

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. 30-025-55145
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: NENW / 270 FNL / 1405 FWL / TWSP: 26S / RANGE: 33E / SECTION: 30 / LAT: 32.021009 / LONG: -103.615285 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 100 FNL / 2393 FWL / TWSP: 26S / RANGE: 33E / SECTION: 30 / LAT: 32.02148 / LONG: -103.612095 (TVD: 12243 feet, MD: 12424 feet)

BHL: LOT 3 / 50 FSL / 2393 FWL / TWSP: 26S / RANGE: 33E / SECTION: 31 / LAT: 32.000377 / LONG: -103.612095 (TVD: 12370 feet, MD: 20028 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- 55145	Pool Code 98097	Pool Name Sanders Tank; Upper Wolfcamp
Property Code 337730	Property Name LIL JOHN FED COM	Well Number 708H
OGRID No. 217817	Operator Name CONOCOPHILLIPS COMPANY	Ground Level Elevation 3,151.30'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL C	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 270' FNL	Ft. from E/W 1,405' FWL	Latitude 32.021009°	Longitude -103.615285°	County LEA
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Bottom Hole Location

UL LOT 3	Section 31	Township 26S	Range 33E	Lot	Ft. from N/S 50' FSL	Ft. from E/W 2,393' FWL	Latitude 32.000377°	Longitude -103.612095°	County LEA
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Dedicated Acres 942.88	Infill or Defining Well Infill	Defining Well API Pending 705H	Overlapping Spacing Unit (Y/N)	Consolidation Code Com
Order Numbers.			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL C	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 270' FNL	Ft. from E/W 1,405' FWL	Latitude 32.021009°	Longitude -103.615285°	County LEA
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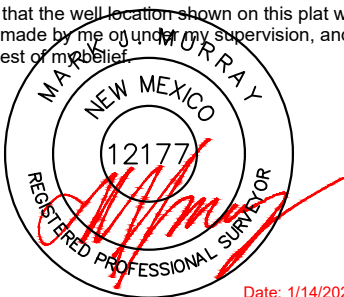
First Take Point (FTP)

UL C	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 2,393' FWL	Latitude 32.021480°	Longitude -103.612095°	County LEA
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Last Take Point (LTP)

UL LOT 3	Section 31	Township 26S	Range 33E	Lot	Ft. from N/S 100' FSL	Ft. from E/W 2,393' FWL	Latitude 32.000515°	Longitude -103.612095°	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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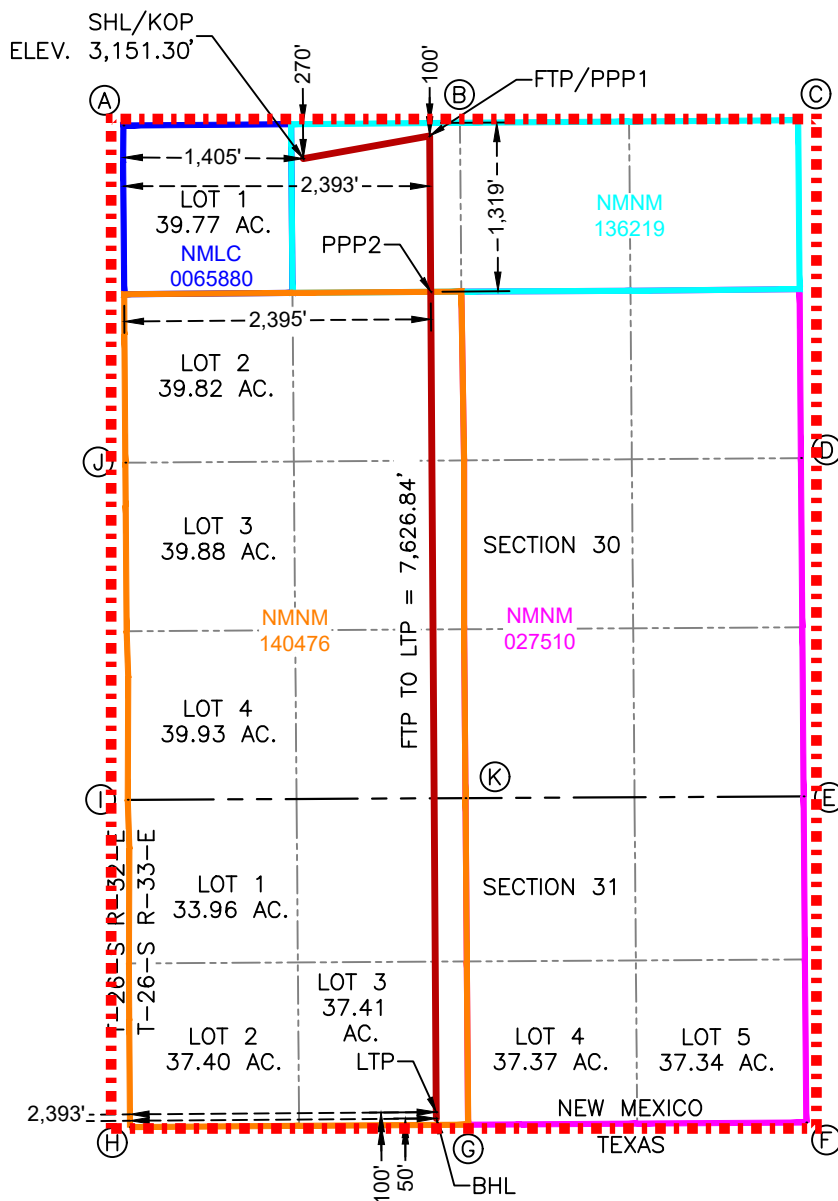
OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the 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.		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 	Date 2/17/2025	Signature and Seal of Professional Surveyor	
Printed Name Stan Wagner		Certificate Number 12177	Date of Survey 1/14/2025
Email Address			

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 & 1,405' FWL
ELEV.=3,151.30'

NAD 83 X = 763,875.72'
NAD 83 Y = 372,121.23'
NAD 83 LAT = 32.021009°
NAD 83 LONG = -103.615285°

**FIRST TAKE POINT &
PENETRATION POINT 1**
100' FNL & 2,393' FWL
NAD 83 X = 764,863.10'
NAD 83 Y = 372,299.19'
NAD 83 LAT = 32.021480°
NAD 83 LONG = -103.612095°

PENETRATION POINT 2
1,319' FNL & 2,395' FWL
NAD 83 X = 764,871.19'
NAD 83 Y = 371,080.69'
NAD 83 LAT = 32.018130°
NAD 83 LONG = -103.612096°

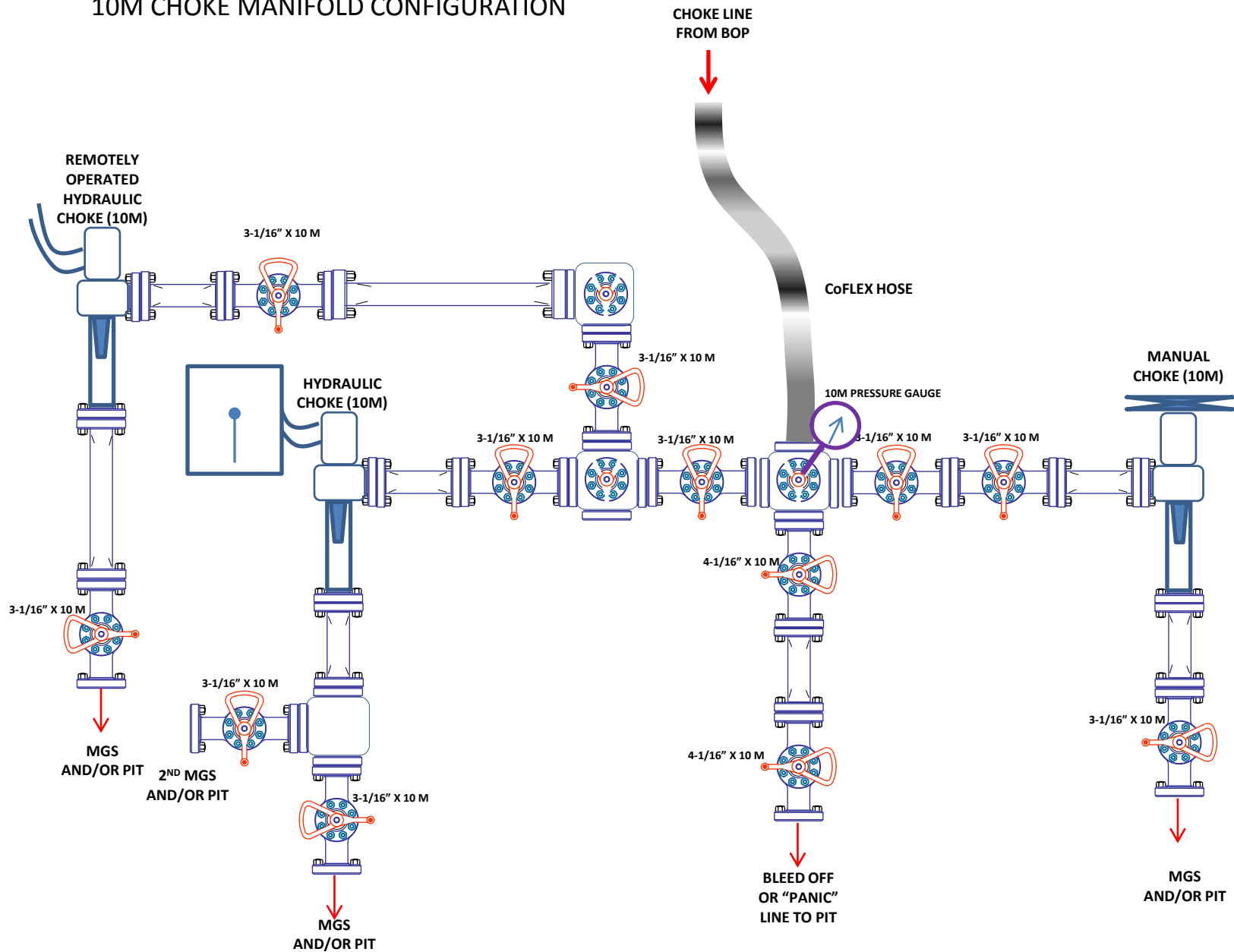
LAST TAKE POINT
100' FSL & 2,393' FWL
NAD 83 X = 764,914.26'
NAD 83 Y = 364,672.52'
NAD 83 LAT = 32.000515°
NAD 83 LONG = -103.612095°

BOTTOM HOLE LOCATION
50' FSL & 2,393' FWL
NAD 83 X = 764,914.61'
NAD 83 Y = 364,622.53'
NAD 83 LAT = 32.000377°
NAD 83 LONG = -103.612095°

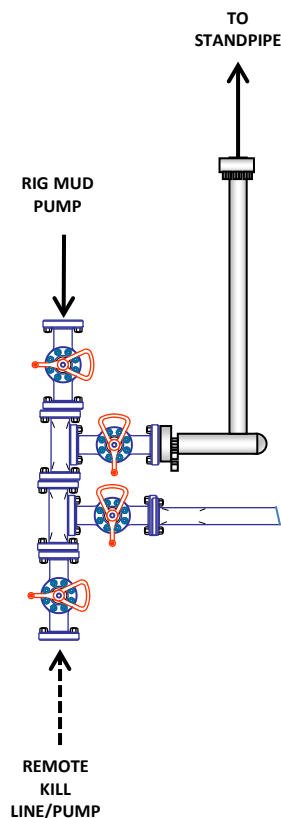
CORNER COORDINATES NEW MEXICO EAST - NAD 83

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'		

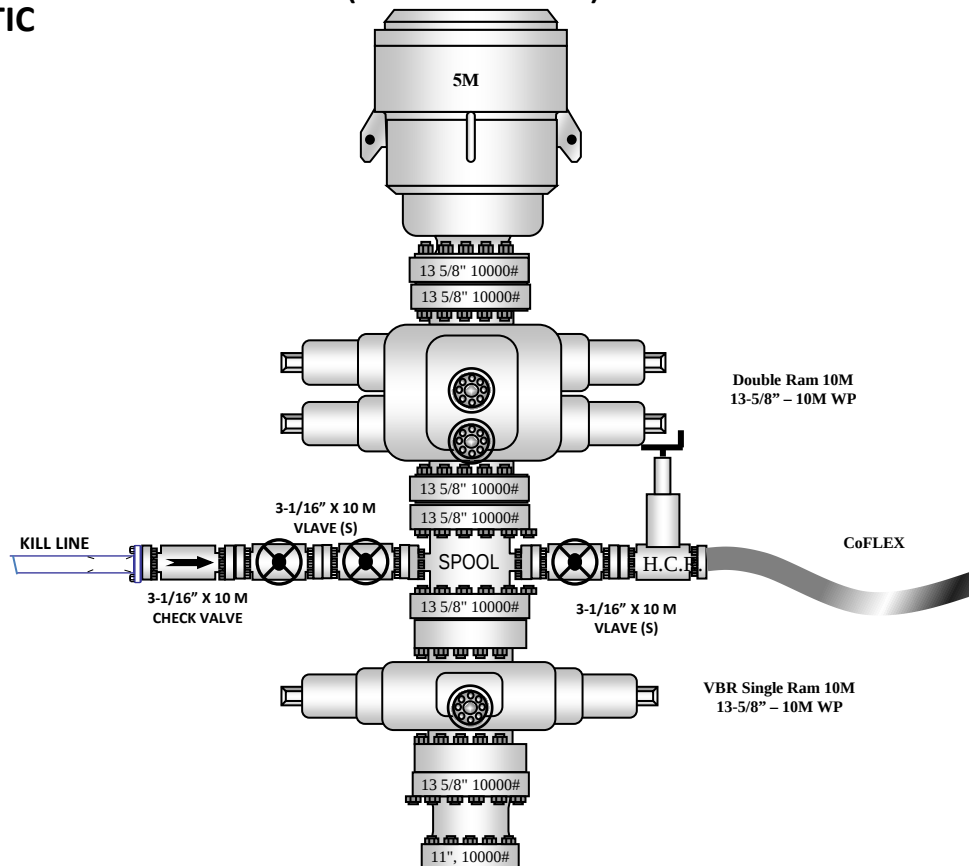
10M CHOKE MANIFOLD CONFIGURATION



10M REMOTE KILL SCHEMATIC



10M BOP Stack (5M Annular)



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1. Geologic Formations

TVD of target	12,370' EOL	Pilot hole depth:	N/A
MD at TD:	20,028'	Deepest expected fresh water:	220'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	493	Water	
Top of Salt	881	Salt	
Base of Salt	4250	Salt	
Lamar	4484	Salt Water	
Bell Canyon	4558	Salt Water	
Cherry Canyon	5732	Oil/Gas	
Brushy Canyon	7444	Oil/Gas	
Bone Spring	8791	Oil/Gas	
1st Bone Spring Sand	9831	Oil/Gas	
2nd Bone Spring Sand	10447	Oil/Gas	
3rd Bone Spring Sand	11535	Oil/Gas	
Wolfcamp Sand	11976	Oil/Gas	
Wolfcamp A	12169	Target Oil/Gas	
Wolfcamp B	12509	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	11930	7.625"	29.7	P110-ICY	W513	3.19	1.49	3.01	1.81
6.75"	0	11730	5.5"	23	P110-CY	BTC	3.28	1.95	2.70	2.70
6.75"	11730	20,028	5.5"	23	P110-CY	W441	3.18	1.95	2.56	2.33
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	1.84	1.15	5.22	5.39
8.75"	4190	11930	7.625"	29.7	P110-ICY	W513	2.56	1.49	3.01	1.81
6.75"	0	11730	5.5"	23	P110-CY	BTC	3.28	1.95	2.70	2.70
6.75"	11730	20,028	5.5"	23	P110-CY	W441	3.18	1.95	2.56	2.33
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	900	10.3	3.3	22	24	Halliburton tuned light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	740	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	11,430'	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)	400	10.5	3.3	22	24	Lead: Class C
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	820	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	11,430'	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 708H**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 708H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	8685 psi at 12370' TVD
Abnormal Temperature	NO 180 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 (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S 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

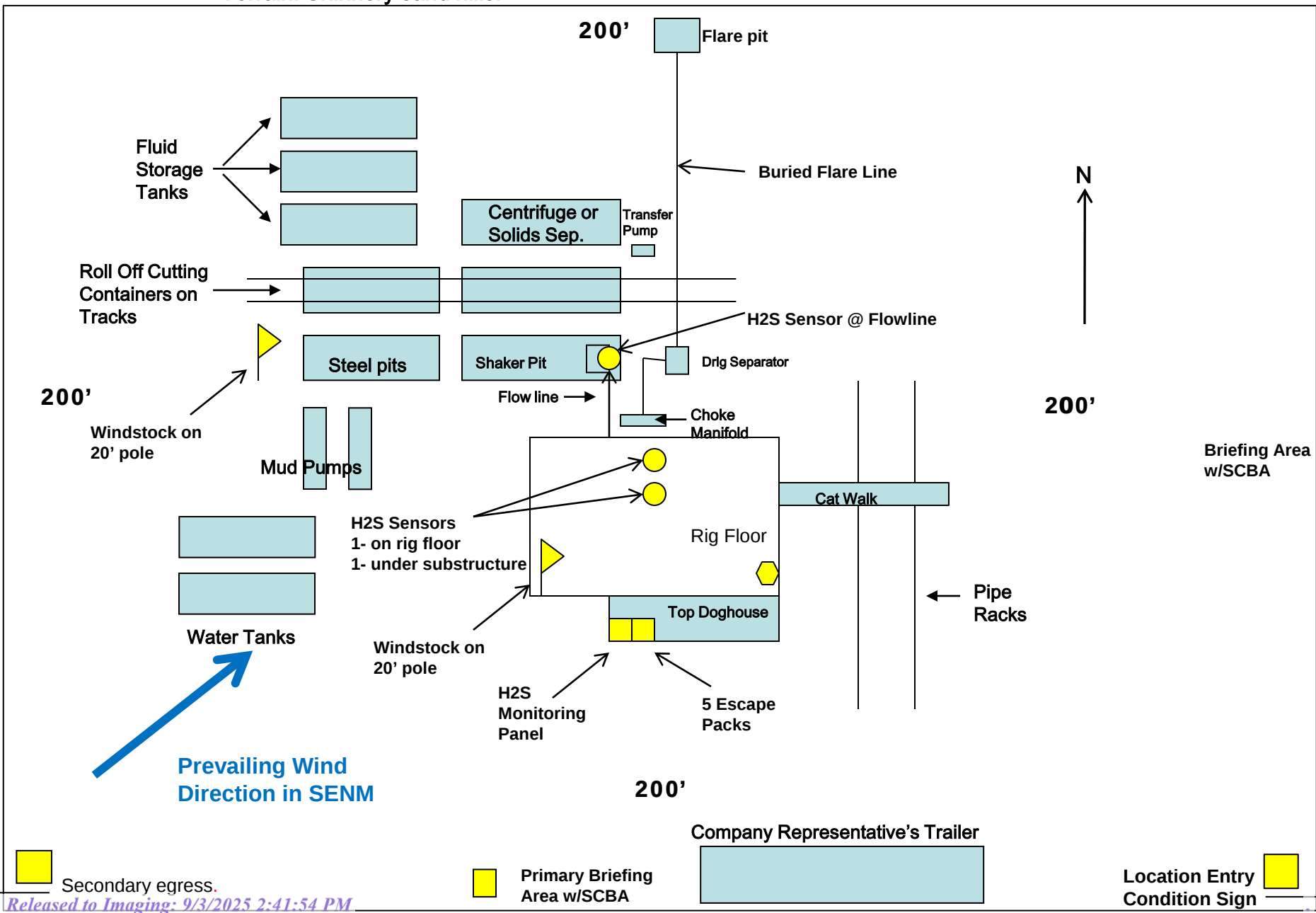
	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
Dallas Daley	432-818-2329	432-631-6977

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 708H

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 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3178.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3178.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 708H	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	47,256.92113495

