error:	0.0 usft
Survey Program: 134-MWD - OWSG R1, 12355-MWD - OWSG R1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
5,100.0	5,031.9	4,971.0	4,974.2	16.9	17.3	-36.12	-248.4	-1,523.4	996.0	963.3	32.60	30.546	
5,200.0	5,129.3	5,066.1	5,068.9	17.3	17.7	-36.47	-244.4	-1,531.4	983.7	950.4	33.30	29.543	
5,300.0	5,226.8	5,165.9	5,168.2	17.8	18.1	-36.82	-240.0	-1,539.7	971.5	937.5	34.01	28.568	
5,400.0	5,324.2	5,258.4	5,260.3	18.2	18.4	-37.18	-236.3	-1,547.8	959.8	925.1	34.69	27.668	
5,500.0	5,421.6	5,354.6	5,356.0	18.7	18.8	-37.57	-232.9	-1,556.5	948.5	913.2	35.38	26.811	
5,600.0	5,519.1	5,452.0	5,453.0	19.1	19.2	-37.91	-228.5	-1,566.0	937.6	901.5	36.08	25.987	
5,700.0	5,616.5	5,552.0	5,552.2	19.6	19.5	-38.23	-223.5	-1,576.1	926.8	890.0	36.79	25.190	
5,800.0	5,714.0	5,655.8	5,655.4	20.1	19.9	-38.59	-218.6	-1,586.1	915.7	878.2	37.51	24.412	
5,900.0	5,811.4	5,757.7	5,756.9	20.5	20.3	-39.01	-214.2	-1,595.1	904.2	866.0	38.22	23.659	
5,902.0	5,813.3	5,759.6	5,758.8	20.5	20.3	-39.01	-214.1	-1,595.2	904.0	865.7	38.23	23.644	
6,000.0	5,909.1	5,851.8	5,850.5	21.0	20.7	-39.32	-210.6	-1,603.3	893.4	854.5	38.89	22.972	
6,100.0	6,007.1	5,946.7	5,945.0	21.4	21.0	-39.58	-206.9	-1,612.4	884.8	845.2	39.57	22.360	
6,200.0	6,105.4	6,045.3	6,043.0	21.9	21.4	-39.76	-202.9	-1,622.2	877.8	837.5	40.26	21.802	
6,300.0	6,204.0	6,147.9	6,145.0	22.3	21.8	-39.90	-198.9	-1,632.3	872.1	831.1	40.96	21.290	
6,400.0	6,302.9	6,243.0	6,239.6	22.7	22.2	-39.97	-195.2	-1,641.5	867.6	825.9	41.64	20.837	
6,500.0	6,402.1	6,347.6	6,343.5	23.2	22.6	-39.94	-190.6	-1,652.3	864.8	822.5	42.35	20.422	
6,600.0	6,501.4	6,449.1	6,444.4	23.6	23.0	-39.82	-185.7	-1,662.4	862.7	819.7	43.05	20.039	
6,700.0	6,600.9	6,552.8	6,547.6	23.9	23.4	-39.68	-181.2	-1,672.1	861.8	818.0	43.75	19.697	
6,736.6	6,637.4	6,589.2	6,583.8	24.1	23.5	-39.63	-179.7	-1,675.4	861.7	817.7	44.00	19.584 CC	
6,800.0	6,700.6	6,652.5	6,646.8	24.3	23.7	-39.51	-177.2	-1,681.1	862.0	817.5	44.43	19.399 ES	
6,900.0	6,800.4	6,757.3	6,751.1	24.7	24.1	-39.29	-173.3	-1,690.0	863.2	818.1	45.12	19.133	
7,000.0	6,900.4	6,860.8	6,854.2	25.0	24.5	-38.99	-169.0	-1,698.4	865.3	819.5	45.79	18.896	
7,100.0	7,000.3	6,958.9	6,951.9	25.3	24.9	-38.66	-165.1	-1,706.2	868.7	822.3	46.44	18.706	
7,199.7	7,100.0	7,054.1	7,046.7	25.4	25.3	-115.36	-161.3	-1,714.2	873.8	826.8	47.00	18.593	
7,200.0	7,100.3	7,054.4	7,047.0	25.4	25.3	-115.36	-161.3	-1,714.2	873.9	826.9	47.00	18.593	
7,300.0	7,200.3	7,150.6	7,142.7	25.5	25.6	-114.86	-156.9	-1,723.0	880.2	832.7	47.50	18.532	
7,400.0	7,300.3	7,251.5	7,243.0	25.5	26.0	-114.34	-152.4	-1,732.3	886.8	838.8	48.01	18.473	
7,500.0	7,400.3	7,356.3	7,347.4	25.5	26.4	-113.88	-148.6	-1,741.1	893.0	844.5	48.51	18.408	
7,600.0	7,500.3	7,455.2	7,445.9	25.6	26.8	-113.48	-145.2	-1,748.9	898.8	849.9	49.00	18.345	
7,700.0	7,600.3	7,552.2	7,542.4	25.6	27.2	-113.01	-140.9	-1,757.4	905.1	855.6	49.49	18.290	
7,800.0	7,700.3	7,656.9	7,646.7	25.7	27.6	-112.56	-136.7	-1,766.2	911.4	861.4	49.99	18.230	
7,900.0	7,800.3	7,765.0	7,754.5	25.7	28.0	-112.15	-133.0	-1,774.1	916.8	866.3	50.50	18.156	
8,000.0	7,900.3	7,868.2	7,857.4	25.7	28.4	-111.84	-130.1	-1,780.6	921.6	870.6	50.97	18.080	
8,100.0	8,000.3	7,972.1	7,961.1	25.8	28.7	-111.57	-127.8	-1,786.5	926.1	874.6	51.44	18.001	
8,200.0	8,100.3	8,078.5	8,067.4	25.8	29.1	-111.35	-126.0	-1,791.6	929.9	878.0	51.91	17.914	
8,300.0	8,200.3	8,178.2	8,166.9	25.9	29.5	-111.16	-124.5	-1,796.0	933.5	881.2	52.36	17.828	
8,400.0	8,300.3	8,282.6	8,271.3	25.9	29.9	-110.99	-123.1	-1,800.2	936.8	884.0	52.82	17.736	
8,500.0	8,400.3	8,385.4	8,374.0	25.9	30.2	-110.85	-122.1	-1,803.9	939.8	886.5	53.27	17.643	
8,600.0	8,500.3	8,492.4	8,481.0	26.0	30.6	-110.72	-120.9	-1,807.1	942.2	888.5	53.72	17.539	
8,700.0	8,600.3	8,595.4	8,584.0	26.0	31.0	-110.59	-119.6	-1,809.6	944.1	889.9	54.17	17.427	
8,800.0	8,700.3	8,695.8	8,684.2	26.1	31.4	-110.48	-118.6	-1,811.8	945.8	891.1	54.62	17.316	
8,900.0	8,800.3	8,796.1	8,784.6	26.1	31.7	-110.41	-118.0	-1,813.9	947.4	892.4	55.06	17.208	
9,000.0	8,900.3	8,897.6	8,886.0	26.1	32.1	-110.36	-117.9	-1,815.7	949.0	893.5	55.50	17.101	
9,100.0	9,000.3	8,996.3	8,984.7	26.2	32.4	-110.32	-117.7	-1,817.3	950.6	894.7	55.93	16.995	
9,200.0	9,100.3	9,092.0	9,080.4	26.2	32.8	-110.26	-117.5	-1,819.3	952.5	896.1	56.37	16.896	
9,300.0	9,200.3	9,189.7	9,178.0	26.3	33.1	-110.19	-117.1	-1,821.8	954.7	897.9	56.81	16.803	
9,400.0	9,300.3	9,273.3	9,261.7	26.3	33.4	-110.12	-116.9	-1,824.7	957.8	900.6	57.24	16.734	
9,500.0	9,400.3	9,379.8	9,368.0	26.3	33.8	-110.04	-117.1	-1,829.0	961.7	904.0	57.70	16.668	
9,600.0	9,500.3	9,489.3	9,477.5	26.4	34.2	-109.99	-117.3	-1,832.0	964.4	906.2	58.15	16.583	
9,700.0	9,600.3	9,579.9	9,568.0	26.4	34.5	-109.96	-117.8	-1,834.7	967.3	908.7	58.58	16.512	
9,800.0	9,700.3	9,681.6	9,669.7	26.5	34.8	-109.97	-119.0	-1,837.8	970.6	911.6	59.02	16.445	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST01 AWP												Offset Site Error:	0.0 usft
Survey Program: 134-MWD - OWSG R1, 12355-MWD - OWSG R1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
9,900.0	9,800.3	9,788.4	9,776.5	26.5	35.2	-110.07	-121.6	-1,840.0	973.3	913.9	59.45	16.373	
10,000.0	9,900.3	9,906.3	9,894.3	26.5	35.6	-110.32	-126.4	-1,840.7	975.4	915.5	59.86	16.296	
10,100.0	10,000.3	10,021.7	10,009.6	26.6	36.0	-110.53	-129.5	-1,838.9	974.8	914.6	60.25	16.180	
10,200.0	10,100.3	10,120.5	10,108.4	26.6	36.3	-110.64	-131.0	-1,837.4	973.9	913.2	60.65	16.057	
10,300.0	10,200.3	10,220.2	10,208.1	26.7	36.6	-110.74	-132.3	-1,836.0	973.1	912.0	61.06	15.937	
10,400.0	10,300.3	10,320.3	10,308.1	26.7	36.9	-110.81	-133.1	-1,834.8	972.3	910.8	61.47	15.817	
10,500.0	10,400.3	10,416.0	10,403.8	26.8	37.2	-110.84	-133.3	-1,834.2	971.8	909.9	61.89	15.702	
10,518.2	10,418.5	10,430.7	10,418.5	26.8	37.3	-110.84	-133.4	-1,834.2	971.8	909.8	61.97	15.682	
10,600.0	10,500.3	10,502.7	10,490.5	26.8	37.5	-110.85	-133.7	-1,834.5	972.2	909.9	62.31	15.602	
10,700.0	10,600.3	10,598.3	10,586.1	26.9	37.9	-110.87	-134.4	-1,835.5	973.4	910.7	62.75	15.513	
10,800.0	10,700.3	10,687.5	10,675.3	26.9	38.2	-110.84	-134.6	-1,837.3	975.4	912.2	63.18	15.438	
10,900.0	10,800.3	10,774.6	10,762.3	26.9	38.5	-110.74	-134.0	-1,840.6	978.6	915.0	63.62	15.382	
11,000.0	10,900.3	10,863.7	10,851.3	27.0	38.8	-110.58	-132.9	-1,845.2	983.1	919.0	64.07	15.344	
11,100.0	11,000.3	10,964.7	10,952.2	27.0	39.2	-110.42	-132.1	-1,851.0	988.2	923.6	64.55	15.309	
11,200.0	11,100.3	11,058.7	11,046.0	27.1	39.5	-110.39	-133.3	-1,855.6	993.3	928.3	64.99	15.284	
11,300.0	11,200.3	11,183.9	11,171.0	27.1	40.0	-110.40	-135.4	-1,860.8	997.8	932.3	65.50	15.233	
11,950.0	11,846.2	11,839.9	11,826.8	27.2	42.2	71.84	-151.7	-1,867.7	998.6	930.1	68.50	14.578	
