

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. 30-025-55146
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 / 1315 FWL / TWSP: 26S / RANGE: 33E / SECTION: 30 / LAT: 32.021008 / LONG: -103.615575 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 100 FNL / 1155 FWL / TWSP: 26S / RANGE: 33E / SECTION: 30 / LAT: 32.021475 / LONG: -103.61609 (TVD: 12013 feet, MD: 12064 feet)

BHL: LOT 2 / 50 FSL / 1155 FWL / TWSP: 26S / RANGE: 33E / SECTION: 31 / LAT: 32.000376 / LONG: -103.616088 (TVD: 12150 feet, MD: 19633 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 30-025-55146	Pool Code 98097	Pool Name Sanders Tank; Upper Wolfcamp
Property Code 337730	Property Name LIL JOHN FED COM	Well Number 709H
OGRID No. 217817	Operator Name CONOCOPHILLIPS COMPANY	Ground Level Elevation 3,150.34'
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 1,315' FWL	Latitude 32.021008°	Longitude -103.615575°	County LEA
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Bottom Hole Location

UL LOT 2	Section 31	Township 26S	Range 33E	Lot	Ft. from N/S 50' FSL	Ft. from E/W 1,155' FWL	Latitude 32.000376°	Longitude -103.616088°	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 1,315' FWL	Latitude 32.021008°	Longitude -103.615575°	County LEA
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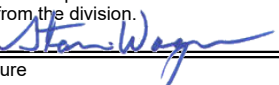
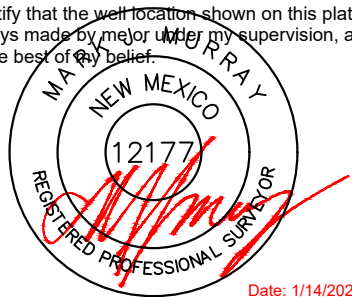
First Take Point (FTP)

UL LOT 1	Section 30	Township 26S	Range 33E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 1,155' FWL	Latitude 32.021475°	Longitude -103.616090°	County LEA
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Last Take Point (LTP)

UL LOT 2	Section 31	Township 26S	Range 33E	Lot	Ft. from N/S 100' FSL	Ft. from E/W 1,155' FWL	Latitude 32.000514°	Longitude -103.616088°	County LEA
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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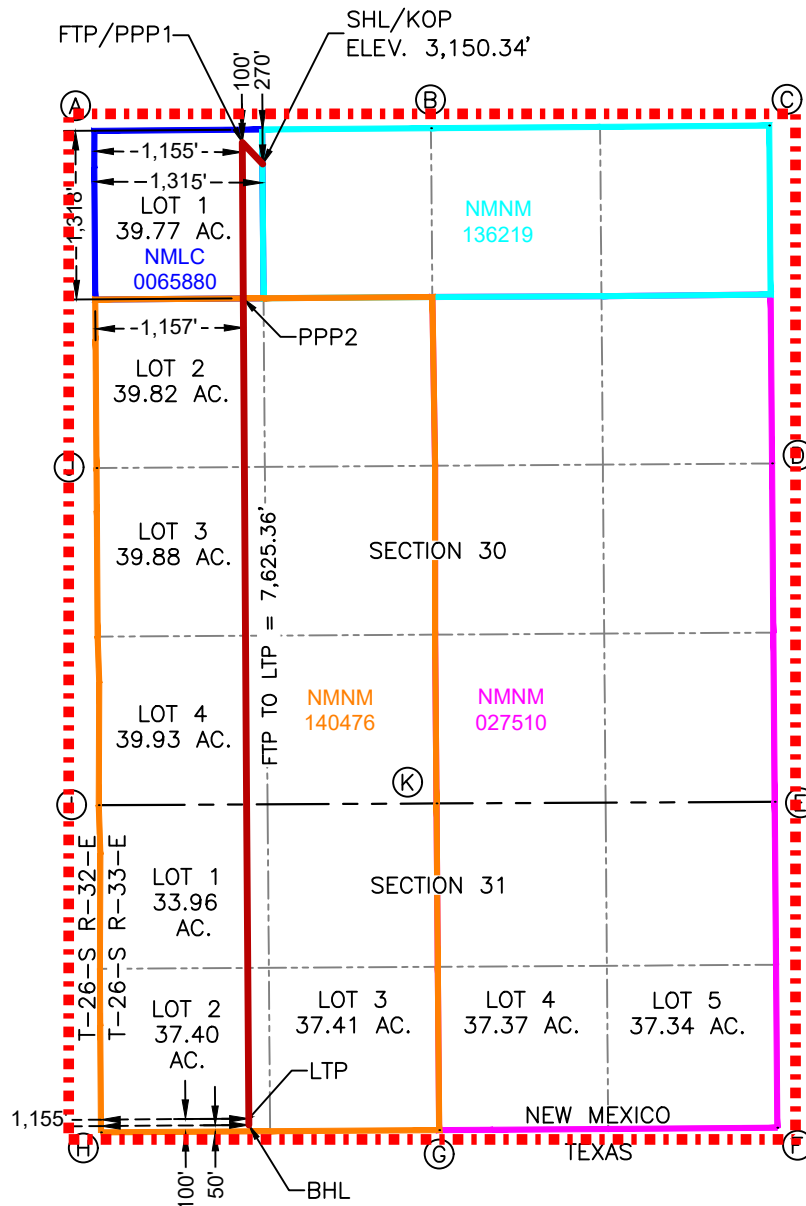
OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.  Signature Stan Wagner Printed Name _____ Email Address		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  Date: 1/14/2025 Signature and Seal of Professional Surveyor _____ Certificate Number 12177 Date of Survey 1/14/2025	
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Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

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

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



**SURFACE HOLE LOCATION
& KICK-OFF POINT**
270' FNL & 1,315' FWL
ELEV.=3,150.34'

NAD 83 X = 763,785.73'
NAD 83 Y = 372,120.50'
NAD 83 LAT = 32.021008°
NAD 83 LONG = -103.615575°

**FIRST TAKE POINT &
PENETRATION POINT 1**
100' FNL & 1,155' FWL
NAD 83 X = 763,625.01'
NAD 83 Y = 372,289.17'
NAD 83 LAT = 32.021475°
NAD 83 LONG = -103.616090°

PENETRATION POINT 2
1,318' FNL & 1,157' FWL
NAD 83 X = 763,633.12'
NAD 83 Y = 371,071.46'
NAD 83 LAT = 32.018128°
NAD 83 LONG = -103.616090°

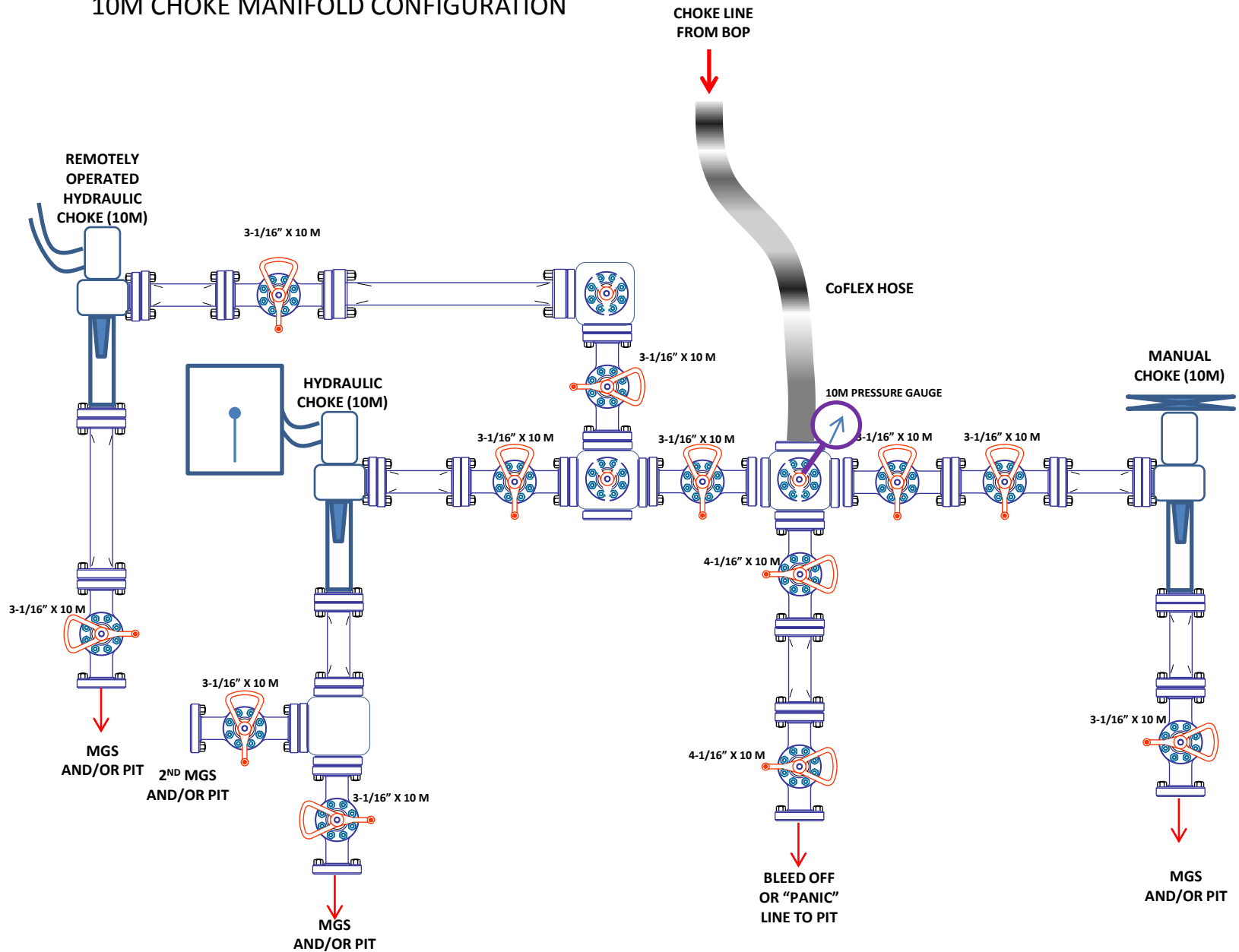
LAST TAKE POINT
100' FSL & 1,155' FWL
NAD 83 X = 763,676.29'
NAD 83 Y = 364,663.98'
NAD 83 LAT = 32.000514°
NAD 83 LONG = -103.616088°

BOTTOM HOLE LOCATION
50' FSL & 1,155' FWL
NAD 83 X = 763,676.64'
NAD 83 Y = 364,613.98'
NAD 83 LAT = 32.000376°
NAD 83 LONG = -103.616088°

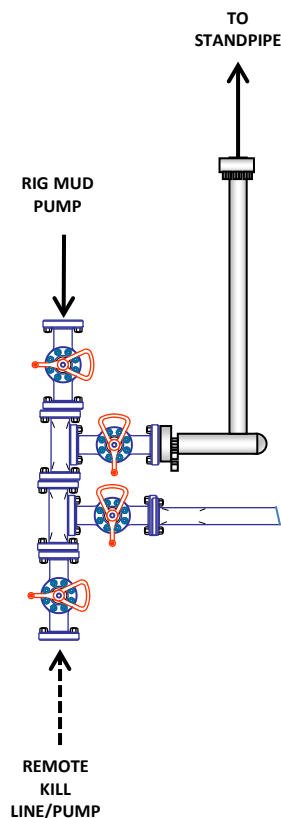
CORNER COORDINATES NEW MEXICO EAST - NAD 83

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'		

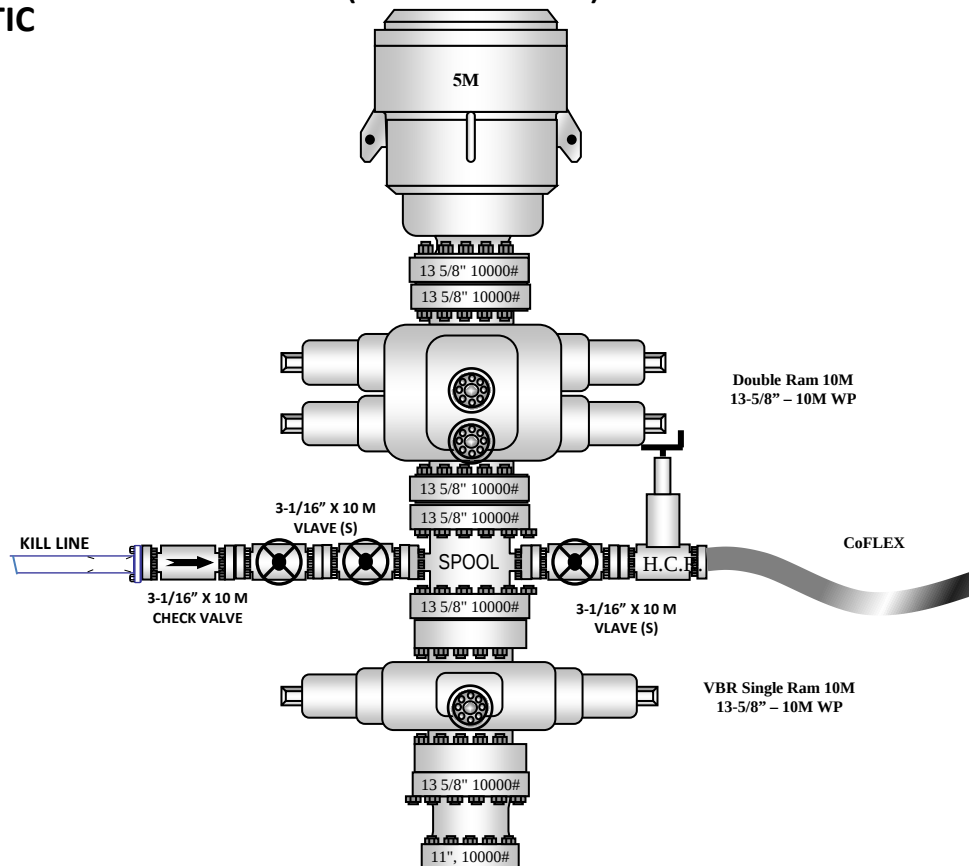
10M CHOKE MANIFOLD CONFIGURATION



10M REMOTE KILL SCHEMATIC



10M BOP Stack (5M Annular)



ConocoPhillips - Lil John Federal Com 709H

1. Geologic Formations

TVD of target	12,150' EOL	Pilot hole depth:	N/A
MD at TD:	19,633'	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	4251	Salt	
Lamar	4484	Salt Water	
Bell Canyon	4556	Salt Water	
Cherry Canyon	5731	Oil/Gas	
Brushy Canyon	7441	Oil/Gas	
Bone Spring	8787	Oil/Gas	
1st Bone Spring Sand	9831	Oil/Gas	
2nd Bone Spring Sand	10445	Oil/Gas	
3rd Bone Spring Sand	11534	Oil/Gas	
Wolfcamp Sand	11974	Target Oil/Gas	
Wolfcamp A	12167	Not Penetrated	
Wolfcamp B	12507	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF	SF Joint
	From	To							Body	
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	11585	7.625"	29.7	P110-ICY	W513	3.25	1.51	3.10	1.86
6.75"	0	11385	5.5"	23	P110-CY	BTC	3.36	1.99	2.78	2.78
6.75"	11385	19,633	5.5"	23	P110-CY	W441	3.24	1.99	2.61	2.37
COP Minimum Safety Factor							1.05	1.15	1.4	1.4

2b. Contingency Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF	SF Joint
	From	To							Body	
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	1.89	1.18	5.22	5.39
8.75"	4190	11585	7.625"	29.7	P110-ICY	W513	2.61	1.51	3.10	1.86
6.75"	0	11385	5.5"	23	P110-CY	BTC	3.36	1.99	2.78	2.78
6.75"	11385	19,633	5.5"	23	P110-CY	W441	3.24	1.99	2.61	2.37
COP Minimum Safety Factor							1.05	1.15	1.4	1.4

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

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

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

The 5 1/2" W441 casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

3/24/2025

1

ConocoPhillips - Lil John Federal Com 709H

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

ConocoPhillips - Lil John Federal Com 709H**3. Cementing Program**

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	210	12.8	1.75	9	12	Lead: Class C
	190	14.8	1.34	6.34	8	Tail: Class C
Inter. Stage 1	890	10.3	3.3	22	24	Halliburton tuned light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	720	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	620	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	11,085'	20% OH in Lateral (KOP to EOL)

3b. Contingency Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	270	13.5	1.75	9	12	Lead: Class C
	240	14.8	1.34	6.34	8	Tail: Class C
Int. #1	950	12.8	1.75	9.21	12	Lead: Class C
	310	14.8	1.35	6.6	8	Tail: Class C
Inter. #2 (Liner)	300	10.5	3.3	22	24	Lead: Class C
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	810	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	620	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	11,085'	20% OH in Lateral (KOP to EOL)

ConocoPhillips - Lil John Federal Com 709H**4. Pressure Control Equipment**

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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 709H**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 709H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	8530 psi at 12150' TVD
Abnormal Temperature	NO 175 Deg. F.

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

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

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR Part 3170 Subpart 3176. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

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

8. Other Facets of Operation

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

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

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

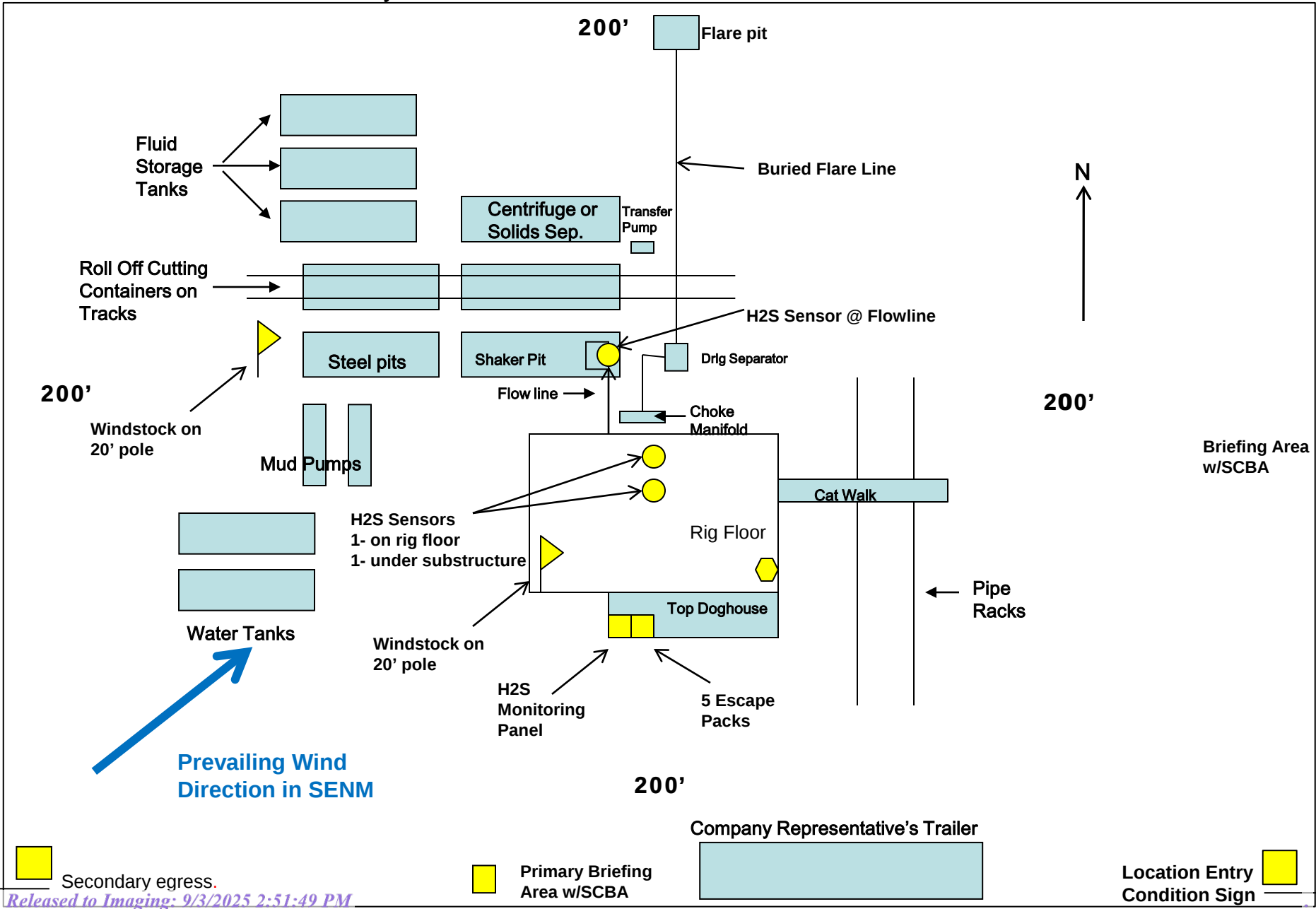
	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
Dallas Daley	432-818-2329	432-631-6977

EMERGENCY RESPONSE NUMBERS

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

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

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



DELAWARE BASIN EAST

ZIA HILLS UNIT AREA

LIL JOHN FEDERAL PROJECT

_LIL JOHN FED COM 709H

OWB

PWP0

Anticollision Report

04 February, 2025

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Max. Cent. Dist. of 1,000.0usft or Max. Ell. Sep. of 500.0usft	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program	Date	2/4/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	19,633.1	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						
Chevron - SD 24 13 Federal P416 20H						
SD 24 13 Federal P416 20H - Original Hole - Plan 1						Out of range
Chevron - SD WE 24 Federal P24 - 7H						
SD WE 24 Federal P24 - 7H - SD WE 24 Federal P24 7H						Out of range
EOG - State Pathfinder - 13H						
State Pathfinder 13H - State Pathfinder 13H - State Path						Out of range
EOG - State Pathfinder - 5H						
State Pathfinder 5H - State Pathfinder 5H - State Pathfin						Out of range
EOG - State Pathfinder - 7H						
State Pathfinder 7H - State Pathfinder 7H - State Pathfin						Out of range
EOG - State Pathfinder 7 - 23H						
State Pathfinder 7 23H - State Pathfinder 7 23H - State P						Out of range
EOG - State Pathfinder 7 - 24H						
State Pathfinder 7 24H - State Pathfinder 7 24H - State P						Out of range
LIL JOHN FEDERAL OFFSETS						
BROWN FEDERAL 1_PA - OWB - AWP						Out of range
SALADO DRAW 19 26 33 FEDERAL 3H - OWB - AWP	9,165.1	14,055.0	631.6	539.4	6.852 CC, ES, SF	Out of range
SALADO DRAW 19 26 33 FEDERAL 4H - OWB - AWP						Out of range
SALADO DRAW 19 26 33 FEDERAL COM 2H - OWB - A	9,100.0	13,647.0	380.3	296.5	4.541 ES, SF	
SALADO DRAW 19 26 33 FEDERAL COM 2H - OWB - A	9,104.4	13,647.0	380.3	296.6	4.543 CC	
SD EA 19 FEDERAL P6 5H - OWB - AWP						Out of range