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	172.11

Plan Survey Tool Program	Date	2/4/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	20,028.4	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	
2,890.8	17.82	77.03	2,876.6	30.8	133.9	2.00	2.00	0.00	77.03	
4,855.4	17.82	77.03	4,746.9	165.8	719.6	0.00	0.00	0.00	0.00	
6,637.1	0.00	0.00	6,500.0	227.5	987.4	1.00	-1.00	0.00	180.00	
12,029.6	0.00	0.00	11,892.5	227.5	987.4	0.00	0.00	0.00	0.00	
12,779.6	90.00	179.62	12,370.0	-250.0	990.6	12.00	12.00	23.95	179.62	
20,028.4	90.00	179.62	12,370.0	-7,498.6	1,038.6	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 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3178.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3178.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 708H	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	77.03	2,100.0	0.4	1.7	-0.2	2.00	2.00	0.00
2,200.0	4.00	77.03	2,199.8	1.6	6.8	-0.6	2.00	2.00	0.00
2,300.0	6.00	77.03	2,299.5	3.5	15.3	-1.4	2.00	2.00	0.00
2,400.0	8.00	77.03	2,398.7	6.3	27.2	-2.5	2.00	2.00	0.00
2,500.0	10.00	77.03	2,497.5	9.8	42.4	-3.9	2.00	2.00	0.00
2,600.0	12.00	77.03	2,595.6	14.1	61.0	-5.6	2.00	2.00	0.00
2,700.0	14.00	77.03	2,693.1	19.1	82.9	-7.5	2.00	2.00	0.00
2,800.0	16.00	77.03	2,789.6	24.9	108.1	-9.8	2.00	2.00	0.00
2,890.8	17.82	77.03	2,876.6	30.8	133.9	-12.2	2.00	2.00	0.00
2,900.0	17.82	77.03	2,885.3	31.5	136.6	-12.4	0.00	0.00	0.00
3,000.0	17.82	77.03	2,980.5	38.3	166.4	-15.1	0.00	0.00	0.00
3,100.0	17.82	77.03	3,075.7	45.2	196.3	-17.9	0.00	0.00	0.00
3,200.0	17.82	77.03	3,170.9	52.1	226.1	-20.6	0.00	0.00	0.00
3,300.0	17.82	77.03	3,266.1	59.0	255.9	-23.3	0.00	0.00	0.00
3,400.0	17.82	77.03	3,361.3	65.8	285.7	-26.0	0.00	0.00	0.00
3,500.0	17.82	77.03	3,456.5	72.7	315.5	-28.7	0.00	0.00	0.00
3,600.0	17.82	77.03	3,551.7	79.6	345.3	-31.4	0.00	0.00	0.00
3,700.0	17.82	77.03	3,646.9	86.4	375.2	-34.1	0.00	0.00	0.00
3,800.0	17.82	77.03	3,742.1	93.3	405.0	-36.9	0.00	0.00	0.00
3,900.0	17.82	77.03	3,837.3	100.2	434.8	-39.6	0.00	0.00	0.00
4,000.0	17.82	77.03	3,932.5	107.0	464.6	-42.3	0.00	0.00	0.00
4,100.0	17.82	77.03	4,027.7	113.9	494.4	-45.0	0.00	0.00	0.00
4,200.0	17.82	77.03	4,122.9	120.8	524.2	-47.7	0.00	0.00	0.00
4,300.0	17.82	77.03	4,218.1	127.7	554.0	-50.4	0.00	0.00	0.00
4,400.0	17.82	77.03	4,313.3	134.5	583.9	-53.1	0.00	0.00	0.00
4,500.0	17.82	77.03	4,408.5	141.4	613.7	-55.9	0.00	0.00	0.00
4,600.0	17.82	77.03	4,503.7	148.3	643.5	-58.6	0.00	0.00	0.00
4,700.0	17.82	77.03	4,598.9	155.1	673.3	-61.3	0.00	0.00	0.00
4,800.0	17.82	77.03	4,694.1	162.0	703.1	-64.0	0.00	0.00	0.00
4,855.4	17.82	77.03	4,746.9	165.8	719.6	-65.5	0.00	0.00	0.00
4,900.0	17.37	77.03	4,789.4	168.8	732.8	-66.7	1.00	-1.00	0.00
5,000.0	16.37	77.03	4,885.1	175.3	761.1	-69.3	1.00	-1.00	0.00
5,100.0	15.37	77.03	4,981.3	181.5	787.7	-71.7	1.00	-1.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3178.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3178.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,200.0	14.37	77.03	5,077.9	187.2	812.7	-74.0	1.00	-1.00	0.00	
5,300.0	13.37	77.03	5,175.0	192.6	836.1	-76.1	1.00	-1.00	0.00	
5,400.0	12.37	77.03	5,272.5	197.6	857.8	-78.1	1.00	-1.00	0.00	
5,500.0	11.37	77.03	5,370.4	202.3	877.8	-79.9	1.00	-1.00	0.00	
5,600.0	10.37	77.03	5,468.6	206.5	896.2	-81.6	1.00	-1.00	0.00	
5,700.0	9.37	77.03	5,567.1	210.3	912.9	-83.1	1.00	-1.00	0.00	
5,800.0	8.37	77.03	5,665.9	213.8	927.9	-84.5	1.00	-1.00	0.00	
5,900.0	7.37	77.03	5,764.9	216.9	941.3	-85.7	1.00	-1.00	0.00	
6,000.0	6.37	77.03	5,864.2	219.6	952.9	-86.7	1.00	-1.00	0.00	
6,100.0	5.37	77.03	5,963.7	221.9	962.9	-87.6	1.00	-1.00	0.00	
6,200.0	4.37	77.03	6,063.3	223.8	971.2	-88.4	1.00	-1.00	0.00	
6,300.0	3.37	77.03	6,163.1	225.3	977.8	-89.0	1.00	-1.00	0.00	
6,400.0	2.37	77.03	6,263.0	226.4	982.6	-89.4	1.00	-1.00	0.00	
6,500.0	1.37	77.03	6,362.9	227.1	985.8	-89.7	1.00	-1.00	0.00	
6,600.0	0.37	77.03	6,462.9	227.5	987.3	-89.9	1.00	-1.00	0.00	
6,637.1	0.00	0.00	6,500.0	227.5	987.4	-89.9	1.00	-1.00	0.00	
6,700.0	0.00	0.00	6,562.9	227.5	987.4	-89.9	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,662.9	227.5	987.4	-89.9	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,762.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,862.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,962.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,062.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,162.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,262.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,362.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,462.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,562.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,662.9	227.5	987.4	-89.9	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,762.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,862.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,962.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,062.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,162.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,262.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,362.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,462.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,562.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,662.9	227.5	987.4	-89.9	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,762.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,862.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,962.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,062.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,162.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,262.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,362.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,462.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,562.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,662.9	227.5	987.4	-89.9	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,762.9	227.5	987.4	-89.9	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,862.9	227.5	987.4	-89.9	0.00	0.00	0.00	
10,100.0	0.00	0.00	9,962.9	227.5	987.4	-89.9	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,062.9	227.5	987.4	-89.9	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,162.9	227.5	987.4	-89.9	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,262.9	227.5	987.4	-89.9	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3178.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3178.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 708H	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	10,362.9	227.5	987.4	-89.9	0.00	0.00	0.00
10,600.0	0.00	0.00	10,462.9	227.5	987.4	-89.9	0.00	0.00	0.00
10,700.0	0.00	0.00	10,562.9	227.5	987.4	-89.9	0.00	0.00	0.00
10,800.0	0.00	0.00	10,662.9	227.5	987.4	-89.9	0.00	0.00	0.00
10,900.0	0.00	0.00	10,762.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,000.0	0.00	0.00	10,862.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,100.0	0.00	0.00	10,962.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,200.0	0.00	0.00	11,062.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,300.0	0.00	0.00	11,162.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,400.0	0.00	0.00	11,262.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,500.0	0.00	0.00	11,362.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,600.0	0.00	0.00	11,462.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,700.0	0.00	0.00	11,562.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,800.0	0.00	0.00	11,662.9	227.5	987.4	-89.9	0.00	0.00	0.00
11,900.0	0.00	0.00	11,762.9	227.5	987.4	-89.9	0.00	0.00	0.00
12,000.0	0.00	0.00	11,862.9	227.5	987.4	-89.9	0.00	0.00	0.00
12,029.6	0.00	0.00	11,892.5	227.5	987.4	-89.9	0.00	0.00	0.00
12,100.0	8.45	179.62	11,962.7	222.3	987.5	-84.7	12.00	12.00	0.00
12,200.0	20.45	179.62	12,059.3	197.4	987.6	-60.0	12.00	12.00	0.00
12,300.0	32.45	179.62	12,148.7	153.0	987.9	-16.0	12.00	12.00	0.00
12,400.0	44.45	179.62	12,226.9	90.9	988.3	45.6	12.00	12.00	0.00
12,500.0	56.45	179.62	12,290.4	13.9	988.8	121.9	12.00	12.00	0.00
12,600.0	68.45	179.62	12,336.6	-74.6	989.4	209.6	12.00	12.00	0.00
12,700.0	80.45	179.62	12,363.3	-170.7	990.1	305.0	12.00	12.00	0.00
12,779.6	90.00	179.62	12,370.0	-250.0	990.6	383.5	12.00	12.00	0.00
12,800.0	90.00	179.62	12,370.0	-270.4	990.7	403.7	0.00	0.00	0.00
12,900.0	90.00	179.62	12,370.0	-370.4	991.4	502.9	0.00	0.00	0.00
13,000.0	90.00	179.62	12,370.0	-470.4	992.0	602.0	0.00	0.00	0.00
13,100.0	90.00	179.62	12,370.0	-570.4	992.7	701.2	0.00	0.00	0.00
13,200.0	90.00	179.62	12,370.0	-670.4	993.4	800.3	0.00	0.00	0.00
13,300.0	90.00	179.62	12,370.0	-770.4	994.0	899.5	0.00	0.00	0.00
13,400.0	90.00	179.62	12,370.0	-870.4	994.7	998.6	0.00	0.00	0.00
13,500.0	90.00	179.62	12,370.0	-970.4	995.4	1,097.7	0.00	0.00	0.00
13,600.0	90.00	179.62	12,370.0	-1,070.4	996.0	1,196.9	0.00	0.00	0.00
13,700.0	90.00	179.62	12,370.0	-1,170.3	996.7	1,296.0	0.00	0.00	0.00
13,800.0	90.00	179.62	12,370.0	-1,270.3	997.3	1,395.2	0.00	0.00	0.00
13,900.0	90.00	179.62	12,370.0	-1,370.3	998.0	1,494.3	0.00	0.00	0.00
14,000.0	90.00	179.62	12,370.0	-1,470.3	998.7	1,593.5	0.00	0.00	0.00
14,100.0	90.00	179.62	12,370.0	-1,570.3	999.3	1,692.6	0.00	0.00	0.00
14,200.0	90.00	179.62	12,370.0	-1,670.3	1,000.0	1,791.7	0.00	0.00	0.00
14,300.0	90.00	179.62	12,370.0	-1,770.3	1,000.7	1,890.9	0.00	0.00	0.00
14,400.0	90.00	179.62	12,370.0	-1,870.3	1,001.3	1,990.0	0.00	0.00	0.00
14,500.0	90.00	179.62	12,370.0	-1,970.3	1,002.0	2,089.2	0.00	0.00	0.00
14,600.0	90.00	179.62	12,370.0	-2,070.3	1,002.6	2,188.3	0.00	0.00	0.00
14,700.0	90.00	179.62	12,370.0	-2,170.3	1,003.3	2,287.5	0.00	0.00	0.00
14,800.0	90.00	179.62	12,370.0	-2,270.3	1,004.0	2,386.6	0.00	0.00	0.00
14,900.0	90.00	179.62	12,370.0	-2,370.3	1,004.6	2,485.7	0.00	0.00	0.00
15,000.0	90.00	179.62	12,370.0	-2,470.3	1,005.3	2,584.9	0.00	0.00	0.00
15,100.0	90.00	179.62	12,370.0	-2,570.3	1,006.0	2,684.0	0.00	0.00	0.00
15,200.0	90.00	179.62	12,370.0	-2,670.3	1,006.6	2,783.2	0.00	0.00	0.00
15,300.0	90.00	179.62	12,370.0	-2,770.3	1,007.3	2,882.3	0.00	0.00	0.00
15,400.0	90.00	179.62	12,370.0	-2,870.3	1,007.9	2,981.5	0.00	0.00	0.00
15,500.0	90.00	179.62	12,370.0	-2,970.3	1,008.6	3,080.6	0.00	0.00	0.00
15,600.0	90.00	179.62	12,370.0	-3,070.3	1,009.3	3,179.7	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3178.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3178.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 708H	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	12,370.0	-3,170.3	1,009.9	3,278.9	0.00	0.00	0.00
15,800.0	90.00	179.62	12,370.0	-3,270.3	1,010.6	3,378.0	0.00	0.00	0.00
15,900.0	90.00	179.62	12,370.0	-3,370.3	1,011.3	3,477.2	0.00	0.00	0.00
16,000.0	90.00	179.62	12,370.0	-3,470.3	1,011.9	3,576.3	0.00	0.00	0.00
16,100.0	90.00	179.62	12,370.0	-3,570.3	1,012.6	3,675.5	0.00	0.00	0.00
16,200.0	90.00	179.62	12,370.0	-3,670.3	1,013.2	3,774.6	0.00	0.00	0.00
16,300.0	90.00	179.62	12,370.0	-3,770.3	1,013.9	3,873.7	0.00	0.00	0.00
16,400.0	90.00	179.62	12,370.0	-3,870.3	1,014.6	3,972.9	0.00	0.00	0.00
16,500.0	90.00	179.62	12,370.0	-3,970.3	1,015.2	4,072.0	0.00	0.00	0.00
16,600.0	90.00	179.62	12,370.0	-4,070.3	1,015.9	4,171.2	0.00	0.00	0.00
16,700.0	90.00	179.62	12,370.0	-4,170.3	1,016.6	4,270.3	0.00	0.00	0.00
16,800.0	90.00	179.62	12,370.0	-4,270.3	1,017.2	4,369.5	0.00	0.00	0.00
16,900.0	90.00	179.62	12,370.0	-4,370.3	1,017.9	4,468.6	0.00	0.00	0.00
17,000.0	90.00	179.62	12,370.0	-4,470.3	1,018.5	4,567.7	0.00	0.00	0.00
17,100.0	90.00	179.62	12,370.0	-4,570.3	1,019.2	4,666.9	0.00	0.00	0.00
17,200.0	90.00	179.62	12,370.0	-4,670.3	1,019.9	4,766.0	0.00	0.00	0.00
17,300.0	90.00	179.62	12,370.0	-4,770.3	1,020.5	4,865.2	0.00	0.00	0.00
17,400.0	90.00	179.62	12,370.0	-4,870.3	1,021.2	4,964.3	0.00	0.00	0.00
17,500.0	90.00	179.62	12,370.0	-4,970.3	1,021.9	5,063.5	0.00	0.00	0.00
17,600.0	90.00	179.62	12,370.0	-5,070.3	1,022.5	5,162.6	0.00	0.00	0.00
17,700.0	90.00	179.62	12,370.0	-5,170.3	1,023.2	5,261.7	0.00	0.00	0.00
17,800.0	90.00	179.62	12,370.0	-5,270.3	1,023.8	5,360.9	0.00	0.00	0.00
17,900.0	90.00	179.62	12,370.0	-5,370.3	1,024.5	5,460.0	0.00	0.00	0.00
18,000.0	90.00	179.62	12,370.0	-5,470.3	1,025.2	5,559.2	0.00	0.00	0.00
18,100.0	90.00	179.62	12,370.0	-5,570.3	1,025.8	5,658.3	0.00	0.00	0.00
18,200.0	90.00	179.62	12,370.0	-5,670.3	1,026.5	5,757.5	0.00	0.00	0.00
18,300.0	90.00	179.62	12,370.0	-5,770.2	1,027.1	5,856.6	0.00	0.00	0.00
18,400.0	90.00	179.62	12,370.0	-5,870.2	1,027.8	5,955.7	0.00	0.00	0.00
18,500.0	90.00	179.62	12,370.0	-5,970.2	1,028.5	6,054.9	0.00	0.00	0.00
18,600.0	90.00	179.62	12,370.0	-6,070.2	1,029.1	6,154.0	0.00	0.00	0.00
18,700.0	90.00	179.62	12,370.0	-6,170.2	1,029.8	6,253.2	0.00	0.00	0.00
18,800.0	90.00	179.62	12,370.0	-6,270.2	1,030.5	6,352.3	0.00	0.00	0.00
18,900.0	90.00	179.62	12,370.0	-6,370.2	1,031.1	6,451.5	0.00	0.00	0.00
19,000.0	90.00	179.62	12,370.0	-6,470.2	1,031.8	6,550.6	0.00	0.00	0.00
19,100.0	90.00	179.62	12,370.0	-6,570.2	1,032.4	6,649.8	0.00	0.00	0.00
19,200.0	90.00	179.62	12,370.0	-6,670.2	1,033.1	6,748.9	0.00	0.00	0.00
19,300.0	90.00	179.62	12,370.0	-6,770.2	1,033.8	6,848.0	0.00	0.00	0.00
19,400.0	90.00	179.62	12,370.0	-6,870.2	1,034.4	6,947.2	0.00	0.00	0.00
19,500.0	90.00	179.62	12,370.0	-6,970.2	1,035.1	7,046.3	0.00	0.00	0.00
19,600.0	90.00	179.62	12,370.0	-7,070.2	1,035.8	7,145.5	0.00	0.00	0.00
19,700.0	90.00	179.62	12,370.0	-7,170.2	1,036.4	7,244.6	0.00	0.00	0.00
19,800.0	90.00	179.62	12,370.0	-7,270.2	1,037.1	7,343.8	0.00	0.00	0.00
19,900.0	90.00	179.62	12,370.0	-7,370.2	1,037.7	7,442.9	0.00	0.00	0.00
20,000.0	90.00	179.62	12,370.0	-7,470.2	1,038.4	7,542.0	0.00	0.00	0.00
20,028.4	90.00	179.62	12,370.0	-7,498.6	1,038.6	7,570.2	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3178.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3178.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 708H	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	0.01	12,370.0	-7,448.5	1,038.2	364,615.72	723,726.32	32° 0' 1.402 N	103° 36' 41.863 W
- plan misses target center by 0.1usft at 19978.3usft MD (12370.0 TVD, -7448.5 N, 1038.3 E)									
- Point									
PBHL_LIL JOHN FEDEF	0.00	359.62	12,370.0	-7,498.5	1,038.5	364,565.72	723,726.68	32° 0' 0.907 N	103° 36' 41.862 W
- plan misses target center by 0.1usft at 20028.3usft MD (12370.0 TVD, -7498.5 N, 1038.6 E)									
- Rectangle (sides W100.0 H7,672.4 D20.0)									
FTP_LIL JOHN FEDER/	0.00	0.00	12,370.0	178.0	987.4	372,242.19	723,675.51	32° 1' 16.876 N	103° 36' 41.861 W
- plan misses target center by 163.9usft at 12424.0usft MD (12243.6 TVD, 73.6 N, 988.4 E)									
- Circle (radius 50.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	20,028.4	12,370.0	5-1/2" Production Casing	5-1/2	6

DELAWARE BASIN EAST

ZIA HILLS UNIT AREA

LIL JOHN FEDERAL PROJECT

_LIL JOHN FED COM 708H

OWB

PWP0

Anticollision Report

04 February, 2025

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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	20,028.4	PWP0 (OWB)	r.5 MWD+IFR1	OWSG MWD + IFR1 rev.5	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
LIL JOHN FEDERAL OFFSETS						
SALADO DRAW 19 26 33 FEDERAL 3H - OWB - AWP	9,290.1	14,055.0	794.8	682.8	7.098 CC	
SALADO DRAW 19 26 33 FEDERAL 3H - OWB - AWP	9,300.0	14,055.0	794.8	682.8	7.093 ES, SF	
SALADO DRAW 19 26 33 FEDERAL 4H - OWB - AWP	9,245.7	13,976.0	357.9	302.1	6.411 CC, ES	
SALADO DRAW 19 26 33 FEDERAL 4H - OWB - AWP	9,300.0	13,976.0	362.0	304.5	6.297 SF	
SALADO DRAW 19 26 33 FEDERAL COM 2H - OWB - A						Out of range
SD EA 19 FEDERAL P6 5H - OWB - AWP	9,200.0	13,928.0	635.6	519.7	5.486 SF	
SD EA 19 FEDERAL P6 5H - OWB - AWP	9,243.2	13,928.0	634.1	518.9	5.502 CC, ES	
SD EA 19 FEDERAL P6 6H - OWB - AWP						Out of range
SD EA 19 FEDERAL P6 7H - OWB - AWP						Out of range
LIL JOHN FEDERAL PROJECT						
_LIL JOHN FED COM 701H - OWB - PWP0						Out of range
_LIL JOHN FED COM 702H - OWB - PWP0						Out of range
_LIL JOHN FED COM 703H - OWB - PWP0						Out of range
_LIL JOHN FED COM 704H - OWB - PWP0						Out of range
_LIL JOHN FED COM 705H - OWB - PWP0	11,713.1	11,611.3	403.5	356.4	8.581 CC	
_LIL JOHN FED COM 705H - OWB - PWP0	20,028.4	19,684.5	479.5	329.0	3.186 ES, SF	
_LIL JOHN FED COM 706H - OWB - PWP0	12,003.0	11,900.8	816.7	773.9	19.042 CC	
_LIL JOHN FED COM 706H - OWB - PWP0	20,028.4	19,903.9	827.3	676.2	5.475 ES, SF	
_LIL JOHN FED COM 707H - OWB - PWP0	2,000.0	1,999.7	30.0	18.5	2.618 Normal Operations, CC	
_LIL JOHN FED COM 707H - OWB - PWP0	2,300.0	2,302.6	30.6	17.8	2.399 Caution - Monitor Closely, ES	
_LIL JOHN FED COM 707H - OWB - PWP0	2,500.0	2,504.5	32.0	18.4	2.349 Caution - Monitor Closely, SF	
_LIL JOHN FED COM 709H - OWB - PWP0	2,000.0	2,001.7	90.0	78.5	7.803 CC, ES	
_LIL JOHN FED COM 709H - OWB - PWP0	2,100.0	2,101.6	91.7	79.8	7.700 SF	
_LIL JOHN FED COM 710H - OWB - PWP0	2,004.9	2,006.7	60.0	48.5	5.193 CC, ES	
_LIL JOHN FED COM 710H - OWB - PWP0	2,200.0	2,204.7	61.8	49.5	5.006 SF	
_LIL JOHN FED COM 711H - OWB - PWP0	1,966.1	1,967.8	149.7	138.3	13.097 CC	
_LIL JOHN FED COM 711H - OWB - PWP0	2,000.0	2,000.0	149.8	138.2	12.984 ES	
_LIL JOHN FED COM 711H - OWB - PWP0	2,100.0	2,096.7	153.1	141.1	12.791 SF	
_LIL JOHN FED COM 712H - OWB - PWP0	2,000.0	2,001.7	120.0	108.5	10.403 CC, ES	
_LIL JOHN FED COM 712H - OWB - PWP0	2,100.0	2,101.7	121.7	109.8	10.219 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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

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						
STATE LINE OFFSETS						
EXCELSIOR 7 10H - OWB - AWP	20,028.4	17,177.0	362.2	217.6	2.504	Normal Operations, CC, ES, SF
EXCELSIOR 7 11H - OWB - AWP	20,028.4	17,075.0	733.1	577.9	4.723	CC, ES, SF
EXCELSIOR 7 12H - OWB - AWP						Out of range
EXCELSIOR 7 7H - OWB - AWP	20,028.4	17,061.0	661.3	498.2	4.054	CC, ES, SF
EXCELSIOR 7 8H - OWB - AWP	20,028.4	17,419.0	505.7	357.6	3.415	CC, ES, SF
EXCELSIOR 7 9H - OWB - AWP	20,028.4	16,750.0	528.0	435.6	5.713	CC, ES, SF
PATHFINDER STATE 12H - OWB - AWP						Out of range
PATHFINDER STATE 4H - OWB - AWP						Out of range
PATHFINDER STATE 7 16H - OWB - AWP						Out of range
PATHFINDER STATE 7 19H - OWB - AWP						Out of range
PATHFINDER STATE 7 20H - OWB - AWP						Out of range
PATHFINDER STATE 7 21H - OWB - AWP						Out of range
WAR HAMMER 25 FEDERAL COM W1 3H - PS						
War Hammer 25 Federal Com W1 3H - Original Hole - O						Out of range
ZIA HILLS UNIT 2532 PROJECT						
WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AW						Out of range

Offset Design: LIL JOHN FEDERAL OFFSETS - SALADO DRAW 19 26 33 FEDERAL 3H - OWB - AWP													Offset Site Error: 0.0 usft	
Survey Program: 126-r.5 MWD		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft		
Reference	Measured	Vertical	Reference	Offset	Highside			Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor		
8,700.0	8,562.9	14,055.0	9,153.1	24.4	81.9	-66.66	542.4	257.7	989.9	895.2	94.70	10.453		
8,800.0	8,662.9	14,055.0	9,153.1	24.4	81.9	-66.66	542.4	257.7	933.7	835.4	98.31	9.498		
8,900.0	8,762.9	14,055.0	9,153.1	24.4	81.9	-66.66	542.4	257.7	885.4	783.4	101.97	8.682		
9,000.0	8,862.9	14,055.0	9,153.1	24.5	81.9	-66.66	542.4	257.7	846.1	740.6	105.47	8.022		
9,100.0	8,962.9	14,055.0	9,153.1	24.5	81.9	-66.66	542.4	257.7	817.2	708.7	108.51	7.531		
9,200.0	9,062.9	14,055.0	9,153.1	24.6	81.9	-66.66	542.4	257.7	799.8	689.1	110.78	7.220		
9,290.1	9,153.1	14,055.0	9,153.1	24.6	81.9	-66.66	542.4	257.7	794.8	682.8	111.98	7.098 CC		
9,300.0	9,162.9	14,055.0	9,153.1	24.6	81.9	-66.66	542.4	257.7	794.8	682.8	112.05	7.093 ES, SF		
9,400.0	9,262.9	14,055.0	9,153.1	24.7	81.9	-66.66	542.4	257.7	802.3	690.1	112.20	7.151		
9,500.0	9,362.9	14,055.0	9,153.1	24.7	81.9	-66.66	542.4	257.7	822.0	710.7	111.28	7.387		
9,600.0	9,462.9	14,055.0	9,153.1	24.8	81.9	-66.66	542.4	257.7	853.0	743.5	109.50	7.790		
9,700.0	9,562.9	14,055.0	9,153.1	24.8	81.9	-66.66	542.4	257.7	894.2	787.1	107.14	8.346		
9,800.0	9,662.9	14,055.0	9,153.1	24.8	81.9	-66.66	542.4	257.7	944.2	839.8	104.45	9.040		

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 4H - OWB - AWP											Offset Site Error:	0.0 usft
Survey Program: 153-r.5 MWD											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
8,400.0	8,262.9	13,976.0	9,108.6	24.2	83.6	-23.16	556.6	846.7	918.3	857.2	61.10	15.029
8,500.0	8,362.9	13,976.0	9,108.6	24.3	83.6	-23.16	556.6	846.7	827.1	766.5	60.58	13.653
8,600.0	8,462.9	13,976.0	9,108.6	24.3	83.6	-23.16	556.6	846.7	738.2	678.3	59.91	12.323
8,700.0	8,562.9	13,976.0	9,108.6	24.4	83.6	-23.16	556.6	846.7	652.6	593.6	59.02	11.057
8,800.0	8,662.9	13,976.0	9,108.6	24.4	83.6	-23.16	556.6	846.7	571.6	513.7	57.87	9.877
8,900.0	8,762.9	13,976.0	9,108.6	24.4	83.6	-23.16	556.6	846.7	497.6	441.1	56.48	8.810
9,000.0	8,862.9	13,976.0	9,108.6	24.5	83.6	-23.16	556.6	846.7	434.1	379.1	55.01	7.891
9,100.0	8,962.9	13,976.0	9,108.6	24.5	83.6	-23.16	556.6	846.7	386.4	332.3	54.10	7.142
9,200.0	9,062.9	13,976.0	9,108.6	24.6	83.6	-23.16	556.6	846.7	360.8	306.0	54.81	6.583
9,245.7	9,108.6	13,976.0	9,108.6	24.6	83.6	-23.16	556.6	846.7	357.9	302.1	55.83	6.411 CC, ES
9,300.0	9,162.9	13,976.0	9,108.6	24.6	83.6	-23.16	556.6	846.7	362.0	304.5	57.49	6.297 SF
9,400.0	9,262.9	13,976.0	9,108.6	24.7	83.6	-23.16	556.6	846.7	389.8	328.8	60.96	6.394
9,500.0	9,362.9	13,976.0	9,108.6	24.7	83.6	-23.16	556.6	846.7	439.1	375.2	63.87	6.874
9,600.0	9,462.9	13,976.0	9,108.6	24.8	83.6	-23.16	556.6	846.7	503.6	437.8	65.85	7.648
9,700.0	9,562.9	13,976.0	9,108.6	24.8	83.6	-23.16	556.6	846.7	578.4	511.3	67.11	8.619
9,800.0	9,662.9	13,976.0	9,108.6	24.8	83.6	-23.16	556.6	846.7	659.8	591.9	67.90	9.718
9,900.0	9,762.9	13,976.0	9,108.6	24.9	83.6	-23.16	556.6	846.7	745.8	677.4	68.42	10.901
10,000.0	9,862.9	13,976.0	9,108.6	24.9	83.6	-23.16	556.6	846.7	834.9	766.1	68.78	12.139
10,100.0	9,962.9	13,976.0	9,108.6	25.0	83.6	-23.16	556.6	846.7	926.3	857.2	69.05	13.415