11,975.0	11,869.3	11,863.1	11,850.0	27.1	42.3	72.61	-152.3	-1,867.9	996.0	927.3	68.65	14.507	
12,000.0	11,891.8	11,885.8	11,872.7	27.1	42.3	73.47	-153.0	-1,868.2	993.0	924.2	68.81	14.432	
12,025.0	11,913.7	11,907.9	11,894.8	27.1	42.4	74.42	-153.6	-1,868.4	989.8	920.8	68.96	14.353	
12,050.0	11,934.9	11,929.4	11,916.3	27.0	42.5	75.44	-154.2	-1,868.7	986.3	917.2	69.11	14.272	
12,075.0	11,955.4	11,950.3	11,937.2	27.0	42.6	76.52	-154.8	-1,868.9	982.7	913.5	69.26	14.188	
12,100.0	11,975.2	11,970.5	11,957.3	27.0	42.6	77.64	-155.3	-1,869.1	979.0	909.6	69.41	14.104	
12,125.0	11,994.1	11,989.8	11,976.6	27.0	42.7	78.80	-155.9	-1,869.3	975.2	905.7	69.56	14.020	
12,150.0	12,012.1	12,008.3	11,995.1	27.0	42.8	79.98	-156.4	-1,869.5	971.5	901.8	69.70	13.937	
12,175.0	12,029.2	12,025.8	12,012.7	26.9	42.8	81.16	-156.9	-1,869.7	967.8	898.0	69.84	13.857	
12,200.0	12,045.3	12,042.4	12,029.2	26.9	42.9	82.32	-157.4	-1,869.9	964.3	894.3	69.98	13.779	
12,225.0	12,060.4	12,057.9	12,044.7	26.9	42.9	83.44	-157.8	-1,870.1	960.9	890.8	70.11	13.705	
12,250.0	12,074.5	12,072.4	12,059.2	26.9	43.0	84.52	-158.2	-1,870.3	957.8	887.6	70.23	13.637	
12,275.0	12,087.4	12,085.8	12,072.6	26.9	43.0	85.53	-158.6	-1,870.4	955.0	884.6	70.35	13.575	
12,300.0	12,099.2	12,098.1	12,084.9	26.9	43.1	86.47	-158.9	-1,870.6	952.6	882.1	70.46	13.520	
12,325.0	12,109.8	12,109.2	12,096.0	26.9	43.1	87.31	-159.2	-1,870.7	950.6	880.0	70.56	13.472	
12,350.0	12,119.3	12,119.1	12,105.9	26.9	43.1	88.04	-159.5	-1,870.8	949.1	878.4	70.65	13.433	
12,375.0	12,127.5	12,127.7	12,114.5	26.9	43.2	88.65	-159.8	-1,870.9	948.1	877.3	70.73	13.403	
12,400.0	12,134.4	12,135.2	12,122.0	26.9	43.2	89.13	-160.0	-1,871.0	947.6	876.8	70.81	13.383	
12,406.6	12,136.0	12,136.9	12,123.7	26.9	43.2	89.23	-160.0	-1,871.1	947.6	876.8	70.83	13.379	
12,425.0	12,140.1	12,141.4	12,128.2	27.0	43.2	89.47	-160.2	-1,871.1	947.7	876.9	70.87	13.373	
12,450.0	12,144.5	12,146.4	12,133.2	27.0	43.2	89.68	-160.3	-1,871.2	948.5	877.6	70.92	13.373	
12,475.0	12,147.6	12,150.0	12,136.8	27.0	43.2	89.73	-160.4	-1,871.2	949.9	878.9	70.97	13.385	
12,500.0	12,149.4	12,152.6	12,139.4	27.0	43.3	89.64	-160.5	-1,871.3	951.9	880.9	71.00	13.407	
12,522.2	12,150.0	12,153.7	12,140.5	27.1	43.3	89.43	-160.5	-1,871.3	954.2	883.2	71.03	13.435	
12,600.0	12,150.0	12,155.9	12,142.7	27.2	43.3	89.56	-160.6	-1,871.3	966.4	895.3	71.08	13.596	
12,700.0	12,150.0	12,158.8	12,145.5	27.3	43.3	89.73	-160.7	-1,871.3	990.8	919.7	71.08	13.938	
13,200.0	12,150.0	13,426.7	12,732.3	28.7	45.4	125.85	-1,041.8	-1,723.7	998.7	933.3	65.38	15.275	
13,300.0	12,150.0	13,511.6	12,730.6	29.0	45.8	126.04	-1,126.3	-1,715.1	989.9	924.1	65.83	15.038	
13,400.0	12,150.0	13,592.9	12,730.6	29.4	46.3	126.28	-1,207.2	-1,707.6	983.0	916.7	66.29	14.829	
13,500.0	12,150.0	13,672.2	12,729.2	29.8	46.8	126.36	-1,286.4	-1,703.0	977.9	911.1	66.85	14.629	
13,600.0	12,150.0	13,746.9	12,728.0	30.3	47.2	126.35	-1,361.0	-1,701.1	975.4	908.0	67.45	14.462	
13,700.0	12,150.0	13,857.1	12,726.9	30.7	48.0	126.36	-1,471.2	-1,698.4	973.3	904.9	68.38	14.234	
13,800.0	12,150.0	13,944.8	12,724.4	31.2	48.6	126.25	-1,558.8	-1,697.8	971.6	902.3	69.24	14.032	
13,882.9	12,150.0	14,017.0	12,723.6	31.6	49.2	126.21	-1,631.0	-1,697.4	971.1	901.1	69.97	13.878	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST01 AWP												Offset Site Error:	0.0 usft
Survey Program: 134-MWD - OWSG R1, 12355-MWD - OWSG R1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
13,900.0	12,150.0	14,032.1	12,723.8	31.7	49.3	126.22	-1,646.1	-1,697.1	971.1	901.0	70.12	13.849	
14,000.0	12,150.0	14,121.0	12,725.9	32.2	50.0	126.35	-1,734.9	-1,695.8	971.9	900.9	71.01	13.686	
14,100.0	12,150.0	14,216.0	12,728.8	32.7	50.8	126.49	-1,829.9	-1,695.1	973.7	901.6	72.00	13.522	
14,200.0	12,150.0	14,322.3	12,730.7	33.3	51.8	126.54	-1,936.2	-1,695.4	975.5	902.3	73.20	13.326	
14,300.0	12,150.0	14,438.8	12,730.7	33.9	52.9	126.53	-2,052.6	-1,694.8	975.5	900.9	74.59	13.077	
14,380.0	12,150.0	14,514.2	12,730.8	34.4	53.6	126.55	-2,128.1	-1,693.9	975.3	899.7	75.55	12.909	
14,400.0	12,150.0	14,532.7	12,730.9	34.5	53.8	126.56	-2,146.6	-1,693.8	975.3	899.5	75.79	12.868	
14,500.0	12,150.0	14,641.0	12,730.4	35.1	54.8	126.51	-2,254.8	-1,693.7	975.6	898.4	77.22	12.633	
14,600.0	12,150.0	14,754.9	12,728.7	35.7	56.0	126.48	-2,368.7	-1,691.6	973.7	894.9	78.77	12.361	
14,700.0	12,150.0	14,845.2	12,728.4	36.3	57.0	126.53	-2,459.0	-1,689.2	971.9	891.9	80.06	12.140	
14,772.5	12,150.0	14,906.8	12,727.7	36.8	57.7	126.49	-2,520.6	-1,688.9	971.5	890.5	81.01	11.993	
14,800.0	12,150.0	14,929.7	12,727.5	37.0	57.9	126.47	-2,543.5	-1,689.0	971.6	890.2	81.36	11.941	
14,900.0	12,150.0	15,038.6	12,727.1	37.7	59.1	126.41	-2,652.4	-1,689.4	972.3	889.3	83.00	11.714	
15,000.0	12,150.0	15,161.9	12,726.2	38.3	60.5	126.44	-2,775.6	-1,686.6	970.5	885.7	84.82	11.442	
15,100.0	12,150.0	15,259.0	12,725.0	39.0	61.7	126.49	-2,872.7	-1,682.9	967.3	880.9	86.35	11.202	
15,200.0	12,150.0	15,335.1	12,724.9	39.7	62.6	126.55	-2,948.7	-1,680.7	965.5	877.9	87.63	11.019	
15,300.0	12,150.0	15,449.0	12,724.6	40.5	64.0	126.54	-3,062.6	-1,679.9	965.4	875.9	89.46	10.791	
15,400.0	12,150.0	15,554.3	12,723.4	41.2	65.3	126.53	-3,167.9	-1,677.5	963.4	872.2	91.22	10.562	
15,500.0	12,150.0	15,638.0	12,722.5	41.9	66.3	126.50	-3,251.6	-1,676.6	962.4	869.7	92.72	10.379	
15,504.4	12,150.0	15,638.0	12,722.5	41.9	66.3	126.50	-3,251.6	-1,676.6	962.4	869.7	92.74	10.378	
15,600.0	12,150.0	15,702.5	12,721.9	42.7	67.1	126.41	-3,316.1	-1,677.9	964.0	870.0	93.98	10.258	
15,700.0	12,150.0	15,843.0	12,720.6	43.4	68.9	126.17	-3,456.4	-1,682.2	967.0	870.5	96.46	10.024	
15,714.4	12,150.0	15,843.6	12,720.6	43.5	68.9	126.16	-3,457.0	-1,682.3	967.1	870.5	96.53	10.018	
15,800.0	12,150.0	15,904.4	12,719.6	44.2	69.7	126.04	-3,517.8	-1,684.1	968.6	870.9	97.76	9.909	
15,900.0	12,150.0	16,014.1	12,717.8	44.9	71.1	125.76	-3,627.4	-1,688.8	971.8	871.9	99.88	9.730	
16,000.0	12,150.0	16,131.1	12,717.3	45.7	72.6	125.66	-3,744.4	-1,690.3	973.1	871.1	102.03	9.537	
16,100.0	12,150.0	16,241.4	12,718.3	46.5	74.1	125.76	-3,854.6	-1,688.0	972.4	868.4	103.98	9.352	
16,139.1	12,150.0	16,274.0	12,718.3	46.8	74.6	125.77	-3,887.2	-1,687.7	972.3	867.7	104.61	9.294	
16,200.0	12,150.0	16,327.1	12,717.8	47.3	75.3	125.72	-3,940.4	-1,688.0	972.6	866.9	105.68	9.203	
16,300.0	12,150.0	16,425.0	12,716.0	48.1	76.6	125.54	-4,038.2	-1,690.0	973.7	866.1	107.66	9.044	
16,400.0	12,150.0	16,526.3	12,713.2	48.9	78.0	125.32	-4,139.5	-1,692.0	974.2	864.5	109.76	8.876	
16,500.0	12,150.0	16,608.8	12,711.1	49.7	79.1	125.10	-4,221.9	-1,694.8	976.1	864.5	111.56	8.749	