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
LIL JOHN FEDERAL PROJECT						
_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						Out of range
_LIL JOHN FED COM 706H - OWB - PWP0						Out of range
_LIL JOHN FED COM 707H - OWB - PWP0	1,966.4	1,967.1	60.0	48.6	5.282 CC	
_LIL JOHN FED COM 707H - OWB - PWP0	2,000.0	2,000.0	60.0	48.5	5.235 ES	
_LIL JOHN FED COM 707H - OWB - PWP0	2,100.0	2,098.7	61.6	49.8	5.211 SF	
_LIL JOHN FED COM 708H - OWB - PWP0	1,966.3	1,967.3	90.0	78.6	7.923 CC	
_LIL JOHN FED COM 708H - OWB - PWP0	2,000.0	2,000.0	90.0	78.5	7.854 ES	
_LIL JOHN FED COM 708H - OWB - PWP0	2,100.0	2,098.0	91.7	79.9	7.751 SF	
_LIL JOHN FED COM 710H - OWB - PWP0	1,965.7	1,968.4	30.0	18.5	2.621 Normal Operations, CC	
_LIL JOHN FED COM 710H - OWB - PWP0	2,000.0	2,002.7	30.0	18.4	2.597 Normal Operations, ES, SF	
_LIL JOHN FED COM 711H - OWB - PWP0	1,965.7	1,968.4	59.7	48.3	5.226 CC	
_LIL JOHN FED COM 711H - OWB - PWP0	2,000.0	2,002.6	59.8	48.2	5.178 ES	
_LIL JOHN FED COM 711H - OWB - PWP0	2,100.0	2,100.0	61.5	49.6	5.168 SF	
_LIL JOHN FED COM 712H - OWB - PWP0	2,351.4	2,352.7	27.1	14.4	2.134 Caution - Monitor Closely, CC, ES	
_LIL JOHN FED COM 712H - OWB - PWP0	2,400.0	2,400.9	27.3	14.5	2.130 Caution - Monitor Closely, SF	
RED HILLS WEST						
SD WE 24 FEDERAL P24 7H - OWB - AWP						Out of range
STATE LINE OFFSETS						
EXCELSIOR 7 10H - OWB - AWP						Out of range
EXCELSIOR 7 11H - OWB - AWP						Out of range
EXCELSIOR 7 12H - OWB - AWP						Out of range
EXCELSIOR 7 7H - OWB - AWP	19,633.1	17,061.0	639.7	478.7	3.974 CC, ES, SF	
EXCELSIOR 7 8H - OWB - AWP	19,633.1	17,419.0	992.3	836.2	6.358 CC, ES, SF	
EXCELSIOR 7 9H - OWB - AWP						Out of range
PATHFINDER STATE 12H - OWB - AWP						Out of range
PATHFINDER STATE 13H - OWB - AWP						Out of range
PATHFINDER STATE 2H - OWB - AWP						Out of range
PATHFINDER STATE 4H - OWB - AWP						Out of range
PATHFINDER STATE 5H - OWB - AWP						Out of range
PATHFINDER STATE 7 16H - OWB - AWP	19,633.1	12,292.5	519.7	419.9	5.206 CC, ES, SF	
PATHFINDER STATE 7 19H - OWB - AWP	19,633.1	11,958.0	354.7	267.7	4.079 CC, ES, SF	
PATHFINDER STATE 7 20H - OWB - AWP	19,633.1	11,863.0	736.7	632.5	7.069 CC, ES, SF	
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

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
ZIA HILLS UNIT 2532 PROJECT						
_ZIA HILLS UNIT 2532 WC 709H - OWB - PWP0						Out of range
_ZIA HILLS UNIT 2532 WC 710H - OWB - PWP0						Out of range
_ZIA HILLS UNIT 2532 WC 711H - OWB - PWP0						Out of range
SD 24 13 FED P416 19H - OWB - Design #1						
WAR HAMMER 25 FEDERAL COM W1 3H - OWB - AW						Out of range
WAR HAMMER 25 FEDERAL COM W2 2H - OWB - AW						Out of range
WAR HAMMER 25 FEDERAL COM W2 2H - ST01 - ST0						Out of range
WAR HAMMER 25 FEDERAL COM W3 1H - OWB - AW						Out of range
ZIA HILLS 25E FEDERAL COM 401H - OWB - AWP						Out of range
ZIA HILLS 25E FEDERAL COM 402H - OWB - AWP						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 Well Error:		0.0 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:			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)					
8,400.0	8,386.9	14,055.0	9,152.1	15.7	81.9	53.60	543.1	347.7	992.1	913.6	78.50	12.639				
8,500.0	8,486.9	14,055.0	9,152.1	15.7	81.9	53.60	543.1	347.7	917.2	836.9	80.36	11.415				
8,600.0	8,586.9	14,055.0	9,152.1	15.8	81.9	53.60	543.1	347.7	847.5	765.1	82.45	10.279				
8,700.0	8,686.9	14,055.0	9,152.1	15.9	81.9	53.60	543.1	347.7	784.4	699.7	84.73	9.257				
8,800.0	8,786.9	14,055.0	9,152.1	16.0	81.9	53.60	543.1	347.7	729.5	642.4	87.10	8.376				
8,900.0	8,886.9	14,055.0	9,152.1	16.1	81.9	53.60	543.1	347.7	685.0	595.7	89.32	7.669				
9,000.0	8,986.9	14,055.0	9,152.1	16.1	81.9	53.60	543.1	347.7	652.8	561.7	91.10	7.166				
9,100.0	9,086.9	14,055.0	9,152.1	16.2	81.9	53.60	543.1	347.7	634.9	542.9	92.08	6.895				
9,165.1	9,152.1	14,055.0	9,152.1	16.3	81.9	53.60	543.1	347.7	631.6	539.4	92.17	6.852 CC, ES, SF				
9,200.0	9,186.9	14,055.0	9,152.1	16.3	81.9	53.60	543.1	347.7	632.5	540.5	92.03	6.873				
9,300.0	9,286.9	14,055.0	9,152.1	16.4	81.9	53.60	543.1	347.7	645.8	554.9	90.94	7.101				
9,400.0	9,386.9	14,055.0	9,152.1	16.5	81.9	53.60	543.1	347.7	673.8	584.8	89.06	7.566				
9,500.0	9,486.9	14,055.0	9,152.1	16.5	81.9	53.60	543.1	347.7	714.9	628.1	86.76	8.240				
9,600.0	9,586.9	14,055.0	9,152.1	16.6	81.9	53.60	543.1	347.7	766.8	682.4	84.36	9.089				
9,700.0	9,686.9	14,055.0	9,152.1	16.7	81.9	53.60	543.1	347.7	827.6	745.5	82.12	10.079				
9,800.0	9,786.9	14,055.0	9,152.1	16.8	81.9	53.60	543.1	347.7	895.5	815.4	80.13	11.175				
9,900.0	9,886.9	14,055.0	9,152.1	16.9	81.9	53.60	543.1	347.7	969.0	890.5	78.45	12.352				

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL OFFSETS - SALADO DRAW 19 26 33 FEDERAL COM 2H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 152-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,200.0	8,186.9	13,647.0	9,090.6	15.5	83.2	-40.29	458.3	-406.6	980.5	913.0	67.44	14.538	
8,300.0	8,286.9	13,647.0	9,090.6	15.6	83.2	-40.29	458.3	-406.6	889.1	820.7	68.47	12.985	
8,400.0	8,386.9	13,647.0	9,090.6	15.7	83.2	-40.29	458.3	-406.6	799.9	730.1	69.75	11.468	
8,500.0	8,486.9	13,647.0	9,090.6	15.7	83.2	-40.29	458.3	-406.6	713.5	642.2	71.33	10.002	
8,600.0	8,586.9	13,647.0	9,090.6	15.8	83.2	-40.29	458.3	-406.6	631.1	557.8	73.31	8.609	
8,700.0	8,686.9	13,647.0	9,090.6	15.9	83.2	-40.29	458.3	-406.6	554.6	478.8	75.75	7.321	
8,800.0	8,786.9	13,647.0	9,090.6	16.0	83.2	-40.29	458.3	-406.6	486.7	408.0	78.61	6.191	
8,900.0	8,886.9	13,647.0	9,090.6	16.1	83.2	-40.29	458.3	-406.6	431.4	349.8	81.54	5.291	
9,000.0	8,986.9	13,647.0	9,090.6	16.1	83.2	-40.29	458.3	-406.6	394.1	310.5	83.65	4.712	
9,100.0	9,086.9	13,647.0	9,090.6	16.2	83.2	-40.29	458.3	-406.6	380.3	296.5	83.75	4.541 ES, SF	
9,104.4	9,091.4	13,647.0	9,090.6	16.2	83.2	-40.29	458.3	-406.6	380.3	296.6	83.69	4.543 CC	
9,200.0	9,186.9	13,647.0	9,090.6	16.3	83.2	-40.29	458.3	-406.6	392.3	310.8	81.41	4.818	
9,300.0	9,286.9	13,647.0	9,090.6	16.4	83.2	-40.29	458.3	-406.6	427.9	350.3	77.67	5.510	
9,400.0	9,386.9	13,647.0	9,090.6	16.5	83.2	-40.29	458.3	-406.6	482.1	408.1	73.93	6.521	
9,500.0	9,486.9	13,647.0	9,090.6	16.5	83.2	-40.29	458.3	-406.6	549.2	478.3	70.92	7.744	
9,600.0	9,586.9	13,647.0	9,090.6	16.6	83.2	-40.29	458.3	-406.6	625.2	556.5	68.75	9.094	
9,700.0	9,686.9	13,647.0	9,090.6	16.7	83.2	-40.29	458.3	-406.6	707.2	640.0	67.25	10.515	
9,800.0	9,786.9	13,647.0	9,090.6	16.8	83.2	-40.29	458.3	-406.6	793.4	727.1	66.26	11.974	
9,900.0	9,886.9	13,647.0	9,090.6	16.9	83.2	-40.29	458.3	-406.6	882.4	816.8	65.60	13.451	
10,000.0	9,986.9	13,647.0	9,090.6	16.9	83.2	-40.29	458.3	-406.6	973.6	908.4	65.19	14.935	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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 Toolface	Offset Wellbore Centre		Distance		No-Go Distance	Separation Factor	Warning				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)		Offset (usft)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)				Between Ellipses (usft)			
0.0	0.0	0.7	0.0	0.0	0.0	0.0	89.54	0.4	60.0	60.0						
100.0	100.0	100.7	100.0	0.8	0.8	89.54	0.4	60.0	60.0	57.9	2.12	28.258				
200.0	200.0	200.7	200.0	1.5	1.5	89.54	0.4	60.0	60.0	56.6	3.39	17.723				
300.0	300.0	300.7	300.0	1.9	1.9	89.54	0.4	60.0	60.0	55.7	4.25	14.109				
400.0	400.0	400.7	400.0	2.3	2.3	89.54	0.4	60.0	60.0	55.0	4.96	12.095				
500.0	500.0	500.7	500.0	2.6	2.6	89.54	0.4	60.0	60.0	54.4	5.58	10.760				
600.0	600.0	600.7	600.0	2.9	2.9	89.54	0.4	60.0	60.0	53.9	6.13	9.788				
700.0	700.0	700.7	700.0	3.1	3.1	89.54	0.4	60.0	60.0	53.4	6.64	9.039				
800.0	800.0	800.7	800.0	3.4	3.4	89.54	0.4	60.0	60.0	52.9	7.11	8.438				
900.0	900.0	900.7	900.0	3.6	3.6	89.54	0.4	60.0	60.0	52.4	7.56	7.941				
1,000.0	1,000.0	1,000.7	1,000.0	3.8	3.8	89.54	0.4	60.0	60.0	52.0	7.98	7.520				
1,100.0	1,100.0	1,100.7	1,100.0	4.0	4.0	89.54	0.4	60.0	60.0	51.6	8.38	7.159				
1,200.0	1,200.0	1,200.7	1,200.0	4.2	4.2	89.54	0.4	60.0	60.0	51.2	8.77	6.843				
1,300.0	1,300.0	1,300.7	1,300.0	4.4	4.4	89.54	0.4	60.0	60.0	50.9	9.14	6.564				
1,400.0	1,400.0	1,400.7	1,400.0	4.6	4.6	89.54	0.4	60.0	60.0	50.5	9.50	6.316				
1,500.0	1,500.0	1,500.7	1,500.0	4.7	4.7	89.54	0.4	60.0	60.0	50.1	9.85	6.092				
1,600.0	1,600.0	1,600.7	1,600.0	4.9	4.9	89.54	0.4	60.0	60.0	49.8	10.19	5.889				
1,700.0	1,700.0	1,700.7	1,700.0	5.1	5.1	89.54	0.4	60.0	60.0	49.5	10.52	5.705				
1,800.0	1,800.0	1,800.7	1,800.0	5.3	5.3	89.54	0.4	60.0	60.0	49.2	10.84	5.535				
1,900.0	1,900.0	1,900.7	1,900.0	5.4	5.4	89.54	0.4	60.0	60.0	48.8	11.15	5.379				
1,966.4	1,966.4	1,967.1	1,966.4	5.5	5.5	89.54	0.4	60.0	60.0	48.6	11.36	5.282 CC				
2,000.0	2,000.0	2,000.0	1,999.3	5.6	5.6	89.54	0.4	60.0	60.0	48.5	11.46	5.235 ES				
2,100.0	2,100.0	2,098.7	2,098.0	5.7	5.8	88.98	1.0	61.6	61.6	49.8	11.82	5.211 SF				
2,200.0	2,200.0	2,196.5	2,195.6	6.0	6.0	132.14	2.8	66.3	67.6	55.4	12.21	5.539				
2,300.0	2,299.8	2,293.5	2,292.3	6.2	6.3	132.68	5.8	74.0	79.2	66.6	12.60	6.284				
2,400.0	2,399.5	2,389.2	2,387.4	6.4	6.5	133.75	10.0	84.6	96.2	83.2	13.00	7.402				
2,455.4	2,454.5	2,441.7	2,439.2	6.5	6.7	134.40	12.7	91.7	108.0	94.8	13.18	8.195				
2,500.0	2,498.7	2,483.5	2,480.5	6.6	6.8	134.96	15.1	98.0	118.5	105.1	13.32	8.893				
2,600.0	2,598.0	2,576.2	2,571.7	6.8	7.0	135.55	21.3	113.9	144.0	130.3	13.68	10.527				
2,700.0	2,697.2	2,671.9	2,665.3	7.0	7.3	135.70	28.3	132.0	171.3	157.2	14.11	12.141				
2,800.0	2,796.4	2,768.1	2,759.5	7.3	7.6	135.81	35.4	150.3	198.7	184.1	14.56	13.643				
2,900.0	2,895.7	2,864.3	2,853.6	7.6	7.9	135.89	42.5	168.6	226.0	211.0	15.02	15.045				
3,000.0	2,994.9	2,960.4	2,947.8	7.8	8.2	135.96	49.6	186.8	253.4	237.9	15.51	16.340				
3,100.0	3,094.1	3,056.6	3,042.0	8.1	8.5	136.01	56.7	205.1	280.7	264.7	16.01	17.535				
3,200.0	3,193.4	3,152.8	3,136.2	8.4	8.8	136.05	63.8	223.4	308.1	291.6	16.53	18.636				
3,300.0	3,292.6	3,249.0	3,230.3	8.7	9.1	136.09	70.9	241.6	335.4	318.4	17.07	19.652				
3,400.0	3,391.8	3,345.2	3,324.5	9.1	9.5	136.12	78.0	259.9	362.8	345.2	17.62	20.588				
3,500.0	3,491.1	3,441.4	3,418.7	9.4	9.8	136.14	85.1	278.2	390.1	372.0	18.19	21.451				
3,600.0	3,590.3	3,537.6	3,512.8	9.7	10.2	136.17	92.1	296.4	417.5	398.7	18.77	22.248				
3,700.0	3,689.5	3,633.8	3,607.0	10.1	10.6	136.19	99.2	314.7	444.8	425.5	19.35	22.983				
3,800.0	3,788.7	3,729.9	3,701.2	10.4	10.9	136.21	106.3	333.0	472.2	452.2	19.96	23.661				
3,802.2	3,790.9	3,732.1	3,703.2	10.4	10.9	136.21	106.5	333.4	472.8	452.8	19.97	23.675				
3,900.0	3,888.1	3,826.3	3,795.5	10.8	11.3	136.34	113.4	351.3	499.0	478.4	20.56	24.268				
4,000.0	3,987.6	3,923.0	3,890.1	11.1	11.7	136.34	120.5	369.7	524.5	503.3	21.17	24.777				
4,100.0	4,087.3	4,019.9	3,985.1	11.5	12.1	136.21	127.7	388.1	548.9	527.1	21.78	25.200				
4,200.0	4,187.1	4,117.1	4,080.2	11.8	12.5	135.98	134.9	406.5	572.0	549.6	22.39	25.547				
4,300.0	4,287.0	4,214.6	4,175.6	12.1	12.9	135.65	142.0	425.0	593.9	570.9	23.00	25.828				
4,400.0	4,386.9	4,312.2	4,271.2	12.4	13.3	135.23	149.2	443.6	614.7	591.1	23.59	26.053				
4,500.0	4,486.9	4,410.0	4,367.0	12.6	13.7	134.73	156.4	462.2	634.3	610.2	24.17	26.243				
4,513.1	4,500.0	4,422.8	4,379.5	12.6	13.8	91.00	157.4	464.6	636.8	612.6	24.24	26.276				
4,600.0	4,586.9	4,507.9	4,462.8	12.7	14.1	90.42	163.7	480.8	653.3	628.6	24.69	26.455				

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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)				
4,700.0	4,686.9	4,605.8	4,558.7	12.8	14.6	89.78	170.9	499.4	672.3	647.1	25.22	26.658		
4,800.0	4,786.9	4,703.7	4,654.5	12.8	15.0	89.17	178.1	518.0	691.5	665.7	25.76	26.846		
4,900.0	4,886.9	4,801.6	4,750.4	12.9	15.4	88.60	185.3	536.5	710.6	684.3	26.30	27.020		
5,000.0	4,986.9	4,901.5	4,848.2	13.0	15.8	88.05	192.7	555.5	729.9	703.0	26.85	27.181		
5,100.0	5,086.9	5,013.3	4,957.9	13.1	16.3	87.50	200.4	575.4	748.0	720.5	27.51	27.185		
5,200.0	5,186.9	5,126.0	5,068.9	13.1	16.8	87.03	207.4	593.5	764.3	736.2	28.15	27.152		
5,300.0	5,286.9	5,239.3	5,180.9	13.2	17.3	86.63	213.7	609.6	778.9	750.1	28.77	27.071		
5,400.0	5,386.9	5,353.3	5,293.9	13.3	17.7	86.29	219.1	623.8	791.5	762.2	29.37	26.946		
5,500.0	5,486.9	5,467.9	5,407.7	13.4	18.2	86.01	223.8	635.9	802.4	772.4	29.96	26.784		
5,600.0	5,586.9	5,583.0	5,522.3	13.5	18.6	85.79	227.7	645.9	811.3	780.8	30.51	26.589		
5,700.0	5,686.9	5,698.4	5,637.4	13.5	19.0	85.61	230.8	653.8	818.3	787.2	31.04	26.366		
5,800.0	5,786.9	5,814.2	5,753.0	13.6	19.4	85.49	233.0	659.5	823.4	791.8	31.52	26.125		
5,900.0	5,886.9	5,930.1	5,868.9	13.7	19.8	85.41	234.4	663.0	826.5	794.6	31.94	25.876		
6,000.0	5,986.9	6,046.2	5,984.9	13.8	20.0	85.39	234.9	664.4	827.7	795.5	32.24	25.673		
6,100.0	6,086.9	6,148.1	6,086.9	13.9	20.1	85.38	234.9	664.4	827.7	795.4	32.36	25.579		
6,200.0	6,186.9	6,248.1	6,186.9	13.9	20.1	85.38	234.9	664.4	827.7	795.3	32.48	25.482		
6,300.0	6,286.9	6,348.1	6,286.9	14.0	20.2	85.38	234.9	664.4	827.7	795.1	32.61	25.384		
6,400.0	6,386.9	6,448.1	6,386.9	14.1	20.2	85.38	234.9	664.4	827.7	795.0	32.73	25.287		
6,500.0	6,486.9	6,548.1	6,486.9	14.2	20.3	85.38	234.9	664.4	827.7	794.9	32.86	25.191		
6,600.0	6,586.9	6,648.1	6,586.9	14.2	20.3	85.38	234.9	664.4	827.7	794.8	32.98	25.095		
6,700.0	6,686.9	6,748.1	6,686.9	14.3	20.4	85.38	234.9	664.4	827.7	794.6	33.11	25.000		
6,800.0	6,786.9	6,848.1	6,786.9	14.4	20.4	85.38	234.9	664.4	827.7	794.5	33.24	24.905		
6,900.0	6,886.9	6,948.1	6,886.9	14.5	20.5	85.38	234.9	664.4	827.7	794.4	33.36	24.811		
7,000.0	6,986.9	7,048.1	6,986.9	14.6	20.5	85.38	234.9	664.4	827.7	794.3	33.49	24.717		
7,100.0	7,086.9	7,148.1	7,086.9	14.6	20.6	85.38	234.9	664.4	827.7	794.1	33.62	24.624		
7,200.0	7,186.9	7,248.1	7,186.9	14.7	20.6	85.38	234.9	664.4	827.7	794.0	33.74	24.531		
7,300.0	7,286.9	7,348.1	7,286.9	14.8	20.7	85.38	234.9	664.4	827.7	793.9	33.87	24.438		
7,400.0	7,386.9	7,448.1	7,386.9	14.9	20.7	85.38	234.9	664.4	827.7	793.7	34.00	24.346		
7,500.0	7,486.9	7,548.1	7,486.9	15.0	20.8	85.38	234.9	664.4	827.7	793.6	34.13	24.255		
7,600.0	7,586.9	7,648.1	7,586.9	15.0	20.8	85.38	234.9	664.4	827.7	793.5	34.26	24.164		
7,700.0	7,686.9	7,748.1	7,686.9	15.1	20.9	85.38	234.9	664.4	827.7	793.4	34.38	24.074		
7,800.0	7,786.9	7,848.1	7,786.9	15.2	20.9	85.38	234.9	664.4	827.7	793.2	34.51	23.984		
7,900.0	7,886.9	7,948.1	7,886.9	15.3	21.0	85.38	234.9	664.4	827.7	793.1	34.64	23.894		
8,000.0	7,986.9	8,048.1	7,986.9	15.4	21.0	85.38	234.9	664.4	827.7	793.0	34.77	23.805		
8,100.0	8,086.9	8,148.1	8,086.9	15.4	21.1	85.38	234.9	664.4	827.7	792.8	34.90	23.717		
8,200.0	8,186.9	8,248.1	8,186.9	15.5	21.1	85.38	234.9	664.4	827.7	792.7	35.03	23.629		
8,300.0	8,286.9	8,348.1	8,286.9	15.6	21.2	85.38	234.9	664.4	827.7	792.6	35.16	23.541		
8,400.0	8,386.9	8,448.1	8,386.9	15.7	21.2	85.38	234.9	664.4	827.7	792.4	35.29	23.454		
8,500.0	8,486.9	8,548.1	8,486.9	15.7	21.3	85.38	234.9	664.4	827.7	792.3	35.42	23.367		
8,600.0	8,586.9	8,648.1	8,586.9	15.8	21.3	85.38	234.9	664.4	827.7	792.2	35.55	23.281		
8,700.0	8,686.9	8,748.1	8,686.9	15.9	21.4	85.38	234.9	664.4	827.7	792.1	35.69	23.195		
8,800.0	8,786.9	8,848.1	8,786.9	16.0	21.4	85.38	234.9	664.4	827.7	791.9	35.82	23.110		
8,900.0	8,886.9	8,948.1	8,886.9	16.1	21.5	85.38	234.9	664.4	827.7	791.8	35.95	23.026		
9,000.0	8,986.9	9,048.1	8,986.9	16.1	21.6	85.38	234.9	664.4	827.7	791.7	36.08	22.941		
9,100.0	9,086.9	9,148.1	9,086.9	16.2	21.6	85.38	234.9	664.4	827.7	791.5	36.21	22.857		
9,200.0	9,186.9	9,248.1	9,186.9	16.3	21.7	85.38	234.9	664.4	827.7	791.4	36.35	22.774		
9,300.0	9,286.9	9,348.1	9,286.9	16.4	21.7	85.38	234.9	664.4	827.7	791.3	36.48	22.691		
9,400.0	9,386.9	9,448.1	9,386.9	16.5	21.8	85.38	234.9	664.4	827.7	791.1	36.61	22.609		
9,500.0	9,486.9	9,548.1	9,486.9	16.5	21.8	85.38	234.9	664.4	827.7	791.0	36.74	22.527		
9,600.0	9,586.9	9,648.1	9,586.9	16.6	21.9	85.38	234.9	664.4	827.7	790.9	36.88	22.445		
9,700.0	9,686.9	9,748.1	9,686.9	16.7	21.9	85.38	234.9	664.4	827.7	790.7	37.01	22.364		