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 - SD EA 19 FEDERAL P6 5H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 182-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	8,362.9	13,928.0	9,106.1	24.3	87.0	68.41	460.8	1,577.1	977.0	880.0	96.91	10.081	
8,600.0	8,462.9	13,928.0	9,106.1	24.3	87.0	68.41	460.8	1,577.1	903.2	802.9	100.31	9.005	
8,700.0	8,562.9	13,928.0	9,106.1	24.4	87.0	68.41	460.8	1,577.1	835.0	731.0	103.95	8.032	
8,800.0	8,662.9	13,928.0	9,106.1	24.4	87.0	68.41	460.8	1,577.1	773.7	665.9	107.70	7.183	
8,900.0	8,762.9	13,928.0	9,106.1	24.4	87.0	68.41	460.8	1,577.1	721.0	609.8	111.26	6.481	
9,000.0	8,862.9	13,928.0	9,106.1	24.5	87.0	68.41	460.8	1,577.1	679.2	565.0	114.17	5.949	
9,100.0	8,962.9	13,928.0	9,106.1	24.5	87.0	68.41	460.8	1,577.1	650.1	534.2	115.88	5.610	
9,200.0	9,062.9	13,928.0	9,106.1	24.6	87.0	68.41	460.8	1,577.1	635.6	519.7	115.87	5.486 SF	
9,243.2	9,106.1	13,928.0	9,106.1	24.6	87.0	68.41	460.8	1,577.1	634.1	518.9	115.26	5.502 CC, ES	
9,300.0	9,162.9	13,928.0	9,106.1	24.6	87.0	68.41	460.8	1,577.1	636.7	522.8	113.92	5.589	
9,400.0	9,262.9	13,928.0	9,106.1	24.7	87.0	68.41	460.8	1,577.1	653.2	543.0	110.24	5.926	
9,500.0	9,362.9	13,928.0	9,106.1	24.7	87.0	68.41	460.8	1,577.1	684.2	578.8	105.40	6.491	
9,600.0	9,462.9	13,928.0	9,106.1	24.8	87.0	68.41	460.8	1,577.1	727.6	627.5	100.11	7.268	
9,700.0	9,562.9	13,928.0	9,106.1	24.8	87.0	68.41	460.8	1,577.1	781.5	686.6	94.93	8.233	
9,800.0	9,662.9	13,928.0	9,106.1	24.8	87.0	68.41	460.8	1,577.1	843.9	753.7	90.21	9.355	
9,900.0	9,762.9	13,928.0	9,106.1	24.9	87.0	68.41	460.8	1,577.1	913.0	826.9	86.12	10.602	
10,000.0	9,862.9	13,928.0	9,106.1	24.9	87.0	68.41	460.8	1,577.1	987.4	904.7	82.68	11.942	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 705H - 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)			
4,200.0	4,122.9	4,211.5	4,181.7	13.3	13.7	12.72	139.4	1,516.0	993.7	968.5	25.23	39.383	
4,300.0	4,218.1	4,304.9	4,274.9	13.8	14.0	12.85	143.5	1,510.4	958.2	932.3	25.94	36.942	
4,400.0	4,313.3	4,398.4	4,368.1	14.2	14.3	13.00	147.6	1,504.8	922.7	896.1	26.65	34.622	
4,500.0	4,408.5	4,491.8	4,461.3	14.7	14.7	13.16	151.7	1,499.3	887.2	859.8	27.37	32.415	
4,600.0	4,503.7	4,585.3	4,554.5	15.2	15.0	13.33	155.7	1,493.7	851.7	823.6	28.09	30.316	
4,700.0	4,598.9	4,678.7	4,647.7	15.6	15.3	13.52	159.8	1,488.1	816.2	787.4	28.82	28.317	
4,800.0	4,694.1	4,772.2	4,740.9	16.1	15.7	13.72	163.9	1,482.5	780.7	751.2	29.56	26.412	
4,855.4	4,746.9	4,824.0	4,792.5	16.3	15.9	13.84	166.1	1,479.4	761.1	731.1	29.96	25.405	
4,900.0	4,789.4	4,865.7	4,834.1	16.5	16.0	13.90	167.9	1,476.9	745.4	715.1	30.28	24.621	
5,000.0	4,885.1	4,959.7	4,927.9	17.0	16.4	14.02	172.0	1,471.2	711.5	680.4	31.02	22.938	
5,100.0	4,981.3	5,054.3	5,022.2	17.5	16.7	14.13	176.2	1,465.6	679.1	647.3	31.76	21.384	
5,200.0	5,077.9	5,149.5	5,117.1	17.9	17.1	14.23	180.3	1,459.9	648.4	615.9	32.50	19.951	
5,300.0	5,175.0	5,245.1	5,212.5	18.4	17.4	14.30	184.5	1,454.1	619.2	586.0	33.23	18.633	
5,400.0	5,272.5	5,341.3	5,308.4	18.9	17.7	14.35	188.7	1,448.4	591.7	557.8	33.97	17.421	
5,500.0	5,370.4	5,437.9	5,404.7	19.3	18.1	14.37	192.9	1,442.6	565.9	531.2	34.69	16.311	
5,600.0	5,468.6	5,534.9	5,501.4	19.8	18.5	14.35	197.1	1,436.8	541.6	506.2	35.41	15.295	
5,700.0	5,567.1	5,632.3	5,598.6	20.2	18.8	14.29	201.4	1,430.9	519.1	482.9	36.13	14.368	
5,800.0	5,665.9	5,730.1	5,696.1	20.6	19.2	14.19	205.6	1,425.1	498.1	461.3	36.83	13.526	
5,900.0	5,764.9	5,828.2	5,794.0	21.0	19.5	14.03	209.9	1,419.2	478.8	441.3	37.52	12.764	
6,000.0	5,864.2	5,926.6	5,892.1	21.4	19.9	13.82	214.2	1,413.3	461.2	423.0	38.19	12.077	
6,100.0	5,963.7	6,025.3	5,990.5	21.8	20.2	13.54	218.5	1,407.4	445.3	406.5	38.85	11.463	
6,200.0	6,063.3	6,122.2	6,087.2	22.2	20.6	13.21	222.7	1,401.7	431.1	391.6	39.50	10.915	
6,300.0	6,163.1	6,215.9	6,180.7	22.6	20.9	12.93	226.0	1,397.1	419.7	379.5	40.18	10.445	
6,400.0	6,263.0	6,310.0	6,274.7	22.9	21.2	12.72	228.4	1,393.8	411.3	370.5	40.81	10.078	
6,500.0	6,362.9	6,404.5	6,369.1	23.2	21.5	12.59	229.9	1,391.7	405.9	364.6	41.39	9.808	
6,600.0	6,462.9	6,500.0	6,464.7	23.5	21.7	12.55	230.5	1,390.9	403.6	361.7	41.86	9.641	
6,637.1	6,500.0	6,535.3	6,500.0	23.5	21.8	89.57	230.5	1,390.9	403.5	361.5	41.94	9.620	
6,700.0	6,562.9	6,598.2	6,562.9	23.5	21.8	89.57	230.5	1,390.9	403.5	361.5	41.99	9.608	
6,800.0	6,662.9	6,698.2	6,662.9	23.6	21.8	89.57	230.5	1,390.9	403.5	361.4	42.08	9.588	
6,900.0	6,762.9	6,798.2	6,762.9	23.6	21.9	89.57	230.5	1,390.9	403.5	361.3	42.17	9.567	
7,000.0	6,862.9	6,898.2	6,862.9	23.6	21.9	89.57	230.5	1,390.9	403.5	361.2	42.26	9.546	
7,100.0	6,962.9	6,998.2	6,962.9	23.7	22.0	89.57	230.5	1,390.9	403.5	361.1	42.36	9.525	
7,200.0	7,062.9	7,098.2	7,062.9	23.7	22.0	89.57	230.5	1,390.9	403.5	361.0	42.45	9.504	
7,300.0	7,162.9	7,198.2	7,162.9	23.8	22.1	89.57	230.5	1,390.9	403.5	360.9	42.54	9.484	
7,400.0	7,262.9	7,298.2	7,262.9	23.8	22.1	89.57	230.5	1,390.9	403.5	360.8	42.64	9.463	
7,500.0	7,362.9	7,398.2	7,362.9	23.8	22.2	89.57	230.5	1,390.9	403.5	360.7	42.73	9.442	
7,600.0	7,462.9	7,498.2	7,462.9	23.9	22.2	89.57	230.5	1,390.9	403.5	360.6	42.82	9.421	
7,700.0	7,562.9	7,598.2	7,562.9	23.9	22.3	89.57	230.5	1,390.9	403.5	360.5	42.92	9.400	
7,800.0	7,662.9	7,698.2	7,662.9	24.0	22.3	89.57	230.5	1,390.9	403.5	360.4	43.01	9.380	
7,900.0	7,762.9	7,798.2	7,762.9	24.0	22.4	89.57	230.5	1,390.9	403.5	360.4	43.11	9.359	
8,000.0	7,862.9	7,898.2	7,862.9	24.1	22.4	89.57	230.5	1,390.9	403.5	360.3	43.21	9.338	
8,100.0	7,962.9	7,998.2	7,962.9	24.1	22.5	89.57	230.5	1,390.9	403.5	360.2	43.30	9.317	
8,200.0	8,062.9	8,098.2	8,062.9	24.1	22.5	89.57	230.5	1,390.9	403.5	360.1	43.40	9.297	
8,300.0	8,162.9	8,198.2	8,162.9	24.2	22.6	89.57	230.5	1,390.9	403.5	360.0	43.50	9.276	
8,400.0	8,262.9	8,298.2	8,262.9	24.2	22.6	89.57	230.5	1,390.9	403.5	359.9	43.59	9.255	
8,500.0	8,362.9	8,398.2	8,362.9	24.3	22.7	89.57	230.5	1,390.9	403.5	359.8	43.69	9.234	
8,600.0	8,462.9	8,498.2	8,462.9	24.3	22.7	89.57	230.5	1,390.9	403.5	359.7	43.79	9.214	
8,700.0	8,562.9	8,598.2	8,562.9	24.4	22.8	89.57	230.5	1,390.9	403.5	359.6	43.89	9.193	
8,800.0	8,662.9	8,698.2	8,662.9	24.4	22.8	89.57	230.5	1,390.9	403.5	359.5	43.99	9.172	
8,900.0	8,762.9	8,798.2	8,762.9	24.4	22.9	89.57	230.5	1,390.9	403.5	359.4	44.09	9.152	
9,000.0	8,862.9	8,898.2	8,862.9	24.5	22.9	89.57	230.5	1,390.9	403.5	359.3	44.19	9.131	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 705H - 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)			
9,100.0	8,962.9	8,998.2	8,962.9	24.5	23.0	89.57	230.5	1,390.9	403.5	359.2	44.29	9.110	
9,200.0	9,062.9	9,098.2	9,062.9	24.6	23.0	89.57	230.5	1,390.9	403.5	359.1	44.39	9.090	
9,300.0	9,162.9	9,198.2	9,162.9	24.6	23.1	89.57	230.5	1,390.9	403.5	359.0	44.49	9.069	
9,400.0	9,262.9	9,298.2	9,262.9	24.7	23.1	89.57	230.5	1,390.9	403.5	358.9	44.59	9.049	
9,500.0	9,362.9	9,398.2	9,362.9	24.7	23.2	89.57	230.5	1,390.9	403.5	358.8	44.69	9.028	
9,600.0	9,462.9	9,498.2	9,462.9	24.8	23.2	89.57	230.5	1,390.9	403.5	358.7	44.79	9.008	
9,700.0	9,562.9	9,598.2	9,562.9	24.8	23.3	89.57	230.5	1,390.9	403.5	358.6	44.89	8.987	
9,800.0	9,662.9	9,698.2	9,662.9	24.8	23.3	89.57	230.5	1,390.9	403.5	358.5	45.00	8.967	
9,900.0	9,762.9	9,798.2	9,762.9	24.9	23.4	89.57	230.5	1,390.9	403.5	358.4	45.10	8.946	
10,000.0	9,862.9	9,898.2	9,862.9	24.9	23.4	89.57	230.5	1,390.9	403.5	358.3	45.20	8.926	
10,100.0	9,962.9	9,998.2	9,962.9	25.0	23.5	89.57	230.5	1,390.9	403.5	358.2	45.31	8.905	
10,200.0	10,062.9	10,098.2	10,062.9	25.0	23.6	89.57	230.5	1,390.9	403.5	358.1	45.41	8.885	
10,300.0	10,162.9	10,198.2	10,162.9	25.1	23.6	89.57	230.5	1,390.9	403.5	357.9	45.51	8.865	
10,400.0	10,262.9	10,298.2	10,262.9	25.1	23.7	89.57	230.5	1,390.9	403.5	357.8	45.62	8.844	
10,500.0	10,362.9	10,398.2	10,362.9	25.2	23.7	89.57	230.5	1,390.9	403.5	357.7	45.72	8.824	
10,600.0	10,462.9	10,498.2	10,462.9	25.2	23.8	89.57	230.5	1,390.9	403.5	357.6	45.83	8.804	
10,700.0	10,562.9	10,598.2	10,562.9	25.3	23.8	89.57	230.5	1,390.9	403.5	357.5	45.93	8.784	
10,800.0	10,662.9	10,698.2	10,662.9	25.3	23.9	89.57	230.5	1,390.9	403.5	357.4	46.04	8.763	
10,900.0	10,762.9	10,798.2	10,762.9	25.4	23.9	89.57	230.5	1,390.9	403.5	357.3	46.15	8.743	
11,000.0	10,862.9	10,898.2	10,862.9	25.4	24.0	89.57	230.5	1,390.9	403.5	357.2	46.25	8.723	
11,100.0	10,962.9	10,998.2	10,962.9	25.5	24.0	89.57	230.5	1,390.9	403.5	357.1	46.36	8.703	
11,200.0	11,062.9	11,098.2	11,062.9	25.5	24.1	89.57	230.5	1,390.9	403.5	357.0	46.47	8.683	
11,300.0	11,162.9	11,198.2	11,162.9	25.6	24.1	89.57	230.5	1,390.9	403.5	356.9	46.57	8.663	
11,400.0	11,262.9	11,298.2	11,262.9	25.6	24.2	89.57	230.5	1,390.9	403.5	356.8	46.68	8.643	
11,500.0	11,362.9	11,398.2	11,362.9	25.7	24.3	89.57	230.5	1,390.9	403.5	356.7	46.79	8.623	
11,600.0	11,462.9	11,498.2	11,462.9	25.7	24.3	89.57	230.5	1,390.9	403.5	356.6	46.90	8.603	
11,700.0	11,562.9	11,598.2	11,562.9	25.8	24.4	89.57	230.5	1,390.9	403.5	356.5	47.01	8.583	
11,713.1	11,576.0	11,611.3	11,576.0	25.8	24.4	89.57	230.5	1,390.9	403.5	356.4	47.02	8.581 CC	
11,800.0	11,662.9	11,698.2	11,662.9	25.8	24.4	89.60	230.4	1,390.9	403.5	356.4	47.11	8.565	
11,804.4	11,667.4	11,702.7	11,667.3	25.8	24.4	89.61	230.2	1,390.9	403.5	356.4	47.11	8.565	
11,900.0	11,762.9	11,796.2	11,759.9	25.8	24.2	91.37	217.8	1,391.0	403.7	356.4	47.25	8.543	
12,000.0	11,862.9	11,885.6	11,844.5	25.9	24.0	95.40	189.4	1,391.2	406.0	358.5	47.51	8.546	
12,029.6	11,892.5	11,909.7	11,866.3	25.9	23.9	96.85	179.0	1,391.3	407.6	360.0	47.58	8.567	
12,050.0	11,912.9	11,925.0	11,879.8	25.9	23.9	-81.65	171.9	1,391.3	409.0	361.4	47.63	8.588	
12,075.0	11,937.8	11,945.4	11,897.5	25.9	23.9	-80.18	161.7	1,391.4	410.9	363.3	47.67	8.621	
12,100.0	11,962.7	11,964.6	11,913.7	25.9	23.8	-78.80	151.5	1,391.5	413.1	365.4	47.72	8.658	
12,125.0	11,987.3	11,983.6	11,929.4	25.8	23.8	-77.44	140.7	1,391.6	415.5	367.7	47.76	8.699	
12,150.0	12,011.6	12,002.4	11,944.4	25.8	23.7	-76.12	129.4	1,391.7	418.0	370.2	47.82	8.743	
12,175.0	12,035.7	12,020.9	11,958.8	25.8	23.7	-74.84	117.7	1,391.8	420.7	372.8	47.87	8.788	
12,200.0	12,059.3	12,039.3	11,972.6	25.8	23.6	-73.60	105.6	1,391.9	423.5	375.6	47.94	8.835	
12,225.0	12,082.5	12,057.5	11,985.8	25.7	23.6	-72.40	93.1	1,392.0	426.4	378.4	48.01	8.882	
12,250.0	12,105.2	12,075.0	11,998.0	25.7	23.6	-71.26	80.6	1,392.1	429.4	381.3	48.09	8.927	
12,275.0	12,127.3	12,093.3	12,010.3	25.7	23.6	-70.13	67.0	1,392.2	432.4	384.2	48.18	8.974	
12,300.0	12,148.7	12,111.1	12,021.7	25.7	23.5	-69.08	53.4	1,392.3	435.4	387.1	48.28	9.017	
12,325.0	12,169.4	12,128.7	12,032.6	25.6	23.5	-68.07	39.6	1,392.4	438.4	390.0	48.39	9.059	
12,350.0	12,189.4	12,146.1	12,042.8	25.6	23.5	-67.11	25.4	1,392.5	441.3	392.8	48.51	9.098	
12,375.0	12,208.6	12,163.5	12,052.4	25.6	23.4	-66.20	10.9	1,392.6	444.2	395.6	48.64	9.133	
12,400.0	12,226.9	12,180.8	12,061.5	25.6	23.4	-65.35	-3.8	1,392.7	447.1	398.3	48.77	9.166	
12,425.0	12,244.2	12,200.0	12,071.0	25.6	23.4	-64.50	-20.5	1,392.9	449.8	400.9	48.89	9.200	
12,450.0	12,260.7	12,215.1	12,077.9	25.5	23.4	-63.81	-33.9	1,393.0	452.4	403.4	49.06	9.221	
12,475.0	12,276.1	12,232.1	12,085.2	25.5	23.4	-63.12	-49.2	1,393.1	454.9	405.7	49.21	9.244	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 705H - 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)			
12,500.0	12,290.4	12,250.0	12,092.3	25.5	23.4	-62.46	-65.7	1,393.2	457.3	407.9	49.36	9.265	
12,525.0	12,303.7	12,265.9	12,098.1	25.5	23.4	-61.90	-80.5	1,393.4	459.5	410.0	49.53	9.278	
12,550.0	12,315.8	12,282.8	12,103.7	25.5	23.4	-61.38	-96.4	1,393.5	461.5	411.9	49.68	9.290	
12,575.0	12,326.8	12,300.0	12,108.8	25.5	23.4	-60.90	-112.8	1,393.6	463.4	413.6	49.83	9.300	
12,600.0	12,336.6	12,316.3	12,113.2	25.5	23.4	-60.49	-128.5	1,393.7	465.1	415.1	49.99	9.304	
12,625.0	12,345.2	12,333.0	12,117.0	25.5	23.4	-60.13	-144.8	1,393.9	466.6	416.4	50.13	9.307	
12,650.0	12,352.5	12,350.0	12,120.4	25.5	23.4	-59.82	-161.5	1,394.0	467.8	417.6	50.27	9.306	
12,675.0	12,358.6	12,366.3	12,123.0	25.6	23.4	-59.57	-177.6	1,394.1	468.9	418.5	50.41	9.303	
12,700.0	12,363.3	12,382.9	12,125.1	25.6	23.4	-59.37	-194.1	1,394.3	469.8	419.2	50.53	9.297	
12,725.0	12,366.8	12,400.0	12,126.7	25.6	23.4	-59.22	-211.0	1,394.4	470.4	419.7	50.64	9.288	
12,750.0	12,369.0	12,416.2	12,127.7	25.6	23.4	-59.13	-227.2	1,394.5	470.8	420.0	50.75	9.277	
12,775.0	12,369.9	12,432.7	12,128.1	25.7	23.4	-59.10	-243.8	1,394.7	471.0	420.1	50.84	9.265	
12,779.6	12,370.0	12,435.9	12,128.1	25.7	23.4	-59.10	-246.9	1,394.7	471.0	420.1	50.85	9.262	
12,800.0	12,370.0	12,456.1	12,128.1	25.7	23.5	-59.10	-267.1	1,394.9	471.0	420.1	50.92	9.249	
12,900.0	12,370.0	12,556.1	12,128.1	25.8	23.6	-59.11	-367.1	1,395.7	471.1	419.8	51.32	9.179	
13,000.0	12,370.0	12,656.1	12,128.1	26.0	23.8	-59.11	-467.1	1,396.4	471.2	419.5	51.79	9.100	
13,100.0	12,370.0	12,756.1	12,128.1	26.3	24.0	-59.12	-567.1	1,397.2	471.4	419.0	52.31	9.011	
13,200.0	12,370.0	12,856.1	12,128.1	26.5	24.2	-59.13	-667.1	1,398.0	471.5	418.6	52.89	8.915	
13,300.0	12,370.0	12,956.1	12,128.1	26.8	24.5	-59.14	-767.1	1,398.8	471.6	418.1	53.52	8.811	
13,400.0	12,370.0	13,056.1	12,128.1	27.1	24.8	-59.15	-867.1	1,399.6	471.7	417.5	54.21	8.701	
13,500.0	12,370.0	13,156.1	12,128.1	27.5	25.1	-59.16	-967.1	1,400.4	471.8	416.9	54.95	8.586	
13,600.0	12,370.0	13,256.1	12,128.1	27.9	25.5	-59.17	-1,067.1	1,401.2	471.9	416.2	55.74	8.467	
13,700.0	12,370.0	13,356.1	12,128.1	28.3	25.9	-59.17	-1,167.1	1,402.0	472.1	415.5	56.58	8.343	
13,800.0	12,370.0	13,456.1	12,128.1	28.7	26.3	-59.18	-1,267.1	1,402.8	472.2	414.7	57.46	8.217	
13,900.0	12,370.0	13,556.1	12,128.1	29.2	26.7	-59.19	-1,367.1	1,403.6	472.3	413.9	58.39	8.089	
14,000.0	12,370.0	13,656.1	12,128.1	29.7	27.2	-59.20	-1,467.1	1,404.4	472.4	413.1	59.36	7.959	
14,100.0	12,370.0	13,756.1	12,128.1	30.2	27.7	-59.21	-1,567.1	1,405.2	472.5	412.2	60.37	7.828	
14,200.0	12,370.0	13,856.1	12,128.1	30.7	28.3	-59.22	-1,667.1	1,406.0	472.6	411.2	61.41	7.696	
14,300.0	12,370.0	13,956.1	12,128.1	31.2	28.8	-59.22	-1,767.1	1,406.8	472.8	410.3	62.49	7.565	
14,400.0	12,370.0	14,056.1	12,128.1	31.8	29.4	-59.23	-1,867.1	1,407.6	472.9	409.3	63.61	7.434	
14,500.0	12,370.0	14,156.1	12,128.1	32.4	30.0	-59.24	-1,967.1	1,408.4	473.0	408.2	64.76	7.304	
14,600.0	12,370.0	14,256.1	12,128.1	33.0	30.6	-59.25	-2,067.1	1,409.2	473.1	407.2	65.93	7.176	
14,700.0	12,370.0	14,356.1	12,128.1	33.6	31.2	-59.26	-2,167.1	1,410.0	473.2	406.1	67.14	7.049	
14,800.0	12,370.0	14,456.1	12,128.1	34.2	31.9	-59.27	-2,267.1	1,410.8	473.4	405.0	68.37	6.923	
14,900.0	12,370.0	14,556.1	12,128.1	34.9	32.6	-59.28	-2,367.1	1,411.6	473.5	403.8	69.63	6.800	
15,000.0	12,370.0	14,656.1	12,128.1	35.5	33.3	-59.28	-2,467.1	1,412.4	473.6	402.7	70.92	6.678	
15,100.0	12,370.0	14,756.1	12,128.1	36.2	34.0	-59.29	-2,567.1	1,413.2	473.7	401.5	72.22	6.559	
15,200.0	12,370.0	14,856.1	12,128.1	36.9	34.7	-59.30	-2,667.1	1,414.0	473.8	400.3	73.55	6.442	
15,300.0	12,370.0	14,956.1	12,128.1	37.6	35.4	-59.31	-2,767.1	1,414.8	473.9	399.0	74.90	6.328	
15,400.0	12,370.0	15,056.1	12,128.1	38.3	36.2	-59.32	-2,867.1	1,415.6	474.1	397.8	76.27	6.216	
15,500.0	12,370.0	15,156.1	12,128.1	39.0	36.9	-59.33	-2,967.1	1,416.4	474.2	396.5	77.66	6.106	
15,600.0	12,370.0	15,256.1	12,128.1	39.7	37.7	-59.33	-3,067.1	1,417.2	474.3	395.2	79.06	5.999	
15,700.0	12,370.0	15,356.1	12,128.1	40.5	38.4	-59.34	-3,167.0	1,418.0	474.4	393.9	80.48	5.895	
15,800.0	12,370.0	15,456.1	12,128.1	41.2	39.2	-59.35	-3,267.0	1,418.8	474.5	392.6	81.92	5.793	
15,900.0	12,370.0	15,556.1	12,128.1	42.0	40.0	-59.36	-3,367.0	1,419.6	474.6	391.3	83.37	5.693	
16,000.0	12,370.0	15,656.1	12,128.1	42.8	40.8	-59.37	-3,467.0	1,420.4	474.8	389.9	84.84	5.596	
16,100.0	12,370.0	15,756.1	12,128.1	43.5	41.6	-59.38	-3,567.0	1,421.2	474.9	388.6	86.32	5.501	
16,200.0	12,370.0	15,856.1	12,128.1	44.3	42.4	-59.38	-3,667.0	1,422.0	475.0	387.2	87.81	5.409	
16,300.0	12,370.0	15,956.1	12,128.1	45.1	43.3	-59.39	-3,767.0	1,422.8	475.1	385.8	89.32	5.319	
16,400.0	12,370.0	16,056.1	12,128.1	45.9	44.1	-59.40	-3,867.0	1,423.6	475.2	384.4	90.83	5.232	
16,500.0	12,370.0	16,156.1	12,128.1	46.7	44.9	-59.41	-3,967.0	1,424.4	475.3	383.0	92.36	5.147	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 705H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1								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)
16,600.0	12,370.0	16,256.1	12,128.1	47.5	45.8	-59.42	-4,067.0	1,425.2	475.5	381.6	93.90	5.064	
16,700.0	12,370.0	16,356.1	12,128.1	48.3	46.6	-59.43	-4,167.0	1,426.0	475.6	380.1	95.45	4.983	
16,800.0	12,370.0	16,456.1	12,128.1	49.1	47.5	-59.44	-4,267.0	1,426.8	475.7	378.7	97.00	4.904	
16,900.0	12,370.0	16,556.1	12,128.1	50.0	48.3	-59.44	-4,367.0	1,427.6	475.8	377.2	98.57	4.827	
17,000.0	12,370.0	16,656.1	12,128.1	50.8	49.2	-59.45	-4,467.0	1,428.4	475.9	375.8	100.15	4.752	
17,100.0	12,370.0	16,756.1	12,128.1	51.6	50.0	-59.46	-4,567.0	1,429.2	476.1	374.3	101.73	4.680	
17,200.0	12,370.0	16,856.1	12,128.1	52.5	50.9	-59.47	-4,667.0	1,430.0	476.2	372.9	103.32	4.609	
17,300.0	12,370.0	16,956.1	12,128.1	53.3	51.8	-59.48	-4,767.0	1,430.8	476.3	371.4	104.92	4.540	
17,400.0	12,370.0	17,056.1	12,128.1	54.1	52.6	-59.49	-4,867.0	1,431.6	476.4	369.9	106.53	4.472	
17,500.0	12,370.0	17,156.1	12,128.1	55.0	53.5	-59.49	-4,967.0	1,432.4	476.5	368.4	108.14	4.407	
17,600.0	12,370.0	17,256.1	12,128.1	55.8	54.4	-59.50	-5,067.0	1,433.2	476.6	366.9	109.76	4.343	
17,700.0	12,370.0	17,356.1	12,128.1	56.7	55.3	-59.51	-5,167.0	1,434.0	476.8	365.4	111.38	4.280	
17,800.0	12,370.0	17,456.1	12,128.1	57.6	56.2	-59.52	-5,267.0	1,434.8	476.9	363.9	113.01	4.220	
17,900.0	12,370.0	17,556.1	12,128.1	58.4	57.0	-59.53	-5,367.0	1,435.6	477.0	362.3	114.65	4.160	
18,000.0	12,370.0	17,656.1	12,128.1	59.3	57.9	-59.54	-5,467.0	1,436.4	477.1	360.8	116.29	4.103	
18,100.0	12,370.0	17,756.1	12,128.1	60.2	58.8	-59.54	-5,567.0	1,437.2	477.2	359.3	117.94	4.046	
18,200.0	12,370.0	17,856.1	12,128.1	61.0	59.7	-59.55	-5,667.0	1,438.0	477.3	357.8	119.60	3.991	
18,300.0	12,370.0	17,956.1	12,128.1	61.9	60.6	-59.56	-5,767.0	1,438.8	477.5	356.2	121.25	3.938	
18,400.0	12,370.0	18,056.1	12,128.1	62.8	61.5	-59.57	-5,867.0	1,439.6	477.6	354.7	122.92	3.885	
18,500.0	12,370.0	18,156.1	12,128.1	63.7	62.4	-59.58	-5,967.0	1,440.4	477.7	353.1	124.58	3.834	
18,600.0	12,370.0	18,256.1	12,128.1	64.5	63.3	-59.59	-6,067.0	1,441.2	477.8	351.6	126.26	3.785	
18,700.0	12,370.0	18,356.1	12,128.1	65.4	64.2	-59.59	-6,166.9	1,442.0	477.9	350.0	127.93	3.736	
18,800.0	12,370.0	18,456.1	12,128.1	66.3	65.1	-59.60	-6,266.9	1,442.8	478.1	348.4	129.61	3.688	
18,900.0	12,370.0	18,556.1	12,128.1	67.2	66.0	-59.61	-6,366.9	1,443.6	478.2	346.9	131.29	3.642	
19,000.0	12,370.0	18,656.1	12,128.1	68.1	66.9	-59.62	-6,466.9	1,444.4	478.3	345.3	132.98	3.597	
19,100.0	12,370.0	18,756.1	12,128.1	69.0	67.9	-59.63	-6,566.9	1,445.2	478.4	343.7	134.67	3.552	
19,200.0	12,370.0	18,856.1	12,128.1	69.9	68.8	-59.63	-6,666.9	1,446.0	478.5	342.2	136.37	3.509	
19,300.0	12,370.0	18,956.1	12,128.1	70.8	69.7	-59.64	-6,766.9	1,446.8	478.6	340.6	138.06	3.467	
19,400.0	12,370.0	19,056.1	12,128.1	71.7	70.6	-59.65	-6,866.9	1,447.6	478.8	339.0	139.76	3.426	
19,500.0	12,370.0	19,156.1	12,128.1	72.6	71.5	-59.66	-6,966.9	1,448.4	478.9	337.4	141.47	3.385	
19,600.0	12,370.0	19,256.1	12,128.1	73.5	72.4	-59.67	-7,066.9	1,449.2	479.0	335.8	143.17	3.346	
19,700.0	12,370.0	19,356.1	12,128.1	74.4	73.4	-59.68	-7,166.9	1,450.0	479.1	334.2	144.88	3.307	
19,800.0	12,370.0	19,456.1	12,128.1	75.3	74.3	-59.68	-7,266.9	1,450.8	479.2	332.6	146.59	3.269	
19,900.0	12,370.0	19,556.1	12,128.1	76.2	75.2	-59.69	-7,366.9	1,451.6	479.4	331.0	148.31	3.232	
20,000.0	12,370.0	19,656.1	12,128.1	77.1	76.1	-59.70	-7,466.9	1,452.4	479.5	329.4	150.03	3.196	
20,028.4	12,370.0	19,684.5	12,128.1	77.3	76.4	-59.70	-7,495.3	1,452.6	479.5	329.0	150.51	3.186 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 706H - 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)				
5,200.0	5,077.9	5,112.8	5,077.9	17.9	13.3	10.61	233.8	1,804.1	992.5	963.5	29.06	34.158		
5,300.0	5,175.0	5,209.9	5,175.0	18.4	13.4	10.82	233.8	1,804.1	968.9	939.3	29.66	32.673		
5,400.0	5,272.5	5,307.4	5,272.5	18.9	13.5	11.03	233.8	1,804.1	947.0	916.8	30.25	31.308		
5,500.0	5,370.4	5,405.2	5,370.4	19.3	13.6	11.24	233.8	1,804.1	926.8	896.0	30.84	30.055		
5,600.0	5,468.6	5,503.5	5,468.6	19.8	13.7	11.43	233.8	1,804.1	908.3	876.9	31.42	28.910		
5,700.0	5,567.1	5,602.0	5,567.1	20.2	13.7	11.61	233.8	1,804.1	891.5	859.5	31.99	27.867		
5,800.0	5,665.9	5,700.8	5,665.9	20.6	13.8	11.79	233.8	1,804.1	876.4	843.9	32.56	26.920		
5,900.0	5,764.9	5,799.8	5,764.9	21.0	13.9	11.94	233.8	1,804.1	863.0	829.9	33.11	26.066		
6,000.0	5,864.2	5,899.1	5,864.2	21.4	14.0	12.08	233.8	1,804.1	851.3	817.7	33.65	25.300		
6,100.0	5,963.7	5,998.6	5,963.7	21.8	14.0	12.21	233.8	1,804.1	841.3	807.1	34.17	24.618		
6,200.0	6,063.3	6,098.2	6,063.3	22.2	14.1	12.31	233.8	1,804.1	833.0	798.3	34.68	24.018		
6,300.0	6,163.1	6,198.0	6,163.1	22.6	14.2	12.40	233.8	1,804.1	826.4	791.3	35.17	23.498		
6,400.0	6,263.0	6,297.9	6,263.0	22.9	14.3	12.47	233.8	1,804.1	821.5	785.9	35.63	23.057		
6,500.0	6,362.9	6,397.8	6,362.9	23.2	14.4	12.51	233.8	1,804.1	818.3	782.3	36.06	22.696		
6,600.0	6,462.9	6,497.8	6,462.9	23.5	14.4	12.53	233.8	1,804.1	816.9	780.4	36.42	22.428		
6,637.1	6,500.0	6,534.9	6,500.0	23.5	14.5	12.55	233.8	1,804.1	816.7	780.3	36.49	22.381		
6,700.0	6,562.9	6,597.8	6,562.9	23.5	14.5	89.55	233.8	1,804.1	816.7	780.2	36.55	22.346		
6,800.0	6,662.9	6,697.8	6,662.9	23.6	14.6	89.55	233.8	1,804.1	816.7	780.1	36.66	22.278		
6,900.0	6,762.9	6,797.8	6,762.9	23.6	14.7	89.55	233.8	1,804.1	816.7	780.0	36.77	22.210		
7,000.0	6,862.9	6,897.8	6,862.9	23.6	14.8	89.55	233.8	1,804.1	816.7	779.9	36.88	22.143		
7,100.0	6,962.9	6,997.8	6,962.9	23.7	14.8	89.55	233.8	1,804.1	816.7	779.7	37.00	22.076		
7,200.0	7,062.9	7,097.8	7,062.9	23.7	14.9	89.55	233.8	1,804.1	816.7	779.6	37.11	22.009		
7,300.0	7,162.9	7,197.8	7,162.9	23.8	15.0	89.55	233.8	1,804.1	816.7	779.5	37.22	21.942		
7,400.0	7,262.9	7,297.8	7,262.9	23.8	15.1	89.55	233.8	1,804.1	816.7	779.4	37.34	21.875		
7,500.0	7,362.9	7,397.8	7,362.9	23.8	15.2	89.55	233.8	1,804.1	816.7	779.3	37.45	21.809		
7,600.0	7,462.9	7,497.8	7,462.9	23.9	15.2	89.55	233.8	1,804.1	816.7	779.2	37.56	21.743		
7,700.0	7,562.9	7,597.8	7,562.9	23.9	15.3	89.55	233.8	1,804.1	816.7	779.1	37.68	21.677		
7,800.0	7,662.9	7,697.8	7,662.9	24.0	15.4	89.55	233.8	1,804.1	816.7	778.9	37.79	21.611		
7,900.0	7,762.9	7,797.8	7,762.9	24.0	15.5	89.55	233.8	1,804.1	816.7	778.8	37.91	21.545		
8,000.0	7,862.9	7,897.8	7,862.9	24.1	15.6	89.55	233.8	1,804.1	816.7	778.7	38.02	21.480		
8,100.0	7,962.9	7,997.8	7,962.9	24.1	15.6	89.55	233.8	1,804.1	816.7	778.6	38.14	21.415		
8,200.0	8,062.9	8,097.8	8,062.9	24.1	15.7	89.55	233.8	1,804.1	816.7	778.5	38.26	21.350		
8,300.0	8,162.9	8,197.8	8,162.9	24.2	15.8	89.55	233.8	1,804.1	816.7	778.4	38.37	21.285		
8,400.0	8,262.9	8,297.8	8,262.9	24.2	15.9	89.55	233.8	1,804.1	816.7	778.3	38.49	21.220		
8,500.0	8,362.9	8,397.8	8,362.9	24.3	16.0	89.55	233.8	1,804.1	816.7	778.1	38.61	21.156		
8,600.0	8,462.9	8,497.8	8,462.9	24.3	16.0	89.55	233.8	1,804.1	816.7	778.0	38.72	21.092		
8,700.0	8,562.9	8,597.8	8,562.9	24.4	16.1	89.55	233.8	1,804.1	816.7	777.9	38.84	21.028		
8,800.0	8,662.9	8,697.8	8,662.9	24.4	16.2	89.55	233.8	1,804.1	816.7	777.8	38.96	20.964		
8,900.0	8,762.9	8,797.8	8,762.9	24.4	16.3	89.55	233.8	1,804.1	816.7	777.7	39.08	20.901		
9,000.0	8,862.9	8,897.8	8,862.9	24.5	16.4	89.55	233.8	1,804.1	816.7	777.5	39.20	20.837		
9,100.0	8,962.9	8,997.8	8,962.9	24.5	16.4	89.55	233.8	1,804.1	816.7	777.4	39.32	20.774		
9,200.0	9,062.9	9,097.8	9,062.9	24.6	16.5	89.55	233.8	1,804.1	816.7	777.3	39.43	20.711		
9,300.0	9,162.9	9,197.8	9,162.9	24.6	16.6	89.55	233.8	1,804.1	816.7	777.2	39.55	20.649		
9,400.0	9,262.9	9,297.8	9,262.9	24.7	16.7	89.55	233.8	1,804.1	816.7	777.1	39.67	20.586		
9,500.0	9,362.9	9,397.8	9,362.9	24.7	16.8	89.55	233.8	1,804.1	816.7	776.9	39.79	20.524		
9,600.0	9,462.9	9,497.8	9,462.9	24.8	16.8	89.55	233.8	1,804.1	816.7	776.8	39.91	20.462		
9,700.0	9,562.9	9,597.8	9,562.9	24.8	16.9	89.55	233.8	1,804.1	816.7	776.7	40.04	20.401		
9,800.0	9,662.9	9,697.8	9,662.9	24.8	17.0	89.55	233.8	1,804.1	816.7	776.6	40.16	20.339		
9,900.0	9,762.9	9,797.8	9,762.9	24.9	17.1	89.55	233.8	1,804.1	816.7	776.5	40.28	20.278		
10,000.0	9,862.9	9,897.8	9,862.9	24.9	17.2	89.55	233.8	1,804.1	816.7	776.3	40.40	20.217		
10,100.0	9,962.9	9,997.8	9,962.9	25.0	17.2	89.55	233.8	1,804.1	816.7	776.2	40.52	20.156		