16,600.0	12,150.0	16,719.3	12,709.2	50.5	80.6	124.83	-4,332.2	-1,699.5	979.3	865.4	113.89	8.599	
16,700.0	12,150.0	16,840.3	12,708.3	51.3	82.3	124.80	-4,453.2	-1,698.4	978.4	862.2	116.21	8.419	
16,724.0	12,150.0	16,860.5	12,708.4	51.5	82.6	124.80	-4,473.4	-1,698.2	978.3	861.7	116.63	8.388	
16,800.0	12,150.0	16,921.9	12,708.4	52.1	83.5	124.79	-4,534.9	-1,698.2	978.8	860.8	117.92	8.300	
16,900.0	12,150.0	17,004.2	12,707.6	52.9	84.7	124.65	-4,617.1	-1,700.6	981.1	861.4	119.74	8.194	
17,000.0	12,150.0	17,088.6	12,706.9	53.8	85.8	124.47	-4,701.4	-1,704.5	985.1	863.5	121.60	8.101	
17,100.0	12,150.0	17,180.1	12,706.7	54.6	87.1	124.26	-4,792.7	-1,710.2	990.6	866.9	123.63	8.012	
17,200.0	12,150.0	17,325.0	12,707.6	55.5	89.2	124.15	-4,937.5	-1,713.8	993.3	866.8	126.56	7.849	
17,300.0	12,150.0	17,478.1	12,704.5	56.3	91.5	124.11	-5,090.5	-1,709.4	989.6	860.2	129.39	7.649	
17,400.0	12,150.0	17,571.9	12,703.0	57.1	92.8	124.16	-5,184.2	-1,705.2	985.6	854.2	131.37	7.502	
17,500.0	12,150.0	17,656.5	12,703.0	58.0	94.1	124.26	-5,268.7	-1,701.5	982.5	849.4	133.19	7.377	
17,574.9	12,150.0	17,711.4	12,702.9	58.6	94.9	124.28	-5,323.6	-1,700.5	981.8	847.3	134.46	7.301	
17,600.0	12,150.0	17,733.2	12,702.8	58.8	95.2	124.26	-5,345.4	-1,700.5	981.8	846.9	134.95	7.276	
17,700.0	12,150.0	17,845.9	12,702.8	59.7	96.9	124.29	-5,458.1	-1,699.1	981.3	844.1	137.22	7.151	
17,800.0	12,150.0	17,950.8	12,702.1	60.6	98.5	124.29	-5,562.9	-1,697.3	980.1	840.7	139.41	7.030	
17,900.0	12,150.0	18,041.6	12,701.6	61.4	99.8	124.31	-5,653.7	-1,695.4	978.6	837.3	141.39	6.922	
17,919.5	12,150.0	18,055.6	12,701.7	61.6	100.1	124.32	-5,667.7	-1,695.2	978.6	836.9	141.71	6.905	
18,000.0	12,150.0	18,123.6	12,702.9	62.3	101.1	124.37	-5,735.7	-1,694.8	979.4	836.3	143.17	6.841	
18,100.0	12,150.0	18,228.4	12,701.6	63.2	102.6	124.27	-5,840.5	-1,695.3	979.6	834.1	145.48	6.734	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:	ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST01 AWP											Offset Site Error:	0.0 usft
Survey Program:	134-MWD - OWSG R1, 12355-MWD - OWSG R1											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
18,200.0	12,150.0	18,292.0	12,700.2	64.0	103.6	124.11	-5,904.1	-1,697.6	982.1	835.0	147.10	6.676	
18,300.0	12,150.0	18,387.0	12,699.0	64.9	105.0	123.85	-5,998.9	-1,703.1	986.7	837.3	149.39	6.605	
18,400.0	12,150.0	18,473.4	12,699.2	65.8	106.3	123.67	-6,085.1	-1,708.6	992.6	841.2	151.42	6.555	
18,500.0	12,150.0	18,557.1	12,699.4	66.7	107.5	123.46	-6,168.5	-1,715.0	999.7	846.3	153.40	6.517 SF	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W3 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 132-MWD - OWSG R1, 887-MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,031.9	4,964.3	4,963.8	16.9	15.2	-28.32	-122.3	-1,570.4	999.8	968.7	31.08	32.169	
5,200.0	5,129.3	5,060.8	5,060.0	17.3	15.5	-28.64	-119.4	-1,578.1	986.8	955.0	31.80	31.030	
5,300.0	5,226.8	5,160.2	5,159.0	17.8	15.9	-28.97	-116.3	-1,586.3	974.1	941.5	32.53	29.943	
5,400.0	5,324.2	5,264.8	5,263.2	18.2	16.2	-29.37	-113.7	-1,594.2	960.8	927.6	33.26	28.884	
5,500.0	5,421.6	5,362.4	5,360.5	18.7	16.6	-29.77	-111.3	-1,601.3	947.5	913.5	33.98	27.883	
5,600.0	5,519.1	5,461.5	5,459.4	19.1	16.9	-30.17	-108.7	-1,608.9	934.4	899.7	34.70	26.928	
5,700.0	5,616.5	5,564.6	5,562.1	19.6	17.3	-30.63	-106.4	-1,616.2	921.0	885.6	35.42	26.004	
5,800.0	5,714.0	5,667.9	5,665.2	20.1	17.7	-31.13	-104.3	-1,623.0	907.2	871.1	36.13	25.110	
5,900.0	5,811.4	5,770.6	5,767.7	20.5	18.0	-31.68	-102.6	-1,629.1	893.0	856.2	36.83	24.247	
5,902.0	5,813.3	5,772.6	5,769.7	20.5	18.1	-31.69	-102.6	-1,629.2	892.7	855.9	36.84	24.230	
6,000.0	5,909.1	5,872.9	5,869.9	21.0	18.4	-32.17	-101.2	-1,634.6	879.2	841.6	37.52	23.433	
6,100.0	6,007.1	5,975.2	5,972.0	21.4	18.8	-32.64	-99.9	-1,639.6	866.5	828.3	38.20	22.684	
6,200.0	6,105.4	6,076.3	6,073.0	21.9	19.1	-33.06	-98.6	-1,644.3	855.0	816.1	38.87	21.997	
6,300.0	6,204.0	6,179.2	6,175.8	22.3	19.5	-33.45	-97.4	-1,648.7	844.7	805.1	39.53	21.368	
6,400.0	6,302.9	6,281.4	6,277.9	22.7	19.9	-33.82	-96.4	-1,652.5	835.5	795.3	40.18	20.792	
6,500.0	6,402.1	6,383.3	6,379.7	23.2	20.2	-34.14	-95.6	-1,656.0	827.5	786.7	40.83	20.269	
6,600.0	6,501.4	6,486.0	6,482.4	23.6	20.6	-34.45	-94.9	-1,658.9	820.6	779.1	41.46	19.792	
6,700.0	6,600.9	6,588.8	6,585.2	23.9	20.9	-34.71	-94.5	-1,661.5	814.9	772.8	42.08	19.364	
6,800.0	6,700.6	6,690.1	6,686.5	24.3	21.3	-34.94	-94.3	-1,663.4	810.2	767.5	42.69	18.977	
6,900.0	6,800.4	6,792.9	6,789.2	24.7	21.7	-35.11	-94.1	-1,665.5	806.9	763.6	43.29	18.637	
7,000.0	6,900.4	6,899.1	6,895.4	25.0	22.0	-35.18	-93.1	-1,667.0	804.3	760.4	43.89	18.327	
7,100.0	7,000.3	7,000.6	6,996.9	25.3	22.4	-35.15	-91.6	-1,668.1	802.6	758.2	44.47	18.049	
7,169.6	7,070.0	7,070.2	7,066.5	25.4	22.6	-35.11	-90.8	-1,668.8	802.3	757.5	44.81	17.904	
7,199.7	7,100.0	7,100.2	7,096.5	25.4	22.7	-112.17	-90.5	-1,669.0	802.3	757.4	44.96	17.847	
7,200.0	7,100.3	7,100.5	7,096.8	25.4	22.7	-112.17	-90.5	-1,669.0	802.3	757.4	44.96	17.847	
7,300.0	7,200.3	7,198.8	7,195.1	25.5	23.1	-112.09	-89.6	-1,669.9	802.9	757.5	45.37	17.697	
7,400.0	7,300.3	7,296.6	7,292.9	25.5	23.4	-112.01	-88.9	-1,671.1	803.7	757.9	45.78	17.555	
7,500.0	7,400.3	7,395.0	7,391.3	25.5	23.8	-111.95	-88.5	-1,672.3	804.6	758.5	46.19	17.421	
7,600.0	7,500.3	7,493.9	7,490.1	25.6	24.1	-111.91	-88.4	-1,673.6	805.8	759.2	46.59	17.295	
7,700.0	7,600.3	7,600.5	7,596.7	25.6	24.5	-111.88	-88.3	-1,674.5	806.6	759.6	46.99	17.166	
7,800.0	7,700.3	7,700.4	7,696.7	25.7	24.9	-111.85	-88.1	-1,675.1	807.1	759.7	47.40	17.028	
7,900.0	7,800.3	7,801.6	7,797.9	25.7	25.2	-111.85	-88.2	-1,675.5	807.5	759.7	47.79	16.895	
8,000.0	7,900.3	7,902.1	7,898.3	25.7	25.6	-111.87	-88.5	-1,675.6	807.7	759.5	48.18	16.764	
8,100.0	8,000.3	8,001.5	7,997.8	25.8	25.9	-111.91	-89.2	-1,675.6	808.0	759.4	48.56	16.638	
8,200.0	8,100.3	8,101.1	8,097.4	25.8	26.2	-111.96	-90.0	-1,675.7	808.3	759.4	48.94	16.516	
8,300.0	8,200.3	8,201.0	8,197.2	25.9	26.5	-112.03	-91.1	-1,675.6	808.7	759.4	49.32	16.396	
8,400.0	8,300.3	8,300.6	8,296.9	25.9	26.9	-112.11	-92.3	-1,675.6	809.1	759.4	49.70	16.279	
8,500.0	8,400.3	8,400.2	8,396.4	25.9	27.2	-112.20	-93.6	-1,675.5	809.6	759.5	50.09	16.163	
8,600.0	8,500.3	8,496.9	8,493.1	26.0	27.5	-112.28	-94.9	-1,675.7	810.2	759.7	50.48	16.051	
8,700.0	8,600.3	8,596.2	8,592.4	26.0	27.8	-112.36	-96.3	-1,676.2	811.2	760.3	50.87	15.947	
8,800.0	8,700.3	8,693.4	8,689.6	26.1	28.2	-112.45	-97.9	-1,676.6	812.3	761.0	51.26	15.846	
8,900.0	8,800.3	8,794.9	8,791.1	26.1	28.5	-112.56	-99.8	-1,677.3	813.6	762.0	51.66	15.751	
9,000.0	8,900.3	8,893.2	8,889.3	26.1	28.8	-112.62	-101.1	-1,678.1	814.8	762.7	52.06	15.651	