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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 (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			
9,800.0	9,786.9	9,848.1	9,786.9	16.8	22.0	85.38	234.9	664.4	827.7	790.6	37.15	22.284				
9,900.0	9,886.9	9,948.1	9,886.9	16.9	22.0	85.38	234.9	664.4	827.7	790.5	37.28	22.204				
10,000.0	9,986.9	10,048.1	9,986.9	16.9	22.1	85.38	234.9	664.4	827.7	790.3	37.41	22.124				
10,100.0	10,086.9	10,148.1	10,086.9	17.0	22.2	85.38	234.9	664.4	827.7	790.2	37.55	22.045				
10,200.0	10,186.9	10,248.1	10,186.9	17.1	22.2	85.38	234.9	664.4	827.7	790.1	37.68	21.966				
10,300.0	10,286.9	10,348.1	10,286.9	17.2	22.3	85.38	234.9	664.4	827.7	789.9	37.82	21.887				
10,400.0	10,386.9	10,448.1	10,386.9	17.3	22.3	85.38	234.9	664.4	827.7	789.8	37.95	21.810				
10,500.0	10,486.9	10,548.1	10,486.9	17.3	22.4	85.38	234.9	664.4	827.7	789.7	38.09	21.732				
10,600.0	10,586.9	10,648.1	10,586.9	17.4	22.4	85.38	234.9	664.4	827.7	789.5	38.22	21.655				
10,700.0	10,686.9	10,748.1	10,686.9	17.5	22.5	85.38	234.9	664.4	827.7	789.4	38.36	21.578				
10,800.0	10,786.9	10,848.1	10,786.9	17.6	22.6	85.38	234.9	664.4	827.7	789.2	38.50	21.502				
10,900.0	10,886.9	10,948.1	10,886.9	17.7	22.6	85.38	234.9	664.4	827.7	789.1	38.63	21.426				
11,000.0	10,986.9	11,048.1	10,986.9	17.7	22.7	85.38	234.9	664.4	827.7	789.0	38.77	21.351				
11,100.0	11,086.9	11,148.1	11,086.9	17.8	22.7	85.38	234.9	664.4	827.7	788.8	38.90	21.276				
11,200.0	11,186.9	11,248.1	11,186.9	17.9	22.8	85.38	234.9	664.4	827.7	788.7	39.04	21.202				
11,300.0	11,286.9	11,348.1	11,286.9	18.0	22.8	85.38	234.9	664.4	827.7	788.6	39.18	21.128				
11,400.0	11,386.9	11,448.1	11,386.9	18.1	22.9	85.38	234.9	664.4	827.7	788.4	39.32	21.054				
11,500.0	11,486.9	11,548.1	11,486.9	18.1	23.0	85.38	234.9	664.4	827.7	788.3	39.45	20.981				
11,600.0	11,586.9	11,648.1	11,586.9	18.2	23.0	85.38	234.9	664.4	827.7	788.1	39.59	20.908				
11,685.6	11,672.5	11,733.8	11,672.6	18.3	23.1	85.38	234.9	664.4	827.7	788.0	39.69	20.854				
11,700.0	11,686.9	11,750.4	11,689.1	18.3	23.0	-94.23	234.6	664.4	827.7	788.0	39.69	20.856				
11,725.0	11,711.9	11,779.0	11,717.7	18.2	23.0	-94.21	232.7	664.4	827.7	788.1	39.66	20.870				
11,750.0	11,736.7	11,807.7	11,746.1	18.2	23.0	-94.18	229.1	664.5	827.7	788.1	39.63	20.885				
11,775.0	11,761.4	11,836.2	11,774.2	18.2	22.9	-94.14	223.8	664.5	827.6	788.0	39.60	20.901				
11,800.0	11,785.8	11,864.8	11,801.9	18.1	22.9	-94.08	216.8	664.5	827.6	788.0	39.56	20.918				
11,825.0	11,809.9	11,893.2	11,829.0	18.1	22.8	-94.01	208.3	664.6	827.5	788.0	39.53	20.936				
11,850.0	11,833.7	11,921.6	11,855.5	18.0	22.8	-93.93	198.1	664.7	827.4	787.9	39.49	20.953				
11,875.0	11,857.0	11,949.9	11,881.3	18.0	22.8	-93.83	186.5	664.7	827.3	787.9	39.45	20.971				
11,900.0	11,879.8	11,978.1	11,906.2	17.9	22.7	-93.73	173.4	664.8	827.2	787.8	39.41	20.989				
11,925.0	11,902.0	12,006.2	11,930.3	17.9	22.7	-93.61	158.9	664.9	827.1	787.7	39.38	21.006				
11,950.0	11,923.6	12,034.1	11,953.3	17.8	22.6	-93.48	143.1	665.0	827.0	787.7	39.34	21.022				
11,975.0	11,944.5	12,061.9	11,975.3	17.8	22.6	-93.34	126.1	665.1	826.9	787.6	39.31	21.037				
12,000.0	11,964.7	12,089.5	11,996.1	17.7	22.6	-93.19	107.9	665.3	826.8	787.5	39.28	21.050				
12,025.0	11,984.0	12,117.0	12,015.7	17.7	22.5	-93.03	88.6	665.4	826.6	787.4	39.25	21.062				
12,050.0	12,002.6	12,144.4	12,034.1	17.7	22.5	-92.87	68.4	665.5	826.5	787.3	39.22	21.072				
12,075.0	12,020.2	12,171.5	12,051.2	17.6	22.5	-92.69	47.3	665.7	826.4	787.2	39.20	21.079				
12,100.0	12,036.8	12,198.5	12,067.0	17.6	22.5	-92.51	25.4	665.8	826.3	787.1	39.19	21.083				
12,125.0	12,052.5	12,225.4	12,081.4	17.6	22.5	-92.32	2.8	666.0	826.2	787.0	39.18	21.085				
12,150.0	12,067.1	12,252.0	12,094.5	17.5	22.5	-92.13	-20.4	666.1	826.0	786.9	39.18	21.083				
12,175.0	12,080.6	12,278.5	12,106.1	17.5	22.5	-91.93	-44.2	666.3	825.9	786.8	39.19	21.077				
12,200.0	12,093.0	12,304.8	12,116.4	17.5	22.5	-91.73	-68.4	666.4	825.8	786.6	39.20	21.067				
12,225.0	12,104.3	12,330.9	12,125.2	17.5	22.5	-91.52	-93.0	666.6	825.8	786.5	39.22	21.054				
12,250.0	12,114.3	12,356.8	12,132.7	17.5	22.5	-91.31	-117.8	666.8	825.7	786.4	39.25	21.036				
12,275.0	12,123.2	12,382.5	12,138.7	17.5	22.5	-91.09	-142.8	666.9	825.6	786.3	39.29	21.014				
12,300.0	12,130.8	12,408.1	12,143.4	17.5	22.5	-90.87	-167.9	667.1	825.6	786.2	39.33	20.988				
12,325.0	12,137.2	12,433.5	12,146.7	17.5	22.5	-90.66	-193.1	667.2	825.5	786.1	39.39	20.958				
12,350.0	12,142.3	12,458.7	12,148.6	17.5	22.6	-90.44	-218.2	667.4	825.5	786.0	39.45	20.924				
12,375.0	12,146.1	12,483.8	12,149.3	17.5	22.6	-90.22	-243.3	667.6	825.5	785.9	39.52	20.886				
12,400.0	12,148.6	12,508.6	12,149.3	17.5	22.6	-90.04	-268.1	667.7	825.4	785.8	39.60	20.844				
12,425.0	12,149.8	12,533.6	12,149.3	17.6	22.7	-89.96	-293.1	667.9	825.4	785.8	39.69	20.800				
12,435.6	12,150.0	12,544.2	12,149.3	17.6	22.7	-89.95	-303.7	668.0	825.4	785.7	39.72	20.781				

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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)			
12,500.0	12,150.0	12,608.6	12,149.3	17.7	22.8	-89.95	-368.1	668.4	825.4	785.5	39.95	20.662	
12,600.0	12,150.0	12,708.6	12,149.3	17.9	23.0	-89.95	-468.1	669.1	825.4	785.0	40.39	20.436	
12,700.0	12,150.0	12,808.6	12,149.3	18.1	23.3	-89.95	-568.1	669.7	825.4	784.5	40.92	20.173	
12,800.0	12,150.0	12,908.6	12,149.3	18.4	23.6	-89.95	-668.1	670.4	825.4	783.9	41.52	19.878	
12,900.0	12,150.0	13,008.6	12,149.3	18.7	23.9	-89.95	-768.1	671.1	825.4	783.2	42.21	19.555	
13,000.0	12,150.0	13,108.6	12,149.3	19.1	24.2	-89.95	-868.1	671.7	825.4	782.4	42.97	19.210	
13,100.0	12,150.0	13,208.6	12,149.3	19.6	24.6	-89.95	-968.1	672.4	825.4	781.6	43.80	18.846	
13,200.0	12,150.0	13,308.6	12,149.3	20.0	25.0	-89.95	-1,068.1	673.0	825.4	780.7	44.69	18.468	
13,300.0	12,150.0	13,408.6	12,149.3	20.5	25.5	-89.95	-1,168.1	673.7	825.4	779.7	45.65	18.081	
13,400.0	12,150.0	13,508.6	12,149.3	21.1	25.9	-89.95	-1,268.1	674.4	825.4	778.7	46.67	17.687	
13,500.0	12,150.0	13,608.6	12,149.3	21.7	26.4	-89.95	-1,368.1	675.0	825.4	777.6	47.74	17.290	
13,600.0	12,150.0	13,708.6	12,149.3	22.3	26.9	-89.95	-1,468.1	675.7	825.4	776.5	48.86	16.893	
13,700.0	12,150.0	13,808.6	12,149.3	22.9	27.5	-89.95	-1,568.1	676.3	825.4	775.3	50.03	16.498	
13,800.0	12,150.0	13,908.6	12,149.3	23.6	28.0	-89.95	-1,668.1	677.0	825.3	774.1	51.24	16.108	
13,900.0	12,150.0	14,008.6	12,149.3	24.3	28.6	-89.95	-1,768.1	677.7	825.3	772.8	52.49	15.723	
14,000.0	12,150.0	14,108.6	12,149.3	25.0	29.2	-89.95	-1,868.1	678.3	825.3	771.5	53.79	15.345	
14,100.0	12,150.0	14,208.6	12,149.3	25.7	29.9	-89.95	-1,968.1	679.0	825.3	770.2	55.11	14.975	
14,200.0	12,150.0	14,308.6	12,149.3	26.4	30.5	-89.95	-2,068.1	679.6	825.3	768.8	56.48	14.614	
14,300.0	12,150.0	14,408.6	12,149.3	27.1	31.2	-89.95	-2,168.1	680.3	825.3	767.4	57.87	14.262	
14,400.0	12,150.0	14,508.6	12,149.3	27.9	31.8	-89.95	-2,268.1	681.0	825.3	766.0	59.29	13.921	
14,500.0	12,150.0	14,608.6	12,149.3	28.7	32.5	-89.95	-2,368.1	681.6	825.3	764.6	60.73	13.589	
14,600.0	12,150.0	14,708.6	12,149.3	29.5	33.2	-89.95	-2,468.1	682.3	825.3	763.1	62.20	13.267	
14,700.0	12,150.0	14,808.6	12,149.3	30.3	34.0	-89.95	-2,568.1	683.0	825.3	761.6	63.70	12.956	
14,800.0	12,150.0	14,908.6	12,149.3	31.1	34.7	-89.95	-2,668.1	683.6	825.3	760.1	65.21	12.655	
14,900.0	12,150.0	15,008.6	12,149.3	31.9	35.4	-89.95	-2,768.0	684.3	825.3	758.5	66.75	12.364	
15,000.0	12,150.0	15,108.6	12,149.3	32.7	36.2	-89.95	-2,868.0	684.9	825.3	757.0	68.30	12.083	
15,100.0	12,150.0	15,208.6	12,149.3	33.5	36.9	-89.95	-2,968.0	685.6	825.3	755.4	69.87	11.811	
15,200.0	12,150.0	15,308.6	12,149.3	34.4	37.7	-89.95	-3,068.0	686.3	825.2	753.8	71.46	11.548	
15,300.0	12,150.0	15,408.6	12,149.3	35.2	38.5	-89.95	-3,168.0	686.9	825.2	752.2	73.06	11.295	
15,400.0	12,150.0	15,508.6	12,149.3	36.1	39.3	-89.95	-3,268.0	687.6	825.2	750.6	74.68	11.051	
15,500.0	12,150.0	15,608.6	12,149.3	36.9	40.1	-89.95	-3,368.0	688.2	825.2	748.9	76.31	10.815	
15,600.0	12,150.0	15,708.6	12,149.3	37.8	40.9	-89.95	-3,468.0	688.9	825.2	747.3	77.95	10.587	
15,700.0	12,150.0	15,808.6	12,149.3	38.6	41.7	-89.95	-3,568.0	689.6	825.2	745.6	79.60	10.367	
15,800.0	12,150.0	15,908.6	12,149.3	39.5	42.5	-89.95	-3,668.0	690.2	825.2	743.9	81.27	10.154	
15,900.0	12,150.0	16,008.6	12,149.3	40.4	43.3	-89.95	-3,768.0	690.9	825.2	742.3	82.94	9.949	
16,000.0	12,150.0	16,108.6	12,149.3	41.3	44.1	-89.95	-3,868.0	691.5	825.2	740.6	84.62	9.751	
16,100.0	12,150.0	16,208.6	12,149.3	42.1	45.0	-89.95	-3,968.0	692.2	825.2	738.9	86.32	9.560	
16,200.0	12,150.0	16,308.6	12,149.3	43.0	45.8	-89.95	-4,068.0	692.9	825.2	737.2	88.02	9.375	
16,300.0	12,150.0	16,408.6	12,149.3	43.9	46.6	-89.95	-4,168.0	693.5	825.2	735.4	89.73	9.196	
16,400.0	12,150.0	16,508.6	12,149.3	44.8	47.5	-89.95	-4,268.0	694.2	825.2	733.7	91.44	9.024	
16,500.0	12,150.0	16,608.6	12,149.3	45.7	48.3	-89.95	-4,368.0	694.9	825.2	732.0	93.17	8.857	
16,600.0	12,150.0	16,708.6	12,149.3	46.6	49.2	-89.95	-4,468.0	695.5	825.2	730.3	94.90	8.695	
16,700.0	12,150.0	16,808.6	12,149.3	47.5	50.1	-89.95	-4,568.0	696.2	825.1	728.5	96.64	8.539	
16,800.0	12,150.0	16,908.6	12,149.3	48.4	50.9	-89.95	-4,668.0	696.8	825.1	726.8	98.38	8.387	
16,900.0	12,150.0	17,008.6	12,149.3	49.3	51.8	-89.95	-4,768.0	697.5	825.1	725.0	100.13	8.241	
17,000.0	12,150.0	17,108.6	12,149.3	50.2	52.7	-89.95	-4,868.0	698.2	825.1	723.2	101.88	8.099	
17,100.0	12,150.0	17,208.6	12,149.3	51.1	53.5	-89.95	-4,968.0	698.8	825.1	721.5	103.64	7.961	
17,200.0	12,150.0	17,308.6	12,149.3	52.0	54.4	-89.95	-5,068.0	699.5	825.1	719.7	105.41	7.828	
17,300.0	12,150.0	17,408.6	12,149.3	52.9	55.3	-89.95	-5,168.0	700.1	825.1	717.9	107.17	7.699	
17,400.0	12,150.0	17,508.6	12,149.3	53.9	56.2	-89.95	-5,268.0	700.8	825.1	716.1	108.95	7.573	
17,500.0	12,150.0	17,608.6	12,149.3	54.8	57.0	-89.95	-5,368.0	701.5	825.1	714.4	110.73	7.452	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,600.0	12,150.0	17,708.6	12,149.3	55.7	57.9	-89.95	-5,468.0	702.1	825.1	712.6	112.51	7.334	
17,700.0	12,150.0	17,808.6	12,149.3	56.6	58.8	-89.95	-5,568.0	702.8	825.1	710.8	114.29	7.219	
17,800.0	12,150.0	17,908.6	12,149.3	57.5	59.7	-89.95	-5,668.0	703.5	825.1	709.0	116.08	7.108	
17,900.0	12,150.0	18,008.6	12,149.3	58.5	60.6	-89.95	-5,768.0	704.1	825.1	707.2	117.88	6.999	
18,000.0	12,150.0	18,108.6	12,149.3	59.4	61.5	-89.95	-5,868.0	704.8	825.1	705.4	119.67	6.894	
18,100.0	12,150.0	18,208.6	12,149.3	60.3	62.4	-89.95	-5,968.0	705.4	825.0	703.6	121.47	6.792	
18,200.0	12,150.0	18,308.6	12,149.3	61.2	63.3	-89.95	-6,068.0	706.1	825.0	701.8	123.27	6.693	
18,300.0	12,150.0	18,408.6	12,149.3	62.2	64.2	-89.95	-6,168.0	706.8	825.0	700.0	125.08	6.596	
18,400.0	12,150.0	18,508.6	12,149.3	63.1	65.1	-89.95	-6,268.0	707.4	825.0	698.1	126.89	6.502	
18,500.0	12,150.0	18,608.6	12,149.3	64.0	66.0	-89.95	-6,368.0	708.1	825.0	696.3	128.70	6.411	
18,600.0	12,150.0	18,708.6	12,149.3	64.9	66.9	-89.95	-6,468.0	708.7	825.0	694.5	130.51	6.321	
18,700.0	12,150.0	18,808.6	12,149.3	65.9	67.8	-89.95	-6,568.0	709.4	825.0	692.7	132.32	6.235	
18,800.0	12,150.0	18,908.6	12,149.3	66.8	68.7	-89.95	-6,668.0	710.1	825.0	690.9	134.14	6.150	
18,900.0	12,150.0	19,008.6	12,149.3	67.7	69.7	-89.95	-6,768.0	710.7	825.0	689.0	135.96	6.068	
19,000.0	12,150.0	19,108.6	12,149.3	68.7	70.6	-89.95	-6,868.0	711.4	825.0	687.2	137.79	5.987	
19,100.0	12,150.0	19,208.6	12,149.3	69.6	71.5	-89.95	-6,968.0	712.0	825.0	685.4	139.61	5.909	
19,200.0	12,150.0	19,308.6	12,149.3	70.5	72.4	-89.95	-7,068.0	712.7	825.0	683.5	141.44	5.833	
19,300.0	12,150.0	19,408.6	12,149.3	71.5	73.3	-89.95	-7,168.0	713.4	825.0	681.7	143.26	5.758	
19,400.0	12,150.0	19,508.6	12,149.3	72.4	74.2	-89.95	-7,268.0	714.0	825.0	679.9	145.09	5.686	
19,500.0	12,150.0	19,608.6	12,149.3	73.4	75.2	-89.95	-7,367.9	714.7	824.9	678.0	146.93	5.615	
19,600.0	12,150.0	19,708.6	12,149.3	74.3	76.1	-89.95	-7,467.9	715.4	824.9	676.2	148.76	5.545	
19,624.7	12,150.0	19,733.3	12,149.3	74.5	76.3	-89.95	-7,492.7	715.5	824.9	675.7	149.21	5.529	
19,633.1	12,150.0	19,741.4	12,149.3	74.6	76.4	-89.95	-7,500.7	715.6	824.9	675.6	149.36	5.523	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design:		LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 708H - OWB - PWP0											Offset Site Error:		0.0 usft	
Survey Program:		0-r.5 MWD+IFR1						Rule Assigned:						Offset Well Error:		0.0 usft
Measured Depth	Reference	Offset	Semi Major Axis		Highside Toolface	Offset Wellbore Centre		Distance			Separation Factor	Warning				
Depth (usft)	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)			
0.0	0.0	1.0	0.0	0.0	0.0	0.0	89.54	0.7	90.0	90.0						
100.0	100.0	101.0	100.0	0.8	0.8	89.54	0.7	90.0	90.0	87.9	2.12	42.351				
200.0	200.0	201.0	200.0	1.5	1.5	89.54	0.7	90.0	90.0	86.6	3.39	26.575				
300.0	300.0	301.0	300.0	1.9	1.9	89.54	0.7	90.0	90.0	85.7	4.25	21.159				
400.0	400.0	401.0	400.0	2.3	2.3	89.54	0.7	90.0	90.0	85.0	4.96	18.140				
500.0	500.0	501.0	500.0	2.6	2.6	89.54	0.7	90.0	90.0	84.4	5.58	16.138				
600.0	600.0	601.0	600.0	2.9	2.9	89.54	0.7	90.0	90.0	83.9	6.13	14.682				
700.0	700.0	701.0	700.0	3.1	3.1	89.54	0.7	90.0	90.0	83.4	6.64	13.558				
800.0	800.0	801.0	800.0	3.4	3.4	89.54	0.7	90.0	90.0	82.9	7.11	12.656				
900.0	900.0	901.0	900.0	3.6	3.6	89.54	0.7	90.0	90.0	82.4	7.56	11.911				
1,000.0	1,000.0	1,001.0	1,000.0	3.8	3.8	89.54	0.7	90.0	90.0	82.0	7.98	11.280				
1,100.0	1,100.0	1,101.0	1,100.0	4.0	4.0	89.54	0.7	90.0	90.0	81.6	8.38	10.738				
1,200.0	1,200.0	1,201.0	1,200.0	4.2	4.2	89.54	0.7	90.0	90.0	81.2	8.77	10.265				
1,300.0	1,300.0	1,301.0	1,300.0	4.4	4.4	89.54	0.7	90.0	90.0	80.9	9.14	9.847				
1,400.0	1,400.0	1,401.0	1,400.0	4.6	4.6	89.54	0.7	90.0	90.0	80.5	9.50	9.474				
1,500.0	1,500.0	1,501.0	1,500.0	4.7	4.7	89.54	0.7	90.0	90.0	80.1	9.85	9.138				
1,600.0	1,600.0	1,601.0	1,600.0	4.9	4.9	89.54	0.7	90.0	90.0	79.8	10.19	8.834				
1,700.0	1,700.0	1,701.0	1,700.0	5.1	5.1	89.54	0.7	90.0	90.0	79.5	10.52	8.557				
1,800.0	1,800.0	1,801.0	1,800.0	5.3	5.3	89.54	0.7	90.0	90.0	79.2	10.84	8.303				
1,900.0	1,900.0	1,901.0	1,900.0	5.4	5.4	89.54	0.7	90.0	90.0	78.8	11.15	8.069				
1,966.3	1,966.3	1,967.3	1,966.3	5.5	5.5	89.54	0.7	90.0	90.0	78.6	11.36	7.923 CC				
2,000.0	2,000.0	2,000.0	1,999.0	5.6	5.6	89.54	0.7	90.0	90.0	78.5	11.46	7.854 ES				
2,100.0	2,100.0	2,098.0	2,096.9	5.7	5.8	89.31	1.0	91.7	91.7	79.9	11.83	7.751 SF				
2,200.0	2,200.0	2,194.6	2,193.5	6.0	6.0	132.99	2.1	96.5	97.9	85.6	12.22	8.011				
2,300.0	2,299.8	2,290.5	2,289.0	6.2	6.3	133.84	4.0	104.4	109.7	97.1	12.61	8.700				
2,400.0	2,399.5	2,385.1	2,383.0	6.4	6.5	135.14	6.5	115.2	127.2	114.2	13.01	9.774				
2,455.4	2,454.5	2,436.9	2,434.2	6.5	6.7	135.93	8.1	122.4	139.3	126.1	13.20	10.556				
2,500.0	2,498.7	2,478.1	2,474.9	6.6	6.8	136.62	9.6	128.8	150.1	136.7	13.34	11.249				
2,600.0	2,598.0	2,569.5	2,564.8	6.8	7.0	137.65	13.3	145.0	176.4	162.6	13.73	12.841				
2,700.0	2,697.2	2,659.5	2,652.7	7.0	7.3	138.14	17.6	163.7	205.6	191.5	14.14	14.537				
2,800.0	2,796.4	2,747.7	2,738.2	7.3	7.6	138.29	22.4	184.6	237.7	223.1	14.57	16.318				
2,900.0	2,895.7	2,834.2	2,821.4	7.6	7.9	138.21	27.7	207.5	272.5	257.5	14.99	18.179				
3,000.0	2,994.9	2,921.6	2,904.8	7.8	8.2	138.00	33.6	233.1	309.8	294.3	15.44	20.064				
3,100.0	3,094.1	3,014.1	2,992.9	8.1	8.6	137.78	40.0	260.7	347.7	331.7	16.01	21.722				
3,200.0	3,193.4	3,106.7	3,081.0	8.4	8.9	137.61	46.3	288.3	385.6	369.0	16.54	23.305				
3,300.0	3,292.6	3,199.2	3,169.1	8.7	9.2	137.47	52.7	315.9	423.4	406.3	17.10	24.759				
3,400.0	3,391.8	3,291.7	3,257.2	9.1	9.5	137.35	59.0	343.4	461.3	443.7	17.68	26.092				
3,500.0	3,491.1	3,384.3	3,345.3	9.4	9.9	137.25	65.4	371.0	499.2	480.9	18.28	27.316				
3,600.0	3,590.3	3,476.8	3,433.4	9.7	10.3	137.16	71.8	398.6	537.1	518.2	18.89	28.440				
3,700.0	3,689.5	3,569.4	3,521.5	10.1	10.6	137.09	78.1	426.2	575.0	555.5	19.51	29.474				
3,800.0	3,788.7	3,661.9	3,609.6	10.4	11.0	137.02	84.5	453.8	612.9	592.8	20.15	30.422				
3,802.2	3,790.9	3,663.9	3,611.6	10.4	11.0	137.02	84.6	454.4	613.7	593.6	20.16	30.442				
3,900.0	3,888.1	3,754.7	3,697.9	10.8	11.4	137.18	90.8	481.5	650.2	629.4	20.79	31.278				
4,000.0	3,987.6	3,847.9	3,786.7	11.1	11.8	137.24	97.2	509.3	686.4	664.9	21.44	32.016				
4,100.0	4,087.3	3,941.5	3,875.8	11.5	12.2	137.20	103.7	537.2	721.3	699.2	22.09	32.651				
4,200.0	4,187.1	4,035.5	3,965.3	11.8	12.6	137.09	110.1	565.2	755.1	732.4	22.75	33.195				
4,300.0	4,287.0	4,129.9	4,055.2	12.1	13.0	136.91	116.6	593.4	787.7	764.3	23.40	33.660				
4,400.0	4,386.9	4,224.6	4,145.4	12.4	13.4	136.66	123.1	621.6	819.1	795.1	24.05	34.060				
4,500.0	4,486.9	4,319.7	4,235.8	12.6	13.9	136.36	129.7	649.9	849.4	824.8	24.68	34.419				
4,513.1	4,500.0	4,332.1	4,247.7	12.6	13.9	92.66	130.5	653.6	853.3	828.6	24.75	34.477				
4,600.0	4,586.9	4,414.9	4,326.5	12.7	14.3	92.19	136.2	678.3	879.0	853.8	25.26	34.805				