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 706H - 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)			
10,200.0	10,062.9	10,097.8	10,062.9	25.0	17.3	89.55	233.8	1,804.1	816.7	776.1	40.64	20.096	
10,300.0	10,162.9	10,197.8	10,162.9	25.1	17.4	89.55	233.8	1,804.1	816.7	776.0	40.77	20.035	
10,400.0	10,262.9	10,297.8	10,262.9	25.1	17.5	89.55	233.8	1,804.1	816.7	775.9	40.89	19.975	
10,500.0	10,362.9	10,397.8	10,362.9	25.2	17.6	89.55	233.8	1,804.1	816.7	775.7	41.01	19.915	
10,600.0	10,462.9	10,497.8	10,462.9	25.2	17.6	89.55	233.8	1,804.1	816.7	775.6	41.13	19.856	
10,700.0	10,562.9	10,597.8	10,562.9	25.3	17.7	89.55	233.8	1,804.1	816.7	775.5	41.26	19.796	
10,800.0	10,662.9	10,697.8	10,662.9	25.3	17.8	89.55	233.8	1,804.1	816.7	775.4	41.38	19.737	
10,900.0	10,762.9	10,797.8	10,762.9	25.4	17.9	89.55	233.8	1,804.1	816.7	775.2	41.51	19.678	
11,000.0	10,862.9	10,897.8	10,862.9	25.4	18.0	89.55	233.8	1,804.1	816.7	775.1	41.63	19.619	
11,100.0	10,962.9	10,997.8	10,962.9	25.5	18.0	89.55	233.8	1,804.1	816.7	775.0	41.75	19.561	
11,200.0	11,062.9	11,097.8	11,062.9	25.5	18.1	89.55	233.8	1,804.1	816.7	774.9	41.88	19.503	
11,300.0	11,162.9	11,197.8	11,162.9	25.6	18.2	89.55	233.8	1,804.1	816.7	774.7	42.00	19.445	
11,400.0	11,262.9	11,297.8	11,262.9	25.6	18.3	89.55	233.8	1,804.1	816.7	774.6	42.13	19.387	
11,500.0	11,362.9	11,397.8	11,362.9	25.7	18.4	89.55	233.8	1,804.1	816.7	774.5	42.25	19.329	
11,600.0	11,462.9	11,497.8	11,462.9	25.7	18.4	89.55	233.8	1,804.1	816.7	774.4	42.38	19.272	
11,700.0	11,562.9	11,597.8	11,562.9	25.8	18.5	89.55	233.8	1,804.1	816.7	774.2	42.51	19.215	
11,800.0	11,662.9	11,697.8	11,662.9	25.8	18.6	89.55	233.8	1,804.1	816.7	774.1	42.63	19.158	
11,900.0	11,762.9	11,797.8	11,762.9	25.8	18.7	89.55	233.8	1,804.1	816.7	774.0	42.76	19.101	
12,000.0	11,862.9	11,897.8	11,862.9	25.9	18.8	89.55	233.8	1,804.1	816.7	773.9	42.89	19.044	
12,003.0	11,865.9	11,900.8	11,865.9	25.9	18.8	89.55	233.8	1,804.1	816.7	773.9	42.89	19.042 CC	
12,029.6	11,892.5	11,927.4	11,892.5	25.9	18.8	89.59	233.3	1,804.1	816.7	773.8	42.90	19.038	
12,050.0	11,912.9	11,947.7	11,912.8	25.9	18.7	-89.96	232.0	1,804.2	816.7	773.9	42.89	19.043	
12,075.0	11,937.8	11,972.6	11,937.5	25.9	18.7	-89.88	229.1	1,804.2	816.8	773.9	42.87	19.051	
12,100.0	11,962.7	11,997.4	11,961.9	25.9	18.6	-89.80	225.0	1,804.2	816.8	773.9	42.85	19.061	
12,125.0	11,987.3	12,022.1	11,986.1	25.8	18.6	-89.72	219.6	1,804.3	816.8	773.9	42.83	19.070	
12,150.0	12,011.6	12,046.8	12,009.9	25.8	18.5	-89.64	213.0	1,804.3	816.8	774.0	42.81	19.080	
12,175.0	12,035.7	12,071.4	12,033.2	25.8	18.5	-89.57	205.2	1,804.4	816.8	774.0	42.79	19.090	
12,200.0	12,059.3	12,096.0	12,056.1	25.8	18.4	-89.49	196.3	1,804.4	816.8	774.1	42.77	19.099	
12,225.0	12,082.5	12,120.5	12,078.4	25.7	18.3	-89.41	186.1	1,804.5	816.8	774.1	42.75	19.109	
12,250.0	12,105.2	12,145.0	12,100.2	25.7	18.3	-89.34	174.9	1,804.6	816.9	774.1	42.73	19.118	
12,275.0	12,127.3	12,169.4	12,121.3	25.7	18.2	-89.27	162.6	1,804.7	816.9	774.2	42.71	19.126	
12,300.0	12,148.7	12,193.8	12,141.7	25.7	18.2	-89.20	149.3	1,804.8	816.9	774.2	42.69	19.134	
12,325.0	12,169.4	12,218.1	12,161.3	25.6	18.1	-89.13	135.0	1,804.9	817.0	774.3	42.68	19.141	
12,350.0	12,189.4	12,242.4	12,180.2	25.6	18.1	-89.07	119.7	1,805.1	817.0	774.3	42.67	19.147	
12,375.0	12,208.6	12,266.7	12,198.3	25.6	18.1	-89.00	103.5	1,805.2	817.0	774.4	42.66	19.152	
12,400.0	12,226.9	12,290.9	12,215.4	25.6	18.0	-88.94	86.4	1,805.3	817.1	774.4	42.66	19.155	
12,425.0	12,244.2	12,315.0	12,231.7	25.6	18.0	-88.89	68.6	1,805.5	817.1	774.5	42.66	19.156	
12,450.0	12,260.7	12,339.2	12,247.0	25.5	18.0	-88.83	49.9	1,805.6	817.2	774.5	42.66	19.156	
12,475.0	12,276.1	12,363.3	12,261.3	25.5	17.9	-88.78	30.5	1,805.8	817.2	774.5	42.67	19.154	
12,500.0	12,290.4	12,387.3	12,274.6	25.5	17.9	-88.74	10.5	1,805.9	817.2	774.6	42.68	19.150	
12,525.0	12,303.7	12,411.4	12,286.9	25.5	17.9	-88.69	-10.2	1,806.1	817.3	774.6	42.69	19.143	
12,550.0	12,315.8	12,435.4	12,298.1	25.5	17.8	-88.65	-31.4	1,806.3	817.3	774.6	42.71	19.134	
12,575.0	12,326.8	12,459.4	12,308.2	25.5	17.8	-88.61	-53.2	1,806.4	817.4	774.6	42.74	19.123	
12,600.0	12,336.6	12,483.3	12,317.2	25.5	17.8	-88.58	-75.4	1,806.6	817.4	774.6	42.77	19.110	
12,625.0	12,345.2	12,507.3	12,325.1	25.5	17.8	-88.55	-98.0	1,806.8	817.4	774.6	42.81	19.094	
12,650.0	12,352.5	12,531.2	12,331.8	25.5	17.8	-88.52	-120.9	1,807.0	817.5	774.6	42.85	19.076	
12,675.0	12,358.6	12,555.2	12,337.4	25.6	17.8	-88.50	-144.2	1,807.2	817.5	774.6	42.90	19.055	
12,700.0	12,363.3	12,579.1	12,341.8	25.6	17.8	-88.48	-167.7	1,807.3	817.6	774.6	42.96	19.032	
12,725.0	12,366.8	12,603.0	12,345.0	25.6	17.8	-88.47	-191.4	1,807.5	817.6	774.6	43.02	19.007	
12,750.0	12,369.0	12,626.9	12,347.0	25.6	17.8	-88.46	-215.2	1,807.7	817.6	774.6	43.08	18.980	
12,775.0	12,369.9	12,650.8	12,347.8	25.7	17.8	-88.45	-239.1	1,807.9	817.7	774.5	43.15	18.951	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 706H - 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)			
12,779.6	12,370.0	12,655.1	12,347.9	25.7	17.8	-88.45	-243.5	1,807.9	817.7	774.5	43.16	18.945	
12,800.0	12,370.0	12,675.6	12,347.9	25.7	17.8	-88.45	-263.9	1,808.1	817.7	774.5	43.22	18.919	
12,900.0	12,370.0	12,775.6	12,347.9	25.8	17.9	-88.45	-363.9	1,808.9	817.8	774.3	43.58	18.766	
13,000.0	12,370.0	12,875.6	12,347.9	26.0	18.0	-88.45	-463.9	1,809.7	818.0	773.9	44.02	18.580	
13,100.0	12,370.0	12,975.6	12,347.9	26.3	18.1	-88.45	-563.9	1,810.5	818.1	773.6	44.54	18.367	
13,200.0	12,370.0	13,075.6	12,347.9	26.5	18.3	-88.45	-663.9	1,811.3	818.2	773.1	45.14	18.128	
13,300.0	12,370.0	13,175.6	12,347.9	26.8	18.6	-88.45	-763.9	1,812.1	818.4	772.6	45.80	17.867	
13,400.0	12,370.0	13,275.6	12,347.9	27.1	19.0	-88.45	-863.9	1,812.9	818.5	772.0	46.54	17.588	
13,500.0	12,370.0	13,375.6	12,347.9	27.5	19.4	-88.45	-963.8	1,813.7	818.6	771.3	47.34	17.293	
13,600.0	12,370.0	13,475.6	12,347.9	27.9	19.9	-88.45	-1,063.8	1,814.5	818.8	770.6	48.20	16.986	
13,700.0	12,370.0	13,575.6	12,347.9	28.3	20.4	-88.45	-1,163.8	1,815.3	818.9	769.8	49.12	16.670	
13,800.0	12,370.0	13,675.6	12,347.9	28.7	21.0	-88.45	-1,263.8	1,816.1	819.0	768.9	50.10	16.348	
13,900.0	12,370.0	13,775.6	12,347.9	29.2	21.6	-88.45	-1,363.8	1,816.8	819.2	768.0	51.13	16.021	
14,000.0	12,370.0	13,875.6	12,347.9	29.7	22.2	-88.45	-1,463.8	1,817.6	819.3	767.1	52.21	15.692	
14,100.0	12,370.0	13,975.6	12,347.9	30.2	22.9	-88.45	-1,563.8	1,818.4	819.4	766.1	53.34	15.363	
14,200.0	12,370.0	14,075.6	12,347.9	30.7	23.5	-88.45	-1,663.8	1,819.2	819.6	765.1	54.51	15.036	
14,300.0	12,370.0	14,175.6	12,347.9	31.2	24.2	-88.46	-1,763.8	1,820.0	819.7	764.0	55.72	14.712	
14,400.0	12,370.0	14,275.6	12,347.9	31.8	25.0	-88.46	-1,863.8	1,820.8	819.8	762.9	56.96	14.392	
14,500.0	12,370.0	14,375.6	12,347.9	32.4	25.7	-88.46	-1,963.8	1,821.6	820.0	761.7	58.25	14.077	
14,600.0	12,370.0	14,475.6	12,347.9	33.0	26.4	-88.46	-2,063.8	1,822.4	820.1	760.5	59.56	13.768	
14,700.0	12,370.0	14,575.6	12,347.9	33.6	27.2	-88.46	-2,163.8	1,823.2	820.2	759.3	60.91	13.466	
14,800.0	12,370.0	14,675.6	12,347.9	34.2	28.0	-88.46	-2,263.8	1,824.0	820.4	758.1	62.29	13.170	
14,900.0	12,370.0	14,775.6	12,347.9	34.9	28.8	-88.46	-2,363.8	1,824.8	820.5	756.8	63.69	12.882	
15,000.0	12,370.0	14,875.6	12,347.9	35.5	29.6	-88.46	-2,463.8	1,825.6	820.6	755.5	65.12	12.601	
15,100.0	12,370.0	14,975.5	12,347.9	36.2	30.4	-88.46	-2,563.8	1,826.4	820.8	754.2	66.58	12.328	
15,200.0	12,370.0	15,075.5	12,347.9	36.9	31.2	-88.46	-2,663.8	1,827.2	820.9	752.8	68.05	12.063	
15,300.0	12,370.0	15,175.5	12,347.9	37.6	32.0	-88.46	-2,763.8	1,828.0	821.0	751.5	69.55	11.805	
15,400.0	12,370.0	15,275.5	12,347.9	38.3	32.9	-88.46	-2,863.8	1,828.8	821.2	750.1	71.06	11.555	
15,500.0	12,370.0	15,375.5	12,347.9	39.0	33.7	-88.46	-2,963.8	1,829.6	821.3	748.7	72.60	11.313	
15,600.0	12,370.0	15,475.5	12,347.9	39.7	34.5	-88.46	-3,063.8	1,830.4	821.4	747.3	74.15	11.078	
15,700.0	12,370.0	15,575.5	12,347.9	40.5	35.4	-88.46	-3,163.8	1,831.2	821.6	745.8	75.72	10.851	
15,800.0	12,370.0	15,675.5	12,347.9	41.2	36.3	-88.46	-3,263.8	1,832.0	821.7	744.4	77.30	10.630	
15,900.0	12,370.0	15,775.5	12,347.9	42.0	37.1	-88.46	-3,363.8	1,832.8	821.8	742.9	78.89	10.417	
16,000.0	12,370.0	15,875.5	12,347.9	42.8	38.0	-88.46	-3,463.8	1,833.5	822.0	741.5	80.50	10.210	
16,100.0	12,370.0	15,975.5	12,347.9	43.5	38.9	-88.46	-3,563.8	1,834.3	822.1	740.0	82.13	10.010	
16,200.0	12,370.0	16,075.5	12,347.9	44.3	39.7	-88.46	-3,663.8	1,835.1	822.2	738.5	83.76	9.816	
16,300.0	12,370.0	16,175.5	12,347.9	45.1	40.6	-88.46	-3,763.8	1,835.9	822.4	736.9	85.40	9.629	
16,400.0	12,370.0	16,275.5	12,347.9	45.9	41.5	-88.46	-3,863.8	1,836.7	822.5	735.4	87.06	9.447	
16,500.0	12,370.0	16,375.5	12,347.9	46.7	42.4	-88.46	-3,963.7	1,837.5	822.6	733.9	88.73	9.271	
16,600.0	12,370.0	16,475.5	12,347.9	47.5	43.3	-88.46	-4,063.7	1,838.3	822.8	732.4	90.40	9.101	
16,700.0	12,370.0	16,575.5	12,347.9	48.3	44.2	-88.46	-4,163.7	1,839.1	822.9	730.8	92.08	8.936	
16,800.0	12,370.0	16,675.5	12,347.9	49.1	45.1	-88.46	-4,263.7	1,839.9	823.0	729.2	93.78	8.776	
16,900.0	12,370.0	16,775.5	12,347.9	50.0	46.0	-88.46	-4,363.7	1,840.7	823.2	727.7	95.48	8.622	
17,000.0	12,370.0	16,875.5	12,347.9	50.8	46.9	-88.46	-4,463.7	1,841.5	823.3	726.1	97.18	8.471	
17,100.0	12,370.0	16,975.5	12,347.9	51.6	47.8	-88.46	-4,563.7	1,842.3	823.4	724.5	98.90	8.326	
17,200.0	12,370.0	17,075.5	12,347.9	52.5	48.7	-88.46	-4,663.7	1,843.1	823.6	722.9	100.62	8.185	
17,300.0	12,370.0	17,175.5	12,347.9	53.3	49.6	-88.46	-4,763.7	1,843.9	823.7	721.3	102.35	8.048	
17,400.0	12,370.0	17,275.5	12,347.9	54.1	50.5	-88.46	-4,863.7	1,844.7	823.8	719.7	104.08	7.915	
17,500.0	12,370.0	17,375.5	12,347.9	55.0	51.4	-88.46	-4,963.7	1,845.5	823.9	718.1	105.82	7.786	
17,600.0	12,370.0	17,475.5	12,347.9	55.8	52.3	-88.46	-5,063.7	1,846.3	824.1	716.5	107.56	7.661	
17,700.0	12,370.0	17,575.5	12,347.9	56.7	53.3	-88.46	-5,163.7	1,847.1	824.2	714.9	109.31	7.540	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 706H - 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
17,800.0	12,370.0	17,675.5	12,347.9	57.6	54.2	-88.46	-5,263.7	1,847.9	824.3	713.3		111.07	7.422
17,900.0	12,370.0	17,775.5	12,347.9	58.4	55.1	-88.46	-5,363.7	1,848.7	824.5	711.7		112.83	7.307
18,000.0	12,370.0	17,875.5	12,347.9	59.3	56.0	-88.46	-5,463.7	1,849.5	824.6	710.0		114.59	7.196
18,100.0	12,370.0	17,975.5	12,347.9	60.2	57.0	-88.46	-5,563.7	1,850.2	824.7	708.4		116.36	7.088
18,200.0	12,370.0	18,075.5	12,347.9	61.0	57.9	-88.46	-5,663.7	1,851.0	824.9	706.7		118.13	6.983
18,300.0	12,370.0	18,175.5	12,347.9	61.9	58.8	-88.47	-5,763.7	1,851.8	825.0	705.1		119.91	6.880
18,400.0	12,370.0	18,275.5	12,347.9	62.8	59.7	-88.47	-5,863.7	1,852.6	825.1	703.5		121.69	6.781
18,500.0	12,370.0	18,375.5	12,347.9	63.7	60.7	-88.47	-5,963.7	1,853.4	825.3	701.8		123.48	6.684
18,600.0	12,370.0	18,475.5	12,347.9	64.5	61.6	-88.47	-6,063.7	1,854.2	825.4	700.1		125.26	6.589
18,700.0	12,370.0	18,575.5	12,347.9	65.4	62.5	-88.47	-6,163.7	1,855.0	825.5	698.5		127.05	6.498
18,800.0	12,370.0	18,675.5	12,347.9	66.3	63.4	-88.47	-6,263.7	1,855.8	825.7	696.8		128.85	6.408
18,900.0	12,370.0	18,775.5	12,347.9	67.2	64.4	-88.47	-6,363.7	1,856.6	825.8	695.2		130.64	6.321
19,000.0	12,370.0	18,875.5	12,347.9	68.1	65.3	-88.47	-6,463.7	1,857.4	825.9	693.5		132.44	6.236
19,100.0	12,370.0	18,975.5	12,347.9	69.0	66.2	-88.47	-6,563.7	1,858.2	826.1	691.8		134.25	6.153
19,200.0	12,370.0	19,075.5	12,347.9	69.9	67.2	-88.47	-6,663.7	1,859.0	826.2	690.2		136.05	6.073
19,300.0	12,370.0	19,175.5	12,347.9	70.8	68.1	-88.47	-6,763.7	1,859.8	826.3	688.5		137.86	5.994
19,400.0	12,370.0	19,275.5	12,347.9	71.7	69.1	-88.47	-6,863.7	1,860.6	826.5	686.8		139.67	5.917
19,500.0	12,370.0	19,375.5	12,347.9	72.6	70.0	-88.47	-6,963.7	1,861.4	826.6	685.1		141.48	5.842
19,600.0	12,370.0	19,475.5	12,347.9	73.5	70.9	-88.47	-7,063.6	1,862.2	826.7	683.4		143.30	5.769
19,700.0	12,370.0	19,575.5	12,347.9	74.4	71.9	-88.47	-7,163.6	1,863.0	826.9	681.8		145.12	5.698
19,800.0	12,370.0	19,675.5	12,347.9	75.3	72.8	-88.47	-7,263.6	1,863.8	827.0	680.1		146.94	5.628
19,900.0	12,370.0	19,775.5	12,347.9	76.2	73.8	-88.47	-7,363.6	1,864.6	827.1	678.4		148.76	5.560
20,000.0	12,370.0	19,875.5	12,347.9	77.1	74.7	-88.47	-7,463.6	1,865.4	827.3	676.7		150.58	5.494
20,028.4	12,370.0	19,903.9	12,347.9	77.3	75.0	-88.47	-7,492.0	1,865.6	827.3	676.2		151.10	5.475 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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		Highside		Offset Wellbore Centre		Distance		Separation		Warning		
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Factor			
0.0	0.0	0.0	0.3	0.0	0.0	-90.46	-0.2	-30.0	30.0						
100.0	100.0	99.7	100.0	0.8	0.8	-90.46	-0.2	-30.0	30.0	27.9	2.12	14.177			
200.0	200.0	199.7	200.0	1.5	1.5	-90.46	-0.2	-30.0	30.0	26.6	3.38	8.876			
300.0	300.0	299.7	300.0	1.9	1.9	-90.46	-0.2	-30.0	30.0	25.8	4.25	7.062			
400.0	400.0	399.7	400.0	2.3	2.3	-90.46	-0.2	-30.0	30.0	25.0	4.96	6.052			
500.0	500.0	499.7	500.0	2.6	2.6	-90.46	-0.2	-30.0	30.0	24.4	5.57	5.384			
600.0	600.0	599.7	600.0	2.9	2.9	-90.46	-0.2	-30.0	30.0	23.9	6.13	4.897			
700.0	700.0	699.7	700.0	3.1	3.1	-90.46	-0.2	-30.0	30.0	23.4	6.63	4.522			
800.0	800.0	799.7	800.0	3.4	3.4	-90.46	-0.2	-30.0	30.0	22.9	7.11	4.221			
900.0	900.0	899.7	900.0	3.6	3.6	-90.46	-0.2	-30.0	30.0	22.4	7.55	3.972			
1,000.0	1,000.0	999.7	1,000.0	3.8	3.8	-90.46	-0.2	-30.0	30.0	22.0	7.98	3.762			
1,100.0	1,100.0	1,099.7	1,100.0	4.0	4.0	-90.46	-0.2	-30.0	30.0	21.6	8.38	3.581			
1,200.0	1,200.0	1,199.7	1,200.0	4.2	4.2	-90.46	-0.2	-30.0	30.0	21.2	8.76	3.423			
1,300.0	1,300.0	1,299.7	1,300.0	4.4	4.4	-90.46	-0.2	-30.0	30.0	20.9	9.14	3.283			
1,400.0	1,400.0	1,399.7	1,400.0	4.6	4.6	-90.46	-0.2	-30.0	30.0	20.5	9.50	3.159			
1,500.0	1,500.0	1,499.7	1,500.0	4.7	4.7	-90.46	-0.2	-30.0	30.0	20.2	9.85	3.047			
1,600.0	1,600.0	1,599.7	1,600.0	4.9	4.9	-90.46	-0.2	-30.0	30.0	19.8	10.18	2.946	Normal Operations		
1,700.0	1,700.0	1,699.7	1,700.0	5.1	5.1	-90.46	-0.2	-30.0	30.0	19.5	10.51	2.853	Normal Operations		
1,800.0	1,800.0	1,799.7	1,800.0	5.3	5.2	-90.46	-0.2	-30.0	30.0	19.2	10.84	2.768	Normal Operations		
1,900.0	1,900.0	1,899.7	1,900.0	5.4	5.4	-90.46	-0.2	-30.0	30.0	18.8	11.15	2.690	Normal Operations		
2,000.0	2,000.0	1,999.7	2,000.0	5.6	5.6	-90.46	-0.2	-30.0	30.0	18.5	11.46	2.618	Normal Operations, CC		
2,100.0	2,100.0	2,100.7	2,101.0	5.8	5.8	-167.02	0.4	-28.4	30.1	18.2	11.90	2.526	Normal Operations		
2,200.0	2,199.8	2,201.7	2,201.8	6.0	6.0	-165.61	2.3	-23.4	30.3	17.9	12.33	2.455	Caution - Monitor Closely		
2,300.0	2,299.5	2,302.6	2,302.4	6.3	6.3	-163.32	5.5	-15.1	30.6	17.8	12.76	2.399	Caution - Monitor Closely, ES		
2,400.0	2,398.7	2,403.6	2,402.6	6.5	6.6	-160.19	10.0	-3.5	31.2	18.0	13.20	2.362	Caution - Monitor Closely		
2,500.0	2,497.5	2,504.5	2,502.2	6.8	6.9	-156.36	15.8	11.3	32.0	18.4	13.64	2.349	Caution - Monitor Closely, SF		
2,600.0	2,595.6	2,605.3	2,601.1	7.1	7.1	-152.03	22.8	29.3	33.3	19.3	14.03	2.374	Caution - Monitor Closely		
2,700.0	2,693.1	2,705.2	2,698.9	7.5	7.4	-149.72	30.1	48.3	36.8	22.3	14.53	2.532	Normal Operations		
2,800.0	2,789.6	2,805.0	2,796.6	7.8	7.7	-150.23	37.5	67.3	43.3	28.2	15.09	2.871	Normal Operations		
2,890.8	2,876.6	2,895.4	2,885.1	8.1	8.0	-152.19	44.2	84.5	51.9	36.3	15.66	3.315			
2,900.0	2,885.3	2,904.5	2,894.1	8.1	8.0	-152.43	44.8	86.2	52.9	37.2	15.71	3.367			
3,000.0	2,980.5	3,003.9	2,991.3	8.5	8.3	-154.58	52.2	105.1	63.8	47.4	16.42	3.888			
3,100.0	3,075.7	3,103.3	3,088.6	8.9	8.6	-156.10	59.5	123.9	74.8	57.8	17.09	4.379			
3,200.0	3,170.9	3,202.6	3,185.9	9.2	9.0	-157.23	66.8	142.8	85.9	68.1	17.78	4.830			
3,300.0	3,266.1	3,302.0	3,283.2	9.6	9.3	-158.10	74.1	161.7	96.9	78.4	18.49	5.242			
3,400.0	3,361.3	3,401.4	3,380.5	10.0	9.7	-158.79	81.5	180.6	108.0	88.8	19.22	5.619			
3,500.0	3,456.5	3,500.8	3,477.8	10.3	10.1	-159.36	88.8	199.4	119.1	99.1	19.97	5.963			
3,600.0	3,551.7	3,600.1	3,575.1	10.8	10.4	-159.82	96.1	218.3	130.2	109.5	20.74	6.278			
3,700.0	3,646.9	3,699.5	3,672.4	11.2	10.8	-160.22	103.4	237.2	141.3	119.8	21.52	6.567			
3,800.0	3,742.1	3,798.9	3,769.7	11.6	11.2	-160.55	110.8	256.1	152.4	130.1	22.32	6.831			
3,900.0	3,837.3	3,898.3	3,867.0	12.0	11.6	-160.85	118.1	274.9	163.6	140.4	23.12	7.074			
4,000.0	3,932.5	3,997.7	3,964.3	12.4	12.0	-161.10	125.4	293.8	174.7	150.7	23.94	7.297			
4,100.0	4,027.7	4,097.0	4,061.6	12.9	12.4	-161.32	132.7	312.7	185.8	161.0	24.77	7.502			
4,200.0	4,122.9	4,196.4	4,158.9	13.3	12.8	-161.52	140.0	331.6	196.9	171.3	25.60	7.692			
4,300.0	4,218.1	4,295.8	4,256.1	13.8	13.2	-161.70	147.4	350.4	208.1	181.6	26.45	7.867			
4,400.0	4,313.3	4,395.2	4,353.4	14.2	13.7	-161.86	154.7	369.3	219.2	191.9	27.30	8.029			
4,500.0	4,408.5	4,494.5	4,450.7	14.7	14.1	-162.00	162.0	388.2	230.3	202.2	28.16	8.179			
4,600.0	4,503.7	4,593.9	4,548.0	15.2	14.5	-162.13	169.3	407.1	241.5	212.4	29.02	8.319			
4,700.0	4,598.9	4,693.3	4,645.3	15.6	14.9	-162.25	176.7	426.0	252.6	222.7	29.89	8.449			
4,800.0	4,694.1	4,792.7	4,742.6	16.1	15.4	-162.36	184.0	444.8	263.7	233.0	30.77	8.571			
4,855.4	4,746.9	4,847.7	4,796.5	16.3	15.6	-162.42	188.0	455.3	269.9	238.7	31.24	8.639			