9,100.0	9,000.3	8,994.3	8,990.5	26.2	29.2	-112.63	-101.7	-1,679.2	816.1	763.6	52.48	15.550	
9,200.0	9,100.3	9,089.2	9,085.3	26.2	29.5	-112.65	-102.5	-1,680.4	817.6	764.7	52.90	15.456	
9,300.0	9,200.3	9,183.8	9,179.9	26.3	29.9	-112.68	-103.7	-1,682.1	819.8	766.4	53.31	15.376	
9,400.0	9,300.3	9,286.1	9,282.2	26.3	30.2	-112.72	-105.2	-1,684.1	822.1	768.4	53.73	15.300	
9,500.0	9,400.3	9,382.7	9,378.8	26.3	30.6	-112.71	-105.9	-1,686.4	824.5	770.4	54.16	15.223	
9,600.0	9,500.3	9,479.6	9,475.6	26.4	30.9	-112.64	-106.0	-1,689.3	827.3	772.7	54.60	15.152	
9,700.0	9,600.3	9,577.9	9,573.9	26.4	31.3	-112.57	-106.2	-1,692.4	830.4	775.4	55.04	15.087	
9,800.0	9,700.3	9,674.2	9,670.1	26.5	31.6	-112.53	-107.0	-1,695.7	833.9	778.4	55.48	15.031	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W3 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 132-MWD - OWSG R1, 887-MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
9,900.0	9,800.3	9,776.3	9,772.2	26.5	31.9	-112.58	-109.1	-1,698.7	837.4	781.5	55.91	14.978	
10,000.0	9,900.3	9,888.2	9,883.9	26.5	32.3	-112.71	-112.1	-1,701.0	840.4	784.0	56.33	14.919	
10,100.0	10,000.3	10,007.7	10,003.4	26.6	32.7	-112.86	-114.4	-1,700.9	841.0	784.2	56.74	14.822	
10,200.0	10,100.3	10,136.9	10,132.6	26.6	33.2	-112.95	-114.6	-1,698.1	839.0	781.9	57.11	14.690	
10,300.0	10,200.3	10,225.4	10,221.0	26.7	33.5	-112.95	-113.7	-1,695.7	836.2	778.6	57.55	14.530	
10,400.0	10,300.3	10,329.2	10,324.8	26.7	33.8	-113.00	-113.2	-1,692.8	833.4	775.5	57.96	14.380	
10,500.0	10,400.3	10,427.9	10,423.5	26.8	34.1	-113.13	-113.8	-1,689.4	830.4	772.0	58.36	14.228	
10,600.0	10,500.3	10,515.2	10,510.7	26.8	34.4	-113.24	-114.5	-1,687.1	828.3	769.6	58.78	14.092	
10,662.8	10,563.1	10,567.6	10,563.1	26.8	34.6	-113.31	-115.3	-1,686.4	827.9	768.9	59.04	14.024	
10,700.0	10,600.3	10,599.2	10,594.7	26.9	34.7	-113.35	-115.9	-1,686.2	828.1	768.9	59.19	13.990	
10,800.0	10,700.3	10,699.8	10,695.3	26.9	35.0	-113.39	-116.7	-1,686.6	828.7	769.0	59.63	13.898	
10,900.0	10,800.3	10,788.9	10,784.4	26.9	35.4	-113.32	-116.1	-1,688.0	829.9	769.8	60.07	13.816	
11,000.0	10,900.3	10,879.0	10,874.4	27.0	35.7	-113.21	-115.5	-1,690.6	832.3	771.8	60.52	13.753	
11,100.0	11,000.3	10,974.0	10,969.4	27.0	36.0	-113.09	-115.2	-1,694.3	835.8	774.8	60.97	13.708	
11,200.0	11,100.3	11,070.3	11,065.6	27.1	36.4	-112.99	-115.5	-1,698.5	839.8	778.4	61.43	13.673	
11,300.0	11,200.3	11,181.2	11,176.5	27.1	36.8	-113.01	-117.2	-1,701.8	843.2	781.3	61.90	13.624	
11,400.0	11,300.3	11,283.8	11,279.0	27.2	37.1	-113.01	-118.3	-1,704.4	845.9	783.6	62.35	13.567	
11,500.0	11,400.3	11,384.2	11,379.4	27.2	37.5	-113.07	-120.0	-1,706.3	848.3	785.5	62.79	13.510	
11,600.0	11,500.3	11,480.6	11,475.7	27.3	37.8	-113.11	-121.5	-1,708.4	851.0	787.8	63.23	13.459	
11,700.0	11,600.3	11,578.5	11,573.6	27.3	38.2	-113.12	-122.9	-1,711.1	854.1	790.4	63.68	13.412	
11,772.2	11,672.5	11,650.4	11,645.4	27.3	38.4	-113.12	-123.7	-1,713.2	856.3	792.3	64.00	13.380	
11,775.0	11,675.3	11,653.1	11,648.2	27.3	38.4	67.25	-123.8	-1,713.3	856.4	792.4	64.01	13.379	
11,800.0	11,700.3	11,677.7	11,672.7	27.3	38.5	67.25	-124.0	-1,714.0	856.9	792.8	64.14	13.361	
11,825.0	11,725.2	11,702.2	11,697.2	27.3	38.6	67.38	-124.3	-1,714.7	856.9	792.6	64.27	13.333	
11,850.0	11,750.0	11,726.6	11,721.6	27.3	38.7	67.64	-124.7	-1,715.5	856.4	792.0	64.41	13.296	
11,875.0	11,774.5	11,752.1	11,747.0	27.2	38.8	68.04	-125.0	-1,716.2	855.4	790.9	64.57	13.249	
11,900.0	11,798.8	11,777.3	11,772.3	27.2	38.9	68.58	-125.4	-1,716.9	854.0	789.3	64.73	13.194	
11,925.0	11,822.7	11,802.2	11,797.2	27.2	38.9	69.24	-125.7	-1,717.6	852.1	787.2	64.89	13.130	
11,950.0	11,846.2	11,826.7	11,821.7	27.2	39.0	70.02	-126.1	-1,718.2	849.7	784.7	65.07	13.059	
11,975.0	11,869.3	11,850.5	11,845.4	27.1	39.1	70.91	-126.5	-1,718.8	847.0	781.8	65.24	12.982	
12,000.0	11,891.8	11,873.7	11,868.6	27.1	39.2	71.91	-126.9	-1,719.4	843.9	778.5	65.42	12.900	
12,025.0	11,913.7	11,896.4	11,891.3	27.1	39.3	73.00	-127.3	-1,719.9	840.6	775.0	65.60	12.813	
12,050.0	11,934.9	11,918.4	11,913.3	27.0	39.4	74.17	-127.7	-1,720.3	837.0	771.2	65.79	12.723	
12,075.0	11,955.4	11,939.8	11,934.7	27.0	39.4	75.41	-128.1	-1,720.8	833.3	767.3	65.97	12.631	
12,100.0	11,975.2	11,960.4	11,955.3	27.0	39.5	76.71	-128.4	-1,721.2	829.4	763.3	66.15	12.538	
12,125.0	11,994.1	11,980.2	11,975.1	27.0	39.6	78.04	-128.8	-1,721.6	825.5	759.2	66.33	12.445	
12,150.0	12,012.1	11,999.1	11,994.0	27.0	39.6	79.40	-129.1	-1,722.0	821.7	755.2	66.51	12.354	
12,175.0	12,029.2	12,017.2	12,012.1	26.9	39.7	80.75	-129.4	-1,722.3	817.9	751.3	66.69	12.266	
12,200.0	12,045.3	12,034.7	12,029.6	26.9	39.8	82.11	-129.7	-1,722.6	814.4	747.5	66.85	12.181	
12,225.0	12,060.4	12,051.1	12,046.0	26.9	39.8	83.43	-129.9	-1,722.8	811.0	744.0	67.02	12.102	
12,250.0	12,074.5	12,066.4	12,061.3	26.9	39.9	84.68	-130.2	-1,723.1	808.0	740.8	67.17	12.029	
12,275.0	12,087.4	12,080.6	12,075.4	26.9	39.9	85.85	-130.4	-1,723.3	805.4	738.1	67.31	11.965	
12,300.0	12,099.2	12,093.5	12,088.4	26.9	40.0	86.92	-130.6	-1,723.4	803.2	735.8	67.45	11.909	
12,325.0	12,109.8	12,105.2	12,100.1	26.9	40.0	87.87	-130.8	-1,723.6	801.6	734.0	67.57	11.863	
12,350.0	12,119.3	12,115.5	12,110.3	26.9	40.0	88.67	-131.0	-1,723.7	800.5	732.8	67.68	11.828	
12,375.0	12,127.5	12,124.5	12,119.3	26.9	40.1	89.33	-131.1	-1,723.8	800.1	732.3	67.77	11.805	
12,378.1	12,128.4	12,125.5	12,120.4	26.9	40.1	89.40	-131.1	-1,723.8	800.1	732.3	67.79	11.803 CC, ES	
12,400.0	12,134.4	12,132.2	12,127.0	26.9	40.1	89.82	-131.2	-1,723.8	800.3	732.5	67.86	11.794 SF	
12,425.0	12,140.1	12,138.6	12,133.4	27.0	40.1	90.15	-131.3	-1,723.9	801.3	733.4	67.93	11.797	
12,450.0	12,144.5	12,143.7	12,138.5	27.0	40.1	90.30	-131.4	-1,723.9	803.0	735.0	67.98	11.812	
12,475.0	12,147.6	12,147.4	12,142.2	27.0	40.2	90.26	-131.5	-1,724.0	805.5	737.5	68.03	11.841	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - WAR HAMMER 25 FEDERAL COM W3 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 132-MWD - OWSG R1, 887-MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
12,500.0	12,149.4	12,149.8	12,144.6	27.0	40.2	90.04	-131.5	-1,724.0	808.7	740.7	68.06	11.883	
12,522.2	12,150.0	12,150.7	12,145.5	27.1	40.2	89.68	-131.5	-1,724.0	812.2	744.2	68.07	11.932	
12,600.0	12,150.0	12,152.1	12,147.0	27.2	40.2	89.78	-131.6	-1,724.0	829.1	761.0	68.07	12.180	
12,700.0	12,150.0	12,153.9	12,148.8	27.3	40.2	89.92	-131.6	-1,724.0	860.7	792.7	67.98	12.661	
12,800.0	12,150.0	12,155.8	12,150.6	27.5	40.2	90.05	-131.6	-1,724.0	902.3	834.5	67.80	13.308	
12,900.0	12,150.0	12,157.6	12,152.5	27.8	40.2	90.18	-131.7	-1,724.1	952.6	885.0	67.56	14.099	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWPO	Offset TVD Reference:	Reference Datum