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 708H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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	
4,700.0	4,686.9	4,510.1	4,417.1	12.8	14.7	91.69	142.7	706.7	908.7	882.9	25.84	35.170		
4,800.0	4,786.9	4,605.3	4,507.8	12.8	15.2	91.22	149.3	735.1	938.4	912.0	26.43	35.509		
4,900.0	4,886.9	4,700.5	4,598.4	12.9	15.6	90.77	155.8	763.5	968.2	941.2	27.03	35.824		
5,000.0	4,986.9	4,795.7	4,689.0	13.0	16.1	90.36	162.4	791.9	998.0	970.4	27.63	36.117		

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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					Rule Assigned:				Offset Well Error:		0.0 usft		
Measured Depth	Reference	Offset	Semi Major Axis		Highside Toolface	Offset Wellbore Centre		Distance			Separation Factor	Warning			
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)		Offset (usft)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			No-Go Distance (usft)		
0.0	0.0	2.7	0.0	0.0	0.0	89.41	0.2	30.0	30.0						
100.0	100.0	102.7	100.0	0.8	1.2	89.41	0.2	30.0	30.0	27.4	2.54	11.786			
200.0	200.0	202.7	200.0	1.5	1.7	89.41	0.2	30.0	30.0	26.3	3.64	8.227			
300.0	300.0	302.7	300.0	1.9	2.1	89.41	0.2	30.0	30.0	25.5	4.46	6.727			
400.0	400.0	402.7	400.0	2.3	2.4	89.41	0.2	30.0	30.0	24.8	5.13	5.838			
500.0	500.0	502.7	500.0	2.6	2.7	89.41	0.2	30.0	30.0	24.2	5.73	5.231			
600.0	600.0	602.7	600.0	2.9	3.0	89.41	0.2	30.0	30.0	23.7	6.27	4.781			
700.0	700.0	702.7	700.0	3.1	3.3	89.41	0.2	30.0	30.0	23.2	6.77	4.430			
800.0	800.0	802.7	800.0	3.4	3.5	89.41	0.2	30.0	30.0	22.7	7.23	4.145			
900.0	900.0	902.7	900.0	3.6	3.7	89.41	0.2	30.0	30.0	22.3	7.67	3.908			
1,000.0	1,000.0	1,002.7	1,000.0	3.8	3.9	89.41	0.2	30.0	30.0	21.9	8.09	3.707			
1,100.0	1,100.0	1,102.7	1,100.0	4.0	4.1	89.41	0.2	30.0	30.0	21.5	8.48	3.533			
1,200.0	1,200.0	1,202.7	1,200.0	4.2	4.3	89.41	0.2	30.0	30.0	21.1	8.87	3.381			
1,300.0	1,300.0	1,302.7	1,300.0	4.4	4.5	89.41	0.2	30.0	30.0	20.7	9.23	3.246			
1,400.0	1,400.0	1,402.7	1,400.0	4.6	4.7	89.41	0.2	30.0	30.0	20.4	9.59	3.125			
1,500.0	1,500.0	1,502.7	1,500.0	4.7	4.8	89.41	0.2	30.0	30.0	20.0	9.94	3.016			
1,600.0	1,600.0	1,602.7	1,600.0	4.9	5.0	89.41	0.2	30.0	30.0	19.7	10.27	2.918 Normal Operations			
1,700.0	1,700.0	1,702.7	1,700.0	5.1	5.2	89.41	0.2	30.0	30.0	19.4	10.60	2.827 Normal Operations			
1,800.0	1,800.0	1,802.7	1,800.0	5.3	5.3	89.41	0.2	30.0	30.0	19.1	10.92	2.745 Normal Operations			
1,900.0	1,900.0	1,902.7	1,900.0	5.4	5.5	89.41	0.2	30.0	30.0	18.7	11.23	2.668 Normal Operations			
1,965.7	1,965.7	1,968.4	1,965.7	5.5	5.6	89.41	0.2	30.0	30.0	18.5	11.43	2.621 Normal Operations, CC			
2,000.0	2,000.0	2,002.7	2,000.0	5.6	5.6	89.41	0.2	30.0	30.0	18.4	11.54	2.597 Normal Operations, ES, SF			
2,100.0	2,100.0	2,101.9	2,099.2	5.7	5.9	87.10	1.5	31.3	31.3	19.4	11.88	2.635 Normal Operations			
2,200.0	2,200.0	2,200.8	2,198.0	6.0	6.1	127.23	5.2	35.0	36.4	24.2	12.25	2.975 Normal Operations			
2,300.0	2,299.8	2,299.2	2,296.0	6.2	6.4	125.53	11.3	41.1	46.4	33.8	12.61	3.682			
2,400.0	2,399.5	2,396.7	2,392.7	6.4	6.6	125.12	19.6	49.4	61.2	48.2	12.98	4.712			
2,455.4	2,454.5	2,450.2	2,445.6	6.5	6.8	125.18	25.1	55.0	71.4	58.2	13.15	5.427			
2,500.0	2,498.7	2,492.9	2,487.8	6.6	6.9	125.26	30.1	60.0	80.4	67.1	13.28	6.053			
2,600.0	2,598.0	2,590.1	2,583.4	6.8	7.1	124.90	42.3	72.2	101.7	88.1	13.62	7.468			
2,700.0	2,697.2	2,687.7	2,679.5	7.0	7.4	124.64	54.6	84.6	123.2	109.2	14.00	8.796			
2,800.0	2,796.4	2,785.4	2,775.6	7.3	7.7	124.45	67.0	97.0	144.6	130.2	14.40	10.040			
2,900.0	2,895.7	2,883.1	2,871.7	7.6	8.0	124.32	79.3	109.4	166.0	151.2	14.82	11.204			
3,000.0	2,994.9	2,980.8	2,967.8	7.8	8.3	124.21	91.6	121.8	187.5	172.2	15.25	12.292			
3,100.0	3,094.1	3,078.4	3,063.9	8.1	8.6	124.13	104.0	134.2	208.9	193.2	15.70	13.307			
3,200.0	3,193.4	3,176.1	3,160.0	8.4	8.9	124.06	116.3	146.6	230.3	214.2	16.16	14.254			
3,300.0	3,292.6	3,273.8	3,256.1	8.7	9.2	124.00	128.7	159.0	251.8	235.1	16.63	15.137			
3,400.0	3,391.8	3,371.5	3,352.2	9.1	9.6	123.95	141.0	171.4	273.2	256.1	17.12	15.961			
3,500.0	3,491.1	3,469.1	3,448.3	9.4	9.9	123.91	153.3	183.8	294.6	277.0	17.61	16.736			
3,600.0	3,590.3	3,570.3	3,547.9	9.7	10.3	123.93	165.7	196.2	315.7	297.5	18.18	17.365			
3,700.0	3,689.5	3,673.1	3,649.4	10.1	10.7	124.13	177.1	207.7	335.3	316.6	18.74	17.897			
3,800.0	3,788.7	3,776.4	3,751.7	10.4	11.1	124.49	187.3	217.8	353.5	334.3	19.27	18.348			
3,802.2	3,790.9	3,778.7	3,753.9	10.4	11.1	124.50	187.5	218.0	353.9	334.7	19.28	18.357			
3,900.0	3,888.1	3,880.3	3,854.8	10.8	11.5	125.01	196.1	226.8	369.9	350.1	19.79	18.690			
4,000.0	3,987.6	3,984.8	3,958.8	11.1	11.8	125.42	203.7	234.4	383.8	363.5	20.31	18.902			
4,100.0	4,087.3	4,089.8	4,063.4	11.5	12.2	125.74	210.0	240.7	395.3	374.5	20.81	18.998			
4,200.0	4,187.1	4,195.3	4,168.6	11.8	12.6	125.98	215.0	245.7	404.3	383.0	21.29	18.991			
4,300.0	4,287.0	4,301.0	4,274.3	12.1	12.9	126.15	218.6	249.3	410.8	389.1	21.75	18.892			
4,400.0	4,386.9	4,407.0	4,380.2	12.4	13.2	126.26	220.8	251.5	414.9	392.7	22.16	18.718			
4,500.0	4,486.9	4,513.1	4,486.3	12.6	13.4	126.30	221.6	252.4	416.4	393.9	22.51	18.503			
4,513.1	4,500.0	4,526.8	4,500.0	12.6	13.4	82.64	221.6	252.4	416.4	393.9	22.52	18.490			
4,600.0	4,586.9	4,613.7	4,586.9	12.7	13.5	82.64	221.6	252.4	416.4	393.8	22.67	18.369			

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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)			
4,700.0	4,686.9	4,713.7	4,686.9	12.8	13.6	82.64	221.6	252.4	416.4	393.6	22.84	18.232	
4,800.0	4,786.9	4,813.7	4,786.9	12.8	13.6	82.64	221.6	252.4	416.4	393.4	23.01	18.097	
4,900.0	4,886.9	4,913.7	4,886.9	12.9	13.7	82.64	221.6	252.4	416.4	393.2	23.18	17.964	
5,000.0	4,986.9	5,013.7	4,986.9	13.0	13.8	82.64	221.6	252.4	416.4	393.1	23.35	17.833	
5,100.0	5,086.9	5,113.7	5,086.9	13.1	13.8	82.64	221.6	252.4	416.4	392.9	23.52	17.704	
5,200.0	5,186.9	5,213.7	5,186.9	13.1	13.9	82.64	221.6	252.4	416.4	392.7	23.69	17.577	
5,300.0	5,286.9	5,313.7	5,286.9	13.2	14.0	82.64	221.6	252.4	416.4	392.6	23.86	17.452	
5,400.0	5,386.9	5,413.7	5,386.9	13.3	14.1	82.64	221.6	252.4	416.4	392.4	24.03	17.329	
5,500.0	5,486.9	5,513.7	5,486.9	13.4	14.1	82.64	221.6	252.4	416.4	392.2	24.20	17.208	
5,600.0	5,586.9	5,613.7	5,586.9	13.5	14.2	82.64	221.6	252.4	416.4	392.1	24.37	17.088	
5,700.0	5,686.9	5,713.7	5,686.9	13.5	14.3	82.64	221.6	252.4	416.4	391.9	24.54	16.970	
5,800.0	5,786.9	5,813.7	5,786.9	13.6	14.4	82.64	221.6	252.4	416.4	391.7	24.71	16.854	
5,900.0	5,886.9	5,913.7	5,886.9	13.7	14.4	82.64	221.6	252.4	416.4	391.6	24.88	16.739	
6,000.0	5,986.9	6,013.7	5,986.9	13.8	14.5	82.64	221.6	252.4	416.4	391.4	25.05	16.627	
6,100.0	6,086.9	6,113.7	6,086.9	13.9	14.6	82.64	221.6	252.4	416.4	391.2	25.21	16.515	
6,200.0	6,186.9	6,213.7	6,186.9	13.9	14.7	82.64	221.6	252.4	416.4	391.0	25.38	16.405	
6,300.0	6,286.9	6,313.7	6,286.9	14.0	14.7	82.64	221.6	252.4	416.4	390.9	25.55	16.297	
6,400.0	6,386.9	6,413.7	6,386.9	14.1	14.8	82.64	221.6	252.4	416.4	390.7	25.72	16.190	
6,500.0	6,486.9	6,513.7	6,486.9	14.2	14.9	82.64	221.6	252.4	416.4	390.5	25.89	16.085	
6,600.0	6,586.9	6,613.7	6,586.9	14.2	15.0	82.64	221.6	252.4	416.4	390.4	26.06	15.981	
6,700.0	6,686.9	6,713.7	6,686.9	14.3	15.0	82.64	221.6	252.4	416.4	390.2	26.23	15.879	
6,800.0	6,786.9	6,813.7	6,786.9	14.4	15.1	82.64	221.6	252.4	416.4	390.0	26.39	15.777	
6,900.0	6,886.9	6,913.7	6,886.9	14.5	15.2	82.64	221.6	252.4	416.4	389.9	26.56	15.678	
7,000.0	6,986.9	7,013.7	6,986.9	14.6	15.3	82.64	221.6	252.4	416.4	389.7	26.73	15.579	
7,100.0	7,086.9	7,113.7	7,086.9	14.6	15.3	82.64	221.6	252.4	416.4	389.5	26.90	15.482	
7,200.0	7,186.9	7,213.7	7,186.9	14.7	15.4	82.64	221.6	252.4	416.4	389.4	27.07	15.386	
7,300.0	7,286.9	7,313.7	7,286.9	14.8	15.5	82.64	221.6	252.4	416.4	389.2	27.23	15.291	
7,400.0	7,386.9	7,413.7	7,386.9	14.9	15.6	82.64	221.6	252.4	416.4	389.0	27.40	15.197	
7,500.0	7,486.9	7,513.7	7,486.9	15.0	15.6	82.64	221.6	252.4	416.4	388.9	27.57	15.105	
7,600.0	7,586.9	7,613.7	7,586.9	15.0	15.7	82.64	221.6	252.4	416.4	388.7	27.74	15.014	
7,700.0	7,686.9	7,713.7	7,686.9	15.1	15.8	82.64	221.6	252.4	416.4	388.5	27.90	14.924	
7,800.0	7,786.9	7,813.7	7,786.9	15.2	15.9	82.64	221.6	252.4	416.4	388.4	28.07	14.835	
7,900.0	7,886.9	7,913.7	7,886.9	15.3	15.9	82.64	221.6	252.4	416.4	388.2	28.24	14.747	
8,000.0	7,986.9	8,013.7	7,986.9	15.4	16.0	82.64	221.6	252.4	416.4	388.0	28.41	14.660	
8,100.0	8,086.9	8,113.7	8,086.9	15.4	16.1	82.64	221.6	252.4	416.4	387.9	28.57	14.574	
8,200.0	8,186.9	8,213.7	8,186.9	15.5	16.2	82.64	221.6	252.4	416.4	387.7	28.74	14.490	
8,300.0	8,286.9	8,313.7	8,286.9	15.6	16.2	82.64	221.6	252.4	416.4	387.5	28.91	14.406	
8,400.0	8,386.9	8,413.7	8,386.9	15.7	16.3	82.64	221.6	252.4	416.4	387.4	29.07	14.323	
8,500.0	8,486.9	8,513.7	8,486.9	15.7	16.4	82.64	221.6	252.4	416.4	387.2	29.24	14.242	
8,600.0	8,586.9	8,613.7	8,586.9	15.8	16.5	82.64	221.6	252.4	416.4	387.0	29.41	14.161	
8,700.0	8,686.9	8,713.7	8,686.9	15.9	16.5	82.64	221.6	252.4	416.4	386.9	29.57	14.081	
8,800.0	8,786.9	8,813.7	8,786.9	16.0	16.6	82.64	221.6	252.4	416.4	386.7	29.74	14.002	
8,900.0	8,886.9	8,913.7	8,886.9	16.1	16.7	82.64	221.6	252.4	416.4	386.5	29.91	13.924	
9,000.0	8,986.9	9,013.7	8,986.9	16.1	16.8	82.64	221.6	252.4	416.4	386.4	30.07	13.847	
9,100.0	9,086.9	9,113.7	9,086.9	16.2	16.8	82.64	221.6	252.4	416.4	386.2	30.24	13.771	
9,200.0	9,186.9	9,213.7	9,186.9	16.3	16.9	82.64	221.6	252.4	416.4	386.0	30.41	13.696	
9,300.0	9,286.9	9,313.7	9,286.9	16.4	17.0	82.64	221.6	252.4	416.4	385.9	30.57	13.621	
9,400.0	9,386.9	9,413.7	9,386.9	16.5	17.1	82.64	221.6	252.4	416.4	385.7	30.74	13.547	
9,500.0	9,486.9	9,513.7	9,486.9	16.5	17.2	82.64	221.6	252.4	416.4	385.5	30.91	13.474	
9,600.0	9,586.9	9,613.7	9,586.9	16.6	17.2	82.64	221.6	252.4	416.4	385.4	31.07	13.402	
9,700.0	9,686.9	9,713.7	9,686.9	16.7	17.3	82.64	221.6	252.4	416.4	385.2	31.24	13.331	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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	9,786.9	9,813.7	9,786.9	16.8	17.4	82.64	221.6	252.4	416.4	385.0	31.40	13.261	
9,900.0	9,886.9	9,913.7	9,886.9	16.9	17.5	82.64	221.6	252.4	416.4	384.9	31.57	13.191	
10,000.0	9,986.9	10,013.7	9,986.9	16.9	17.5	82.64	221.6	252.4	416.4	384.7	31.74	13.122	
10,100.0	10,086.9	10,113.7	10,086.9	17.0	17.6	82.64	221.6	252.4	416.4	384.5	31.90	13.054	
10,200.0	10,186.9	10,213.7	10,186.9	17.1	17.7	82.64	221.6	252.4	416.4	384.4	32.07	12.986	
10,300.0	10,286.9	10,313.7	10,286.9	17.2	17.8	82.64	221.6	252.4	416.4	384.2	32.23	12.919	
10,400.0	10,386.9	10,413.7	10,386.9	17.3	17.8	82.64	221.6	252.4	416.4	384.0	32.40	12.853	
10,500.0	10,486.9	10,513.7	10,486.9	17.3	17.9	82.64	221.6	252.4	416.4	383.9	32.56	12.788	
10,600.0	10,586.9	10,613.7	10,586.9	17.4	18.0	82.64	221.6	252.4	416.4	383.7	32.73	12.723	
10,700.0	10,686.9	10,713.7	10,686.9	17.5	18.1	82.64	221.6	252.4	416.4	383.5	32.90	12.659	
10,800.0	10,786.9	10,813.7	10,786.9	17.6	18.2	82.64	221.6	252.4	416.4	383.4	33.06	12.596	
10,900.0	10,886.9	10,913.7	10,886.9	17.7	18.2	82.64	221.6	252.4	416.4	383.2	33.23	12.533	
11,000.0	10,986.9	11,013.7	10,986.9	17.7	18.3	82.64	221.6	252.4	416.4	383.0	33.39	12.471	
11,100.0	11,086.9	11,113.7	11,086.9	17.8	18.4	82.64	221.6	252.4	416.4	382.9	33.56	12.409	
11,200.0	11,186.9	11,213.7	11,186.9	17.9	18.5	82.64	221.6	252.4	416.4	382.7	33.72	12.349	
11,300.0	11,286.9	11,313.7	11,286.9	18.0	18.5	82.64	221.6	252.4	416.4	382.5	33.89	12.288	
11,400.0	11,386.9	11,413.7	11,386.9	18.1	18.6	82.64	221.6	252.4	416.4	382.4	34.05	12.229	
11,500.0	11,486.9	11,513.7	11,486.9	18.1	18.7	82.64	221.6	252.4	416.4	382.2	34.22	12.170	
11,600.0	11,586.9	11,613.7	11,586.9	18.2	18.8	82.64	221.6	252.4	416.4	382.0	34.38	12.111	
11,685.6	11,672.5	11,699.3	11,672.5	18.3	18.8	82.64	221.6	252.4	416.4	381.9	34.52	12.064	
11,700.0	11,686.9	11,713.7	11,686.9	18.3	18.8	-97.00	221.6	252.4	416.5	381.9	34.53	12.060	
11,725.0	11,711.9	11,738.7	11,711.9	18.2	18.9	-97.17	221.6	252.4	416.6	382.1	34.55	12.059	
11,750.0	11,736.7	11,763.5	11,736.7	18.2	18.9	-97.50	221.6	252.4	417.0	382.4	34.57	12.063	
11,775.0	11,761.4	11,788.2	11,761.4	18.2	18.9	-97.97	221.6	252.4	417.5	382.9	34.59	12.072	
11,800.0	11,785.8	11,812.6	11,785.8	18.1	18.9	-98.58	221.6	252.4	418.3	383.7	34.61	12.086	
11,825.0	11,809.9	11,836.8	11,809.9	18.1	18.9	-99.31	221.6	252.4	419.4	384.7	34.63	12.108	
11,850.0	11,833.7	11,860.5	11,833.7	18.0	19.0	-100.15	221.6	252.4	420.8	386.1	34.66	12.139	
11,875.0	11,857.0	11,883.8	11,857.0	18.0	19.0	-101.07	221.6	252.4	422.5	387.8	34.69	12.180	
11,900.0	11,879.8	11,906.6	11,879.8	17.9	19.0	-102.05	221.6	252.4	424.8	390.1	34.72	12.234	
11,925.0	11,902.0	11,932.5	11,905.6	17.9	19.0	-103.26	221.4	252.4	427.5	392.8	34.74	12.308	
11,950.0	11,923.6	11,961.9	11,935.0	17.8	18.9	-104.63	219.5	252.4	430.5	395.8	34.74	12.394	
11,975.0	11,944.5	11,992.4	11,965.3	17.8	18.9	-105.98	215.6	252.4	433.7	399.0	34.74	12.483	
12,000.0	11,964.7	12,024.1	11,996.4	17.7	18.8	-107.31	209.6	252.4	437.0	402.3	34.77	12.570	
12,025.0	11,984.0	12,057.0	12,028.2	17.7	18.8	-108.61	201.1	252.5	440.5	405.7	34.82	12.650	
12,050.0	12,002.6	12,091.2	12,060.6	17.7	18.7	-109.89	190.1	252.6	444.0	409.1	34.91	12.717	
12,075.0	12,020.2	12,126.8	12,093.3	17.6	18.6	-111.12	176.1	252.7	447.5	412.5	35.06	12.767	
12,100.0	12,036.8	12,163.9	12,126.1	17.6	18.6	-112.30	159.0	252.8	451.0	415.8	35.26	12.793	
12,125.0	12,052.5	12,202.4	12,158.8	17.6	18.5	-113.42	138.7	252.9	454.4	418.9	35.52	12.793	
12,150.0	12,067.1	12,242.3	12,190.8	17.5	18.4	-114.46	114.8	253.1	457.6	421.7	35.85	12.764	
12,175.0	12,080.6	12,283.7	12,221.8	17.5	18.4	-115.41	87.4	253.3	460.5	424.3	36.24	12.706	
12,200.0	12,093.0	12,326.4	12,251.1	17.5	18.3	-116.26	56.3	253.5	463.1	426.4	36.69	12.624	
12,225.0	12,104.3	12,370.4	12,278.3	17.5	18.2	-116.98	21.7	253.7	465.4	428.2	37.17	12.521	
12,250.0	12,114.3	12,415.5	12,302.7	17.5	18.2	-117.56	-16.1	253.9	467.2	429.5	37.66	12.404	
12,275.0	12,123.2	12,461.4	12,323.8	17.5	18.2	-118.00	-56.9	254.2	468.6	430.4	38.15	12.283	
12,300.0	12,130.8	12,508.0	12,341.1	17.5	18.2	-118.26	-100.1	254.5	469.4	430.8	38.59	12.164	
12,325.0	12,137.2	12,554.8	12,354.2	17.5	18.2	-118.36	-145.0	254.8	469.7	430.7	38.96	12.055	
12,350.0	12,142.3	12,601.7	12,362.9	17.5	18.2	-118.28	-191.1	255.1	469.5	430.2	39.25	11.961	
12,375.0	12,146.1	12,648.3	12,366.9	17.5	18.2	-118.03	-237.5	255.4	468.7	429.2	39.43	11.886	
12,400.0	12,148.6	12,681.7	12,367.3	17.5	18.3	-117.81	-270.9	255.6	467.6	428.1	39.47	11.847	
12,425.0	12,149.8	12,706.6	12,367.3	17.6	18.3	-117.74	-295.8	255.8	467.0	427.5	39.50	11.822	
12,435.6	12,150.0	12,717.2	12,367.3	17.6	18.3	-117.73	-306.4	255.9	467.0	427.4	39.53	11.811	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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)			
12,500.0	12,150.0	12,781.6	12,367.3	17.7	18.4	-117.73	-370.8	256.3	467.0	427.2	39.76	11.744	
12,600.0	12,150.0	12,881.6	12,367.3	17.9	18.6	-117.73	-470.8	257.0	467.0	426.8	40.19	11.619	
12,700.0	12,150.0	12,981.6	12,367.3	18.1	18.9	-117.73	-570.8	257.6	467.0	426.3	40.70	11.474	
12,800.0	12,150.0	13,081.6	12,367.3	18.4	19.2	-117.73	-670.8	258.3	466.9	425.7	41.28	11.313	
12,900.0	12,150.0	13,181.6	12,367.3	18.7	19.5	-117.73	-770.8	258.9	466.9	425.0	41.93	11.136	
13,000.0	12,150.0	13,281.6	12,367.3	19.1	19.9	-117.73	-870.8	259.6	466.9	424.3	42.65	10.947	
13,100.0	12,150.0	13,381.6	12,367.3	19.6	20.3	-117.73	-970.8	260.3	466.9	423.5	43.44	10.748	
13,200.0	12,150.0	13,481.6	12,367.3	20.0	20.8	-117.73	-1,070.8	260.9	466.9	422.6	44.30	10.541	
13,300.0	12,150.0	13,581.6	12,367.3	20.5	21.3	-117.74	-1,170.8	261.6	466.9	421.7	45.20	10.329	
13,400.0	12,150.0	13,681.6	12,367.3	21.1	21.8	-117.74	-1,270.8	262.3	466.9	420.8	46.17	10.113	
13,500.0	12,150.0	13,781.6	12,367.3	21.7	22.4	-117.74	-1,370.8	262.9	466.9	419.7	47.19	9.895	
13,600.0	12,150.0	13,881.6	12,367.3	22.3	23.0	-117.74	-1,470.8	263.6	466.9	418.7	48.25	9.677	
13,700.0	12,150.0	13,981.6	12,367.3	22.9	23.6	-117.74	-1,570.8	264.3	466.9	417.5	49.36	9.459	
13,800.0	12,150.0	14,081.6	12,367.3	23.6	24.3	-117.74	-1,670.8	264.9	466.9	416.4	50.51	9.243	
13,900.0	12,150.0	14,181.6	12,367.3	24.3	24.9	-117.74	-1,770.8	265.6	466.9	415.2	51.71	9.030	
14,000.0	12,150.0	14,281.6	12,367.3	25.0	25.6	-117.74	-1,870.8	266.2	466.9	414.0	52.93	8.820	
14,100.0	12,150.0	14,381.6	12,367.3	25.7	26.3	-117.74	-1,970.8	266.9	466.9	412.7	54.20	8.615	
14,200.0	12,150.0	14,481.6	12,367.3	26.4	27.1	-117.74	-2,070.8	267.6	466.9	411.4	55.49	8.414	
14,300.0	12,150.0	14,581.6	12,367.3	27.1	27.8	-117.74	-2,170.8	268.2	466.9	410.1	56.82	8.218	
14,400.0	12,150.0	14,681.6	12,367.3	27.9	28.6	-117.74	-2,270.8	268.9	466.9	408.7	58.17	8.027	
14,500.0	12,150.0	14,781.6	12,367.3	28.7	29.3	-117.74	-2,370.8	269.6	466.9	407.3	59.54	7.841	
14,600.0	12,150.0	14,881.6	12,367.3	29.5	30.1	-117.74	-2,470.8	270.2	466.9	405.9	60.95	7.660	
14,700.0	12,150.0	14,981.6	12,367.3	30.3	30.9	-117.74	-2,570.8	270.9	466.9	404.5	62.37	7.486	
14,800.0	12,150.0	15,081.6	12,367.3	31.1	31.7	-117.74	-2,670.8	271.6	466.9	403.0	63.81	7.316	
14,900.0	12,150.0	15,181.6	12,367.3	31.9	32.5	-117.74	-2,770.8	272.2	466.9	401.6	65.28	7.152	
15,000.0	12,150.0	15,281.6	12,367.3	32.7	33.3	-117.74	-2,870.8	272.9	466.9	400.1	66.76	6.993	
15,100.0	12,150.0	15,381.6	12,367.3	33.5	34.1	-117.74	-2,970.8	273.5	466.8	398.6	68.26	6.840	
15,200.0	12,150.0	15,481.6	12,367.3	34.4	35.0	-117.74	-3,070.8	274.2	466.8	397.1	69.77	6.691	
15,300.0	12,150.0	15,581.6	12,367.3	35.2	35.8	-117.74	-3,170.8	274.9	466.8	395.5	71.30	6.547	
15,400.0	12,150.0	15,681.6	12,367.3	36.1	36.6	-117.74	-3,270.8	275.5	466.8	394.0	72.84	6.409	
15,500.0	12,150.0	15,781.6	12,367.3	36.9	37.5	-117.74	-3,370.8	276.2	466.8	392.4	74.40	6.275	
15,600.0	12,150.0	15,881.6	12,367.3	37.8	38.3	-117.74	-3,470.7	276.9	466.8	390.9	75.97	6.145	
15,700.0	12,150.0	15,981.6	12,367.3	38.6	39.2	-117.74	-3,570.7	277.5	466.8	389.3	77.55	6.020	
15,800.0	12,150.0	16,081.6	12,367.3	39.5	40.1	-117.74	-3,670.7	278.2	466.8	387.7	79.14	5.899	
15,900.0	12,150.0	16,181.6	12,367.3	40.4	40.9	-117.74	-3,770.7	278.8	466.8	386.1	80.74	5.782	
16,000.0	12,150.0	16,281.6	12,367.3	41.3	41.8	-117.74	-3,870.7	279.5	466.8	384.5	82.35	5.669	
16,100.0	12,150.0	16,381.6	12,367.3	42.1	42.7	-117.74	-3,970.7	280.2	466.8	382.8	83.97	5.559	
16,200.0	12,150.0	16,481.6	12,367.3	43.0	43.6	-117.74	-4,070.7	280.8	466.8	381.2	85.60	5.453	
16,300.0	12,150.0	16,581.6	12,367.3	43.9	44.5	-117.74	-4,170.7	281.5	466.8	379.6	87.23	5.351	
16,400.0	12,150.0	16,681.6	12,367.3	44.8	45.3	-117.74	-4,270.7	282.2	466.8	377.9	88.88	5.252	
16,500.0	12,150.0	16,781.6	12,367.3	45.7	46.2	-117.74	-4,370.7	282.8	466.8	376.3	90.53	5.156	
16,600.0	12,150.0	16,881.6	12,367.3	46.6	47.1	-117.74	-4,470.7	283.5	466.8	374.6	92.18	5.064	
16,700.0	12,150.0	16,981.6	12,367.3	47.5	48.0	-117.74	-4,570.7	284.2	466.8	372.9	93.85	4.974	
16,800.0	12,150.0	17,081.6	12,367.3	48.4	48.9	-117.74	-4,670.7	284.8	466.8	371.3	95.52	4.887	
16,900.0	12,150.0	17,181.6	12,367.3	49.3	49.8	-117.75	-4,770.7	285.5	466.8	369.6	97.19	4.803	
17,000.0	12,150.0	17,281.6	12,367.3	50.2	50.7	-117.75	-4,870.7	286.1	466.8	367.9	98.87	4.721	
17,100.0	12,150.0	17,381.6	12,367.3	51.1	51.6	-117.75	-4,970.7	286.8	466.8	366.2	100.56	4.642	
17,200.0	12,150.0	17,481.6	12,367.3	52.0	52.5	-117.75	-5,070.7	287.5	466.8	364.5	102.25	4.565	
17,300.0	12,150.0	17,581.6	12,367.3	52.9	53.4	-117.75	-5,170.7	288.1	466.8	362.8	103.95	4.490	
17,400.0	12,150.0	17,681.6	12,367.3	53.9	54.4	-117.75	-5,270.7	288.8	466.7	361.1	105.65	4.418	
17,500.0	12,150.0	17,781.6	12,367.3	54.8	55.3	-117.75	-5,370.7	289.5	466.7	359.4	107.35	4.348	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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)				
17,600.0	12,150.0	17,881.6	12,367.3	55.7	56.2	-117.75	-5,470.7	290.1	466.7	357.7	109.06	4.280		
17,700.0	12,150.0	17,981.6	12,367.3	56.6	57.1	-117.75	-5,570.7	290.8	466.7	356.0	110.77	4.214		
17,800.0	12,150.0	18,081.6	12,367.3	57.5	58.0	-117.75	-5,670.7	291.5	466.7	354.2	112.49	4.149		
17,900.0	12,150.0	18,181.6	12,367.3	58.5	58.9	-117.75	-5,770.7	292.1	466.7	352.5	114.21	4.087		
18,000.0	12,150.0	18,281.6	12,367.3	59.4	59.9	-117.75	-5,870.7	292.8	466.7	350.8	115.93	4.026		
18,100.0	12,150.0	18,381.6	12,367.3	60.3	60.8	-117.75	-5,970.7	293.4	466.7	349.1	117.65	3.967		
18,200.0	12,150.0	18,481.6	12,367.3	61.2	61.7	-117.75	-6,070.7	294.1	466.7	347.3	119.38	3.909		
18,300.0	12,150.0	18,581.6	12,367.3	62.2	62.6	-117.75	-6,170.7	294.8	466.7	345.6	121.12	3.853		
18,400.0	12,150.0	18,681.6	12,367.3	63.1	63.6	-117.75	-6,270.7	295.4	466.7	343.9	122.85	3.799		
18,500.0	12,150.0	18,781.6	12,367.3	64.0	64.5	-117.75	-6,370.7	296.1	466.7	342.1	124.59	3.746		
18,600.0	12,150.0	18,881.6	12,367.3	64.9	65.4	-117.75	-6,470.7	296.8	466.7	340.4	126.33	3.694		
18,700.0	12,150.0	18,981.6	12,367.3	65.9	66.3	-117.75	-6,570.7	297.4	466.7	338.6	128.07	3.644		
18,800.0	12,150.0	19,081.6	12,367.3	66.8	67.3	-117.75	-6,670.7	298.1	466.7	336.9	129.81	3.595		
18,900.0	12,150.0	19,181.6	12,367.3	67.7	68.2	-117.75	-6,770.7	298.8	466.7	335.1	131.56	3.547		
19,000.0	12,150.0	19,281.6	12,367.3	68.7	69.1	-117.75	-6,870.7	299.4	466.7	333.4	133.31	3.501		
19,100.0	12,150.0	19,381.6	12,367.3	69.6	70.1	-117.75	-6,970.7	300.1	466.7	331.6	135.06	3.455		
19,200.0	12,150.0	19,481.6	12,367.3	70.5	71.0	-117.75	-7,070.7	300.7	466.7	329.9	136.81	3.411		
19,300.0	12,150.0	19,581.6	12,367.3	71.5	71.9	-117.75	-7,170.7	301.4	466.7	328.1	138.57	3.368		
19,400.0	12,150.0	19,681.6	12,367.3	72.4	72.9	-117.75	-7,270.7	302.1	466.7	326.3	140.33	3.326		
19,500.0	12,150.0	19,781.6	12,367.3	73.4	73.8	-117.75	-7,370.7	302.7	466.7	324.6	142.09	3.284		
19,600.0	12,150.0	19,881.6	12,367.3	74.3	74.7	-117.75	-7,470.7	303.4	466.7	322.8	143.85	3.244		
19,623.7	12,150.0	19,905.3	12,367.3	74.5	75.0	-117.75	-7,494.4	303.6	466.7	322.4	144.26	3.235		
19,633.1	12,150.0	19,914.5	12,367.3	74.6	75.0	-117.75	-7,503.6	303.6	466.7	322.2	144.42	3.231		