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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												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)			
4,900.0	4,789.4	4,891.8	4,839.6	16.5	15.8	-162.46	191.3	463.6	274.7	243.1	31.61	8.690	
5,000.0	4,885.1	4,987.0	4,933.1	17.0	16.2	-162.57	198.0	480.9	285.1	252.7	32.47	8.781	
5,100.0	4,981.3	5,082.1	5,026.7	17.5	16.6	-162.70	204.1	496.7	295.4	262.1	33.30	8.870	
5,200.0	5,077.9	5,177.1	5,120.4	17.9	17.0	-162.86	209.7	511.0	305.5	271.4	34.12	8.954	
5,300.0	5,175.0	5,272.0	5,214.2	18.4	17.4	-163.04	214.7	523.9	315.4	280.5	34.92	9.034	
5,400.0	5,272.5	5,366.7	5,308.2	18.9	17.8	-163.24	219.1	535.3	325.2	289.5	35.69	9.111	
5,500.0	5,370.4	5,461.3	5,402.1	19.3	18.2	-163.47	222.9	545.2	334.8	298.3	36.45	9.185	
5,600.0	5,468.6	5,555.7	5,496.1	19.8	18.5	-163.71	226.2	553.7	344.2	307.0	37.18	9.258	
5,700.0	5,567.1	5,650.0	5,590.2	20.2	18.9	-163.97	228.9	560.7	353.5	315.6	37.88	9.331	
5,800.0	5,665.9	5,744.2	5,684.2	20.6	19.2	-164.24	231.1	566.3	362.6	324.0	38.56	9.403	
5,900.0	5,764.9	5,838.3	5,778.1	21.0	19.5	-164.53	232.7	570.4	371.5	332.3	39.20	9.477	
6,000.0	5,864.2	5,932.3	5,872.0	21.4	19.8	-164.83	233.7	573.1	380.2	340.4	39.79	9.555	
6,100.0	5,963.7	6,026.1	5,965.9	21.8	20.0	-165.15	234.2	574.3	388.8	348.5	40.32	9.644	
6,200.0	6,063.3	6,123.6	6,063.3	22.2	20.1	-165.47	234.3	574.4	396.9	356.2	40.76	9.738	
6,300.0	6,163.1	6,223.3	6,163.1	22.6	20.1	-165.73	234.3	574.4	403.5	362.3	41.21	9.792	
6,400.0	6,263.0	6,323.2	6,263.0	22.9	20.2	-165.91	234.3	574.4	408.3	366.7	41.62	9.811	
6,500.0	6,362.9	6,423.2	6,362.9	23.2	20.2	-166.03	234.3	574.4	411.5	369.5	41.99	9.799	
6,600.0	6,462.9	6,523.1	6,462.9	23.5	20.3	-166.08	234.3	574.4	413.0	370.7	42.31	9.762	
6,637.1	6,500.0	6,560.2	6,500.0	23.5	20.3	-89.06	234.3	574.4	413.1	370.7	42.36	9.751	
6,700.0	6,562.9	6,623.1	6,562.9	23.5	20.3	-89.06	234.3	574.4	413.1	370.7	42.41	9.740	
6,800.0	6,662.9	6,723.1	6,662.9	23.6	20.4	-89.06	234.3	574.4	413.1	370.6	42.50	9.720	
6,900.0	6,762.9	6,823.1	6,762.9	23.6	20.4	-89.06	234.3	574.4	413.1	370.5	42.59	9.700	
7,000.0	6,862.9	6,923.1	6,862.9	23.6	20.5	-89.06	234.3	574.4	413.1	370.4	42.68	9.679	
7,100.0	6,962.9	7,023.1	6,962.9	23.7	20.5	-89.06	234.3	574.4	413.1	370.3	42.77	9.659	
7,200.0	7,062.9	7,123.1	7,062.9	23.7	20.6	-89.06	234.3	574.4	413.1	370.2	42.86	9.638	
7,300.0	7,162.9	7,223.1	7,162.9	23.8	20.6	-89.06	234.3	574.4	413.1	370.1	42.95	9.618	
7,400.0	7,262.9	7,323.1	7,262.9	23.8	20.7	-89.06	234.3	574.4	413.1	370.0	43.04	9.597	
7,500.0	7,362.9	7,423.1	7,362.9	23.8	20.7	-89.06	234.3	574.4	413.1	370.0	43.13	9.577	
7,600.0	7,462.9	7,523.1	7,462.9	23.9	20.8	-89.06	234.3	574.4	413.1	369.9	43.23	9.557	
7,700.0	7,562.9	7,623.1	7,562.9	23.9	20.8	-89.06	234.3	574.4	413.1	369.8	43.32	9.536	
7,800.0	7,662.9	7,723.1	7,662.9	24.0	20.9	-89.06	234.3	574.4	413.1	369.7	43.41	9.516	
7,900.0	7,762.9	7,823.1	7,762.9	24.0	20.9	-89.06	234.3	574.4	413.1	369.6	43.50	9.495	
8,000.0	7,862.9	7,923.1	7,862.9	24.1	21.0	-89.06	234.3	574.4	413.1	369.5	43.60	9.475	
8,100.0	7,962.9	8,023.1	7,962.9	24.1	21.0	-89.06	234.3	574.4	413.1	369.4	43.69	9.454	
8,200.0	8,062.9	8,123.1	8,062.9	24.1	21.1	-89.06	234.3	574.4	413.1	369.3	43.79	9.434	
8,300.0	8,162.9	8,223.1	8,162.9	24.2	21.1	-89.06	234.3	574.4	413.1	369.2	43.88	9.413	
8,400.0	8,262.9	8,323.1	8,262.9	24.2	21.2	-89.06	234.3	574.4	413.1	369.1	43.98	9.393	
8,500.0	8,362.9	8,423.1	8,362.9	24.3	21.2	-89.06	234.3	574.4	413.1	369.0	44.07	9.373	
8,600.0	8,462.9	8,523.1	8,462.9	24.3	21.3	-89.06	234.3	574.4	413.1	368.9	44.17	9.352	
8,700.0	8,562.9	8,623.1	8,562.9	24.4	21.3	-89.06	234.3	574.4	413.1	368.8	44.27	9.332	
8,800.0	8,662.9	8,723.1	8,662.9	24.4	21.4	-89.06	234.3	574.4	413.1	368.7	44.36	9.311	
8,900.0	8,762.9	8,823.1	8,762.9	24.4	21.4	-89.06	234.3	574.4	413.1	368.6	44.46	9.291	
9,000.0	8,862.9	8,923.1	8,862.9	24.5	21.5	-89.06	234.3	574.4	413.1	368.5	44.56	9.271	
9,100.0	8,962.9	9,023.1	8,962.9	24.5	21.5	-89.06	234.3	574.4	413.1	368.4	44.66	9.250	
9,200.0	9,062.9	9,123.1	9,062.9	24.6	21.6	-89.06	234.3	574.4	413.1	368.3	44.76	9.230	
9,300.0	9,162.9	9,223.1	9,162.9	24.6	21.7	-89.06	234.3	574.4	413.1	368.2	44.85	9.209	
9,400.0	9,262.9	9,323.1	9,262.9	24.7	21.7	-89.06	234.3	574.4	413.1	368.1	44.95	9.189	
9,500.0	9,362.9	9,423.1	9,362.9	24.7	21.8	-89.06	234.3	574.4	413.1	368.0	45.05	9.169	
9,600.0	9,462.9	9,523.1	9,462.9	24.8	21.8	-89.06	234.3	574.4	413.1	367.9	45.15	9.149	
9,700.0	9,562.9	9,623.1	9,562.9	24.8	21.9	-89.06	234.3	574.4	413.1	367.8	45.25	9.128	
9,800.0	9,662.9	9,723.1	9,662.9	24.8	21.9	-89.06	234.3	574.4	413.1	367.7	45.35	9.108	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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												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	9,762.9	9,823.1	9,762.9	24.9	22.0	-89.06	234.3	574.4	413.1	367.6	45.46	9.088	
10,000.0	9,862.9	9,923.1	9,862.9	24.9	22.0	-89.06	234.3	574.4	413.1	367.5	45.56	9.068	
10,100.0	9,962.9	10,023.1	9,962.9	25.0	22.1	-89.06	234.3	574.4	413.1	367.4	45.66	9.047	
10,200.0	10,062.9	10,123.1	10,062.9	25.0	22.1	-89.06	234.3	574.4	413.1	367.3	45.76	9.027	
10,300.0	10,162.9	10,223.1	10,162.9	25.1	22.2	-89.06	234.3	574.4	413.1	367.2	45.86	9.007	
10,400.0	10,262.9	10,323.1	10,262.9	25.1	22.3	-89.06	234.3	574.4	413.1	367.1	45.97	8.987	
10,500.0	10,362.9	10,423.1	10,362.9	25.2	22.3	-89.06	234.3	574.4	413.1	367.0	46.07	8.967	
10,600.0	10,462.9	10,523.1	10,462.9	25.2	22.4	-89.06	234.3	574.4	413.1	366.9	46.17	8.947	
10,700.0	10,562.9	10,623.1	10,562.9	25.3	22.4	-89.06	234.3	574.4	413.1	366.8	46.28	8.927	
10,800.0	10,662.9	10,723.1	10,662.9	25.3	22.5	-89.06	234.3	574.4	413.1	366.7	46.38	8.907	
10,900.0	10,762.9	10,823.1	10,762.9	25.4	22.5	-89.06	234.3	574.4	413.1	366.6	46.48	8.887	
11,000.0	10,862.9	10,923.1	10,862.9	25.4	22.6	-89.06	234.3	574.4	413.1	366.5	46.59	8.867	
11,100.0	10,962.9	11,023.1	10,962.9	25.5	22.7	-89.06	234.3	574.4	413.1	366.4	46.69	8.847	
11,200.0	11,062.9	11,123.1	11,062.9	25.5	22.7	-89.06	234.3	574.4	413.1	366.3	46.80	8.827	
11,300.0	11,162.9	11,223.1	11,162.9	25.6	22.8	-89.06	234.3	574.4	413.1	366.2	46.90	8.807	
11,400.0	11,262.9	11,323.1	11,262.9	25.6	22.8	-89.06	234.3	574.4	413.1	366.1	47.01	8.787	
11,500.0	11,362.9	11,423.1	11,362.9	25.7	22.9	-89.06	234.3	574.4	413.1	366.0	47.12	8.767	
11,600.0	11,462.9	11,523.1	11,462.9	25.7	22.9	-89.06	234.3	574.4	413.1	365.9	47.22	8.747	
11,700.0	11,562.9	11,623.1	11,562.9	25.8	23.0	-89.06	234.3	574.4	413.1	365.8	47.33	8.728	
11,800.0	11,662.9	11,723.1	11,662.9	25.8	23.0	-89.06	234.3	574.4	413.1	365.7	47.43	8.709	
11,900.0	11,762.9	11,823.9	11,763.1	25.8	23.0	-90.26	225.6	574.5	413.0	365.4	47.62	8.672	
11,904.6	11,767.5	11,828.4	11,767.5	25.9	22.9	-90.38	224.8	574.5	413.0	365.3	47.63	8.670	
12,000.0	11,862.9	11,917.3	11,852.5	25.9	22.8	-93.93	199.2	574.6	413.9	366.0	47.89	8.643	
12,029.6	11,892.5	11,942.6	11,875.7	25.9	22.8	-95.33	189.0	574.7	414.9	366.9	47.92	8.657	
12,050.0	11,912.9	11,959.6	11,890.9	25.9	22.7	83.96	181.5	574.7	415.8	367.8	47.92	8.676	
12,075.0	11,937.8	11,980.0	11,908.9	25.9	22.7	82.64	171.8	574.8	417.1	369.2	47.89	8.710	
12,100.0	11,962.7	12,000.0	11,926.1	25.9	22.7	81.36	161.5	574.9	418.6	370.8	47.83	8.753	
12,125.0	11,987.3	12,020.1	11,942.9	25.8	22.7	80.08	150.5	575.0	420.4	372.6	47.75	8.804	
12,150.0	12,011.6	12,039.7	11,958.8	25.8	22.6	78.83	139.1	575.0	422.3	374.6	47.65	8.862	
12,175.0	12,035.7	12,059.1	11,974.1	25.8	22.6	77.63	127.2	575.1	424.3	376.8	47.54	8.926	
12,200.0	12,059.3	12,078.3	11,988.8	25.8	22.6	76.45	114.8	575.2	426.5	379.1	47.42	8.994	
12,225.0	12,082.5	12,097.3	12,002.7	25.7	22.6	75.31	101.9	575.3	428.8	381.5	47.30	9.066	
12,250.0	12,105.2	12,116.1	12,016.1	25.7	22.5	74.21	88.7	575.4	431.2	384.0	47.17	9.141	
12,275.0	12,127.3	12,134.7	12,028.8	25.7	22.5	73.15	75.0	575.5	433.6	386.5	47.04	9.217	
12,300.0	12,148.7	12,153.2	12,040.8	25.7	22.5	72.13	61.0	575.5	436.1	389.1	46.92	9.294	
12,325.0	12,169.4	12,171.5	12,052.2	25.6	22.5	71.15	46.7	575.6	438.5	391.7	46.80	9.370	
12,350.0	12,189.4	12,189.7	12,063.0	25.6	22.5	70.22	32.0	575.7	441.0	394.3	46.69	9.446	
12,375.0	12,208.6	12,207.7	12,073.1	25.6	22.5	69.34	17.1	575.8	443.5	396.9	46.58	9.520	
12,400.0	12,226.9	12,225.0	12,082.2	25.6	22.5	68.53	2.5	575.9	445.9	399.4	46.48	9.592	
12,425.0	12,244.2	12,243.5	12,091.4	25.6	22.5	67.72	-13.6	576.0	448.2	401.8	46.39	9.662	
12,450.0	12,260.7	12,261.3	12,099.7	25.5	22.5	66.98	-29.3	576.1	450.5	404.2	46.31	9.728	
12,475.0	12,276.1	12,278.9	12,107.3	25.5	22.5	66.29	-45.2	576.2	452.7	406.5	46.24	9.791	
12,500.0	12,290.4	12,300.0	12,115.6	25.5	22.5	65.57	-64.6	576.4	454.8	408.7	46.16	9.853	
12,525.0	12,303.7	12,314.0	12,120.6	25.5	22.5	65.06	-77.7	576.5	456.8	410.7	46.10	9.908	
12,550.0	12,315.8	12,331.4	12,126.4	25.5	22.5	64.53	-94.1	576.6	458.6	412.6	46.04	9.960	
12,575.0	12,326.8	12,350.0	12,131.9	25.5	22.5	64.02	-111.9	576.7	460.3	414.3	45.99	10.010	
12,600.0	12,336.6	12,366.1	12,136.0	25.5	22.5	63.60	-127.4	576.8	461.8	415.9	45.94	10.054	
12,625.0	12,345.2	12,383.4	12,139.9	25.5	22.5	63.22	-144.3	576.9	463.2	417.3	45.88	10.096	
12,650.0	12,352.5	12,400.0	12,143.1	25.5	22.5	62.89	-160.6	577.0	464.4	418.6	45.83	10.133	
12,675.0	12,358.6	12,417.8	12,145.8	25.6	22.5	62.61	-178.2	577.1	465.5	419.7	45.78	10.167	
12,700.0	12,363.3	12,435.0	12,147.8	25.6	22.5	62.38	-195.2	577.2	466.3	420.6	45.73	10.198	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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													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)			
12,725.0	12,366.8	12,450.0	12,149.1	25.6	22.5	62.21	-210.2	577.3	467.0	421.3	45.67	10.226	
12,750.0	12,369.0	12,469.3	12,150.1	25.6	22.6	62.07	-229.4	577.5	467.5	421.9	45.61	10.249	
12,775.0	12,369.9	12,487.9	12,150.3	25.7	22.6	61.99	-248.1	577.6	467.8	422.2	45.55	10.269	
12,779.6	12,370.0	12,492.5	12,150.3	25.7	22.6	61.99	-252.7	577.6	467.8	422.2	45.54	10.271	
12,800.0	12,370.0	12,512.9	12,150.3	25.7	22.6	61.99	-273.1	577.8	467.8	422.3	45.51	10.279	
12,900.0	12,370.0	12,612.9	12,150.3	25.8	22.8	61.99	-373.1	578.4	467.8	422.4	45.40	10.305	
13,000.0	12,370.0	12,712.9	12,150.3	26.0	23.0	61.99	-473.1	579.1	467.8	422.4	45.36	10.313	
13,100.0	12,370.0	12,812.9	12,150.3	26.3	23.3	61.99	-573.1	579.7	467.8	422.4	45.39	10.306	
13,200.0	12,370.0	12,912.9	12,150.3	26.5	23.6	61.99	-673.1	580.4	467.8	422.3	45.50	10.281	
13,300.0	12,370.0	13,012.9	12,150.3	26.8	23.9	61.99	-773.1	581.1	467.8	422.1	45.68	10.240	
13,400.0	12,370.0	13,112.9	12,150.3	27.1	24.2	61.99	-873.1	581.7	467.8	421.8	45.94	10.183	
13,500.0	12,370.0	13,212.9	12,150.3	27.5	24.6	61.99	-973.1	582.4	467.8	421.5	46.27	10.111	
13,600.0	12,370.0	13,312.9	12,150.3	27.9	25.0	61.99	-1,073.1	583.0	467.8	421.1	46.66	10.025	
13,700.0	12,370.0	13,412.9	12,150.3	28.3	25.5	61.99	-1,173.1	583.7	467.8	420.7	47.13	9.926	
13,800.0	12,370.0	13,512.9	12,150.3	28.7	25.9	61.99	-1,273.1	584.4	467.8	420.1	47.66	9.815	
13,900.0	12,370.0	13,612.9	12,150.3	29.2	26.4	61.99	-1,373.1	585.0	467.8	419.5	48.26	9.694	
14,000.0	12,370.0	13,712.9	12,150.3	29.7	27.0	61.99	-1,473.1	585.7	467.8	418.9	48.91	9.564	
14,100.0	12,370.0	13,812.9	12,150.3	30.2	27.5	61.99	-1,573.1	586.3	467.8	418.2	49.63	9.426	
14,200.0	12,370.0	13,912.9	12,150.3	30.7	28.1	61.99	-1,673.1	587.0	467.8	417.4	50.40	9.281	
14,300.0	12,370.0	14,012.9	12,150.3	31.2	28.7	61.99	-1,773.1	587.7	467.8	416.6	51.23	9.131	
14,400.0	12,370.0	14,112.9	12,150.3	31.8	29.3	61.99	-1,873.1	588.3	467.8	415.7	52.11	8.977	
14,500.0	12,370.0	14,212.9	12,150.3	32.4	29.9	61.99	-1,973.1	589.0	467.8	414.8	53.04	8.820	
14,600.0	12,370.0	14,312.9	12,150.3	33.0	30.5	61.99	-2,073.1	589.7	467.8	413.8	54.01	8.661	
14,700.0	12,370.0	14,412.9	12,150.3	33.6	31.2	61.99	-2,173.1	590.3	467.8	412.8	55.03	8.501	
14,800.0	12,370.0	14,512.9	12,150.3	34.2	31.9	61.99	-2,273.1	591.0	467.8	411.7	56.09	8.341	
14,900.0	12,370.0	14,612.9	12,150.3	34.9	32.6	61.99	-2,373.1	591.6	467.8	410.6	57.18	8.181	
15,000.0	12,370.0	14,712.9	12,150.3	35.5	33.3	61.99	-2,473.1	592.3	467.8	409.5	58.32	8.021	
15,100.0	12,370.0	14,812.9	12,150.3	36.2	34.0	61.99	-2,573.1	593.0	467.8	408.3	59.49	7.864	
15,200.0	12,370.0	14,912.9	12,150.3	36.9	34.7	61.99	-2,673.0	593.6	467.8	407.1	60.69	7.708	
15,300.0	12,370.0	15,012.9	12,150.3	37.6	35.5	61.99	-2,773.0	594.3	467.8	405.9	61.92	7.554	
15,400.0	12,370.0	15,112.9	12,150.3	38.3	36.2	61.99	-2,873.0	594.9	467.8	404.6	63.19	7.404	
15,500.0	12,370.0	15,212.9	12,150.3	39.0	37.0	61.99	-2,973.0	595.6	467.8	403.3	64.48	7.256	
15,600.0	12,370.0	15,312.9	12,150.3	39.7	37.7	61.99	-3,073.0	596.3	467.8	402.0	65.79	7.110	
15,700.0	12,370.0	15,412.9	12,150.3	40.5	38.5	61.99	-3,173.0	596.9	467.8	400.7	67.13	6.969	
15,800.0	12,370.0	15,512.9	12,150.3	41.2	39.3	61.99	-3,273.0	597.6	467.8	399.3	68.49	6.830	
15,900.0	12,370.0	15,612.9	12,150.3	42.0	40.1	61.99	-3,373.0	598.3	467.8	397.9	69.88	6.695	
16,000.0	12,370.0	15,712.9	12,150.3	42.8	40.9	61.99	-3,473.0	598.9	467.8	396.5	71.28	6.563	
16,100.0	12,370.0	15,812.9	12,150.3	43.5	41.7	61.99	-3,573.0	599.6	467.8	395.1	72.70	6.435	
16,200.0	12,370.0	15,912.9	12,150.3	44.3	42.5	61.99	-3,673.0	600.2	467.8	393.7	74.14	6.310	
16,300.0	12,370.0	16,012.9	12,150.3	45.1	43.3	61.99	-3,773.0	600.9	467.8	392.2	75.60	6.188	
16,400.0	12,370.0	16,112.9	12,150.3	45.9	44.2	61.99	-3,873.0	601.6	467.8	390.7	77.07	6.070	
16,500.0	12,370.0	16,212.9	12,150.3	46.7	45.0	61.99	-3,973.0	602.2	467.8	389.3	78.56	5.955	
16,600.0	12,370.0	16,312.9	12,150.3	47.5	45.8	61.99	-4,073.0	602.9	467.8	387.8	80.06	5.843	
16,700.0	12,370.0	16,412.9	12,150.3	48.3	46.7	61.99	-4,173.0	603.5	467.8	386.2	81.58	5.735	
16,800.0	12,370.0	16,512.9	12,150.3	49.1	47.5	61.99	-4,273.0	604.2	467.8	384.7	83.11	5.629	
16,900.0	12,370.0	16,612.9	12,150.3	50.0	48.4	61.99	-4,373.0	604.9	467.8	383.2	84.65	5.527	
17,000.0	12,370.0	16,712.9	12,150.3	50.8	49.2	61.99	-4,473.0	605.5	467.8	381.6	86.20	5.427	
17,100.0	12,370.0	16,812.9	12,150.3	51.6	50.1	61.99	-4,573.0	606.2	467.8	380.1	87.76	5.331	
17,200.0	12,370.0	16,912.9	12,150.3	52.5	51.0	61.99	-4,673.0	606.8	467.8	378.5	89.33	5.237	
17,300.0	12,370.0	17,012.9	12,150.3	53.3	51.8	61.99	-4,773.0	607.5	467.8	376.9	90.91	5.146	
17,400.0	12,370.0	17,112.9	12,150.3	54.1	52.7	61.99	-4,873.0	608.2	467.8	375.3	92.50	5.057	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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												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	12,370.0	17,212.9	12,150.3	55.0	53.6	61.99	-4,973.0	608.8	467.8	373.7	94.10	4.971	
17,600.0	12,370.0	17,312.9	12,150.3	55.8	54.4	61.99	-5,073.0	609.5	467.8	372.1	95.71	4.888	
17,700.0	12,370.0	17,412.9	12,150.3	56.7	55.3	61.99	-5,173.0	610.2	467.8	370.5	97.33	4.807	
17,800.0	12,370.0	17,512.9	12,150.3	57.6	56.2	61.99	-5,273.0	610.8	467.8	368.9	98.95	4.728	
17,900.0	12,370.0	17,612.9	12,150.3	58.4	57.1	61.99	-5,373.0	611.5	467.8	367.3	100.58	4.651	
18,000.0	12,370.0	17,712.9	12,150.3	59.3	58.0	61.99	-5,473.0	612.1	467.8	365.6	102.22	4.577	
18,100.0	12,370.0	17,812.9	12,150.3	60.2	58.9	61.99	-5,573.0	612.8	467.8	364.0	103.86	4.505	
18,200.0	12,370.0	17,912.9	12,150.3	61.0	59.8	61.99	-5,673.0	613.5	467.8	362.3	105.51	4.434	
18,300.0	12,370.0	18,012.9	12,150.3	61.9	60.7	61.99	-5,773.0	614.1	467.8	360.7	107.16	4.366	
18,400.0	12,370.0	18,112.9	12,150.3	62.8	61.5	61.99	-5,873.0	614.8	467.8	359.0	108.82	4.299	
18,500.0	12,370.0	18,212.9	12,150.3	63.7	62.4	61.99	-5,973.0	615.4	467.8	357.3	110.49	4.234	
18,600.0	12,370.0	18,312.9	12,150.3	64.5	63.3	61.99	-6,073.0	616.1	467.8	355.7	112.16	4.171	
18,700.0	12,370.0	18,412.9	12,150.3	65.4	64.2	61.99	-6,173.0	616.8	467.8	354.0	113.83	4.110	
18,800.0	12,370.0	18,512.9	12,150.3	66.3	65.2	61.99	-6,273.0	617.4	467.8	352.3	115.51	4.050	
18,900.0	12,370.0	18,612.9	12,150.3	67.2	66.1	61.99	-6,373.0	618.1	467.8	350.6	117.20	3.992	
19,000.0	12,370.0	18,712.9	12,150.3	68.1	67.0	61.99	-6,473.0	618.7	467.8	349.0	118.89	3.935	
19,100.0	12,370.0	18,812.9	12,150.3	69.0	67.9	61.99	-6,573.0	619.4	467.8	347.3	120.58	3.880	
19,200.0	12,370.0	18,912.9	12,150.3	69.9	68.8	61.99	-6,673.0	620.1	467.8	345.6	122.28	3.826	
19,300.0	12,370.0	19,012.9	12,150.3	70.8	69.7	61.99	-6,773.0	620.7	467.8	343.9	123.98	3.774	
19,400.0	12,370.0	19,112.9	12,150.3	71.7	70.6	61.99	-6,873.0	621.4	467.8	342.2	125.68	3.722	
19,500.0	12,370.0	19,212.9	12,150.3	72.6	71.5	61.99	-6,973.0	622.1	467.8	340.5	127.39	3.673	
19,600.0	12,370.0	19,312.9	12,150.3	73.5	72.4	61.99	-7,073.0	622.7	467.8	338.7	129.10	3.624	
19,700.0	12,370.0	19,412.9	12,150.3	74.4	73.4	61.99	-7,173.0	623.4	467.8	337.0	130.81	3.576	
19,800.0	12,370.0	19,512.9	12,150.3	75.3	74.3	61.99	-7,272.9	624.0	467.8	335.3	132.53	3.530	
19,900.0	12,370.0	19,612.9	12,150.3	76.2	75.2	61.99	-7,372.9	624.7	467.8	333.6	134.25	3.485	
20,000.0	12,370.0	19,712.9	12,150.3	77.1	76.1	61.99	-7,472.9	625.4	467.8	331.9	135.97	3.441	
20,028.4	12,370.0	19,741.3	12,150.3	77.3	76.4	61.99	-7,501.3	625.5	467.8	331.4	136.46	3.428	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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	1.7	0.0	0.0	0.0	-90.41	-0.7	-90.0	90.0					
100.0	100.0	101.7	100.0	0.8	1.2	-90.41	-0.7	-90.0	90.0	87.5	2.54	35.483		
200.0	200.0	201.7	200.0	1.5	1.7	-90.41	-0.7	-90.0	90.0	86.4	3.64	24.739		
300.0	300.0	301.7	300.0	1.9	2.1	-90.41	-0.7	-90.0	90.0	85.6	4.45	20.221		
400.0	400.0	401.7	400.0	2.3	2.4	-90.41	-0.7	-90.0	90.0	84.9	5.13	17.547		
500.0	500.0	501.7	500.0	2.6	2.7	-90.41	-0.7	-90.0	90.0	84.3	5.73	15.720		
600.0	600.0	601.7	600.0	2.9	3.0	-90.41	-0.7	-90.0	90.0	83.8	6.27	14.366		
700.0	700.0	701.7	700.0	3.1	3.2	-90.41	-0.7	-90.0	90.0	83.3	6.76	13.310		
800.0	800.0	801.7	800.0	3.4	3.5	-90.41	-0.7	-90.0	90.0	82.8	7.23	12.454		
900.0	900.0	901.7	900.0	3.6	3.7	-90.41	-0.7	-90.0	90.0	82.4	7.67	11.742		
1,000.0	1,000.0	1,001.7	1,000.0	3.8	3.9	-90.41	-0.7	-90.0	90.0	81.9	8.08	11.137		
1,100.0	1,100.0	1,101.7	1,100.0	4.0	4.1	-90.41	-0.7	-90.0	90.0	81.5	8.48	10.614		
1,200.0	1,200.0	1,201.7	1,200.0	4.2	4.3	-90.41	-0.7	-90.0	90.0	81.2	8.86	10.157		
1,300.0	1,300.0	1,301.7	1,300.0	4.4	4.5	-90.41	-0.7	-90.0	90.0	80.8	9.23	9.751		
1,400.0	1,400.0	1,401.7	1,400.0	4.6	4.7	-90.41	-0.7	-90.0	90.0	80.4	9.59	9.389		
1,500.0	1,500.0	1,501.7	1,500.0	4.7	4.8	-90.41	-0.7	-90.0	90.0	80.1	9.93	9.062		
1,600.0	1,600.0	1,601.7	1,600.0	4.9	5.0	-90.41	-0.7	-90.0	90.0	79.8	10.27	8.765		
1,700.0	1,700.0	1,701.7	1,700.0	5.1	5.2	-90.41	-0.7	-90.0	90.0	79.4	10.60	8.494		
1,800.0	1,800.0	1,801.7	1,800.0	5.3	5.3	-90.41	-0.7	-90.0	90.0	79.1	10.92	8.245		
1,900.0	1,900.0	1,901.7	1,900.0	5.4	5.5	-90.41	-0.7	-90.0	90.0	78.8	11.23	8.016		
2,000.0	2,000.0	2,001.7	2,000.0	5.6	5.6	-90.41	-0.7	-90.0	90.0	78.5	11.54	7.803 CC, ES		
2,100.0	2,100.0	2,101.6	2,099.9	5.8	5.8	-167.67	-0.6	-90.0	91.7	79.8	11.91	7.700 SF		
2,200.0	2,199.8	2,200.0	2,198.3	6.0	6.0	-167.54	0.6	-91.2	98.0	85.7	12.31	7.961		
2,300.0	2,299.5	2,296.1	2,294.2	6.3	6.2	-166.53	4.2	-94.7	110.1	97.4	12.72	8.653		
2,400.0	2,398.7	2,391.6	2,389.4	6.5	6.5	-165.02	10.1	-100.3	127.8	114.7	13.14	9.725		
2,500.0	2,497.5	2,486.6	2,483.8	6.8	6.6	-163.37	18.1	-107.9	151.1	137.6	13.51	11.190		
2,600.0	2,595.6	2,582.8	2,579.2	7.1	6.8	-162.25	26.7	-116.1	178.3	164.4	13.95	12.781		
2,700.0	2,693.1	2,678.1	2,673.8	7.5	7.0	-161.66	35.2	-124.2	208.7	194.3	14.43	14.461		
2,800.0	2,789.6	2,772.3	2,767.3	7.8	7.3	-161.43	43.7	-132.3	242.2	227.3	14.93	16.217		
2,890.8	2,876.6	2,856.9	2,851.2	8.1	7.5	-161.41	51.2	-139.5	275.3	259.9	15.39	17.888		
2,900.0	2,885.3	2,865.3	2,859.6	8.1	7.5	-161.44	52.0	-140.2	278.8	263.4	15.43	18.065		
3,000.0	2,980.5	2,957.9	2,951.4	8.5	7.8	-161.71	60.3	-148.1	316.7	300.7	15.98	19.818		
3,100.0	3,075.7	3,050.4	3,043.2	8.9	8.0	-161.92	68.6	-156.1	354.6	338.1	16.50	21.494		
3,200.0	3,170.9	3,143.0	3,135.1	9.2	8.3	-162.09	76.8	-164.0	392.5	375.4	17.03	23.040		
3,300.0	3,266.1	3,235.5	3,226.9	9.6	8.6	-162.23	85.1	-171.9	430.3	412.7	17.59	24.463		
3,400.0	3,361.3	3,328.0	3,318.7	10.0	8.9	-162.35	93.4	-179.8	468.2	450.1	18.17	25.773		
3,500.0	3,456.5	3,420.6	3,410.6	10.3	9.2	-162.45	101.7	-187.7	506.1	487.4	18.76	26.980		
3,600.0	3,551.7	3,513.1	3,502.4	10.8	9.5	-162.54	110.0	-195.6	544.0	524.6	19.37	28.091		
3,700.0	3,646.9	3,605.7	3,594.2	11.2	9.8	-162.61	118.3	-203.5	581.9	561.9	19.99	29.115		
3,800.0	3,742.1	3,698.2	3,686.0	11.6	10.1	-162.68	126.6	-211.4	619.8	599.2	20.62	30.059		
3,900.0	3,837.3	3,790.7	3,777.9	12.0	10.4	-162.74	134.8	-219.3	657.7	636.4	21.27	30.928		
4,000.0	3,932.5	3,891.2	3,877.6	12.4	10.8	-162.83	143.3	-227.4	695.1	673.2	21.97	31.643		
4,100.0	4,027.7	3,993.6	3,979.6	12.9	11.1	-163.03	150.7	-234.4	731.4	708.7	22.69	32.238		
4,200.0	4,122.9	4,097.1	4,082.6	13.3	11.5	-163.30	156.8	-240.3	766.4	743.0	23.41	32.739		
4,300.0	4,218.1	4,201.4	4,186.8	13.8	11.8	-163.65	161.6	-244.8	800.2	776.1	24.13	33.159		
4,400.0	4,313.3	4,306.6	4,291.8	14.2	12.1	-164.07	165.0	-248.1	832.8	808.0	24.85	33.512		
4,500.0	4,408.5	4,412.5	4,397.7	14.7	12.4	-164.56	167.1	-250.1	864.2	838.6	25.56	33.811		
4,600.0	4,503.7	4,518.5	4,503.7	15.2	12.6	-165.09	167.7	-250.7	894.4	868.2	26.23	34.096		
4,700.0	4,598.9	4,613.7	4,598.9	15.6	12.7	-165.58	167.7	-250.7	924.1	897.3	26.82	34.459		
4,800.0	4,694.1	4,708.9	4,694.1	16.1	12.8	-166.04	167.7	-250.7	953.8	926.4	27.40	34.808		
4,855.4	4,746.9	4,761.7	4,746.9	16.3	12.8	-166.28	167.7	-250.7	970.3	942.6	27.72	35.008		