Offset Design: ZIA HILLS UNIT 2532 PROJECT - ZIA HILLS 25E FEDERAL COM 401H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 205-r.5 MWD												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,100.0	8,000.3	8,395.0	8,195.5	25.8	41.2	-107.93	-88.5	-1,855.8	996.5	934.9	61.69	16.155	
8,200.0	8,100.3	8,475.5	8,274.6	25.8	41.4	-108.06	-86.0	-1,840.8	977.9	915.7	62.18	15.726	
8,300.0	8,200.3	8,556.7	8,354.5	25.9	41.5	-108.20	-83.9	-1,827.0	960.9	898.2	62.66	15.335	
8,400.0	8,300.3	8,633.0	8,430.0	25.9	41.7	-108.31	-82.0	-1,815.7	946.0	883.0	63.08	14.996	
8,500.0	8,400.3	8,708.6	8,505.0	25.9	41.8	-108.39	-80.4	-1,806.4	933.6	870.2	63.46	14.713	
8,600.0	8,500.3	8,792.2	8,588.2	26.0	41.9	-108.46	-78.7	-1,797.9	923.4	859.5	63.84	14.465	
8,700.0	8,600.3	8,879.2	8,674.8	26.0	42.0	-108.53	-77.4	-1,790.3	914.5	850.3	64.21	14.244	
8,800.0	8,700.3	8,964.9	8,760.3	26.1	42.1	-108.61	-76.5	-1,783.8	907.1	842.6	64.54	14.056	
8,900.0	8,800.3	9,051.4	8,846.6	26.1	42.2	-108.67	-75.8	-1,778.8	901.3	836.5	64.85	13.899	
9,000.0	8,900.3	9,136.1	8,931.2	26.1	42.3	-108.69	-75.0	-1,775.1	896.9	831.8	65.10	13.777	
9,100.0	9,000.3	9,216.0	9,011.1	26.2	42.3	-108.72	-74.8	-1,773.2	894.6	829.4	65.21	13.718	
9,169.9	9,070.2	9,275.1	9,070.2	26.2	42.3	-108.73	-74.8	-1,772.8	894.2	829.0	65.19	13.717 CC, ES	
9,200.0	9,100.3	9,292.0	9,087.1	26.2	42.3	-108.73	-74.8	-1,772.9	894.3	829.2	65.10	13.737	
9,300.0	9,200.3	9,381.7	9,176.7	26.3	42.9	-108.94	-78.3	-1,773.1	895.8	829.6	66.22	13.528	
9,400.0	9,300.3	9,462.3	9,256.8	26.3	43.5	-109.48	-87.3	-1,773.1	899.6	832.5	67.10	13.407 SF	
9,500.0	9,400.3	9,565.0	9,357.0	26.3	43.7	-110.83	-109.0	-1,770.3	904.4	837.2	67.24	13.451	
9,600.0	9,500.3	9,652.8	9,439.3	26.4	43.8	-112.74	-138.7	-1,763.4	910.0	843.1	66.94	13.594	
9,700.0	9,600.3	9,725.3	9,503.6	26.4	43.9	-114.81	-171.0	-1,755.1	918.5	852.1	66.43	13.827	
9,800.0	9,700.3	9,795.5	9,564.6	26.5	43.9	-116.93	-204.9	-1,747.2	931.0	865.2	65.82	14.144	
9,900.0	9,800.3	9,858.0	9,619.2	26.5	44.0	-118.72	-234.8	-1,741.9	947.9	882.8	65.09	14.562	
10,000.0	9,900.3	9,925.1	9,676.5	26.5	44.0	-120.72	-269.3	-1,736.4	968.9	904.5	64.39	15.048	
10,100.0	10,000.3	9,979.8	9,721.0	26.6	44.1	-122.51	-300.6	-1,730.9	994.4	930.9	63.49	15.664	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB @ 3176.0usft