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	2.7	0.0	0.0	0.0	-90.39	-0.5	-59.7	59.7					
100.0	100.0	102.7	100.0	0.8	1.2	-90.39	-0.5	-59.7	59.7	57.2	2.54	23.497		
200.0	200.0	202.7	200.0	1.5	1.7	-90.39	-0.5	-59.7	59.7	56.1	3.64	16.401		
300.0	300.0	302.7	300.0	1.9	2.1	-90.39	-0.5	-59.7	59.7	55.3	4.46	13.410		
400.0	400.0	402.7	400.0	2.3	2.4	-90.39	-0.5	-59.7	59.7	54.6	5.13	11.639		
500.0	500.0	502.7	500.0	2.6	2.7	-90.39	-0.5	-59.7	59.7	54.0	5.73	10.429		
600.0	600.0	602.7	600.0	2.9	3.0	-90.39	-0.5	-59.7	59.7	53.5	6.27	9.531		
700.0	700.0	702.7	700.0	3.1	3.3	-90.39	-0.5	-59.7	59.7	53.0	6.77	8.831		
800.0	800.0	802.7	800.0	3.4	3.5	-90.39	-0.5	-59.7	59.7	52.5	7.23	8.263		
900.0	900.0	902.7	900.0	3.6	3.7	-90.39	-0.5	-59.7	59.7	52.1	7.67	7.791		
1,000.0	1,000.0	1,002.7	1,000.0	3.8	3.9	-90.39	-0.5	-59.7	59.7	51.7	8.09	7.390		
1,100.0	1,100.0	1,102.7	1,100.0	4.0	4.1	-90.39	-0.5	-59.7	59.7	51.3	8.48	7.043		
1,200.0	1,200.0	1,202.7	1,200.0	4.2	4.3	-90.39	-0.5	-59.7	59.7	50.9	8.87	6.740		
1,300.0	1,300.0	1,302.7	1,300.0	4.4	4.5	-90.39	-0.5	-59.7	59.7	50.5	9.23	6.471		
1,400.0	1,400.0	1,402.7	1,400.0	4.6	4.7	-90.39	-0.5	-59.7	59.7	50.2	9.59	6.230		
1,500.0	1,500.0	1,502.7	1,500.0	4.7	4.8	-90.39	-0.5	-59.7	59.7	49.8	9.94	6.013		
1,600.0	1,600.0	1,602.7	1,600.0	4.9	5.0	-90.39	-0.5	-59.7	59.7	49.5	10.27	5.817		
1,700.0	1,700.0	1,702.7	1,700.0	5.1	5.2	-90.39	-0.5	-59.7	59.7	49.1	10.60	5.637		
1,800.0	1,800.0	1,802.7	1,800.0	5.3	5.3	-90.39	-0.5	-59.7	59.7	48.8	10.92	5.472		
1,900.0	1,900.0	1,902.7	1,900.0	5.4	5.5	-90.39	-0.5	-59.7	59.7	48.5	11.23	5.319		
1,965.7	1,965.7	1,968.4	1,965.7	5.5	5.6	-90.39	-0.5	-59.7	59.7	48.3	11.43	5.226 CC		
2,000.0	2,000.0	2,002.6	1,999.9	5.6	5.6	-90.39	-0.5	-59.7	59.8	48.2	11.54	5.178 ES		
2,100.0	2,100.0	2,100.0	2,097.3	5.7	5.9	-90.01	-0.1	-61.4	61.5	49.6	11.90	5.168 SF		
2,200.0	2,200.0	2,198.4	2,195.6	6.0	6.1	-46.38	1.1	-66.4	65.4	53.1	12.29	5.319		
2,300.0	2,299.8	2,296.1	2,292.8	6.2	6.3	-47.78	2.9	-74.6	70.2	57.5	12.68	5.539		
2,400.0	2,399.5	2,393.4	2,389.5	6.4	6.6	-50.24	5.6	-86.0	76.1	63.0	13.06	5.827		
2,455.4	2,454.5	2,447.3	2,442.8	6.5	6.7	-51.94	7.3	-93.7	79.8	66.6	13.22	6.040		
2,500.0	2,498.7	2,490.5	2,485.4	6.6	6.9	-53.28	8.9	-100.5	83.4	70.0	13.34	6.248		
2,600.0	2,598.0	2,587.2	2,580.4	6.8	7.2	-55.36	12.9	-118.2	93.7	80.0	13.71	6.833		
2,700.0	2,697.2	2,684.3	2,675.2	7.0	7.4	-56.37	17.7	-138.8	107.0	92.9	14.03	7.626		
2,800.0	2,796.4	2,783.3	2,771.7	7.3	7.6	-57.04	22.6	-160.5	120.9	106.5	14.44	8.371		
2,900.0	2,895.7	2,882.3	2,868.1	7.6	7.9	-57.57	27.6	-182.1	134.8	120.0	14.89	9.056		
3,000.0	2,994.9	2,981.4	2,964.6	7.8	8.2	-58.00	32.6	-203.8	148.8	133.4	15.36	9.690		
3,100.0	3,094.1	3,080.4	3,061.1	8.1	8.6	-58.35	37.5	-225.5	162.8	146.9	15.84	10.276		
3,200.0	3,193.4	3,179.4	3,157.6	8.4	8.9	-58.65	42.5	-247.2	176.7	160.4	16.34	10.817		
3,300.0	3,292.6	3,278.4	3,254.1	8.7	9.3	-58.91	47.5	-268.8	190.7	173.8	16.85	11.316		
3,400.0	3,391.8	3,377.4	3,350.6	9.1	9.6	-59.13	52.4	-290.5	204.7	187.3	17.38	11.777		
3,500.0	3,491.1	3,476.4	3,447.1	9.4	10.0	-59.32	57.4	-312.2	218.6	200.7	17.92	12.203		
3,600.0	3,590.3	3,575.5	3,543.6	9.7	10.4	-59.49	62.4	-333.9	232.6	214.2	18.47	12.598		
3,700.0	3,689.5	3,674.5	3,640.0	10.1	10.8	-59.64	67.3	-355.5	246.6	227.6	19.02	12.963		
3,800.0	3,788.7	3,773.5	3,736.5	10.4	11.2	-59.78	72.3	-377.2	260.6	241.0	19.59	13.299		
3,802.2	3,790.9	3,775.7	3,738.7	10.4	11.2	-59.78	72.4	-377.7	260.9	241.3	19.61	13.307		
3,900.0	3,888.1	3,872.4	3,833.0	10.8	11.6	-59.87	77.3	-398.9	275.0	254.8	20.18	13.629		
4,000.0	3,987.6	3,971.3	3,929.2	11.1	12.0	-59.67	82.2	-420.5	290.2	269.5	20.79	13.961		
4,100.0	4,087.3	4,069.9	4,025.4	11.5	12.4	-59.23	87.2	-442.1	306.4	285.0	21.43	14.298		
4,200.0	4,187.1	4,168.3	4,121.3	11.8	12.8	-58.59	92.1	-463.6	323.5	301.4	22.09	14.641		
4,300.0	4,287.0	4,266.5	4,217.0	12.1	13.2	-57.79	97.1	-485.1	341.5	318.8	22.78	14.992		
4,400.0	4,386.9	4,364.5	4,312.4	12.4	13.6	-56.85	102.0	-506.6	360.6	337.1	23.48	15.355		
4,500.0	4,486.9	4,462.1	4,407.6	12.6	14.1	-55.81	106.9	-527.9	380.8	356.6	24.19	15.739		
4,513.1	4,500.0	4,474.9	4,420.0	12.6	14.1	-99.33	107.5	-530.7	383.5	359.2	24.28	15.797		
4,600.0	4,586.9	4,559.6	4,502.5	12.7	14.5	-98.28	111.8	-549.3	401.7	376.8	24.87	16.154		