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 Wellbore Centre		Rule Assigned:				Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		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	
4,900.0	4,789.4	4,804.2	4,789.4	16.5	12.9	-166.50	167.7	-250.7	983.5	955.5	27.97	35.162		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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	1.7	0.0	0.0	0.0	-90.39	-0.4	-60.0	60.0				
100.0	100.0	101.7	100.0	0.8	1.2	-90.39	-0.4	-60.0	60.0	57.5	2.54	23.659	
200.0	200.0	201.7	200.0	1.5	1.7	-90.39	-0.4	-60.0	60.0	56.4	3.64	16.495	
300.0	300.0	301.7	300.0	1.9	2.1	-90.39	-0.4	-60.0	60.0	55.6	4.45	13.482	
400.0	400.0	401.7	400.0	2.3	2.4	-90.39	-0.4	-60.0	60.0	54.9	5.13	11.699	
500.0	500.0	501.7	500.0	2.6	2.7	-90.39	-0.4	-60.0	60.0	54.3	5.73	10.481	
600.0	600.0	601.7	600.0	2.9	3.0	-90.39	-0.4	-60.0	60.0	53.8	6.27	9.579	
700.0	700.0	701.7	700.0	3.1	3.2	-90.39	-0.4	-60.0	60.0	53.3	6.76	8.874	
800.0	800.0	801.7	800.0	3.4	3.5	-90.39	-0.4	-60.0	60.0	52.8	7.23	8.304	
900.0	900.0	901.7	900.0	3.6	3.7	-90.39	-0.4	-60.0	60.0	52.4	7.67	7.829	
1,000.0	1,000.0	1,001.7	1,000.0	3.8	3.9	-90.39	-0.4	-60.0	60.0	51.9	8.08	7.426	
1,100.0	1,100.0	1,101.7	1,100.0	4.0	4.1	-90.39	-0.4	-60.0	60.0	51.5	8.48	7.077	
1,200.0	1,200.0	1,201.7	1,200.0	4.2	4.3	-90.39	-0.4	-60.0	60.0	51.2	8.86	6.772	
1,300.0	1,300.0	1,301.7	1,300.0	4.4	4.5	-90.39	-0.4	-60.0	60.0	50.8	9.23	6.502	
1,400.0	1,400.0	1,401.7	1,400.0	4.6	4.7	-90.39	-0.4	-60.0	60.0	50.4	9.59	6.260	
1,500.0	1,500.0	1,501.7	1,500.0	4.7	4.8	-90.39	-0.4	-60.0	60.0	50.1	9.93	6.042	
1,600.0	1,600.0	1,601.7	1,600.0	4.9	5.0	-90.39	-0.4	-60.0	60.0	49.8	10.27	5.844	
1,700.0	1,700.0	1,701.7	1,700.0	5.1	5.2	-90.39	-0.4	-60.0	60.0	49.4	10.60	5.663	
1,800.0	1,800.0	1,801.7	1,800.0	5.3	5.3	-90.39	-0.4	-60.0	60.0	49.1	10.92	5.498	
1,900.0	1,900.0	1,901.7	1,900.0	5.4	5.5	-90.39	-0.4	-60.0	60.0	48.8	11.23	5.345	
2,000.0	2,000.0	2,001.7	2,000.0	5.6	5.6	-90.39	-0.4	-60.0	60.0	48.5	11.54	5.202	
2,004.9	2,004.9	2,006.7	2,005.0	5.6	5.7	-167.42	-0.4	-60.0	60.0	48.5	11.56	5.193 CC, ES	
2,100.0	2,100.0	2,103.2	2,101.5	5.8	5.9	-166.55	0.9	-58.7	60.4	48.5	11.95	5.056	
2,200.0	2,199.8	2,204.7	2,202.8	6.0	6.1	-164.09	4.7	-54.8	61.8	49.5	12.34	5.006 SF	
2,300.0	2,299.5	2,306.0	2,303.7	6.3	6.4	-160.28	11.1	-48.5	64.3	51.6	12.73	5.053	
2,400.0	2,398.7	2,407.2	2,404.1	6.5	6.7	-155.47	20.0	-39.6	68.3	55.2	13.10	5.214	
2,500.0	2,497.5	2,508.1	2,503.7	6.8	6.9	-150.11	31.3	-28.2	74.1	60.6	13.45	5.507	
2,600.0	2,595.6	2,607.6	2,601.7	7.1	7.2	-145.66	43.9	-15.6	82.4	68.6	13.79	5.973	
2,700.0	2,693.1	2,706.9	2,699.3	7.5	7.4	-143.29	56.4	-3.0	93.8	79.7	14.17	6.621	
2,800.0	2,789.6	2,805.9	2,796.7	7.8	7.7	-142.52	68.9	9.6	108.2	93.5	14.61	7.405	
2,890.8	2,876.6	2,895.4	2,884.8	8.1	8.0	-142.79	80.2	21.0	123.5	108.5	15.02	8.222	
2,900.0	2,885.3	2,904.4	2,893.6	8.1	8.0	-142.87	81.3	22.1	125.2	110.1	15.06	8.312	
3,000.0	2,980.5	3,002.7	2,990.4	8.5	8.3	-143.63	93.8	34.6	143.4	127.8	15.60	9.192	
3,100.0	3,075.7	3,101.0	3,087.1	8.9	8.6	-144.21	106.2	47.0	161.6	145.5	16.10	10.039	
3,200.0	3,170.9	3,199.3	3,183.8	9.2	9.0	-144.68	118.6	59.5	179.8	163.2	16.61	10.824	
3,300.0	3,266.1	3,297.7	3,280.5	9.6	9.3	-145.06	131.0	72.0	198.0	180.9	17.15	11.550	
3,400.0	3,361.3	3,396.0	3,377.3	10.0	9.7	-145.38	143.4	84.5	216.3	198.6	17.70	12.221	
3,500.0	3,456.5	3,494.3	3,474.0	10.3	10.0	-145.65	155.9	96.9	234.5	216.3	18.26	12.847	
3,600.0	3,551.7	3,590.8	3,569.1	10.8	10.4	-146.05	167.5	108.6	253.1	234.2	18.90	13.390	
3,700.0	3,646.9	3,687.0	3,664.1	11.2	10.8	-146.71	177.9	119.1	272.5	252.9	19.53	13.954	
3,800.0	3,742.1	3,782.8	3,759.0	11.6	11.1	-147.56	187.2	128.4	292.6	272.4	20.17	14.506	
3,900.0	3,837.3	3,878.1	3,853.6	12.0	11.5	-148.58	195.3	136.6	313.5	292.6	20.83	15.045	
4,000.0	3,932.5	3,973.0	3,948.0	12.4	11.8	-149.70	202.3	143.6	335.2	313.7	21.52	15.575	
4,100.0	4,027.7	4,067.3	4,041.9	12.9	12.1	-150.91	208.1	149.4	357.9	335.7	22.23	16.099	
4,200.0	4,122.9	4,161.0	4,135.4	13.3	12.4	-152.18	212.9	154.2	381.5	358.6	22.95	16.623	
4,300.0	4,218.1	4,254.1	4,228.4	13.8	12.7	-153.48	216.5	157.8	406.2	382.5	23.68	17.150	
4,400.0	4,313.3	4,346.6	4,320.8	14.2	13.0	-154.80	219.0	160.4	431.9	407.5	24.42	17.686	
4,500.0	4,408.5	4,438.3	4,412.5	14.7	13.3	-156.13	220.5	161.9	458.7	433.5	25.15	18.237	
4,600.0	4,503.7	4,529.6	4,503.7	15.2	13.4	-157.45	221.0	162.3	486.6	460.8	25.86	18.820	
4,700.0	4,598.9	4,624.8	4,598.9	15.6	13.5	-158.75	221.0	162.3	515.2	488.6	26.55	19.402	
4,800.0	4,694.1	4,720.0	4,694.1	16.1	13.6	-159.91	221.0	162.3	544.0	516.7	27.25	19.960	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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)				
4,855.4	4,746.9	4,772.7	4,746.9	16.3	13.6	-160.50	221.0	162.3	560.0	532.4	27.62	20.273		
4,900.0	4,789.4	4,815.2	4,789.4	16.5	13.6	-160.99	221.0	162.3	572.8	544.9	27.92	20.517		
5,000.0	4,885.1	4,910.9	4,885.1	17.0	13.7	-161.98	221.0	162.3	600.5	571.9	28.60	20.997		
5,100.0	4,981.3	5,007.1	4,981.3	17.5	13.8	-162.83	221.0	162.3	626.6	597.4	29.26	21.413		
5,200.0	5,077.9	5,103.8	5,077.9	17.9	13.8	-163.57	221.0	162.3	651.3	621.3	29.92	21.769		
5,300.0	5,175.0	5,200.8	5,175.0	18.4	13.9	-164.21	221.0	162.3	674.3	643.8	30.56	22.067		
5,400.0	5,272.5	5,298.3	5,272.5	18.9	14.0	-164.76	221.0	162.3	695.8	664.6	31.19	22.309		
5,500.0	5,370.4	5,396.2	5,370.4	19.3	14.1	-165.25	221.0	162.3	715.7	683.9	31.81	22.500		
5,600.0	5,468.6	5,494.4	5,468.6	19.8	14.1	-165.67	221.0	162.3	734.0	701.6	32.42	22.641		
5,700.0	5,567.1	5,592.9	5,567.1	20.2	14.2	-166.03	221.0	162.3	750.7	717.6	33.02	22.735		
5,800.0	5,665.9	5,691.7	5,665.9	20.6	14.3	-166.35	221.0	162.3	765.6	732.0	33.60	22.786		
5,900.0	5,764.9	5,790.8	5,764.9	21.0	14.3	-166.62	221.0	162.3	779.0	744.8	34.17	22.797		
6,000.0	5,864.2	5,890.1	5,864.2	21.4	14.4	-166.84	221.0	162.3	790.6	755.9	34.72	22.769		
6,100.0	5,963.7	5,989.5	5,963.7	21.8	14.5	-167.03	221.0	162.3	800.6	765.3	35.26	22.706		
6,200.0	6,063.3	6,089.2	6,063.3	22.2	14.6	-167.19	221.0	162.3	808.9	773.1	35.77	22.611		
6,300.0	6,163.1	6,188.9	6,163.1	22.6	14.6	-167.31	221.0	162.3	815.4	779.2	36.26	22.487		
6,400.0	6,263.0	6,288.8	6,263.0	22.9	14.7	-167.39	221.0	162.3	820.3	783.6	36.72	22.338		
6,500.0	6,362.9	6,388.8	6,362.9	23.2	14.8	-167.45	221.0	162.3	823.5	786.4	37.14	22.171		
6,600.0	6,462.9	6,488.7	6,462.9	23.5	14.9	-167.48	221.0	162.3	825.0	787.5	37.50	21.999		
6,637.1	6,500.0	6,525.8	6,500.0	23.5	14.9	-90.45	221.0	162.3	825.1	787.5	37.57	21.962		
6,700.0	6,562.9	6,588.7	6,562.9	23.5	14.9	-90.45	221.0	162.3	825.1	787.5	37.62	21.930		
6,800.0	6,662.9	6,688.7	6,662.9	23.6	15.0	-90.45	221.0	162.3	825.1	787.4	37.73	21.868		
6,900.0	6,762.9	6,788.7	6,762.9	23.6	15.1	-90.45	221.0	162.3	825.1	787.3	37.84	21.806		
7,000.0	6,862.9	6,888.7	6,862.9	23.6	15.2	-90.45	221.0	162.3	825.1	787.2	37.94	21.745		
7,100.0	6,962.9	6,988.7	6,962.9	23.7	15.2	-90.45	221.0	162.3	825.1	787.1	38.05	21.683		
7,200.0	7,062.9	7,088.7	7,062.9	23.7	15.3	-90.45	221.0	162.3	825.1	786.9	38.16	21.622		
7,300.0	7,162.9	7,188.7	7,162.9	23.8	15.4	-90.45	221.0	162.3	825.1	786.8	38.27	21.561		
7,400.0	7,262.9	7,288.7	7,262.9	23.8	15.5	-90.45	221.0	162.3	825.1	786.7	38.38	21.500		
7,500.0	7,362.9	7,388.7	7,362.9	23.8	15.5	-90.45	221.0	162.3	825.1	786.6	38.49	21.439		
7,600.0	7,462.9	7,488.7	7,462.9	23.9	15.6	-90.45	221.0	162.3	825.1	786.5	38.60	21.378		
7,700.0	7,562.9	7,588.7	7,562.9	23.9	15.7	-90.45	221.0	162.3	825.1	786.4	38.71	21.318		
7,800.0	7,662.9	7,688.7	7,662.9	24.0	15.8	-90.45	221.0	162.3	825.1	786.3	38.82	21.257		
7,900.0	7,762.9	7,788.7	7,762.9	24.0	15.8	-90.45	221.0	162.3	825.1	786.2	38.93	21.197		
8,000.0	7,862.9	7,888.7	7,862.9	24.1	15.9	-90.45	221.0	162.3	825.1	786.1	39.04	21.137		
8,100.0	7,962.9	7,988.7	7,962.9	24.1	16.0	-90.45	221.0	162.3	825.1	786.0	39.15	21.077		
8,200.0	8,062.9	8,088.7	8,062.9	24.1	16.1	-90.45	221.0	162.3	825.1	785.9	39.26	21.017		
8,300.0	8,162.9	8,188.7	8,162.9	24.2	16.1	-90.45	221.0	162.3	825.1	785.7	39.37	20.957		
8,400.0	8,262.9	8,288.7	8,262.9	24.2	16.2	-90.45	221.0	162.3	825.1	785.6	39.48	20.898		
8,500.0	8,362.9	8,388.7	8,362.9	24.3	16.3	-90.45	221.0	162.3	825.1	785.5	39.60	20.838		
8,600.0	8,462.9	8,488.7	8,462.9	24.3	16.4	-90.45	221.0	162.3	825.1	785.4	39.71	20.779		
8,700.0	8,562.9	8,588.7	8,562.9	24.4	16.4	-90.45	221.0	162.3	825.1	785.3	39.82	20.720		
8,800.0	8,662.9	8,688.7	8,662.9	24.4	16.5	-90.45	221.0	162.3	825.1	785.2	39.94	20.661		
8,900.0	8,762.9	8,788.7	8,762.9	24.4	16.6	-90.45	221.0	162.3	825.1	785.1	40.05	20.602		
9,000.0	8,862.9	8,888.7	8,862.9	24.5	16.7	-90.45	221.0	162.3	825.1	784.9	40.16	20.544		
9,100.0	8,962.9	8,988.7	8,962.9	24.5	16.8	-90.45	221.0	162.3	825.1	784.8	40.28	20.485		
9,200.0	9,062.9	9,088.7	9,062.9	24.6	16.8	-90.45	221.0	162.3	825.1	784.7	40.39	20.427		
9,300.0	9,162.9	9,188.7	9,162.9	24.6	16.9	-90.45	221.0	162.3	825.1	784.6	40.51	20.369		
9,400.0	9,262.9	9,288.7	9,262.9	24.7	17.0	-90.45	221.0	162.3	825.1	784.5	40.62	20.311		
9,500.0	9,362.9	9,388.7	9,362.9	24.7	17.1	-90.45	221.0	162.3	825.1	784.4	40.74	20.253		
9,600.0	9,462.9	9,488.7	9,462.9	24.8	17.1	-90.45	221.0	162.3	825.1	784.3	40.86	20.196		
9,700.0	9,562.9	9,588.7	9,562.9	24.8	17.2	-90.45	221.0	162.3	825.1	784.1	40.97	20.139		