Offset Depths are relative to Offset Datum

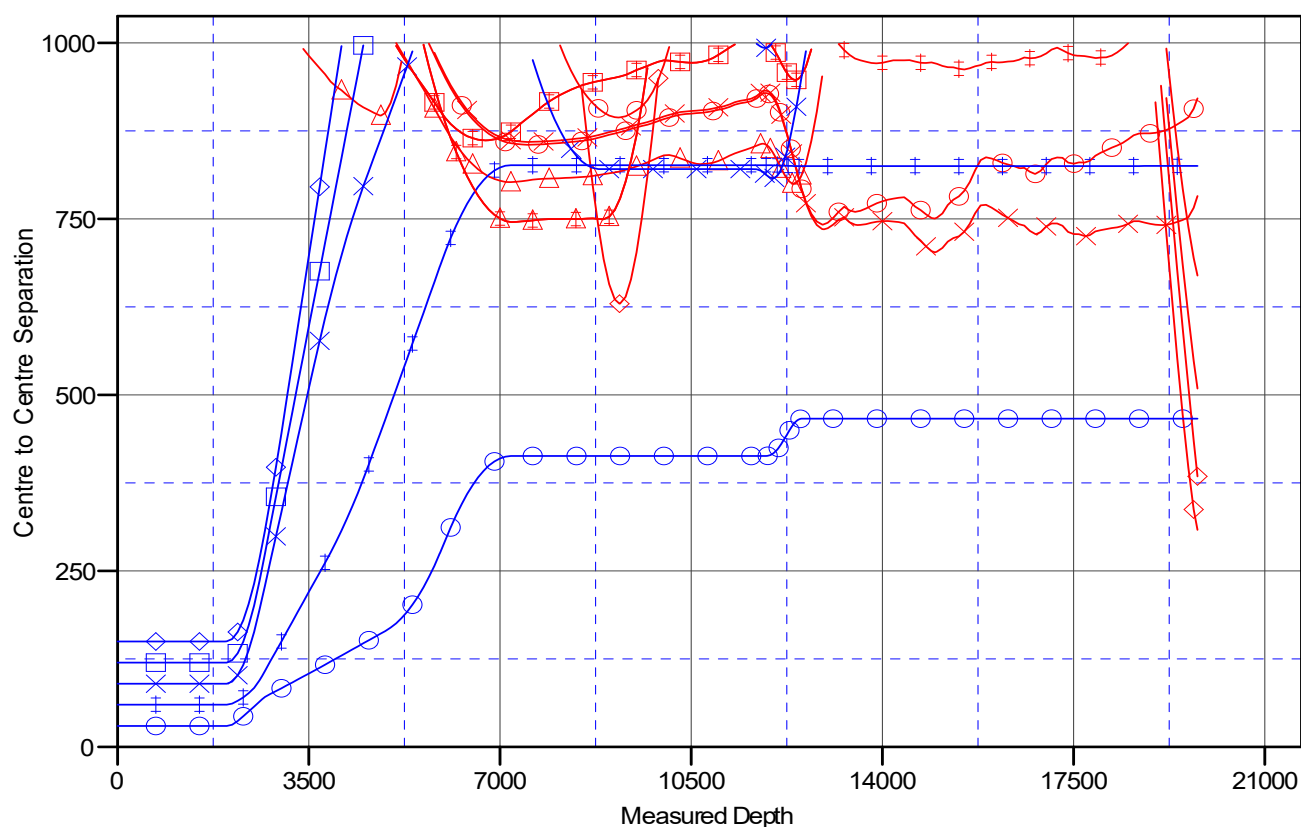
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _LIL JOHN FED COM 711H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.38°

Ladder Plot



LEGEND

SD WE 24 FEDERAL P24 7H, OWB, AWP V0	ZIA HILLS 25E FEDERAL COM401H, OWB, AWP V0	_LIL JOHN FED COM 707H, OWB, PWP0 V0
War Hammer 25 Federal Com W13H, Original Hole, Original Hole V0	BROWN FEDERAL 1_PA, OWB, AWP V0	_LIL JOHN FED COM 710H, OWB, PWP0 V0
WAR HAMMER 25 FEDERAL COM W1 3H, OWB, AWP V0	SALADO DRAW 19 26 33 FEDERAL COM 2H, OWB, AWP V0	_LIL JOHN FED COM 712H, OWB, PWP0 V0
WAR HAMMER 25 FEDERAL COM W2 2H, ST01, ST01 AWP V0	PATHFINDER STATE 7 19H, OWB, AWP V0	_LIL JOHN FED COM 708H, OWB, PWP0 V0
WAR HAMMER 25 FEDERAL COM W2 2H, OWB, AWP V0	PATHFINDER STATE 7 16H, OWB, AWP V0	_LIL JOHN FED COM 709H, OWB, PWP0 V0
SD 24 13 FED P416 19H, OWB, Design #1 V0	PATHFINDER STATE 7 20H, OWB, AWP V0	SD 24 13 Federal P416 20H, Original Hole, Plan 1 V0
WAR HAMMER 25 FEDERAL COM W3 1H, OWB, AWP V0	PATHFINDER STATE 7 21H, OWB, AWP V0	SD WE 24 Federal P24 - 7H, SDWE 24 Federal P24 7H, SD WE 24 Federal P24 7H V0