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		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)			
4,700.0	4,686.9	4,657.0	4,597.5	12.8	14.9	-97.18	116.7	-570.6	422.8	397.2	25.53	16.560	
4,800.0	4,786.9	4,754.5	4,692.4	12.8	15.3	-96.19	121.5	-591.9	444.0	417.8	26.19	16.955	
4,900.0	4,886.9	4,851.9	4,787.4	12.9	15.8	-95.29	126.4	-613.2	465.3	438.5	26.84	17.336	
5,000.0	4,986.9	4,949.3	4,882.4	13.0	16.2	-94.46	131.3	-634.6	486.7	459.3	27.49	17.706	
5,100.0	5,086.9	5,046.8	4,977.3	13.1	16.6	-93.71	136.2	-655.9	508.3	480.1	28.14	18.062	
5,200.0	5,186.9	5,144.2	5,072.3	13.1	17.1	-93.01	141.1	-677.2	529.9	501.1	28.79	18.406	
5,300.0	5,286.9	5,241.7	5,167.2	13.2	17.5	-92.38	146.0	-698.6	551.5	522.1	29.43	18.739	
5,400.0	5,386.9	5,339.1	5,262.2	13.3	18.0	-91.78	150.9	-719.9	573.3	543.2	30.08	19.059	
5,500.0	5,486.9	5,436.6	5,357.1	13.4	18.4	-91.24	155.8	-741.2	595.0	564.3	30.72	19.368	
5,600.0	5,586.9	5,534.0	5,452.1	13.5	18.9	-90.73	160.7	-762.6	616.9	585.5	31.37	19.667	
5,700.0	5,686.9	5,631.5	5,547.1	13.5	19.3	-90.25	165.6	-783.9	638.8	606.7	32.01	19.954	
5,800.0	5,786.9	5,728.9	5,642.0	13.6	19.7	-89.81	170.4	-805.2	660.7	628.0	32.66	20.232	
5,900.0	5,886.9	5,826.4	5,737.0	13.7	20.2	-89.40	175.3	-826.5	682.6	649.3	33.30	20.499	
6,000.0	5,986.9	5,926.8	5,834.9	13.8	20.7	-89.00	180.4	-848.5	704.5	670.6	33.97	20.743	
6,100.0	6,086.9	6,038.2	5,943.7	13.9	21.2	-88.61	185.6	-871.4	725.2	690.5	34.69	20.906	
6,200.0	6,186.9	6,150.4	6,053.9	13.9	21.7	-88.27	190.4	-892.3	744.0	708.6	35.39	21.021	
6,300.0	6,286.9	6,263.5	6,165.3	14.0	22.2	-87.98	194.8	-911.3	761.0	724.9	36.07	21.094	
6,400.0	6,386.9	6,377.4	6,277.8	14.1	22.7	-87.74	198.7	-928.3	776.0	739.3	36.73	21.126	
6,500.0	6,486.9	6,491.9	6,391.3	14.2	23.1	-87.53	202.1	-943.2	789.1	751.7	37.36	21.122	
6,600.0	6,586.9	6,606.9	6,505.6	14.2	23.6	-87.36	205.0	-955.9	800.2	762.3	37.95	21.084	
6,700.0	6,686.9	6,722.5	6,620.6	14.3	24.0	-87.22	207.4	-966.4	809.4	770.9	38.51	21.017	
6,800.0	6,786.9	6,838.4	6,736.2	14.4	24.5	-87.12	209.3	-974.6	816.6	777.6	39.03	20.923	
6,900.0	6,886.9	6,954.6	6,852.3	14.5	24.9	-87.04	210.7	-980.6	821.8	782.3	39.50	20.808	
7,000.0	6,986.9	7,071.0	6,968.7	14.6	25.2	-87.00	211.5	-984.3	825.0	785.1	39.90	20.678	
7,100.0	7,086.9	7,187.6	7,085.2	14.6	25.4	-86.98	211.8	-985.7	826.2	786.1	40.12	20.592	
7,200.0	7,186.9	7,289.3	7,186.9	14.7	25.5	-86.98	211.8	-985.7	826.2	786.0	40.23	20.536	
7,300.0	7,286.9	7,389.3	7,286.9	14.8	25.5	-86.98	211.8	-985.7	826.2	785.9	40.34	20.484	
7,400.0	7,386.9	7,489.3	7,386.9	14.9	25.6	-86.98	211.8	-985.7	826.2	785.8	40.44	20.432	
7,500.0	7,486.9	7,589.3	7,486.9	15.0	25.6	-86.98	211.8	-985.7	826.2	785.7	40.54	20.380	
7,600.0	7,586.9	7,689.3	7,586.9	15.0	25.6	-86.98	211.8	-985.7	826.2	785.6	40.65	20.328	
7,700.0	7,686.9	7,789.3	7,686.9	15.1	25.7	-86.98	211.8	-985.7	826.2	785.5	40.75	20.276	
7,800.0	7,786.9	7,889.3	7,786.9	15.2	25.7	-86.98	211.8	-985.7	826.2	785.4	40.86	20.224	
7,900.0	7,886.9	7,989.3	7,886.9	15.3	25.8	-86.98	211.8	-985.7	826.2	785.3	40.96	20.172	
8,000.0	7,986.9	8,089.3	7,986.9	15.4	25.8	-86.98	211.8	-985.7	826.2	785.2	41.07	20.120	
8,100.0	8,086.9	8,189.3	8,086.9	15.4	25.8	-86.98	211.8	-985.7	826.2	785.1	41.17	20.068	
8,200.0	8,186.9	8,289.3	8,186.9	15.5	25.9	-86.98	211.8	-985.7	826.2	785.0	41.28	20.017	
8,300.0	8,286.9	8,389.3	8,286.9	15.6	25.9	-86.98	211.8	-985.7	826.2	784.9	41.38	19.965	
8,400.0	8,386.9	8,489.3	8,386.9	15.7	25.9	-86.98	211.8	-985.7	826.2	784.7	41.49	19.914	
8,500.0	8,486.9	8,589.3	8,486.9	15.7	26.0	-86.98	211.8	-985.7	826.2	784.6	41.60	19.863	
8,600.0	8,586.9	8,689.3	8,586.9	15.8	26.0	-86.98	211.8	-985.7	826.2	784.5	41.71	19.811	
8,700.0	8,686.9	8,789.3	8,686.9	15.9	26.1	-86.98	211.8	-985.7	826.2	784.4	41.81	19.760	
8,800.0	8,786.9	8,889.3	8,786.9	16.0	26.1	-86.98	211.8	-985.7	826.2	784.3	41.92	19.709	
8,900.0	8,886.9	8,989.3	8,886.9	16.1	26.1	-86.98	211.8	-985.7	826.2	784.2	42.03	19.658	
9,000.0	8,986.9	9,089.3	8,986.9	16.1	26.2	-86.98	211.8	-985.7	826.2	784.1	42.14	19.607	
9,100.0	9,086.9	9,189.3	9,086.9	16.2	26.2	-86.98	211.8	-985.7	826.2	784.0	42.25	19.557	
9,200.0	9,186.9	9,289.3	9,186.9	16.3	26.3	-86.98	211.8	-985.7	826.2	783.9	42.36	19.506	
9,300.0	9,286.9	9,389.3	9,286.9	16.4	26.3	-86.98	211.8	-985.7	826.2	783.8	42.47	19.456	
9,400.0	9,386.9	9,489.3	9,386.9	16.5	26.4	-86.98	211.8	-985.7	826.2	783.7	42.58	19.405	
9,500.0	9,486.9	9,589.3	9,486.9	16.5	26.4	-86.98	211.8	-985.7	826.2	783.5	42.69	19.355	
9,600.0	9,586.9	9,689.3	9,586.9	16.6	26.4	-86.98	211.8	-985.7	826.2	783.4	42.80	19.305	
9,700.0	9,686.9	9,789.3	9,686.9	16.7	26.5	-86.98	211.8	-985.7	826.2	783.3	42.91	19.255	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		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	9,786.9	9,889.3	9,786.9	16.8	26.5	-86.98	211.8	-985.7	826.2	783.2	43.02	19.205		
9,900.0	9,886.9	9,989.3	9,886.9	16.9	26.6	-86.98	211.8	-985.7	826.2	783.1	43.13	19.155		
10,000.0	9,986.9	10,089.3	9,986.9	16.9	26.6	-86.98	211.8	-985.7	826.2	783.0	43.25	19.105		
10,100.0	10,086.9	10,189.3	10,086.9	17.0	26.6	-86.98	211.8	-985.7	826.2	782.9	43.36	19.056		
10,200.0	10,186.9	10,289.3	10,186.9	17.1	26.7	-86.98	211.8	-985.7	826.2	782.8	43.47	19.006		
10,300.0	10,286.9	10,389.3	10,286.9	17.2	26.7	-86.98	211.8	-985.7	826.2	782.7	43.58	18.957		
10,400.0	10,386.9	10,489.3	10,386.9	17.3	26.8	-86.98	211.8	-985.7	826.2	782.5	43.70	18.908		
10,500.0	10,486.9	10,589.3	10,486.9	17.3	26.8	-86.98	211.8	-985.7	826.2	782.4	43.81	18.859		
10,600.0	10,586.9	10,689.3	10,586.9	17.4	26.9	-86.98	211.8	-985.7	826.2	782.3	43.93	18.810		
10,700.0	10,686.9	10,789.3	10,686.9	17.5	26.9	-86.98	211.8	-985.7	826.2	782.2	44.04	18.761		
10,800.0	10,786.9	10,889.3	10,786.9	17.6	27.0	-86.98	211.8	-985.7	826.2	782.1	44.15	18.712		
10,900.0	10,886.9	10,989.3	10,886.9	17.7	27.0	-86.98	211.8	-985.7	826.2	782.0	44.27	18.664		
11,000.0	10,986.9	11,089.3	10,986.9	17.7	27.0	-86.98	211.8	-985.7	826.2	781.9	44.38	18.616		
11,100.0	11,086.9	11,189.3	11,086.9	17.8	27.1	-86.98	211.8	-985.7	826.2	781.7	44.50	18.567		
11,200.0	11,186.9	11,289.3	11,186.9	17.9	27.1	-86.98	211.8	-985.7	826.2	781.6	44.62	18.519		
11,300.0	11,286.9	11,389.3	11,286.9	18.0	27.2	-86.98	211.8	-985.7	826.2	781.5	44.73	18.471		
11,400.0	11,386.9	11,489.3	11,386.9	18.1	27.2	-86.98	211.8	-985.7	826.2	781.4	44.85	18.423		
11,500.0	11,486.9	11,589.3	11,486.9	18.1	27.3	-86.98	211.8	-985.7	826.2	781.3	44.96	18.375		
11,600.0	11,586.9	11,689.3	11,586.9	18.2	27.3	-86.98	211.8	-985.7	826.2	781.2	45.08	18.328		
11,685.6	11,672.5	11,775.2	11,672.8	18.3	27.3	-86.98	211.8	-985.7	826.2	781.1	45.16	18.294		
11,700.0	11,686.9	11,791.3	11,688.9	18.3	27.3	93.39	211.4	-985.7	826.2	781.1	45.16	18.298		
11,725.0	11,711.9	11,819.1	11,716.6	18.2	27.3	93.37	209.5	-985.7	826.2	781.1	45.12	18.310		
11,750.0	11,736.7	11,846.9	11,744.2	18.2	27.3	93.34	206.0	-985.7	826.2	781.1	45.09	18.325		
11,775.0	11,761.4	11,874.7	11,771.5	18.2	27.3	93.30	200.9	-985.7	826.1	781.1	45.04	18.341		
11,800.0	11,785.8	11,902.4	11,798.4	18.1	27.2	93.24	194.2	-985.6	826.1	781.1	45.00	18.359		
11,825.0	11,809.9	11,930.1	11,824.8	18.1	27.2	93.18	186.0	-985.6	826.1	781.1	44.95	18.377		
11,850.0	11,833.7	11,957.7	11,850.7	18.0	27.2	93.11	176.3	-985.5	826.0	781.1	44.90	18.395		
11,875.0	11,857.0	11,985.2	11,875.8	18.0	27.1	93.03	165.1	-985.4	825.9	781.1	44.86	18.413		
11,900.0	11,879.8	12,012.6	11,900.2	17.9	27.1	92.94	152.6	-985.3	825.9	781.1	44.81	18.431		
11,925.0	11,902.0	12,040.0	11,923.8	17.9	27.1	92.84	138.7	-985.2	825.8	781.0	44.76	18.449		
11,950.0	11,923.6	12,067.2	11,946.4	17.8	27.1	92.73	123.5	-985.1	825.7	781.0	44.72	18.466		
11,975.0	11,944.5	12,094.3	11,968.1	17.8	27.0	92.61	107.2	-985.0	825.6	781.0	44.67	18.482		
12,000.0	11,964.7	12,121.4	11,988.7	17.7	27.0	92.49	89.7	-984.9	825.6	780.9	44.63	18.496		
12,025.0	11,984.0	12,148.3	12,008.2	17.7	27.0	92.36	71.2	-984.8	825.5	780.9	44.60	18.509		
12,050.0	12,002.6	12,175.1	12,026.5	17.7	27.0	92.22	51.7	-984.7	825.4	780.8	44.57	18.520		
12,075.0	12,020.2	12,201.7	12,043.7	17.6	27.0	92.08	31.3	-984.5	825.3	780.8	44.54	18.528		
12,100.0	12,036.8	12,228.2	12,059.6	17.6	26.9	91.93	10.1	-984.4	825.3	780.7	44.53	18.534		
12,125.0	12,052.5	12,254.6	12,074.2	17.6	26.9	91.78	-11.8	-984.2	825.2	780.7	44.52	18.537		
12,150.0	12,067.1	12,280.9	12,087.6	17.5	26.9	91.62	-34.4	-984.1	825.1	780.6	44.51	18.537		
12,175.0	12,080.6	12,307.0	12,099.6	17.5	26.9	91.46	-57.6	-983.9	825.1	780.5	44.52	18.534		
12,200.0	12,093.0	12,332.9	12,110.2	17.5	26.9	91.29	-81.3	-983.8	825.0	780.5	44.53	18.527		
12,225.0	12,104.3	12,358.7	12,119.6	17.5	26.9	91.12	-105.4	-983.6	825.0	780.4	44.55	18.517		
12,250.0	12,114.3	12,384.4	12,127.5	17.5	27.0	90.95	-129.8	-983.5	824.9	780.3	44.58	18.503		
12,275.0	12,123.2	12,410.0	12,134.1	17.5	27.0	90.78	-154.4	-983.3	824.9	780.2	44.62	18.486		
12,300.0	12,130.8	12,435.4	12,139.4	17.5	27.0	90.60	-179.3	-983.1	824.8	780.2	44.67	18.465		
12,325.0	12,137.2	12,460.6	12,143.3	17.5	27.0	90.42	-204.2	-983.0	824.8	780.1	44.73	18.441		
12,350.0	12,142.3	12,485.8	12,145.9	17.5	27.0	90.25	-229.2	-982.8	824.8	780.0	44.79	18.413		
12,375.0	12,146.1	12,510.7	12,147.1	17.5	27.1	90.07	-254.2	-982.6	824.8	779.9	44.87	18.382		
12,382.2	12,147.0	12,518.0	12,147.2	17.5	27.1	90.02	-261.4	-982.6	824.8	779.9	44.89	18.373		
12,400.0	12,148.6	12,535.6	12,147.3	17.5	27.1	89.90	-279.1	-982.5	824.8	779.8	44.95	18.348		
12,425.0	12,149.8	12,560.6	12,147.3	17.6	27.1	89.82	-304.0	-982.3	824.8	779.8	45.03	18.316		