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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)			
9,800.0	9,662.9	9,688.7	9,662.9	24.8	17.3	-90.45	221.0	162.3	825.1	784.0	41.09	20.081	
9,900.0	9,762.9	9,788.7	9,762.9	24.9	17.4	-90.45	221.0	162.3	825.1	783.9	41.21	20.024	
10,000.0	9,862.9	9,888.7	9,862.9	24.9	17.4	-90.45	221.0	162.3	825.1	783.8	41.32	19.968	
10,100.0	9,962.9	9,988.7	9,962.9	25.0	17.5	-90.45	221.0	162.3	825.1	783.7	41.44	19.911	
10,200.0	10,062.9	10,088.7	10,062.9	25.0	17.6	-90.45	221.0	162.3	825.1	783.6	41.56	19.854	
10,300.0	10,162.9	10,188.7	10,162.9	25.1	17.7	-90.45	221.0	162.3	825.1	783.4	41.68	19.798	
10,400.0	10,262.9	10,288.7	10,262.9	25.1	17.7	-90.45	221.0	162.3	825.1	783.3	41.79	19.742	
10,500.0	10,362.9	10,388.7	10,362.9	25.2	17.8	-90.45	221.0	162.3	825.1	783.2	41.91	19.686	
10,600.0	10,462.9	10,488.7	10,462.9	25.2	17.9	-90.45	221.0	162.3	825.1	783.1	42.03	19.630	
10,700.0	10,562.9	10,588.7	10,562.9	25.3	18.0	-90.45	221.0	162.3	825.1	783.0	42.15	19.575	
10,800.0	10,662.9	10,688.7	10,662.9	25.3	18.1	-90.45	221.0	162.3	825.1	782.8	42.27	19.519	
10,900.0	10,762.9	10,788.7	10,762.9	25.4	18.1	-90.45	221.0	162.3	825.1	782.7	42.39	19.464	
11,000.0	10,862.9	10,888.7	10,862.9	25.4	18.2	-90.45	221.0	162.3	825.1	782.6	42.51	19.409	
11,100.0	10,962.9	10,988.7	10,962.9	25.5	18.3	-90.45	221.0	162.3	825.1	782.5	42.63	19.354	
11,200.0	11,062.9	11,088.7	11,062.9	25.5	18.4	-90.45	221.0	162.3	825.1	782.4	42.75	19.300	
11,300.0	11,162.9	11,188.7	11,162.9	25.6	18.4	-90.45	221.0	162.3	825.1	782.2	42.87	19.245	
11,400.0	11,262.9	11,288.7	11,262.9	25.6	18.5	-90.45	221.0	162.3	825.1	782.1	42.99	19.191	
11,500.0	11,362.9	11,388.7	11,362.9	25.7	18.6	-90.45	221.0	162.3	825.1	782.0	43.12	19.137	
11,600.0	11,462.9	11,488.7	11,462.9	25.7	18.7	-90.45	221.0	162.3	825.1	781.9	43.24	19.083	
11,700.0	11,562.9	11,588.7	11,562.9	25.8	18.8	-90.45	221.0	162.3	825.1	781.7	43.36	19.029	
11,800.0	11,662.9	11,688.7	11,662.9	25.8	18.8	-90.45	221.0	162.3	825.1	781.6	43.48	18.976	
11,900.0	11,762.9	11,788.7	11,762.9	25.8	18.9	-90.45	221.0	162.3	825.1	781.5	43.60	18.922	
12,000.0	11,862.9	11,888.7	11,862.9	25.9	19.0	-90.45	221.0	162.3	825.1	781.4	43.73	18.869	
12,004.3	11,867.2	11,893.1	11,867.2	25.9	19.0	-90.45	221.0	162.3	825.1	781.4	43.73	18.868	
12,029.6	11,892.5	11,918.3	11,892.5	25.9	19.0	-90.45	221.0	162.3	825.1	781.4	43.75	18.859	
12,050.0	11,912.9	11,938.7	11,912.9	25.9	19.0	89.92	220.5	162.3	825.1	781.4	43.75	18.860	
12,075.0	11,937.8	11,963.6	11,937.7	25.9	18.9	89.92	218.7	162.4	825.1	781.4	43.74	18.865	
12,100.0	11,962.7	11,988.6	11,962.5	25.9	18.9	89.91	215.6	162.4	825.1	781.4	43.72	18.872	
12,125.0	11,987.3	12,013.5	11,987.0	25.8	18.9	89.91	211.2	162.4	825.1	781.4	43.71	18.879	
12,150.0	12,011.6	12,038.4	12,011.3	25.8	18.8	89.90	205.5	162.4	825.1	781.4	43.69	18.887	
12,175.0	12,035.7	12,063.3	12,035.2	25.8	18.8	89.90	198.6	162.5	825.1	781.4	43.67	18.895	
12,200.0	12,059.3	12,088.3	12,058.8	25.8	18.7	89.89	190.5	162.5	825.1	781.5	43.65	18.904	
12,225.0	12,082.5	12,113.2	12,081.9	25.7	18.7	89.89	181.1	162.6	825.1	781.5	43.62	18.914	
12,250.0	12,105.2	12,138.1	12,104.4	25.7	18.6	89.88	170.5	162.7	825.1	781.5	43.60	18.923	
12,275.0	12,127.3	12,163.0	12,126.4	25.7	18.6	89.88	158.8	162.8	825.1	781.5	43.58	18.933	
12,300.0	12,148.7	12,187.9	12,147.7	25.7	18.5	89.88	146.0	162.8	825.1	781.6	43.56	18.943	
12,325.0	12,169.4	12,212.8	12,168.4	25.6	18.5	89.87	132.0	162.9	825.1	781.6	43.54	18.952	
12,350.0	12,189.4	12,237.7	12,188.2	25.6	18.4	89.87	117.0	163.0	825.1	781.6	43.52	18.961	
12,375.0	12,208.6	12,262.6	12,207.3	25.6	18.4	89.87	101.0	163.1	825.1	781.6	43.50	18.969	
12,400.0	12,226.9	12,287.5	12,225.5	25.6	18.4	89.87	84.0	163.3	825.1	781.6	43.48	18.976	
12,425.0	12,244.2	12,312.4	12,242.8	25.6	18.3	89.86	66.1	163.4	825.1	781.6	43.47	18.982	
12,450.0	12,260.7	12,337.3	12,259.1	25.5	18.3	89.86	47.3	163.5	825.1	781.7	43.46	18.987	
12,475.0	12,276.1	12,362.2	12,274.5	25.5	18.3	89.86	27.7	163.6	825.1	781.7	43.45	18.991	
12,500.0	12,290.4	12,387.1	12,288.8	25.5	18.2	89.86	7.3	163.8	825.1	781.7	43.44	18.992	
12,525.0	12,303.7	12,412.0	12,302.0	25.5	18.2	89.86	-13.8	163.9	825.1	781.7	43.45	18.992	
12,550.0	12,315.8	12,436.9	12,314.1	25.5	18.2	89.86	-35.5	164.0	825.1	781.7	43.45	18.989	
12,575.0	12,326.8	12,461.8	12,325.0	25.5	18.2	89.86	-57.9	164.2	825.1	781.6	43.46	18.985	
12,600.0	12,336.6	12,486.7	12,334.8	25.5	18.2	89.86	-80.8	164.3	825.1	781.6	43.48	18.978	
12,625.0	12,345.2	12,511.6	12,343.3	25.5	18.2	89.86	-104.2	164.5	825.1	781.6	43.50	18.968	
12,650.0	12,352.5	12,536.5	12,350.6	25.5	18.2	89.87	-127.9	164.7	825.1	781.6	43.53	18.956	
12,675.0	12,358.6	12,561.4	12,356.7	25.6	18.2	89.87	-152.1	164.8	825.1	781.5	43.56	18.941	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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		Semi Major Axis		Highside Toolface (°)	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)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
12,700.0	12,363.3	12,586.3	12,361.5	25.6	18.2	89.87	-176.5	165.0	825.1	781.5	43.60	18.924		
12,725.0	12,366.8	12,611.2	12,365.1	25.6	18.2	89.87	-201.2	165.1	825.1	781.5	43.65	18.904		
12,750.0	12,369.0	12,636.1	12,367.3	25.6	18.2	89.88	-226.0	165.3	825.1	781.4	43.70	18.882		
12,775.0	12,369.9	12,661.0	12,368.2	25.7	18.3	89.88	-250.9	165.5	825.1	781.4	43.75	18.857		
12,779.6	12,370.0	12,665.6	12,368.3	25.7	18.3	89.88	-255.4	165.5	825.1	781.3	43.77	18.853		
12,800.0	12,370.0	12,686.0	12,368.3	25.7	18.3	89.88	-275.8	165.6	825.1	781.3	43.82	18.830		
12,900.0	12,370.0	12,786.0	12,368.3	25.8	18.5	89.88	-375.8	166.3	825.1	781.0	44.15	18.690		
13,000.0	12,370.0	12,886.0	12,368.3	26.0	18.7	89.88	-475.8	167.0	825.1	780.5	44.56	18.519		
13,100.0	12,370.0	12,986.0	12,368.3	26.3	18.9	89.88	-575.8	167.6	825.1	780.1	45.04	18.319		
13,200.0	12,370.0	13,086.0	12,368.3	26.5	19.2	89.88	-675.8	168.3	825.1	779.5	45.60	18.094		
13,300.0	12,370.0	13,186.0	12,368.3	26.8	19.5	89.88	-775.8	169.0	825.1	778.9	46.23	17.846		
13,400.0	12,370.0	13,286.0	12,368.3	27.1	19.9	89.88	-875.8	169.6	825.1	778.2	46.94	17.579		
13,500.0	12,370.0	13,386.0	12,368.3	27.5	20.3	89.88	-975.8	170.3	825.1	777.4	47.70	17.296		
13,600.0	12,370.0	13,486.0	12,368.3	27.9	20.8	89.88	-1,075.8	170.9	825.1	776.6	48.53	17.000		
13,700.0	12,370.0	13,586.0	12,368.3	28.3	21.3	89.88	-1,175.8	171.6	825.1	775.7	49.42	16.694		
13,800.0	12,370.0	13,686.0	12,368.3	28.7	21.9	89.88	-1,275.8	172.3	825.1	774.7	50.37	16.380		
13,900.0	12,370.0	13,786.0	12,368.3	29.2	22.4	89.88	-1,375.8	172.9	825.1	773.7	51.37	16.061		
14,000.0	12,370.0	13,886.0	12,368.3	29.7	23.0	89.88	-1,475.8	173.6	825.1	772.7	52.42	15.740		
14,100.0	12,370.0	13,986.0	12,368.3	30.2	23.7	89.88	-1,575.8	174.3	825.1	771.6	53.52	15.417		
14,200.0	12,370.0	14,086.0	12,368.3	30.7	24.3	89.88	-1,675.8	174.9	825.1	770.4	54.66	15.095		
14,300.0	12,370.0	14,186.0	12,368.3	31.2	25.0	89.88	-1,775.8	175.6	825.1	769.2	55.85	14.775		
14,400.0	12,370.0	14,286.0	12,368.3	31.8	25.7	89.88	-1,875.8	176.3	825.1	768.0	57.07	14.458		
14,500.0	12,370.0	14,386.0	12,368.3	32.4	26.4	89.88	-1,975.8	176.9	825.1	766.8	58.33	14.146		
14,600.0	12,370.0	14,486.0	12,368.3	33.0	27.1	89.88	-2,075.8	177.6	825.1	765.5	59.62	13.839		
14,700.0	12,370.0	14,586.0	12,368.3	33.6	27.8	89.88	-2,175.8	178.2	825.1	764.1	60.95	13.538		
14,800.0	12,370.0	14,686.0	12,368.3	34.2	28.6	89.88	-2,275.8	178.9	825.1	762.8	62.30	13.243		
14,900.0	12,370.0	14,786.0	12,368.3	34.9	29.4	89.88	-2,375.8	179.6	825.1	761.4	63.69	12.956		
15,000.0	12,370.0	14,886.0	12,368.3	35.5	30.1	89.88	-2,475.8	180.2	825.1	760.0	65.10	12.675		
15,100.0	12,370.0	14,986.0	12,368.3	36.2	30.9	89.88	-2,575.8	180.9	825.1	758.5	66.53	12.402		
15,200.0	12,370.0	15,086.0	12,368.3	36.9	31.7	89.88	-2,675.8	181.6	825.1	757.1	67.99	12.136		
15,300.0	12,370.0	15,186.0	12,368.3	37.6	32.5	89.88	-2,775.8	182.2	825.1	755.6	69.47	11.877		
15,400.0	12,370.0	15,286.0	12,368.3	38.3	33.3	89.88	-2,875.8	182.9	825.1	754.1	70.97	11.626		
15,500.0	12,370.0	15,386.0	12,368.3	39.0	34.2	89.88	-2,975.8	183.6	825.1	752.6	72.48	11.383		
15,600.0	12,370.0	15,486.0	12,368.3	39.7	35.0	89.88	-3,075.8	184.2	825.1	751.1	74.02	11.147		
15,700.0	12,370.0	15,586.0	12,368.3	40.5	35.8	89.88	-3,175.8	184.9	825.1	749.5	75.57	10.918		
15,800.0	12,370.0	15,686.0	12,368.3	41.2	36.7	89.88	-3,275.8	185.5	825.1	747.9	77.14	10.696		
15,900.0	12,370.0	15,786.0	12,368.3	42.0	37.5	89.88	-3,375.8	186.2	825.1	746.3	78.72	10.481		
16,000.0	12,370.0	15,886.0	12,368.3	42.8	38.4	89.88	-3,475.8	186.9	825.1	744.7	80.32	10.272		
16,100.0	12,370.0	15,986.0	12,368.3	43.5	39.2	89.88	-3,575.8	187.5	825.1	743.1	81.93	10.070		
16,200.0	12,370.0	16,086.0	12,368.3	44.3	40.1	89.88	-3,675.8	188.2	825.1	741.5	83.55	9.875		
16,300.0	12,370.0	16,186.0	12,368.3	45.1	41.0	89.88	-3,775.8	188.9	825.1	739.9	85.18	9.686		
16,400.0	12,370.0	16,286.0	12,368.3	45.9	41.8	89.88	-3,875.8	189.5	825.1	738.2	86.83	9.502		
16,500.0	12,370.0	16,386.0	12,368.3	46.7	42.7	89.88	-3,975.8	190.2	825.1	736.6	88.48	9.324		
16,600.0	12,370.0	16,486.0	12,368.3	47.5	43.6	89.88	-4,075.8	190.8	825.1	734.9	90.15	9.152		
16,700.0	12,370.0	16,586.0	12,368.3	48.3	44.5	89.88	-4,175.8	191.5	825.1	733.2	91.82	8.985		
16,800.0	12,370.0	16,686.0	12,368.3	49.1	45.4	89.88	-4,275.8	192.2	825.1	731.6	93.50	8.824		
16,900.0	12,370.0	16,786.0	12,368.3	50.0	46.3	89.88	-4,375.8	192.8	825.1	729.9	95.19	8.667		
17,000.0	12,370.0	16,886.0	12,368.3	50.8	47.2	89.88	-4,475.8	193.5	825.1	728.2	96.89	8.515		
17,100.0	12,370.0	16,986.0	12,368.3	51.6	48.1	89.88	-4,575.7	194.2	825.1	726.5	98.60	8.368		
17,200.0	12,370.0	17,086.0	12,368.3	52.5	49.0	89.88	-4,675.7	194.8	825.1	724.7	100.31	8.225		
17,300.0	12,370.0	17,186.0	12,368.3	53.3	49.9	89.88	-4,775.7	195.5	825.1	723.0	102.03	8.086		

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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		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)			
17,400.0	12,370.0	17,286.0	12,368.3	54.1	50.8	89.88	-4,875.7	196.2	825.1	721.3	103.76	7.952	
17,500.0	12,370.0	17,386.0	12,368.3	55.0	51.7	89.88	-4,975.7	196.8	825.1	719.6	105.49	7.821	
17,600.0	12,370.0	17,486.0	12,368.3	55.8	52.6	89.88	-5,075.7	197.5	825.1	717.8	107.23	7.694	
17,700.0	12,370.0	17,586.0	12,368.3	56.7	53.5	89.88	-5,175.7	198.1	825.1	716.1	108.97	7.571	
17,800.0	12,370.0	17,686.0	12,368.3	57.6	54.4	89.88	-5,275.7	198.8	825.0	714.3	110.72	7.452	
17,900.0	12,370.0	17,786.0	12,368.3	58.4	55.3	89.88	-5,375.7	199.5	825.0	712.6	112.47	7.336	
18,000.0	12,370.0	17,886.0	12,368.3	59.3	56.2	89.88	-5,475.7	200.1	825.0	710.8	114.23	7.223	
18,100.0	12,370.0	17,986.0	12,368.3	60.2	57.1	89.88	-5,575.7	200.8	825.0	709.1	115.99	7.113	
18,200.0	12,370.0	18,086.0	12,368.3	61.0	58.1	89.88	-5,675.7	201.5	825.0	707.3	117.76	7.006	
18,300.0	12,370.0	18,186.0	12,368.3	61.9	59.0	89.88	-5,775.7	202.1	825.0	705.5	119.53	6.903	
18,400.0	12,370.0	18,286.0	12,368.3	62.8	59.9	89.88	-5,875.7	202.8	825.0	703.7	121.30	6.802	
18,500.0	12,370.0	18,386.0	12,368.3	63.7	60.8	89.88	-5,975.7	203.5	825.0	702.0	123.08	6.703	
18,600.0	12,370.0	18,486.0	12,368.3	64.5	61.7	89.88	-6,075.7	204.1	825.0	700.2	124.86	6.608	
18,700.0	12,370.0	18,586.0	12,368.3	65.4	62.7	89.88	-6,175.7	204.8	825.0	698.4	126.65	6.514	
18,800.0	12,370.0	18,686.0	12,368.3	66.3	63.6	89.88	-6,275.7	205.4	825.0	696.6	128.44	6.424	
18,900.0	12,370.0	18,786.0	12,368.3	67.2	64.5	89.88	-6,375.7	206.1	825.0	694.8	130.23	6.335	
19,000.0	12,370.0	18,886.0	12,368.3	68.1	65.4	89.88	-6,475.7	206.8	825.0	693.0	132.02	6.249	
19,100.0	12,370.0	18,986.0	12,368.3	69.0	66.4	89.88	-6,575.7	207.4	825.0	691.2	133.82	6.165	
19,200.0	12,370.0	19,086.0	12,368.3	69.9	67.3	89.88	-6,675.7	208.1	825.0	689.4	135.62	6.083	
19,300.0	12,370.0	19,186.0	12,368.3	70.8	68.2	89.88	-6,775.7	208.8	825.0	687.6	137.43	6.004	
19,400.0	12,370.0	19,286.0	12,368.3	71.7	69.2	89.88	-6,875.7	209.4	825.0	685.8	139.23	5.926	
19,500.0	12,370.0	19,386.0	12,368.3	72.6	70.1	89.88	-6,975.7	210.1	825.0	684.0	141.04	5.850	
19,600.0	12,370.0	19,486.0	12,368.3	73.5	71.0	89.88	-7,075.7	210.7	825.0	682.2	142.85	5.775	
19,700.0	12,370.0	19,586.0	12,368.3	74.4	72.0	89.88	-7,175.7	211.4	825.0	680.4	144.66	5.703	
19,800.0	12,370.0	19,686.0	12,368.3	75.3	72.9	89.88	-7,275.7	212.1	825.0	678.5	146.48	5.632	
19,900.0	12,370.0	19,786.0	12,368.3	76.2	73.8	89.88	-7,375.7	212.7	825.0	676.7	148.30	5.563	
20,000.0	12,370.0	19,886.0	12,368.3	77.1	74.8	89.88	-7,475.7	213.4	825.0	674.9	150.12	5.496	
20,028.4	12,370.0	19,914.4	12,368.3	77.3	75.0	89.88	-7,504.0	213.6	825.0	674.4	150.63	5.477	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 711H - 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		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	1.7	0.0	0.0	0.0	-90.43	-1.1	-149.7	149.7				
100.0	100.0	101.7	100.0	0.8	1.2	-90.43	-1.1	-149.7	149.7	147.2	2.54	59.022	
200.0	200.0	201.7	200.0	1.5	1.7	-90.43	-1.1	-149.7	149.7	146.1	3.64	41.150	
300.0	300.0	301.7	300.0	1.9	2.1	-90.43	-1.1	-149.7	149.7	145.3	4.45	33.635	
400.0	400.0	401.7	400.0	2.3	2.4	-90.43	-1.1	-149.7	149.7	144.6	5.13	29.187	
500.0	500.0	501.7	500.0	2.6	2.7	-90.43	-1.1	-149.7	149.7	144.0	5.73	26.148	
600.0	600.0	601.7	600.0	2.9	3.0	-90.43	-1.1	-149.7	149.7	143.5	6.27	23.897	
700.0	700.0	701.7	700.0	3.1	3.2	-90.43	-1.1	-149.7	149.7	143.0	6.76	22.139	
800.0	800.0	801.7	800.0	3.4	3.5	-90.43	-1.1	-149.7	149.7	142.5	7.23	20.716	
900.0	900.0	901.7	900.0	3.6	3.7	-90.43	-1.1	-149.7	149.7	142.1	7.67	19.532	
1,000.0	1,000.0	1,001.7	1,000.0	3.8	3.9	-90.43	-1.1	-149.7	149.7	141.7	8.08	18.525	
1,100.0	1,100.0	1,101.7	1,100.0	4.0	4.1	-90.43	-1.1	-149.7	149.7	141.3	8.48	17.656	
1,200.0	1,200.0	1,201.7	1,200.0	4.2	4.3	-90.43	-1.1	-149.7	149.7	140.9	8.86	16.894	
1,300.0	1,300.0	1,301.7	1,300.0	4.4	4.5	-90.43	-1.1	-149.7	149.7	140.5	9.23	16.220	
1,400.0	1,400.0	1,401.7	1,400.0	4.6	4.7	-90.43	-1.1	-149.7	149.7	140.2	9.59	15.617	
1,500.0	1,500.0	1,501.7	1,500.0	4.7	4.8	-90.43	-1.1	-149.7	149.7	139.8	9.93	15.073	
1,600.0	1,600.0	1,601.7	1,600.0	4.9	5.0	-90.43	-1.1	-149.7	149.7	139.5	10.27	14.580	
1,700.0	1,700.0	1,701.7	1,700.0	5.1	5.2	-90.43	-1.1	-149.7	149.7	139.1	10.60	14.129	
1,800.0	1,800.0	1,801.7	1,800.0	5.3	5.3	-90.43	-1.1	-149.7	149.7	138.8	10.92	13.715	
1,900.0	1,900.0	1,901.7	1,900.0	5.4	5.5	-90.43	-1.1	-149.7	149.7	138.5	11.23	13.333	
1,966.1	1,966.1	1,967.8	1,966.1	5.5	5.6	-90.43	-1.1	-149.7	149.7	138.3	11.43	13.097 CC	
2,000.0	2,000.0	2,000.0	1,998.3	5.6	5.6	-90.43	-1.1	-149.7	149.8	138.2	11.53	12.984 ES	
2,100.0	2,100.0	2,096.7	2,095.0	5.8	5.9	-167.43	-0.8	-151.3	153.1	141.1	11.97	12.791 SF	
2,200.0	2,199.8	2,191.1	2,189.3	6.0	6.1	-167.38	0.3	-155.9	163.1	150.7	12.39	13.163	
2,300.0	2,299.5	2,284.3	2,282.1	6.3	6.3	-167.31	2.0	-163.5	179.6	166.8	12.82	14.005	
2,400.0	2,398.7	2,375.7	2,372.9	6.5	6.5	-167.22	4.4	-173.7	202.5	189.3	13.28	15.257	
2,500.0	2,497.5	2,464.8	2,461.1	6.8	6.8	-167.11	7.3	-186.4	231.7	218.0	13.74	16.860	
2,600.0	2,595.6	2,551.1	2,546.0	7.1	7.0	-166.98	10.7	-201.2	266.9	252.7	14.22	18.766	
2,700.0	2,693.1	2,634.2	2,627.3	7.5	7.3	-166.83	14.5	-217.9	307.9	293.3	14.67	20.988	
2,800.0	2,789.6	2,721.5	2,712.4	7.8	7.5	-166.72	18.9	-237.0	353.7	338.5	15.16	23.330	
2,890.8	2,876.6	2,800.9	2,789.8	8.1	7.7	-166.68	22.9	-254.3	397.9	382.2	15.65	25.420	
2,900.0	2,885.3	2,808.8	2,797.5	8.1	7.7	-166.71	23.3	-256.1	402.5	386.8	15.70	25.635	
3,000.0	2,980.5	2,895.4	2,881.9	8.5	8.0	-166.93	27.6	-275.0	452.5	436.2	16.28	27.790	
3,100.0	3,075.7	2,982.0	2,966.2	8.9	8.2	-167.10	31.9	-294.0	502.5	485.6	16.85	29.826	
3,200.0	3,170.9	3,068.6	3,050.6	9.2	8.5	-167.25	36.3	-312.9	552.5	535.0	17.44	31.684	
3,300.0	3,266.1	3,155.2	3,135.0	9.6	8.8	-167.37	40.6	-331.9	602.5	584.4	18.05	33.377	
3,400.0	3,361.3	3,241.8	3,219.4	10.0	9.1	-167.47	45.0	-350.8	652.5	633.8	18.68	34.921	
3,500.0	3,456.5	3,328.4	3,303.8	10.3	9.4	-167.56	49.3	-369.8	702.5	683.2	19.34	36.328	
3,600.0	3,551.7	3,414.9	3,388.1	10.8	9.8	-167.63	53.7	-388.7	752.5	732.5	20.01	37.612	
3,700.0	3,646.9	3,501.5	3,472.5	11.2	10.1	-167.70	58.0	-407.7	802.5	781.8	20.69	38.784	
3,800.0	3,742.1	3,588.1	3,556.9	11.6	10.4	-167.76	62.4	-426.6	852.5	831.2	21.39	39.854	
3,900.0	3,837.3	3,674.7	3,641.3	12.0	10.8	-167.81	66.7	-445.6	902.6	880.5	22.10	40.833	
4,000.0	3,932.5	3,761.3	3,725.7	12.4	11.1	-167.86	71.1	-464.6	952.6	929.8	22.83	41.730	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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		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	
0.0	0.0	1.7	0.0	0.0	0.0	-90.42	-0.9	-120.0	120.0				
100.0	100.0	101.7	100.0	0.8	1.2	-90.42	-0.9	-120.0	120.0	117.5	2.54	47.308	
200.0	200.0	201.7	200.0	1.5	1.7	-90.42	-0.9	-120.0	120.0	116.4	3.64	32.983	
300.0	300.0	301.7	300.0	1.9	2.1	-90.42	-0.9	-120.0	120.0	115.6	4.45	26.959	
400.0	400.0	401.7	400.0	2.3	2.4	-90.42	-0.9	-120.0	120.0	114.9	5.13	23.394	
500.0	500.0	501.7	500.0	2.6	2.7	-90.42	-0.9	-120.0	120.0	114.3	5.73	20.959	
600.0	600.0	601.7	600.0	2.9	3.0	-90.42	-0.9	-120.0	120.0	113.8	6.27	19.154	
700.0	700.0	701.7	700.0	3.1	3.2	-90.42	-0.9	-120.0	120.0	113.3	6.76	17.745	
800.0	800.0	801.7	800.0	3.4	3.5	-90.42	-0.9	-120.0	120.0	112.8	7.23	16.604	
900.0	900.0	901.7	900.0	3.6	3.7	-90.42	-0.9	-120.0	120.0	112.4	7.67	15.655	
1,000.0	1,000.0	1,001.7	1,000.0	3.8	3.9	-90.42	-0.9	-120.0	120.0	111.9	8.08	14.848	
1,100.0	1,100.0	1,101.7	1,100.0	4.0	4.1	-90.42	-0.9	-120.0	120.0	111.5	8.48	14.152	
1,200.0	1,200.0	1,201.7	1,200.0	4.2	4.3	-90.42	-0.9	-120.0	120.0	111.2	8.86	13.541	
1,300.0	1,300.0	1,301.7	1,300.0	4.4	4.5	-90.42	-0.9	-120.0	120.0	110.8	9.23	13.001	
1,400.0	1,400.0	1,401.7	1,400.0	4.6	4.7	-90.42	-0.9	-120.0	120.0	110.4	9.59	12.517	
1,500.0	1,500.0	1,501.7	1,500.0	4.7	4.8	-90.42	-0.9	-120.0	120.0	110.1	9.93	12.082	
1,600.0	1,600.0	1,601.7	1,600.0	4.9	5.0	-90.42	-0.9	-120.0	120.0	109.8	10.27	11.686	
1,700.0	1,700.0	1,701.7	1,700.0	5.1	5.2	-90.42	-0.9	-120.0	120.0	109.4	10.60	11.325	
1,800.0	1,800.0	1,801.7	1,800.0	5.3	5.3	-90.42	-0.9	-120.0	120.0	109.1	10.92	10.993	
1,900.0	1,900.0	1,901.7	1,900.0	5.4	5.5	-90.42	-0.9	-120.0	120.0	108.8	11.23	10.687	
2,000.0	2,000.0	2,001.7	2,000.0	5.6	5.6	-90.42	-0.9	-120.0	120.0	108.5	11.54	10.403 CC, ES	
2,100.0	2,100.0	2,101.7	2,100.0	5.8	5.8	-167.62	-0.9	-120.0	121.7	109.8	11.91	10.219 SF	
2,200.0	2,199.8	2,200.0	2,198.3	6.0	5.9	-168.10	-0.9	-120.0	126.9	114.6	12.28	10.330	
2,300.0	2,299.5	2,296.9	2,295.2	6.3	6.2	-168.52	-0.3	-121.5	137.0	124.2	12.72	10.770	
2,400.0	2,398.7	2,391.2	2,389.3	6.5	6.4	-168.62	1.5	-125.9	153.5	140.3	13.15	11.667	
2,500.0	2,497.5	2,483.6	2,481.5	6.8	6.6	-168.46	4.3	-133.1	176.3	162.7	13.61	12.956	
2,600.0	2,595.6	2,573.8	2,571.1	7.1	6.8	-168.16	8.1	-142.7	205.2	191.2	14.07	14.583	
2,700.0	2,693.1	2,661.3	2,657.6	7.5	7.0	-167.76	12.8	-154.5	240.1	225.6	14.55	16.500	
2,800.0	2,789.6	2,745.6	2,740.6	7.8	7.2	-167.32	18.2	-168.2	280.7	265.7	14.99	18.721	
2,890.8	2,876.6	2,825.6	2,819.1	8.1	7.4	-166.96	23.9	-182.5	321.7	306.3	15.41	20.870	
2,900.0	2,885.3	2,833.7	2,827.0	8.1	7.4	-166.95	24.5	-184.0	325.9	310.5	15.46	21.087	
3,000.0	2,980.5	2,922.2	2,913.9	8.5	7.7	-166.87	30.8	-199.9	372.4	356.4	16.01	23.268	
3,100.0	3,075.7	3,010.7	3,000.7	8.9	7.9	-166.81	37.1	-215.8	418.9	402.4	16.54	25.334	
3,200.0	3,170.9	3,099.3	3,087.6	9.2	8.2	-166.76	43.4	-231.7	465.4	448.3	17.09	27.228	
3,300.0	3,266.1	3,187.8	3,174.5	9.6	8.4	-166.72	49.8	-247.7	511.9	494.2	17.68	28.959	
3,400.0	3,361.3	3,276.3	3,261.3	10.0	8.7	-166.69	56.1	-263.6	558.4	540.1	18.28	30.544	
3,500.0	3,456.5	3,364.9	3,348.2	10.3	9.0	-166.66	62.4	-279.5	604.9	586.0	18.91	31.992	
3,600.0	3,551.7	3,453.4	3,435.0	10.8	9.3	-166.64	68.7	-295.4	651.4	631.8	19.55	33.317	
3,700.0	3,646.9	3,541.9	3,521.9	11.2	9.6	-166.62	75.0	-311.4	697.9	677.7	20.21	34.530	
3,800.0	3,742.1	3,630.5	3,608.8	11.6	9.9	-166.60	81.3	-327.3	744.4	723.5	20.89	35.641	
3,900.0	3,837.3	3,719.0	3,695.6	12.0	10.2	-166.58	87.7	-343.2	790.9	769.3	21.57	36.660	
4,000.0	3,932.5	3,807.5	3,782.5	12.4	10.6	-166.57	94.0	-359.1	837.4	815.1	22.27	37.595	
4,100.0	4,027.7	3,896.1	3,869.3	12.9	10.9	-166.56	100.3	-375.0	883.9	860.9	22.99	38.454	
4,200.0	4,122.9	3,984.6	3,956.2	13.3	11.2	-166.54	106.6	-391.0	930.4	906.7	23.71	39.244	
4,300.0	4,218.1	4,073.1	4,043.1	13.8	11.6	-166.53	112.9	-406.9	976.9	952.4	24.44	39.973	