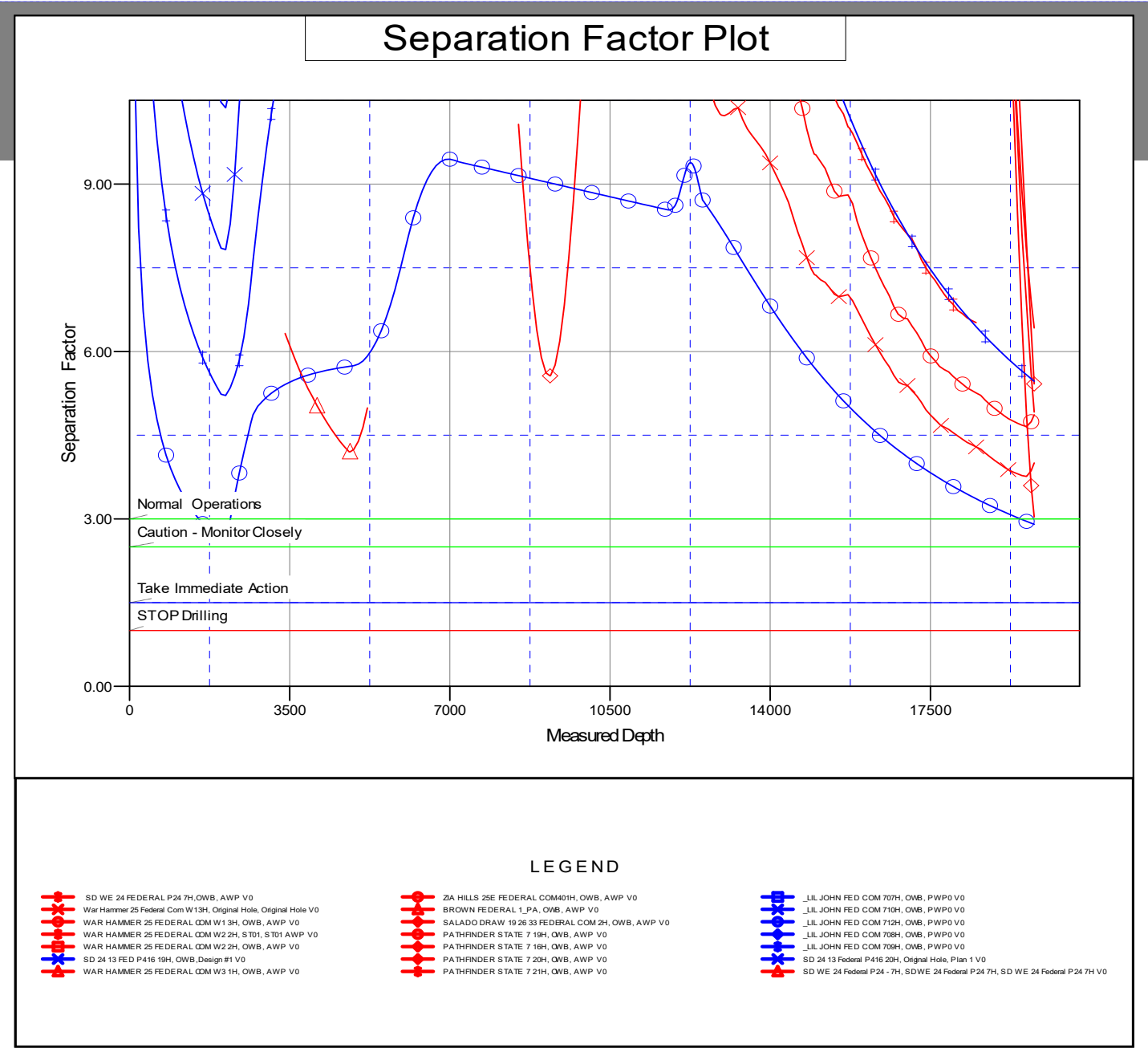
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 711H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3176.0usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3176.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 711H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB @ 3176.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _LIL JOHN FED COM 711H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.38°



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

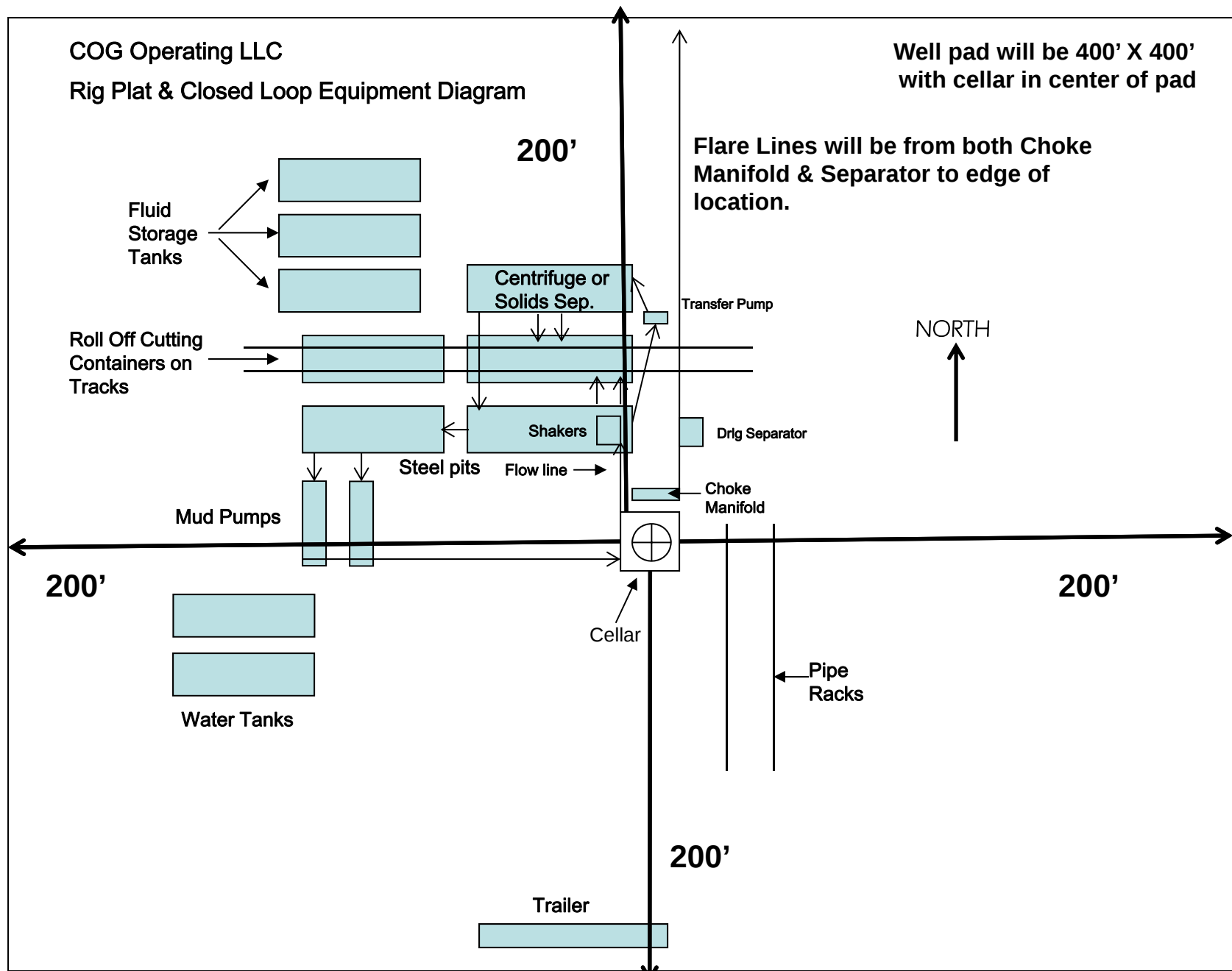


Exhibit 1

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

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: ConocoPhillips Company

OGRID: 217817

Date: 02/18/2025

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
Lil John Federal Com 707H	30-025-	C-30-26S-33E	270 FNL & 1375 FWL	± 765	± 2001	± 1760
Lil John Federal Com 708H	30-025-	C-30-26S-33E	270 FNL & 1405 FWL	± 765	± 2001	± 1760
Lil John Federal Com 709H	30-025-	C-30-26S-33E	270 FNL & 1315 FWL	± 765	± 2001	± 1760
Lil John Federal Com 710H	30-025-	C-30-26S-33E	270 FNL & 1345 FWL	± 765	± 2001	± 1760
Lil John Federal Com 711H	30-025-	C-30-26S-33E	270 FNL & 1255 FWL	± 765	± 2001	± 1760
Lil John Federal Com 712H	30-025-	C-30-26S-33E	270 FNL & 1285 FWL	± 765	± 2001	± 1760

IV. Central Delivery Point Name: Lil John Federal Com CTB NENW 920' FNL & 1348' FWL 30-26S-33E [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
Lil John Federal Com	Pending	± 5/1/2026	± 25 days from spud	TBD	TBD	TBD
707H, 708H, 709H, 710H, 711H, 712H						

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

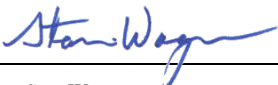
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 02/18/2025
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