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		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)			
12,435.6	12,150.0	12,571.2	12,147.3	17.6	27.1	89.81	-314.6	-982.2	824.8	779.7	45.06	18.303	
12,500.0	12,150.0	12,635.6	12,147.3	17.7	27.2	89.81	-379.0	-981.8	824.8	779.5	45.27	18.219	
12,600.0	12,150.0	12,735.6	12,147.3	17.9	27.4	89.81	-479.0	-981.1	824.8	779.1	45.67	18.060	
12,700.0	12,150.0	12,835.6	12,147.3	18.1	27.6	89.81	-579.0	-980.5	824.8	778.7	46.14	17.875	
12,800.0	12,150.0	12,935.6	12,147.3	18.4	27.9	89.81	-679.0	-979.8	824.8	778.1	46.69	17.666	
12,900.0	12,150.0	13,035.6	12,147.3	18.7	28.2	89.81	-779.0	-979.1	824.8	777.5	47.31	17.435	
13,000.0	12,150.0	13,135.6	12,147.3	19.1	28.5	89.81	-879.0	-978.5	824.8	776.8	47.99	17.186	
13,100.0	12,150.0	13,235.6	12,147.3	19.6	28.8	89.81	-979.0	-977.8	824.8	776.1	48.74	16.922	
13,200.0	12,150.0	13,335.6	12,147.3	20.0	29.2	89.81	-1,079.0	-977.1	824.8	775.3	49.56	16.645	
13,300.0	12,150.0	13,435.6	12,147.3	20.5	29.6	89.81	-1,179.0	-976.5	824.8	774.4	50.43	16.357	
13,400.0	12,150.0	13,535.6	12,147.3	21.1	30.0	89.81	-1,279.0	-975.8	824.8	773.5	51.35	16.062	
13,500.0	12,150.0	13,635.6	12,147.3	21.7	30.4	89.81	-1,379.0	-975.1	824.8	772.5	52.34	15.761	
13,600.0	12,150.0	13,735.6	12,147.3	22.3	30.9	89.81	-1,479.0	-974.5	824.8	771.5	53.37	15.456	
13,700.0	12,150.0	13,835.6	12,147.3	22.9	31.4	89.81	-1,579.0	-973.8	824.8	770.4	54.44	15.150	
13,800.0	12,150.0	13,935.6	12,147.3	23.6	31.9	89.81	-1,679.0	-973.2	824.8	769.3	55.57	14.844	
13,900.0	12,150.0	14,035.6	12,147.3	24.3	32.4	89.81	-1,779.0	-972.5	824.9	768.1	56.73	14.540	
14,000.0	12,150.0	14,135.6	12,147.3	25.0	33.0	89.81	-1,879.0	-971.8	824.9	766.9	57.93	14.238	
14,100.0	12,150.0	14,235.6	12,147.3	25.7	33.5	89.81	-1,979.0	-971.2	824.9	765.7	59.17	13.939	
14,200.0	12,150.0	14,335.6	12,147.3	26.4	34.1	89.81	-2,079.0	-970.5	824.9	764.4	60.45	13.646	
14,300.0	12,150.0	14,435.6	12,147.3	27.1	34.7	89.81	-2,179.0	-969.8	824.9	763.1	61.76	13.357	
14,400.0	12,150.0	14,535.6	12,147.3	27.9	35.3	89.81	-2,279.0	-969.2	824.9	761.8	63.09	13.074	
14,500.0	12,150.0	14,635.6	12,147.3	28.7	35.9	89.81	-2,379.0	-968.5	824.9	760.4	64.46	12.797	
14,600.0	12,150.0	14,735.6	12,147.3	29.5	36.6	89.81	-2,479.0	-967.8	824.9	759.0	65.85	12.526	
14,700.0	12,150.0	14,835.6	12,147.3	30.3	37.3	89.81	-2,579.0	-967.2	824.9	757.6	67.27	12.262	
14,800.0	12,150.0	14,935.6	12,147.3	31.1	37.9	89.81	-2,679.0	-966.5	824.9	756.2	68.71	12.005	
14,900.0	12,150.0	15,035.6	12,147.3	31.9	38.6	89.81	-2,779.0	-965.8	824.9	754.7	70.17	11.755	
15,000.0	12,150.0	15,135.6	12,147.3	32.7	39.3	89.81	-2,879.0	-965.2	824.9	753.2	71.66	11.511	
15,100.0	12,150.0	15,235.6	12,147.3	33.5	40.0	89.81	-2,979.0	-964.5	824.9	751.7	73.16	11.275	
15,200.0	12,150.0	15,335.6	12,147.3	34.4	40.7	89.81	-3,079.0	-963.8	824.9	750.2	74.68	11.045	
15,300.0	12,150.0	15,435.6	12,147.3	35.2	41.4	89.81	-3,179.0	-963.2	824.9	748.7	76.22	10.822	
15,400.0	12,150.0	15,535.6	12,147.3	36.1	42.2	89.81	-3,279.0	-962.5	824.9	747.1	77.78	10.606	
15,500.0	12,150.0	15,635.6	12,147.3	36.9	42.9	89.81	-3,379.0	-961.8	824.9	745.6	79.35	10.396	
15,600.0	12,150.0	15,735.6	12,147.3	37.8	43.7	89.81	-3,479.0	-961.2	824.9	744.0	80.93	10.193	
15,700.0	12,150.0	15,835.6	12,147.3	38.6	44.4	89.81	-3,579.0	-960.5	824.9	742.4	82.53	9.996	
15,800.0	12,150.0	15,935.6	12,147.3	39.5	45.2	89.81	-3,679.0	-959.9	824.9	740.8	84.14	9.804	
15,900.0	12,150.0	16,035.6	12,147.3	40.4	46.0	89.81	-3,779.0	-959.2	824.9	739.2	85.76	9.619	
16,000.0	12,150.0	16,135.6	12,147.3	41.3	46.8	89.81	-3,879.0	-958.5	824.9	737.5	87.39	9.439	
16,100.0	12,150.0	16,235.6	12,147.3	42.1	47.6	89.81	-3,979.0	-957.9	824.9	735.9	89.04	9.265	
16,200.0	12,150.0	16,335.6	12,147.3	43.0	48.4	89.81	-4,079.0	-957.2	824.9	734.2	90.69	9.096	
16,300.0	12,150.0	16,435.6	12,147.3	43.9	49.2	89.81	-4,179.0	-956.5	824.9	732.6	92.35	8.932	
16,400.0	12,150.0	16,535.6	12,147.3	44.8	50.0	89.81	-4,279.0	-955.9	824.9	730.9	94.03	8.773	
16,500.0	12,150.0	16,635.6	12,147.3	45.7	50.8	89.81	-4,379.0	-955.2	824.9	729.2	95.71	8.619	
16,600.0	12,150.0	16,735.6	12,147.3	46.6	51.6	89.81	-4,479.0	-954.5	824.9	727.5	97.40	8.470	
16,700.0	12,150.0	16,835.6	12,147.3	47.5	52.4	89.81	-4,579.0	-953.9	824.9	725.8	99.09	8.325	
16,800.0	12,150.0	16,935.6	12,147.3	48.4	53.2	89.81	-4,679.0	-953.2	824.9	724.1	100.80	8.184	
16,900.0	12,150.0	17,035.6	12,147.3	49.3	54.1	89.81	-4,778.9	-952.5	824.9	722.4	102.51	8.048	
17,000.0	12,150.0	17,135.6	12,147.3	50.2	54.9	89.81	-4,878.9	-951.9	824.9	720.7	104.23	7.915	
17,100.0	12,150.0	17,235.6	12,147.3	51.1	55.8	89.81	-4,978.9	-951.2	825.0	719.0	105.95	7.786	
17,200.0	12,150.0	17,335.6	12,147.3	52.0	56.6	89.81	-5,078.9	-950.5	825.0	717.3	107.68	7.661	
17,300.0	12,150.0	17,435.6	12,147.3	52.9	57.4	89.81	-5,178.9	-949.9	825.0	715.5	109.42	7.540	
17,400.0	12,150.0	17,535.6	12,147.3	53.9	58.3	89.81	-5,278.9	-949.2	825.0	713.8	111.16	7.422	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		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)			
17,500.0	12,150.0	17,635.6	12,147.3	54.8	59.2	89.81	-5,378.9	-948.5	825.0	712.1	112.90	7.307	
17,600.0	12,150.0	17,735.6	12,147.3	55.7	60.0	89.81	-5,478.9	-947.9	825.0	710.3	114.65	7.195	
17,700.0	12,150.0	17,835.6	12,147.3	56.6	60.9	89.81	-5,578.9	-947.2	825.0	708.6	116.41	7.087	
17,800.0	12,150.0	17,935.6	12,147.3	57.5	61.7	89.81	-5,678.9	-946.5	825.0	706.8	118.17	6.981	
17,900.0	12,150.0	18,035.6	12,147.3	58.5	62.6	89.81	-5,778.9	-945.9	825.0	705.0	119.93	6.879	
18,000.0	12,150.0	18,135.6	12,147.3	59.4	63.5	89.81	-5,878.9	-945.2	825.0	703.3	121.70	6.779	
18,100.0	12,150.0	18,235.6	12,147.3	60.3	64.4	89.81	-5,978.9	-944.6	825.0	701.5	123.47	6.681	
18,200.0	12,150.0	18,335.6	12,147.3	61.2	65.2	89.81	-6,078.9	-943.9	825.0	699.7	125.25	6.587	
18,300.0	12,150.0	18,435.6	12,147.3	62.2	66.1	89.81	-6,178.9	-943.2	825.0	698.0	127.03	6.494	
18,400.0	12,150.0	18,535.6	12,147.3	63.1	67.0	89.81	-6,278.9	-942.6	825.0	696.2	128.81	6.405	
18,500.0	12,150.0	18,635.6	12,147.3	64.0	67.9	89.81	-6,378.9	-941.9	825.0	694.4	130.60	6.317	
18,600.0	12,150.0	18,735.6	12,147.3	64.9	68.8	89.81	-6,478.9	-941.2	825.0	692.6	132.39	6.232	
18,700.0	12,150.0	18,835.6	12,147.3	65.9	69.6	89.81	-6,578.9	-940.6	825.0	690.8	134.18	6.148	
18,800.0	12,150.0	18,935.6	12,147.3	66.8	70.5	89.81	-6,678.9	-939.9	825.0	689.0	135.98	6.067	
18,900.0	12,150.0	19,035.6	12,147.3	67.7	71.4	89.81	-6,778.9	-939.2	825.0	687.2	137.78	5.988	
19,000.0	12,150.0	19,135.6	12,147.3	68.7	72.3	89.81	-6,878.9	-938.6	825.0	685.4	139.58	5.911	
19,100.0	12,150.0	19,235.6	12,147.3	69.6	73.2	89.81	-6,978.9	-937.9	825.0	683.6	141.38	5.835	
19,200.0	12,150.0	19,335.6	12,147.3	70.5	74.1	89.81	-7,078.9	-937.2	825.0	681.8	143.19	5.762	
19,300.0	12,150.0	19,435.6	12,147.3	71.5	75.0	89.81	-7,178.9	-936.6	825.0	680.0	145.00	5.690	
19,400.0	12,150.0	19,535.6	12,147.3	72.4	75.9	89.81	-7,278.9	-935.9	825.0	678.2	146.81	5.620	
19,500.0	12,150.0	19,635.6	12,147.3	73.4	76.8	89.81	-7,378.9	-935.2	825.0	676.4	148.62	5.551	
19,600.0	12,150.0	19,735.6	12,147.3	74.3	77.7	89.81	-7,478.9	-934.6	825.0	674.6	150.43	5.484	
19,633.1	12,150.0	19,768.7	12,147.3	74.6	78.0	89.81	-7,512.0	-934.4	825.0	674.0	151.03	5.463	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	2.7	0.0	0.0	0.0	-90.32	-0.2	-30.0	30.0				
100.0	100.0	102.7	100.0	0.8	1.2	-90.32	-0.2	-30.0	30.0	27.5	2.54	11.809	
200.0	200.0	202.7	200.0	1.5	1.7	-90.32	-0.2	-30.0	30.0	26.4	3.64	8.243	
300.0	300.0	302.7	300.0	1.9	2.1	-90.32	-0.2	-30.0	30.0	25.6	4.46	6.740	
400.0	400.0	402.7	400.0	2.3	2.4	-90.32	-0.2	-30.0	30.0	24.9	5.13	5.850	
500.0	500.0	502.7	500.0	2.6	2.7	-90.32	-0.2	-30.0	30.0	24.3	5.73	5.241	
600.0	600.0	602.7	600.0	2.9	3.0	-90.32	-0.2	-30.0	30.0	23.8	6.27	4.790	
700.0	700.0	702.7	700.0	3.1	3.3	-90.32	-0.2	-30.0	30.0	23.3	6.77	4.438	
800.0	800.0	802.7	800.0	3.4	3.5	-90.32	-0.2	-30.0	30.0	22.8	7.23	4.153	
900.0	900.0	902.7	900.0	3.6	3.7	-90.32	-0.2	-30.0	30.0	22.4	7.67	3.916	
1,000.0	1,000.0	1,002.7	1,000.0	3.8	3.9	-90.32	-0.2	-30.0	30.0	21.9	8.09	3.714	
1,100.0	1,100.0	1,102.7	1,100.0	4.0	4.1	-90.32	-0.2	-30.0	30.0	21.5	8.48	3.540	
1,200.0	1,200.0	1,202.7	1,200.0	4.2	4.3	-90.32	-0.2	-30.0	30.0	21.2	8.87	3.387	
1,300.0	1,300.0	1,302.7	1,300.0	4.4	4.5	-90.32	-0.2	-30.0	30.0	20.8	9.23	3.252	
1,400.0	1,400.0	1,402.7	1,400.0	4.6	4.7	-90.32	-0.2	-30.0	30.0	20.4	9.59	3.131	
1,500.0	1,500.0	1,502.7	1,500.0	4.7	4.8	-90.32	-0.2	-30.0	30.0	20.1	9.94	3.022	
1,600.0	1,600.0	1,602.7	1,600.0	4.9	5.0	-90.32	-0.2	-30.0	30.0	19.8	10.27	2.923 Normal Operations	
1,700.0	1,700.0	1,702.7	1,700.0	5.1	5.2	-90.32	-0.2	-30.0	30.0	19.4	10.60	2.833 Normal Operations	
1,800.0	1,800.0	1,802.7	1,800.0	5.3	5.3	-90.32	-0.2	-30.0	30.0	19.1	10.92	2.750 Normal Operations	
1,900.0	1,900.0	1,902.7	1,900.0	5.4	5.5	-90.32	-0.2	-30.0	30.0	18.8	11.23	2.674 Normal Operations	
2,000.0	2,000.0	2,002.7	2,000.0	5.6	5.6	-90.32	-0.2	-30.0	30.0	18.5	11.54	2.603 Normal Operations	
2,100.0	2,100.0	2,102.7	2,100.0	5.7	5.8	-90.32	-0.2	-30.0	30.0	18.2	11.84	2.537 Normal Operations	
2,200.0	2,200.0	2,202.7	2,200.0	6.0	5.9	-49.20	-0.2	-30.0	28.9	16.7	12.17	2.372 Caution - Monitor Closely	
2,300.0	2,299.8	2,301.7	2,299.0	6.2	6.2	-55.91	0.4	-31.7	27.3	14.8	12.52	2.180 Caution - Monitor Closely	
2,351.4	2,351.1	2,352.7	2,349.9	6.3	6.3	-60.48	1.3	-33.8	27.1	14.4	12.68	2.134 Caution - Monitor Closely, CC, ES	
2,400.0	2,399.5	2,400.9	2,398.0	6.4	6.4	-65.30	2.4	-36.5	27.3	14.5	12.81	2.130 Caution - Monitor Closely, SF	
2,455.4	2,454.5	2,455.8	2,452.8	6.5	6.5	-71.11	4.0	-40.6	28.1	15.2	12.91	2.179 Caution - Monitor Closely	
2,500.0	2,498.7	2,500.0	2,496.8	6.6	6.6	-75.17	5.5	-44.6	29.4	16.4	12.98	2.265 Caution - Monitor Closely	
2,600.0	2,598.0	2,599.3	2,595.3	6.8	6.9	-79.46	10.0	-55.8	34.1	20.8	13.25	2.572 Normal Operations	
2,700.0	2,697.2	2,698.3	2,693.1	7.0	7.2	-78.60	15.7	-70.2	40.8	27.3	13.56	3.010	
2,800.0	2,796.4	2,797.3	2,790.3	7.3	7.3	-75.04	22.5	-87.4	49.5	35.7	13.85	3.577	
2,900.0	2,895.7	2,896.8	2,888.0	7.6	7.6	-72.09	29.6	-105.3	58.8	44.6	14.23	4.131	
3,000.0	2,994.9	2,996.4	2,985.7	7.8	7.9	-69.94	36.7	-123.2	68.2	53.5	14.64	4.657	
3,100.0	3,094.1	3,095.9	3,083.3	8.1	8.1	-68.31	43.8	-141.1	77.6	62.6	15.06	5.154	
3,200.0	3,193.4	3,195.4	3,181.0	8.4	8.4	-67.04	50.9	-159.0	87.1	71.6	15.50	5.621	
3,300.0	3,292.6	3,295.0	3,278.6	8.7	8.8	-66.01	58.0	-176.9	96.6	80.7	15.96	6.057	
3,400.0	3,391.8	3,394.5	3,376.3	9.1	9.1	-65.17	65.2	-194.8	106.2	89.8	16.43	6.466	
3,500.0	3,491.1	3,494.0	3,473.9	9.4	9.4	-64.47	72.3	-212.7	115.8	98.9	16.91	6.847	
3,600.0	3,590.3	3,593.6	3,571.6	9.7	9.8	-63.88	79.4	-230.6	125.4	108.0	17.41	7.202	
3,700.0	3,689.5	3,693.1	3,669.2	10.1	10.1	-63.37	86.5	-248.5	135.0	117.0	17.92	7.533	
3,800.0	3,788.7	3,792.6	3,766.9	10.4	10.5	-62.93	93.6	-266.4	144.6	126.1	18.44	7.841	
3,802.2	3,790.9	3,794.8	3,769.0	10.4	10.5	-62.92	93.7	-266.8	144.8	126.3	18.45	7.847	
3,900.0	3,888.1	3,892.1	3,864.5	10.8	10.9	-62.35	100.7	-284.3	154.6	135.6	18.98	8.142	
4,000.0	3,987.6	3,991.5	3,961.9	11.1	11.3	-61.33	107.7	-302.2	165.4	145.8	19.59	8.446	
4,100.0	4,087.3	4,090.7	4,059.3	11.5	11.7	-59.97	114.8	-320.0	177.2	156.9	20.24	8.756	
4,200.0	4,187.1	4,189.7	4,156.4	11.8	12.1	-58.34	121.9	-337.8	190.0	169.0	20.93	9.075	
4,300.0	4,287.0	4,288.5	4,253.4	12.1	12.4	-56.53	128.9	-355.6	203.8	182.2	21.66	9.408	
4,400.0	4,386.9	4,387.1	4,350.1	12.4	12.8	-54.59	136.0	-373.3	218.9	196.5	22.43	9.761	
4,500.0	4,486.9	4,485.4	4,446.5	12.6	13.3	-52.59	143.0	-391.0	235.3	212.1	23.20	10.142	
4,513.1	4,500.0	4,498.2	4,459.1	12.6	13.3	-95.99	143.9	-393.3	237.5	214.2	23.29	10.198	
4,600.0	4,586.9	4,583.5	4,542.8	12.7	13.7	-94.23	150.0	-408.6	252.6	228.7	23.92	10.560	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,700.0	4,686.9	4,681.6	4,639.0	12.8	14.1	-92.44	157.0	-426.3	270.2	245.6	24.61	10.977	
4,800.0	4,786.9	4,779.7	4,735.3	12.8	14.5	-90.87	164.0	-443.9	288.0	262.7	25.29	11.388	
4,900.0	4,886.9	4,877.8	4,831.6	12.9	14.9	-89.49	171.0	-461.6	306.0	280.1	25.95	11.791	
5,000.0	4,986.9	4,978.2	4,930.0	13.0	15.3	-88.24	178.1	-479.5	324.0	297.4	26.60	12.183	
5,100.0	5,086.9	5,082.3	5,032.5	13.1	15.7	-87.17	184.9	-496.7	340.8	313.5	27.26	12.501	
5,200.0	5,186.9	5,187.1	5,136.0	13.1	16.2	-86.30	191.1	-512.2	355.9	328.0	27.90	12.758	
5,300.0	5,286.9	5,292.4	5,240.3	13.2	16.6	-85.58	196.5	-526.0	369.4	340.9	28.51	12.957	
5,400.0	5,386.9	5,398.3	5,345.3	13.3	17.0	-85.00	201.3	-538.1	381.2	352.1	29.09	13.102	
5,500.0	5,486.9	5,504.7	5,451.1	13.4	17.4	-84.53	205.4	-548.4	391.2	361.6	29.65	13.196	
5,600.0	5,586.9	5,611.4	5,557.4	13.5	17.8	-84.16	208.8	-557.0	399.5	369.3	30.17	13.244	
5,700.0	5,686.9	5,718.4	5,664.2	13.5	18.2	-83.88	211.5	-563.7	406.0	375.3	30.65	13.247	
5,800.0	5,786.9	5,825.6	5,771.3	13.6	18.5	-83.69	213.4	-568.6	410.7	379.6	31.09	13.210	
5,900.0	5,886.9	5,933.1	5,878.6	13.7	18.9	-83.57	214.6	-571.6	413.6	382.1	31.47	13.141	
6,000.0	5,986.9	6,040.5	5,986.1	13.8	19.1	-83.53	215.1	-572.7	414.7	382.9	31.75	13.063	
6,100.0	6,086.9	6,141.3	6,086.9	13.9	19.1	-83.53	215.1	-572.7	414.7	382.8	31.86	13.016	
6,200.0	6,186.9	6,241.3	6,186.9	13.9	19.2	-83.53	215.1	-572.7	414.7	382.7	31.99	12.964	
6,300.0	6,286.9	6,341.3	6,286.9	14.0	19.2	-83.53	215.1	-572.7	414.7	382.6	32.12	12.913	
6,400.0	6,386.9	6,441.3	6,386.9	14.1	19.3	-83.53	215.1	-572.7	414.7	382.5	32.24	12.861	
6,500.0	6,486.9	6,541.3	6,486.9	14.2	19.3	-83.53	215.1	-572.7	414.7	382.3	32.37	12.811	
6,600.0	6,586.9	6,641.3	6,586.9	14.2	19.4	-83.53	215.1	-572.7	414.7	382.2	32.50	12.760	
6,700.0	6,686.9	6,741.3	6,686.9	14.3	19.4	-83.53	215.1	-572.7	414.7	382.1	32.63	12.710	
6,800.0	6,786.9	6,841.3	6,786.9	14.4	19.5	-83.53	215.1	-572.7	414.7	381.9	32.76	12.660	
6,900.0	6,886.9	6,941.3	6,886.9	14.5	19.5	-83.53	215.1	-572.7	414.7	381.8	32.89	12.610	
7,000.0	6,986.9	7,041.3	6,986.9	14.6	19.6	-83.53	215.1	-572.7	414.7	381.7	33.02	12.560	
7,100.0	7,086.9	7,141.3	7,086.9	14.6	19.6	-83.53	215.1	-572.7	414.7	381.6	33.15	12.511	
7,200.0	7,186.9	7,241.3	7,186.9	14.7	19.7	-83.53	215.1	-572.7	414.7	381.4	33.28	12.462	
7,300.0	7,286.9	7,341.3	7,286.9	14.8	19.8	-83.53	215.1	-572.7	414.7	381.3	33.41	12.414	
7,400.0	7,386.9	7,441.3	7,386.9	14.9	19.8	-83.53	215.1	-572.7	414.7	381.2	33.54	12.365	
7,500.0	7,486.9	7,541.3	7,486.9	15.0	19.9	-83.53	215.1	-572.7	414.7	381.0	33.67	12.317	
7,600.0	7,586.9	7,641.3	7,586.9	15.0	19.9	-83.53	215.1	-572.7	414.7	380.9	33.80	12.270	
7,700.0	7,686.9	7,741.3	7,686.9	15.1	20.0	-83.53	215.1	-572.7	414.7	380.8	33.93	12.222	
7,800.0	7,786.9	7,841.3	7,786.9	15.2	20.0	-83.53	215.1	-572.7	414.7	380.6	34.06	12.175	
7,900.0	7,886.9	7,941.3	7,886.9	15.3	20.1	-83.53	215.1	-572.7	414.7	380.5	34.19	12.128	
8,000.0	7,986.9	8,041.3	7,986.9	15.4	20.1	-83.53	215.1	-572.7	414.7	380.4	34.33	12.081	
8,100.0	8,086.9	8,141.3	8,086.9	15.4	20.2	-83.53	215.1	-572.7	414.7	380.2	34.46	12.035	
8,200.0	8,186.9	8,241.3	8,186.9	15.5	20.2	-83.53	215.1	-572.7	414.7	380.1	34.59	11.989	
8,300.0	8,286.9	8,341.3	8,286.9	15.6	20.3	-83.53	215.1	-572.7	414.7	380.0	34.72	11.943	
8,400.0	8,386.9	8,441.3	8,386.9	15.7	20.4	-83.53	215.1	-572.7	414.7	379.8	34.86	11.897	
8,500.0	8,486.9	8,541.3	8,486.9	15.7	20.4	-83.53	215.1	-572.7	414.7	379.7	34.99	11.852	
8,600.0	8,586.9	8,641.3	8,586.9	15.8	20.5	-83.53	215.1	-572.7	414.7	379.6	35.12	11.807	
8,700.0	8,686.9	8,741.3	8,686.9	15.9	20.5	-83.53	215.1	-572.7	414.7	379.4	35.26	11.762	
8,800.0	8,786.9	8,841.3	8,786.9	16.0	20.6	-83.53	215.1	-572.7	414.7	379.3	35.39	11.717	
8,900.0	8,886.9	8,941.3	8,886.9	16.1	20.6	-83.53	215.1	-572.7	414.7	379.2	35.53	11.673	
9,000.0	8,986.9	9,041.3	8,986.9	16.1	20.7	-83.53	215.1	-572.7	414.7	379.0	35.66	11.629	
9,100.0	9,086.9	9,141.3	9,086.9	16.2	20.7	-83.53	215.1	-572.7	414.7	378.9	35.80	11.585	
9,200.0	9,186.9	9,241.3	9,186.9	16.3	20.8	-83.53	215.1	-572.7	414.7	378.8	35.93	11.542	
9,300.0	9,286.9	9,341.3	9,286.9	16.4	20.9	-83.53	215.1	-572.7	414.7	378.6	36.07	11.498	
9,400.0	9,386.9	9,441.3	9,386.9	16.5	20.9	-83.53	215.1	-572.7	414.7	378.5	36.20	11.455	
9,500.0	9,486.9	9,541.3	9,486.9	16.5	21.0	-83.53	215.1	-572.7	414.7	378.4	36.34	11.413	
9,600.0	9,586.9	9,641.3	9,586.9	16.6	21.0	-83.53	215.1	-572.7	414.7	378.2	36.47	11.370	
9,700.0	9,686.9	9,741.3	9,686.9	16.7	21.1	-83.53	215.1	-572.7	414.7	378.1	36.61	11.328	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,800.0	9,786.9	9,841.3	9,786.9	16.8	21.1	-83.53	215.1	-572.7	414.7	378.0	36.75	11.286	
9,900.0	9,886.9	9,941.3	9,886.9	16.9	21.2	-83.53	215.1	-572.7	414.7	377.8	36.88	11.244	
10,000.0	9,986.9	10,041.3	9,986.9	16.9	21.3	-83.53	215.1	-572.7	414.7	377.7	37.02	11.203	
10,100.0	10,086.9	10,141.3	10,086.9	17.0	21.3	-83.53	215.1	-572.7	414.7	377.5	37.15	11.162	
10,200.0	10,186.9	10,241.3	10,186.9	17.1	21.4	-83.53	215.1	-572.7	414.7	377.4	37.29	11.121	
10,300.0	10,286.9	10,341.3	10,286.9	17.2	21.4	-83.53	215.1	-572.7	414.7	377.3	37.43	11.080	
10,400.0	10,386.9	10,441.3	10,386.9	17.3	21.5	-83.53	215.1	-572.7	414.7	377.1	37.57	11.039	
10,500.0	10,486.9	10,541.3	10,486.9	17.3	21.6	-83.53	215.1	-572.7	414.7	377.0	37.70	10.999	
10,600.0	10,586.9	10,641.3	10,586.9	17.4	21.6	-83.53	215.1	-572.7	414.7	376.9	37.84	10.959	
10,700.0	10,686.9	10,741.3	10,686.9	17.5	21.7	-83.53	215.1	-572.7	414.7	376.7	37.98	10.919	
10,800.0	10,786.9	10,841.3	10,786.9	17.6	21.7	-83.53	215.1	-572.7	414.7	376.6	38.12	10.880	
10,900.0	10,886.9	10,941.3	10,886.9	17.7	21.8	-83.53	215.1	-572.7	414.7	376.4	38.26	10.840	
11,000.0	10,986.9	11,041.3	10,986.9	17.7	21.9	-83.53	215.1	-572.7	414.7	376.3	38.39	10.801	
11,100.0	11,086.9	11,141.3	11,086.9	17.8	21.9	-83.53	215.1	-572.7	414.7	376.2	38.53	10.762	
11,200.0	11,186.9	11,241.3	11,186.9	17.9	22.0	-83.53	215.1	-572.7	414.7	376.0	38.67	10.724	
11,300.0	11,286.9	11,341.3	11,286.9	18.0	22.0	-83.53	215.1	-572.7	414.7	375.9	38.81	10.685	
11,400.0	11,386.9	11,441.3	11,386.9	18.1	22.1	-83.53	215.1	-572.7	414.7	375.8	38.95	10.647	
11,500.0	11,486.9	11,541.3	11,486.9	18.1	22.2	-83.53	215.1	-572.7	414.7	375.6	39.09	10.609	
11,600.0	11,586.9	11,641.3	11,586.9	18.2	22.2	-83.53	215.1	-572.7	414.7	375.5	39.23	10.571	
11,685.6	11,672.5	11,726.9	11,672.5	18.3	22.3	-83.53	215.1	-572.7	414.7	375.4	39.34	10.541	
11,700.0	11,686.9	11,741.3	11,686.9	18.3	22.3	96.88	215.1	-572.7	414.7	375.4	39.35	10.538	
11,725.0	11,711.9	11,766.3	11,711.9	18.2	22.3	97.06	215.1	-572.7	414.9	375.5	39.38	10.536	
11,750.0	11,736.7	11,791.1	11,736.7	18.2	22.3	97.38	215.1	-572.7	415.2	375.8	39.41	10.536	
11,775.0	11,761.4	11,815.8	11,761.4	18.2	22.3	97.86	215.1	-572.7	415.8	376.3	39.46	10.537	
11,800.0	11,785.8	11,840.2	11,785.8	18.1	22.3	98.47	215.1	-572.7	416.6	377.0	39.52	10.541	
11,825.0	11,809.9	11,864.4	11,809.9	18.1	22.3	99.21	215.1	-572.7	417.6	378.0	39.59	10.549	
11,850.0	11,833.7	11,888.1	11,833.7	18.0	22.4	100.05	215.1	-572.7	419.0	379.3	39.66	10.564	
11,875.0	11,857.0	11,911.4	11,857.0	18.0	22.4	100.98	215.1	-572.7	420.7	381.0	39.74	10.588	
11,900.0	11,879.8	11,934.2	11,879.8	17.9	22.4	101.96	215.1	-572.7	423.0	383.2	39.81	10.625	
11,925.0	11,902.0	11,960.0	11,905.6	17.9	22.4	103.18	214.8	-572.7	425.7	385.8	39.85	10.681	
11,950.0	11,923.6	11,989.3	11,934.9	17.8	22.3	104.56	212.9	-572.7	428.7	388.8	39.85	10.757	
11,975.0	11,944.5	12,019.8	11,965.0	17.8	22.3	105.91	209.1	-572.7	431.8	392.0	39.82	10.845	
12,000.0	11,964.7	12,051.3	11,996.0	17.7	22.3	107.25	203.1	-572.6	435.2	395.4	39.78	10.940	
12,025.0	11,984.0	12,084.1	12,027.7	17.7	22.2	108.56	194.7	-572.6	438.6	398.9	39.73	11.039	
12,050.0	12,002.6	12,118.2	12,060.0	17.7	22.2	109.84	183.7	-572.5	442.2	402.5	39.69	11.139	
12,075.0	12,020.2	12,153.7	12,092.6	17.6	22.1	111.07	169.8	-572.4	445.7	406.0	39.67	11.235	
12,100.0	12,036.8	12,190.6	12,125.4	17.6	22.0	112.26	152.9	-572.3	449.2	409.5	39.67	11.323	
12,125.0	12,052.5	12,228.9	12,157.9	17.6	22.0	113.39	132.7	-572.2	452.6	412.9	39.70	11.399	
12,150.0	12,067.1	12,268.7	12,189.9	17.5	21.9	114.44	109.0	-572.0	455.8	416.0	39.78	11.458	
12,175.0	12,080.6	12,310.0	12,220.8	17.5	21.9	115.40	81.7	-571.8	458.7	418.8	39.89	11.500	
12,200.0	12,093.0	12,352.5	12,250.1	17.5	21.8	116.25	50.8	-571.6	461.4	421.4	40.04	11.523	
12,225.0	12,104.3	12,396.4	12,277.4	17.5	21.8	116.99	16.5	-571.4	463.7	423.5	40.22	11.529	
12,250.0	12,114.3	12,441.3	12,301.8	17.5	21.8	117.58	-21.2	-571.1	465.6	425.1	40.41	11.521	
12,275.0	12,123.2	12,487.2	12,323.1	17.5	21.8	118.03	-61.8	-570.9	467.0	426.4	40.60	11.502	
12,300.0	12,130.8	12,533.6	12,340.5	17.5	21.8	118.31	-104.8	-570.6	467.8	427.1	40.75	11.480	
12,325.0	12,137.2	12,580.4	12,353.8	17.5	21.8	118.42	-149.7	-570.3	468.2	427.3	40.86	11.458	
12,350.0	12,142.3	12,627.3	12,362.6	17.5	21.8	118.36	-195.7	-570.0	468.0	427.1	40.91	11.441	
12,375.0	12,146.1	12,673.9	12,366.8	17.5	21.9	118.13	-242.0	-569.7	467.3	426.4	40.87	11.432	
12,400.0	12,148.6	12,708.2	12,367.3	17.5	21.9	117.90	-276.3	-569.4	466.2	425.4	40.81	11.424	
12,425.0	12,149.8	12,733.1	12,367.3	17.6	22.0	117.83	-301.3	-569.3	465.6	424.8	40.79	11.416	
12,435.5	12,150.0	12,743.7	12,367.3	17.6	22.0	117.82	-311.8	-569.2	465.6	424.8	40.79	11.414	