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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 - EXCELSIOR 7 10H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 91-r.5 MWD												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
19,300.0	12,370.0	17,177.0	12,283.5	70.8	82.3	-74.36	-7,664.6	1,348.7	952.1	876.4		75.72	12.574
19,400.0	12,370.0	17,177.0	12,283.5	71.7	82.3	-74.36	-7,664.6	1,348.7	858.6	779.1		79.54	10.795
19,500.0	12,370.0	17,177.0	12,283.5	72.6	82.3	-74.36	-7,664.6	1,348.7	766.8	682.3		84.44	9.080
19,600.0	12,370.0	17,177.0	12,283.5	73.5	82.3	-74.36	-7,664.6	1,348.7	677.3	586.4		90.81	7.458
19,700.0	12,370.0	17,177.0	12,283.5	74.4	82.3	-74.36	-7,664.6	1,348.7	591.1	491.9		99.16	5.961
19,800.0	12,370.0	17,177.0	12,283.5	75.3	82.3	-74.36	-7,664.6	1,348.7	510.0	399.9		110.08	4.633
19,900.0	12,370.0	17,177.0	12,283.5	76.2	82.3	-74.36	-7,664.6	1,348.7	436.8	312.9		123.96	3.524
20,000.0	12,370.0	17,177.0	12,283.5	77.1	82.3	-74.36	-7,664.6	1,348.7	376.2	236.1		140.08	2.686 Normal Operations
20,028.4	12,370.0	17,177.0	12,283.5	77.3	82.3	-74.36	-7,664.6	1,348.7	362.2	217.6		144.66	2.504 Normal Operations, 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 - EXCELSIOR 7 11H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 193-r.5 MWD												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	
19,500.0	12,370.0	17,075.0	12,194.7	72.6	80.5	-75.82	-7,652.1	1,733.7	991.8	870.9	120.94	8.201	
19,600.0	12,370.0	17,075.0	12,194.7	73.5	80.5	-75.82	-7,652.1	1,733.7	925.4	797.9	127.54	7.256	
19,700.0	12,370.0	17,075.0	12,194.7	74.4	80.5	-75.82	-7,652.1	1,733.7	865.5	731.0	134.55	6.433	
19,800.0	12,370.0	17,075.0	12,194.7	75.3	80.5	-75.82	-7,652.1	1,733.7	813.5	671.9	141.63	5.744	
19,900.0	12,370.0	17,075.0	12,194.7	76.2	80.5	-75.82	-7,652.1	1,733.7	771.1	622.8	148.31	5.199	
20,000.0	12,370.0	17,075.0	12,194.7	77.1	80.5	-75.82	-7,652.1	1,733.7	739.8	585.8	153.93	4.806	
20,028.4	12,370.0	17,075.0	12,194.7	77.3	80.5	-75.82	-7,652.1	1,733.7	733.1	577.9	155.23	4.723 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 - EXCELSIOR 7 7H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 125-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)			
19,500.0	12,370.0	17,061.0	12,262.9	72.6	91.7	80.36	-7,670.2	409.0	945.2	824.1	121.09	7.806	
19,600.0	12,370.0	17,061.0	12,262.9	73.5	91.7	80.36	-7,670.2	409.0	874.2	745.2	128.96	6.779	
19,700.0	12,370.0	17,061.0	12,262.9	74.4	91.7	80.36	-7,670.2	409.0	809.4	671.9	137.43	5.889	
19,800.0	12,370.0	17,061.0	12,262.9	75.3	91.7	80.36	-7,670.2	409.0	752.3	606.1	146.14	5.148	
19,900.0	12,370.0	17,061.0	12,262.9	76.2	91.7	80.36	-7,670.2	409.0	704.8	550.3	154.47	4.563	
20,000.0	12,370.0	17,061.0	12,262.9	77.1	91.7	80.36	-7,670.2	409.0	669.0	507.5	161.49	4.143	
20,028.4	12,370.0	17,061.0	12,262.9	77.3	91.7	80.36	-7,670.2	409.0	661.3	498.2	163.10	4.054 CC, ES, SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 - EXCELSIOR 7 8H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 125-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
19,400.0	12,370.0	17,419.0	12,641.0	71.7	88.4	124.66	-7,670.7	647.9	929.3	838.5	90.88	10.226	
19,500.0	12,370.0	17,419.0	12,641.0	72.6	88.4	124.66	-7,670.7	647.9	845.0	747.7	97.32	8.683	
19,600.0	12,370.0	17,419.0	12,641.0	73.5	88.4	124.66	-7,670.7	647.9	764.5	659.6	104.97	7.284	
19,700.0	12,370.0	17,419.0	12,641.0	74.4	88.4	124.66	-7,670.7	647.9	689.1	575.2	113.93	6.049	
19,800.0	12,370.0	17,419.0	12,641.0	75.3	88.4	124.66	-7,670.7	647.9	620.7	496.6	124.14	5.000	
19,900.0	12,370.0	17,419.0	12,641.0	76.2	88.4	124.66	-7,670.7	647.9	561.9	426.8	135.08	4.160	
20,000.0	12,370.0	17,419.0	12,641.0	77.1	88.4	124.66	-7,670.7	647.9	515.9	370.4	145.50	3.546	
20,028.4	12,370.0	17,419.0	12,641.0	77.3	88.4	124.66	-7,670.7	647.9	505.7	357.6	148.09	3.415 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 - EXCELSIOR 7 9H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 172-r.5 MWD												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	
19,600.0	12,370.0	16,750.0	12,175.8	73.5	78.6	43.78	-7,954.2	855.6	922.8	848.8	73.97	12.476	
19,700.0	12,370.0	16,750.0	12,175.8	74.4	78.6	43.78	-7,954.2	855.6	827.7	751.1	76.59	10.807	
19,800.0	12,370.0	16,750.0	12,175.8	75.3	78.6	43.78	-7,954.2	855.6	733.8	653.8	79.96	9.177	
19,900.0	12,370.0	16,750.0	12,175.8	76.2	78.6	43.78	-7,954.2	855.6	641.8	557.4	84.41	7.604	
20,000.0	12,370.0	16,750.0	12,175.8	77.1	78.6	43.78	-7,954.2	855.6	552.6	462.2	90.37	6.115	
20,028.4	12,370.0	16,750.0	12,175.8	77.3	78.6	43.78	-7,954.2	855.6	528.0	435.6	92.42	5.713 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 708H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3178.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3178.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 708H	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 @ 3178.3usft

Offset Depths are relative to Offset Datum

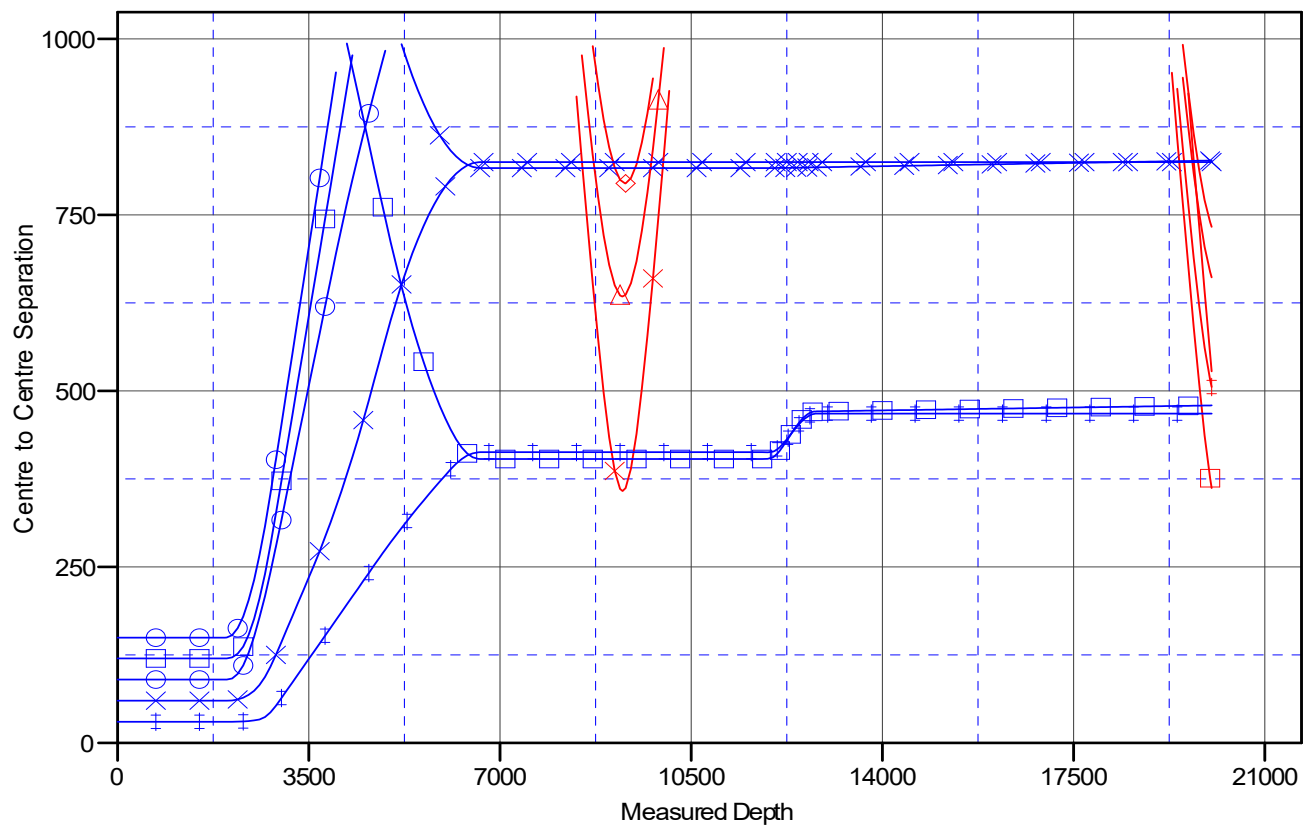
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _LIL JOHN FED COM 708H

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

Grid Convergence at Surface is: 0.38°

Ladder Plot



LEGEND

SALADO DRAW 19 26 33 FEDERAL 4H, OWB, AWP V0	EXCELSIOR 7 10H, OWB, AWP V0	_LIL JOHN FED COM 710H, OWB, PWP0 V0
SALADO DRAW 19 26 33 FEDERAL 3H, OWB, AWP V0	EXCELSIOR 7 11H, OWB, AWP V0	_LIL JOHN FED COM 712H, OWB, PWP0 V0
SD EA 19 FEDERAL P6 5H, OWB, AWP V0	EXCELSIOR 7 9H, OWB, AWP V0	_LIL JOHN FED COM 711H, OWB, PWP0 V0
EXCELSIOR 7 7H, OWB, AWP V0	_LIL JOHN FED COM 708H, OWB, PWP0 V0	_LIL JOHN FED COM 705H, OWB, PWP0 V0
EXCELSIOR 7 8H, OWB, AWP V0	_LIL JOHN FED COM 707H, OWB, PWP0 V0	_LIL JOHN FED COM 709H, OWB, PWP0 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 708H
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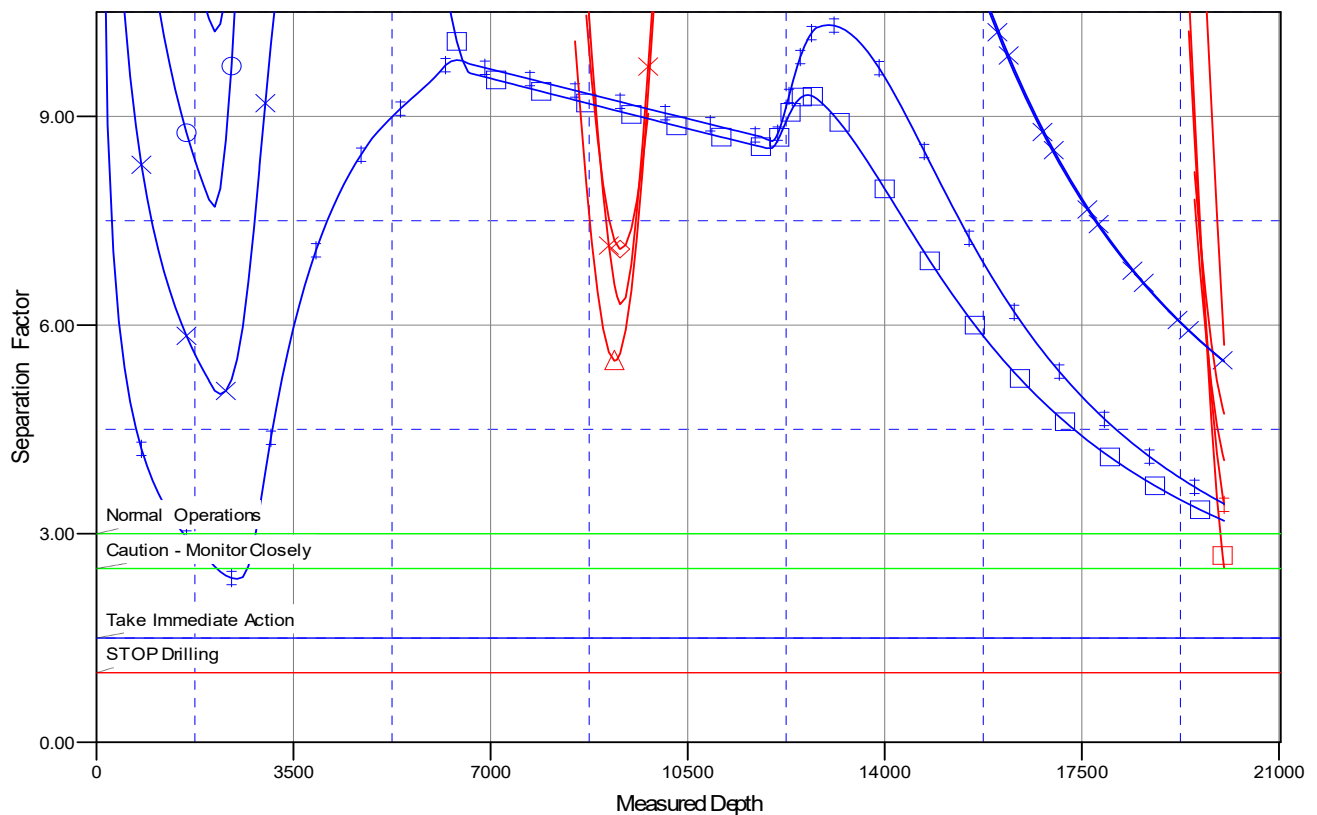
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _LIL JOHN FED COM 708H

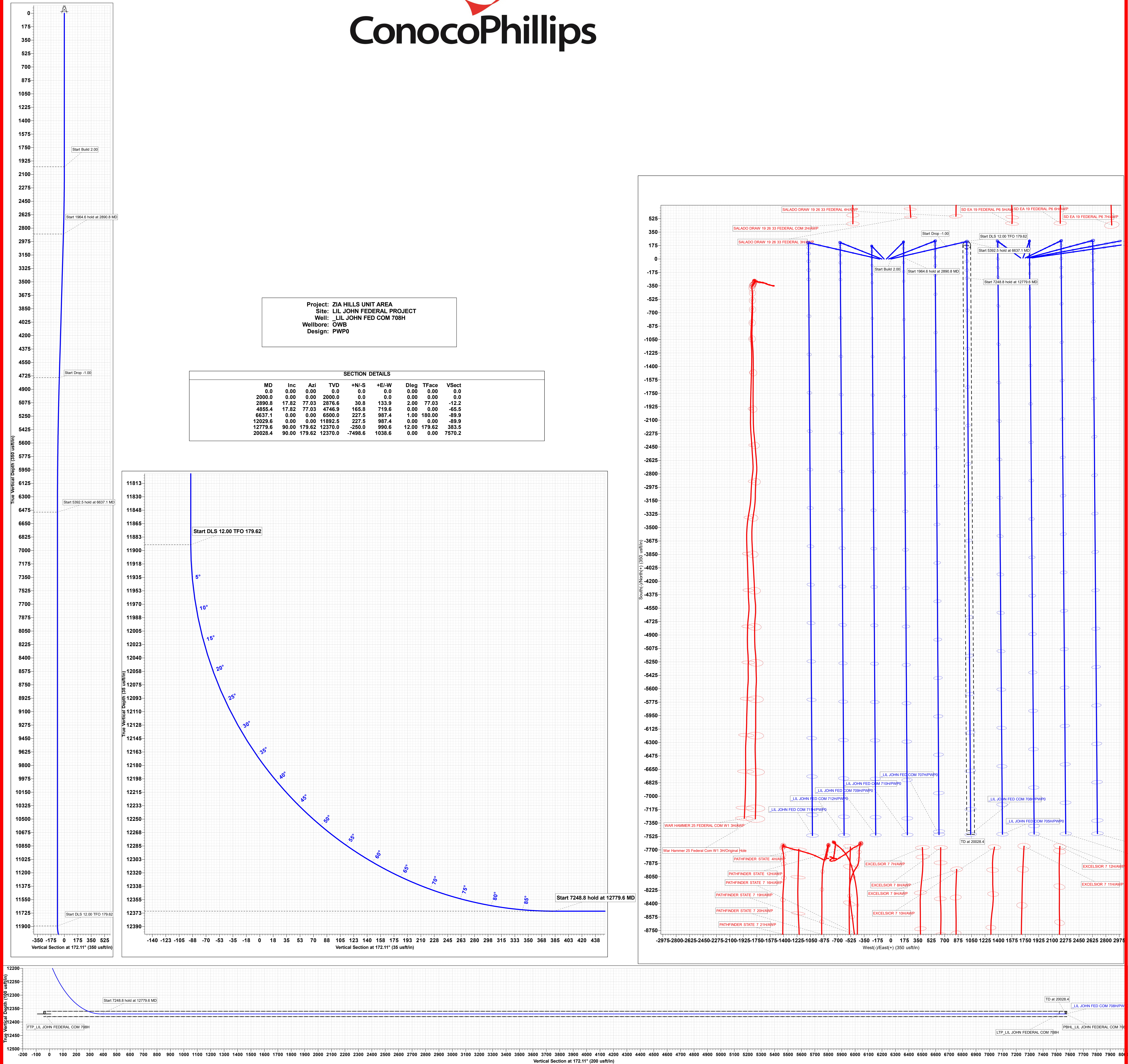
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.38°

Separation Factor Plot**LEGEND**

SALADO DRAW 19 26 33 FEDERAL 4H, OWB, AWP V0	EXCELSIOR 7 10H, OWB, AWP V0	_LIL JOHN FED COM 710H, OWB, PWP0 V0
SALADO DRAW 19 26 33 FEDERAL 3H, OWB, AWP V0	EXCELSIOR 7 11H, OWB, AWP V0	_LIL JOHN FED COM 712H, OWB, PWP0 V0
SD EA 19 FEDERAL P6 5H, OWB, AWP V0	EXCELSIOR 7 9H, OWB, AWP V0	_LIL JOHN FED COM 711H, OWB, PWP0 V0
EXCELSIOR 7 7H, OWB, AWP V0	_LIL JOHN FED COM 706H, OWB, PWP0 V0	_LIL JOHN FED COM 705H, OWB, PWP0 V0
EXCELSIOR 7 8H, OWB, AWP V0	_LIL JOHN FED COM 707H, OWB, PWP0 V0	_LIL JOHN FED COM 709H, OWB, PWP0 V0

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



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

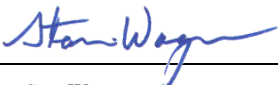
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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

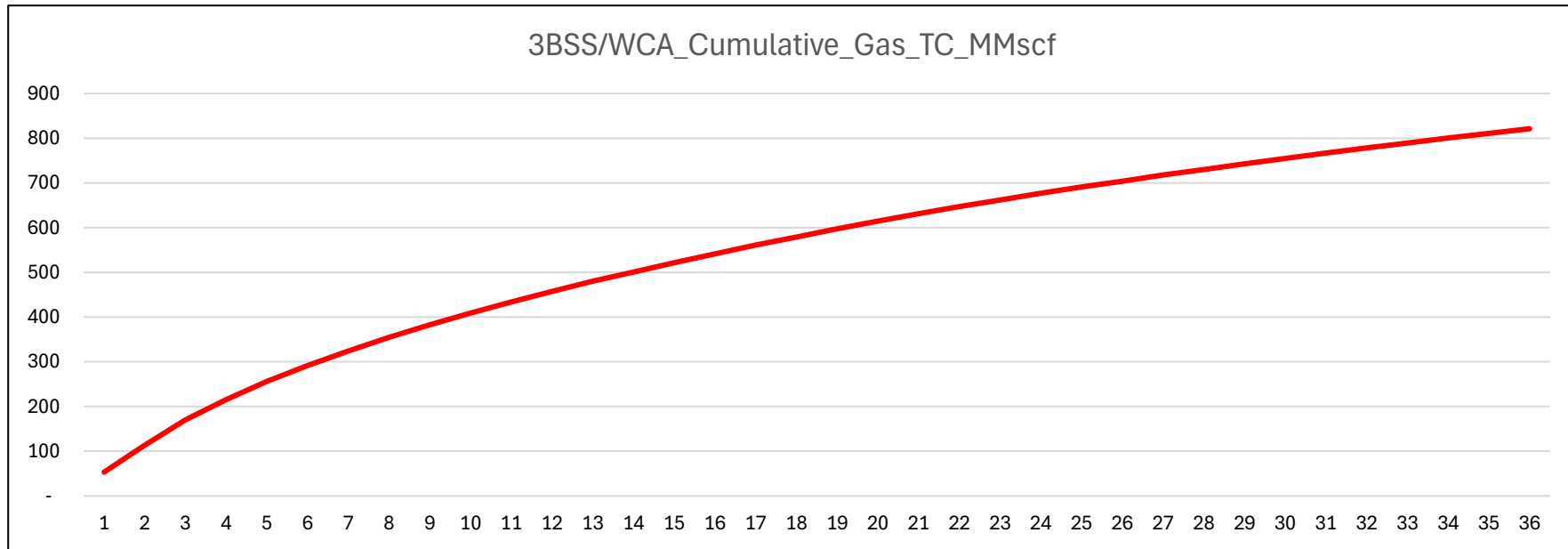
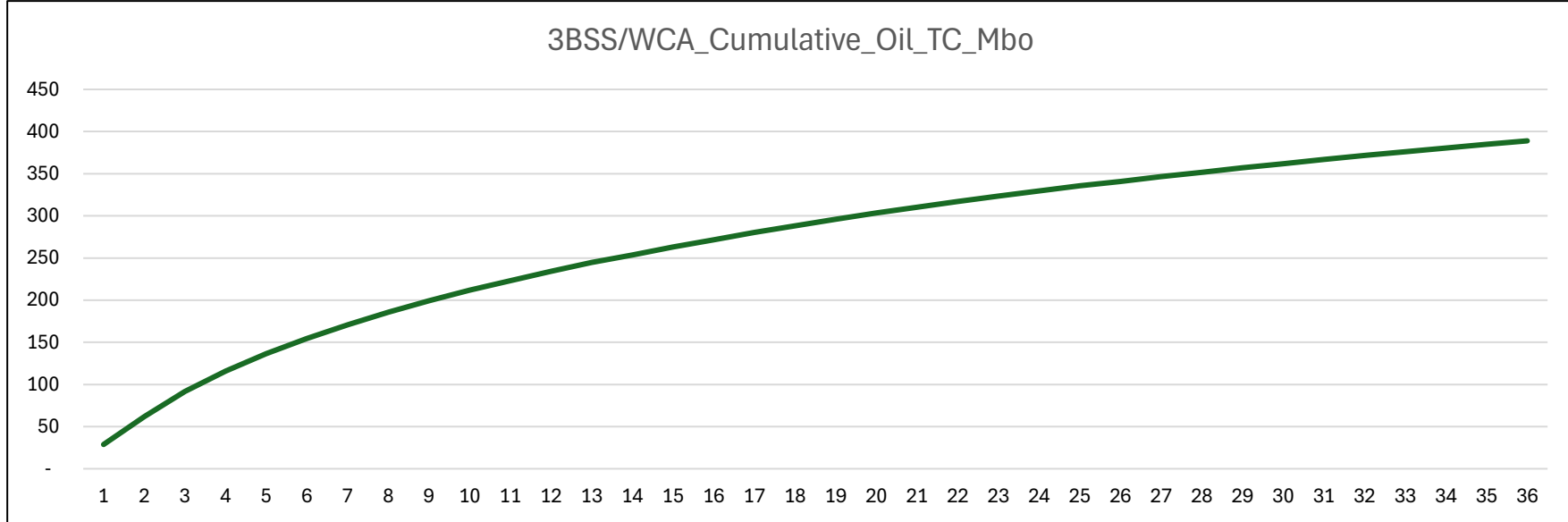
- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize 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 708H
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 490136

ACKNOWLEDGMENTS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 490136
	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.
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CONDITIONS

Action 490136

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	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