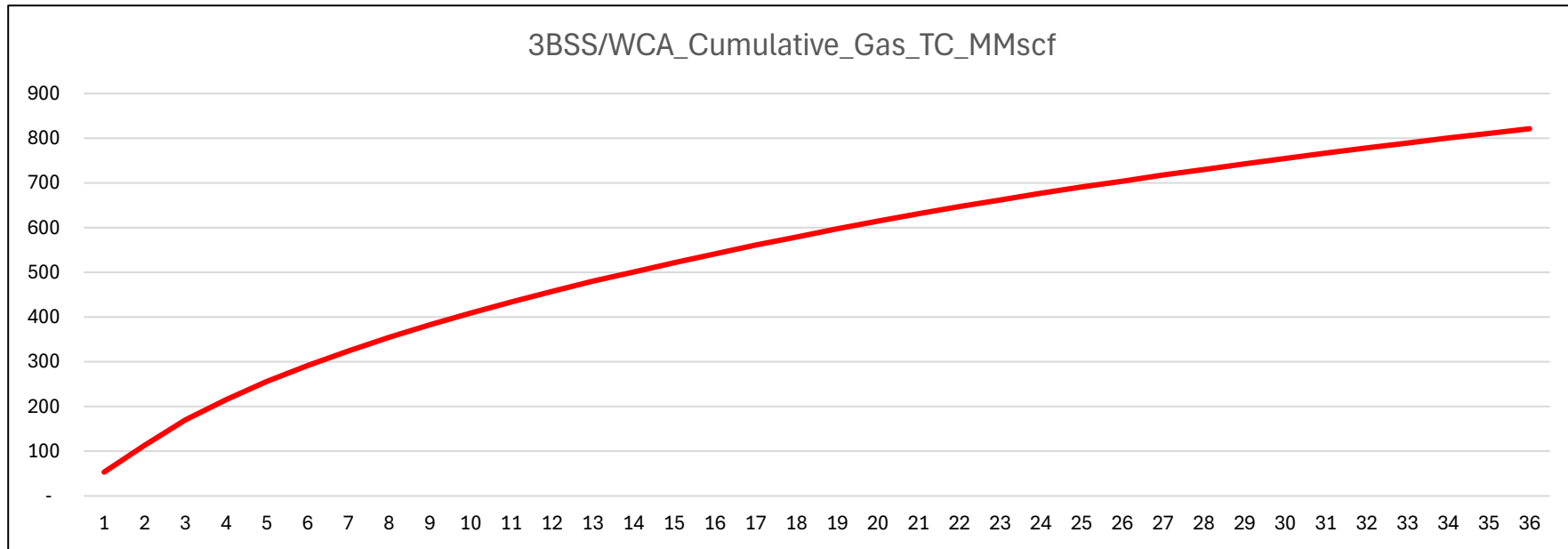
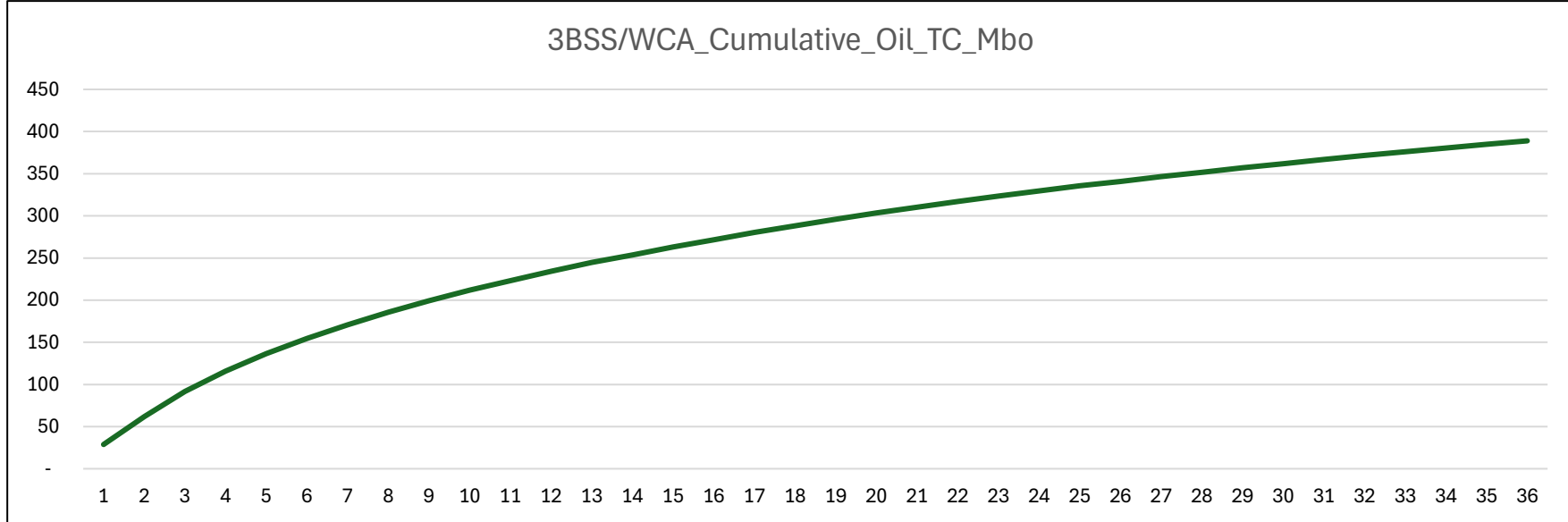
- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize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

Waste Minimization Plan

Per § 3162.3-1 Drilling applications and plans. Part J:

- (1) The anticipated initial oil production rate from the oil well and the anticipated production decline over the first 3 years of production.
 - a. See attached Anticipated Production & Decline Curve
- (2) The anticipated initial oil-well gas production rate from the oil well and the anticipated production decline over the first 3 years of production.
 - a. See attached Anticipated Production & Decline Curve
- (3) Certification that the operator has a valid, executed gas sales contract to sell to a purchaser 100 percent of the produced oil-well gas, less gas anticipated for use on-lease pursuant to 43 CFR subpart 3178.
 - a. See attached NMOCD – Natural Gas Management Plan
- (4) Any other information demonstrating the operator's plans to avoid the waste of gas production from any source, including, as appropriate, from pneumatic equipment, storage tanks, and leaks.
 - a. This location will comply with NSPS OOOOb which will include reduced associated gas flaring, non-emitting pneumatic equipment, storage tanks that are controlled and a rigorous leak detection and repair program. In addition, this facility complies with 20.2.50 NMAC (Ozone Precursor Pollutants) which also imposes standards on pneumatic equipment, tank controls, and leak detection and repair. Finally, this facility must comply with 19.15.27 NMAC (Venting and Flaring of Natural Gas) which significantly reduces instances of flaring.

Anticipated Production Decline Curve



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	LIL JOHN FED COM 711H
LOCATION:	Section 30, T.26 S., R.33 E., NMP
COUNTY:	Lea County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Wellhead Variance	☐ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency Cement Squeeze	☐ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☒ Break Testing	☐ Offline Cementing	☒ Casing Clearance

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 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

Primary Casing Design:

1. The **10-3/4** inch surface casing shall be set at approximately **943 feet per BLM Geologist** (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, 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.

Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

2. **Keep casing full during run for collapse safety factor.** The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

- 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 or potash.
- **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
- **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Contingency Casing Design:

4. The 13-3/8 inch surface casing shall be set at approximately **943 feet per BLM Geologist** (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - e. 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.

- f. 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)
- g. 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.
- h. If cement falls back, remedial cementing will be done prior to drilling out that string.

Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

5. **Keep casing full during run for collapse safety factor.** The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

- 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 or potash.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

6. **Keep casing full during run for collapse safety factor.** The minimum required fill of cement behind the 7-5/8 inch intermediate liner is:

- Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

7. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
- **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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - 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. 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.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i 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 Onshore Order 1 and 2.
- 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.

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.

- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Casing Clearance:

- The W441 connection should tie back 500'+ into the W513 intermediate casing for clearance overlap.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate "coffee ground or less" 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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,

(575) 689-5981

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
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. 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.
 - iii. BOP/BOPE test to be conducted per **43 CFR 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 intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

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

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
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:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. 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.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. 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.
 - i. 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).
 - ii. 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.)

- iii. 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 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).
- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 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.

JS 6/10/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

ACKNOWLEDGMENTS

Action 490155

ACKNOWLEDGMENTS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 490155
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☐	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
--------------------------	--

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 490155

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 490155
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
stanwagner	Cement is required to circulate on both surface and intermediate1 strings of casing.	7/30/2025
stanwagner	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	7/30/2025
jeffrey.harrison	Any string of casing or liner that is not circulated to surface must have a minimum of 200' of cement tie-back into the previous string of casing.	9/3/2025
jeffrey.harrison	Administrative order required for non-standard spacing unit prior to production.	9/3/2025
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.	9/3/2025
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.	9/3/2025
jeffrey.harrison	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.	9/3/2025
jeffrey.harrison	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.	9/3/2025
jeffrey.harrison	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.	9/3/2025