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
12,435.6	12,150.0	12,743.7	12,367.3	17.6	22.0	117.82	-311.9	-569.2	465.6	424.8	40.79	11.414		
12,500.0	12,150.0	12,808.1	12,367.3	17.7	22.1	117.82	-376.3	-568.8	465.6	424.8	40.82	11.405		
12,600.0	12,150.0	12,908.1	12,367.3	17.9	22.3	117.82	-476.3	-568.1	465.6	424.6	40.96	11.366		
12,700.0	12,150.0	13,008.1	12,367.3	18.1	22.6	117.82	-576.3	-567.4	465.6	424.4	41.18	11.306		
12,800.0	12,150.0	13,108.1	12,367.3	18.4	22.9	117.82	-676.3	-566.8	465.6	424.1	41.48	11.224		
12,900.0	12,150.0	13,208.1	12,367.3	18.7	23.2	117.82	-776.3	-566.1	465.6	423.7	41.86	11.123		
13,000.0	12,150.0	13,308.1	12,367.3	19.1	23.5	117.82	-876.3	-565.4	465.6	423.3	42.32	11.003		
13,100.0	12,150.0	13,408.1	12,367.3	19.6	23.9	117.82	-976.3	-564.8	465.6	422.8	42.85	10.867		
13,200.0	12,150.0	13,508.1	12,367.3	20.0	24.4	117.82	-1,076.3	-564.1	465.6	422.2	43.45	10.717		
13,300.0	12,150.0	13,608.1	12,367.3	20.5	24.8	117.82	-1,176.3	-563.5	465.6	421.5	44.12	10.554		
13,400.0	12,150.0	13,708.1	12,367.3	21.1	25.3	117.82	-1,276.3	-562.8	465.6	420.8	44.85	10.381		
13,500.0	12,150.0	13,808.1	12,367.3	21.7	25.8	117.82	-1,376.3	-562.1	465.6	420.0	45.65	10.200		
13,600.0	12,150.0	13,908.1	12,367.3	22.3	26.3	117.82	-1,476.3	-561.5	465.6	419.1	46.51	10.012		
13,700.0	12,150.0	14,008.1	12,367.3	22.9	26.9	117.82	-1,576.3	-560.8	465.6	418.2	47.42	9.819		
13,800.0	12,150.0	14,108.1	12,367.3	23.6	27.5	117.82	-1,676.3	-560.1	465.6	417.2	48.38	9.623		
13,900.0	12,150.0	14,208.1	12,367.3	24.3	28.0	117.82	-1,776.3	-559.5	465.6	416.2	49.40	9.426		
14,000.0	12,150.0	14,308.1	12,367.3	25.0	28.7	117.82	-1,876.3	-558.8	465.6	415.2	50.46	9.228		
14,100.0	12,150.0	14,408.1	12,367.3	25.7	29.3	117.82	-1,976.3	-558.1	465.6	414.1	51.56	9.030		
14,200.0	12,150.0	14,508.1	12,367.3	26.4	30.0	117.82	-2,076.3	-557.5	465.6	412.9	52.71	8.834		
14,300.0	12,150.0	14,608.1	12,367.3	27.1	30.6	117.82	-2,176.3	-556.8	465.6	411.7	53.89	8.640		
14,400.0	12,150.0	14,708.1	12,367.3	27.9	31.3	117.82	-2,276.3	-556.1	465.6	410.5	55.11	8.449		
14,500.0	12,150.0	14,808.1	12,367.3	28.7	32.0	117.82	-2,376.3	-555.5	465.6	409.3	56.36	8.261		
14,600.0	12,150.0	14,908.1	12,367.3	29.5	32.7	117.82	-2,476.2	-554.8	465.7	408.0	57.65	8.077		
14,700.0	12,150.0	15,008.1	12,367.3	30.3	33.5	117.82	-2,576.2	-554.1	465.7	406.7	58.96	7.898		
14,800.0	12,150.0	15,108.1	12,367.3	31.1	34.2	117.82	-2,676.2	-553.5	465.7	405.4	60.30	7.722		
14,900.0	12,150.0	15,208.1	12,367.3	31.9	35.0	117.82	-2,776.2	-552.8	465.7	404.0	61.67	7.551		
15,000.0	12,150.0	15,308.1	12,367.3	32.7	35.7	117.82	-2,876.2	-552.2	465.7	402.6	63.06	7.385		
15,100.0	12,150.0	15,408.1	12,367.3	33.5	36.5	117.82	-2,976.2	-551.5	465.7	401.2	64.47	7.223		
15,200.0	12,150.0	15,508.1	12,367.3	34.4	37.3	117.82	-3,076.2	-550.8	465.7	399.8	65.90	7.066		
15,300.0	12,150.0	15,608.1	12,367.3	35.2	38.0	117.82	-3,176.2	-550.2	465.7	398.3	67.35	6.914		
15,400.0	12,150.0	15,708.1	12,367.3	36.1	38.8	117.82	-3,276.2	-549.5	465.7	396.9	68.82	6.767		
15,500.0	12,150.0	15,808.1	12,367.3	36.9	39.6	117.82	-3,376.2	-548.8	465.7	395.4	70.31	6.624		
15,600.0	12,150.0	15,908.1	12,367.3	37.8	40.5	117.82	-3,476.2	-548.2	465.7	393.9	71.81	6.485		
15,700.0	12,150.0	16,008.1	12,367.3	38.6	41.3	117.82	-3,576.2	-547.5	465.7	392.4	73.33	6.351		
15,800.0	12,150.0	16,108.1	12,367.3	39.5	42.1	117.81	-3,676.2	-546.8	465.7	390.8	74.86	6.221		
15,900.0	12,150.0	16,208.1	12,367.3	40.4	42.9	117.81	-3,776.2	-546.2	465.7	389.3	76.40	6.095		
16,000.0	12,150.0	16,308.1	12,367.3	41.3	43.8	117.81	-3,876.2	-545.5	465.7	387.7	77.96	5.973		
16,100.0	12,150.0	16,408.1	12,367.3	42.1	44.6	117.81	-3,976.2	-544.8	465.7	386.2	79.53	5.856		
16,200.0	12,150.0	16,508.1	12,367.3	43.0	45.4	117.81	-4,076.2	-544.2	465.7	384.6	81.11	5.742		
16,300.0	12,150.0	16,608.1	12,367.3	43.9	46.3	117.81	-4,176.2	-543.5	465.7	383.0	82.70	5.631		
16,400.0	12,150.0	16,708.1	12,367.3	44.8	47.1	117.81	-4,276.2	-542.9	465.7	381.4	84.30	5.524		
16,500.0	12,150.0	16,808.1	12,367.3	45.7	48.0	117.81	-4,376.2	-542.2	465.7	379.8	85.91	5.421		
16,600.0	12,150.0	16,908.1	12,367.3	46.6	48.9	117.81	-4,476.2	-541.5	465.7	378.2	87.53	5.321		
16,700.0	12,150.0	17,008.1	12,367.3	47.5	49.7	117.81	-4,576.2	-540.9	465.7	376.6	89.16	5.224		
16,800.0	12,150.0	17,108.1	12,367.3	48.4	50.6	117.81	-4,676.2	-540.2	465.7	374.9	90.79	5.130		
16,900.0	12,150.0	17,208.1	12,367.3	49.3	51.5	117.81	-4,776.2	-539.5	465.7	373.3	92.43	5.039		
17,000.0	12,150.0	17,308.1	12,367.3	50.2	52.4	117.81	-4,876.2	-538.9	465.7	371.7	94.08	4.950		
17,100.0	12,150.0	17,408.1	12,367.3	51.1	53.2	117.81	-4,976.2	-538.2	465.7	370.0	95.74	4.865		
17,200.0	12,150.0	17,508.1	12,367.3	52.0	54.1	117.81	-5,076.2	-537.5	465.7	368.3	97.40	4.782		
17,300.0	12,150.0	17,608.1	12,367.3	52.9	55.0	117.81	-5,176.2	-536.9	465.7	366.7	99.07	4.701		
17,400.0	12,150.0	17,708.1	12,367.3	53.9	55.9	117.81	-5,276.2	-536.2	465.7	365.0	100.74	4.623		

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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: LIL JOHN FEDERAL PROJECT - _LIL JOHN FED COM 712H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,500.0	12,150.0	17,808.1	12,367.3	54.8	56.8	117.81	-5,376.2	-535.5	465.7	363.3	102.42	4.548	
17,600.0	12,150.0	17,908.1	12,367.3	55.7	57.7	117.81	-5,476.2	-534.9	465.8	361.7	104.10	4.474	
17,700.0	12,150.0	18,008.1	12,367.3	56.6	58.6	117.81	-5,576.2	-534.2	465.8	360.0	105.79	4.403	
17,800.0	12,150.0	18,108.1	12,367.3	57.5	59.5	117.81	-5,676.2	-533.5	465.8	358.3	107.48	4.333	
17,900.0	12,150.0	18,208.1	12,367.3	58.5	60.4	117.81	-5,776.2	-532.9	465.8	356.6	109.18	4.266	
18,000.0	12,150.0	18,308.1	12,367.3	59.4	61.3	117.81	-5,876.2	-532.2	465.8	354.9	110.88	4.200	
18,100.0	12,150.0	18,408.1	12,367.3	60.3	62.2	117.81	-5,976.2	-531.6	465.8	353.2	112.59	4.137	
18,200.0	12,150.0	18,508.1	12,367.3	61.2	63.1	117.81	-6,076.2	-530.9	465.8	351.5	114.30	4.075	
18,300.0	12,150.0	18,608.1	12,367.3	62.2	64.0	117.81	-6,176.2	-530.2	465.8	349.8	116.01	4.015	
18,400.0	12,150.0	18,708.1	12,367.3	63.1	64.9	117.81	-6,276.2	-529.6	465.8	348.0	117.73	3.956	
18,500.0	12,150.0	18,808.1	12,367.3	64.0	65.8	117.81	-6,376.2	-528.9	465.8	346.3	119.45	3.899	
18,600.0	12,150.0	18,908.1	12,367.3	64.9	66.7	117.81	-6,476.2	-528.2	465.8	344.6	121.18	3.844	
18,700.0	12,150.0	19,008.1	12,367.3	65.9	67.6	117.81	-6,576.2	-527.6	465.8	342.9	122.90	3.790	
18,800.0	12,150.0	19,108.1	12,367.3	66.8	68.5	117.81	-6,676.2	-526.9	465.8	341.2	124.63	3.737	
18,900.0	12,150.0	19,208.1	12,367.3	67.7	69.4	117.81	-6,776.2	-526.2	465.8	339.4	126.36	3.686	
19,000.0	12,150.0	19,308.1	12,367.3	68.7	70.4	117.81	-6,876.2	-525.6	465.8	337.7	128.10	3.636	
19,100.0	12,150.0	19,408.1	12,367.3	69.6	71.3	117.81	-6,976.1	-524.9	465.8	336.0	129.84	3.588	
19,200.0	12,150.0	19,508.1	12,367.3	70.5	72.2	117.81	-7,076.1	-524.2	465.8	334.2	131.58	3.540	
19,300.0	12,150.0	19,608.1	12,367.3	71.5	73.1	117.81	-7,176.1	-523.6	465.8	332.5	133.32	3.494	
19,400.0	12,150.0	19,708.1	12,367.3	72.4	74.0	117.81	-7,276.1	-522.9	465.8	330.7	135.07	3.449	
19,500.0	12,150.0	19,808.1	12,367.3	73.4	74.9	117.81	-7,376.1	-522.3	465.8	329.0	136.81	3.405	
19,600.0	12,150.0	19,908.1	12,367.3	74.3	75.9	117.81	-7,476.1	-521.6	465.8	327.3	138.56	3.362	
19,633.1	12,150.0	19,941.2	12,367.3	74.6	76.2	117.81	-7,509.2	-521.4	465.8	326.7	139.14	3.348	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
19,100.0	12,150.0	17,061.0	12,261.9	69.6	91.7	-100.44	-7,669.5	499.1	933.6	821.5		112.07	8.331
19,200.0	12,150.0	17,061.0	12,261.9	70.5	91.7	-100.44	-7,669.5	499.1	861.1	740.6		120.56	7.143
19,300.0	12,150.0	17,061.0	12,261.9	71.5	91.7	-100.44	-7,669.5	499.1	794.7	664.8		129.90	6.118
19,400.0	12,150.0	17,061.0	12,261.9	72.4	91.7	-100.44	-7,669.5	499.1	735.9	596.1		139.80	5.264
19,500.0	12,150.0	17,061.0	12,261.9	73.4	91.7	-100.44	-7,669.5	499.1	686.6	537.0		149.66	4.588
19,600.0	12,150.0	17,061.0	12,261.9	74.3	91.7	-100.44	-7,669.5	499.1	649.2	490.7		158.51	4.095
19,633.1	12,150.0	17,061.0	12,261.9	74.6	91.7	-100.44	-7,669.5	499.1	639.7	478.7		161.00	3.974 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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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		Offset Wellbore Centre		Distance		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
19,600.0	12,150.0	17,419.0	12,640.0	74.3	88.4	-120.07	-7,670.1	737.9	998.5	843.5	155.00	6.442	
19,633.1	12,150.0	17,419.0	12,640.0	74.6	88.4	-120.07	-7,670.1	737.9	992.3	836.2	156.06	6.358 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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 16H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 94-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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
18,900.0	12,150.0	12,073.0	12,123.7	67.7	17.4	87.18	-7,618.0	-643.2	996.9	936.8		60.03	16.605
19,000.0	12,150.0	12,087.1	12,137.2	68.7	17.4	88.62	-7,620.3	-640.1	913.9	849.9		64.03	14.273
19,100.0	12,150.0	12,106.7	12,155.9	69.6	17.3	90.64	-7,623.9	-635.5	834.4	765.8		68.66	12.153
19,200.0	12,150.0	12,148.0	12,194.8	70.5	17.2	94.97	-7,632.1	-624.2	759.1	685.4		73.70	10.300
19,300.0	12,150.0	12,167.0	12,212.4	71.5	17.2	96.98	-7,636.1	-618.4	689.1	609.3		79.77	8.637
19,400.0	12,150.0	12,194.7	12,237.7	72.4	17.1	99.94	-7,642.6	-609.3	626.4	540.1		86.27	7.261
19,500.0	12,150.0	12,233.4	12,272.1	73.4	17.0	104.08	-7,653.2	-595.0	572.9	480.2		92.64	6.184
19,600.0	12,150.0	12,270.1	12,303.4	74.3	16.9	108.01	-7,665.2	-580.1	530.8	432.3		98.46	5.390
19,633.1	12,150.0	12,292.5	12,321.9	74.6	16.9	110.40	-7,673.6	-570.5	519.7	419.9		99.82	5.206 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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 19H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 356-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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	
18,900.0	12,150.0	11,818.0	11,855.9	67.7	28.8	35.54	-7,662.1	-318.4	958.1	906.3	51.81	18.494	
19,000.0	12,150.0	11,818.0	11,855.9	68.7	28.8	35.54	-7,662.1	-318.4	866.3	812.4	53.90	16.073	
19,100.0	12,150.0	11,838.1	11,874.9	69.6	28.8	37.58	-7,668.6	-320.0	775.8	719.7	56.11	13.825	
19,200.0	12,150.0	11,864.0	11,898.7	70.5	28.8	40.38	-7,678.4	-321.9	687.9	629.1	58.80	11.698	
19,300.0	12,150.0	11,864.0	11,898.7	71.5	28.8	40.38	-7,678.4	-321.9	602.0	538.5	63.56	9.472	
19,400.0	12,150.0	11,882.9	11,915.6	72.4	28.7	42.52	-7,686.8	-323.1	520.4	451.4	69.03	7.540	
19,500.0	12,150.0	11,912.0	11,940.6	73.4	28.7	45.95	-7,701.7	-324.5	444.4	368.8	75.63	5.876	
19,600.0	12,150.0	11,939.9	11,963.4	74.3	28.7	49.35	-7,717.7	-325.2	375.5	291.2	84.39	4.450	
19,633.1	12,150.0	11,958.0	11,977.6	74.6	28.7	51.59	-7,728.9	-325.3	354.7	267.7	86.94	4.079 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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Reference Datum

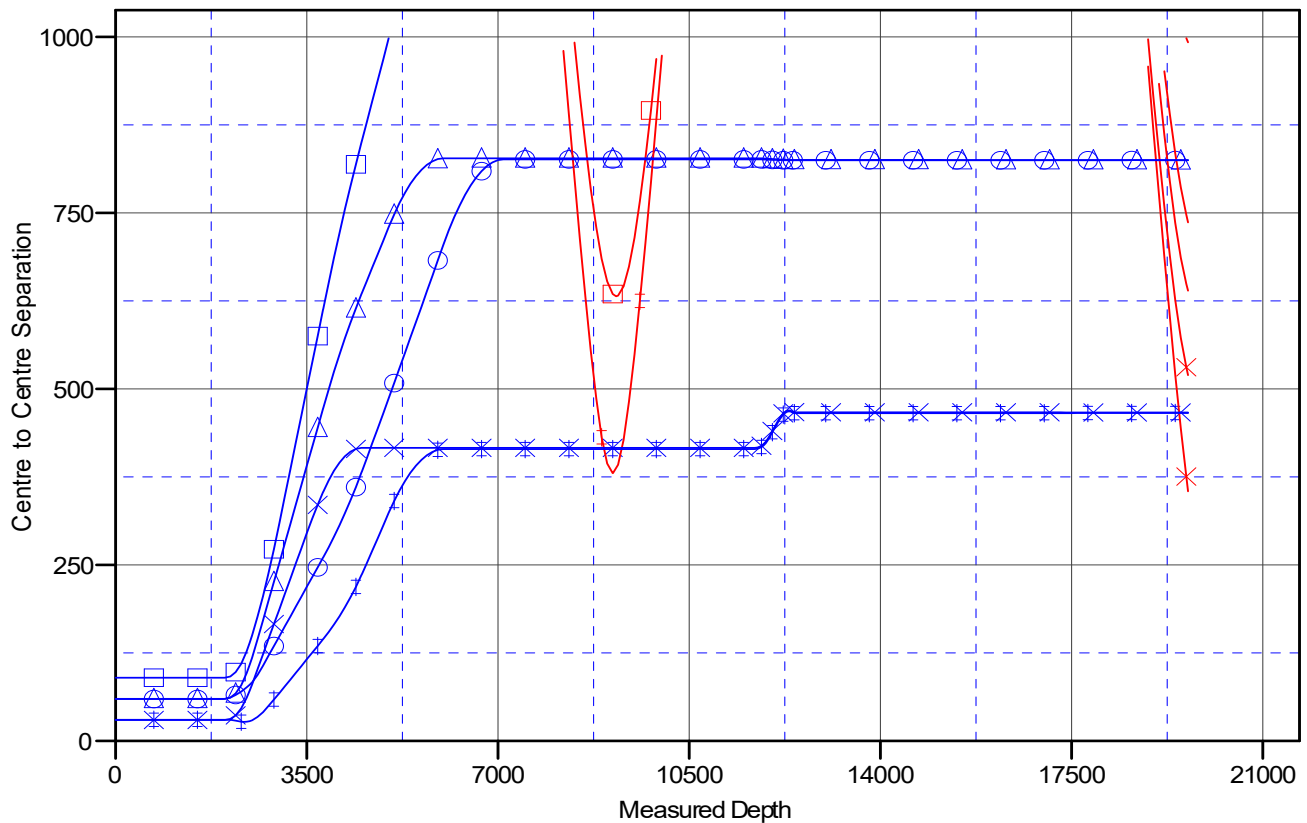
Offset Design: STATE LINE OFFSETS - PATHFINDER STATE 7 20H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 136-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
19,200.0	12,150.0	11,770.0	11,796.5	70.5	26.3	60.91	-7,691.1	-743.5	951.3	869.2		82.08	11.591
19,300.0	12,150.0	11,785.8	11,810.6	71.5	26.3	61.95	-7,698.2	-745.0	889.8	802.8		87.03	10.225
19,400.0	12,150.0	11,816.0	11,837.0	72.4	26.2	63.94	-7,712.5	-748.0	834.7	742.7		91.99	9.073
19,500.0	12,150.0	11,834.7	11,853.0	73.4	26.2	65.18	-7,722.0	-750.0	786.7	689.4		97.37	8.080
19,600.0	12,150.0	11,863.0	11,876.6	74.3	26.1	67.05	-7,737.1	-753.3	747.5	645.1		102.43	7.297
19,633.1	12,150.0	11,863.0	11,876.6	74.6	26.1	67.05	-7,737.1	-753.3	736.7	632.5		104.20	7.069 CC, ES, SF

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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 @ 3177.3usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _LIL JOHN FED COM 709H
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 3H, OWB, AWP V0	EXCELSIOR 7 8H, OWB, AWP V0	_LIL JOHN FED COM 710H, OWB, PWP0 V0
SALADO DRAW 19 26 33 FEDERAL COM 2H, OWB, AWP V0	PATHFINDER STATE 7 16H, OWB, AWP V0	_LIL JOHN FED COM 712H, OWB, PWP0 V0
EXCELSIOR 7 7H, OWB, AWP V0	PATHFINDER STATE 7 20H, OWB, AWP V0	_LIL JOHN FED COM 708H, OWB, PWP0 V0
PATHFINDER STATE 7 19H, OWB, AWP V0	_LIL JOHN FED COM 707H, OWB, PWP0 V0	_LIL JOHN FED COM 711H, 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 709H
Project:	ZIA HILLS UNIT AREA	TVD Reference:	KB @ 3177.3usft
Reference Site:	LIL JOHN FEDERAL PROJECT	MD Reference:	KB @ 3177.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_LIL JOHN FED COM 709H	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 @ 3177.3usft

Offset Depths are relative to Offset Datum

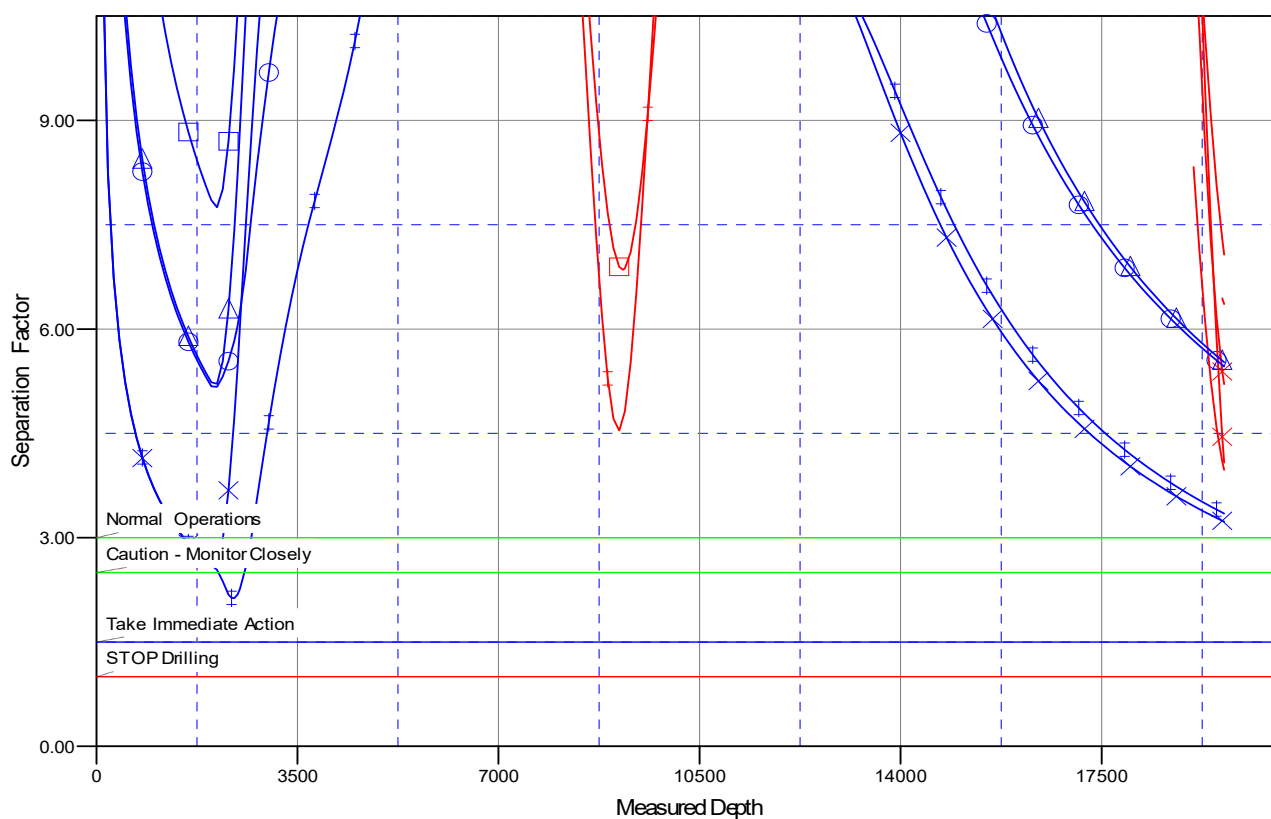
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _LIL JOHN FED COM 709H

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 3H, OWB, AWP V0
■ SALADO DRAW 19 26 33 FEDERAL COM 2H, OWB, AWP V0
■ EXCELSIOR 7 7H, OWB, AWP V0
■ PATHFINDER STATE 7 19H, OWB, AWP V0

■ EXCELSIOR 7 8H, OWB, AWP V0
■ PATHFINDER STATE 7 16H, OWB, AWP V0
■ PATHFINDER STATE 7 20H, OWB, AWP V0
■ _LIL JOHN FED COM 707H, OWB, PWP0 V0

■ _LIL JOHN FED COM 710H, OWB, PWP0 V0
■ _LIL JOHN FED COM 712H, OWB, PWP0 V0
■ _LIL JOHN FED COM 708H, OWB, PWP0 V0
■ _LIL JOHN FED COM 711H, OWB, PWP0 V0

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

DELAWARE BASIN EAST

ZIA HILLS UNIT AREA

LIL JOHN FEDERAL PROJECT

_LIL JOHN FED COM 709H

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 709H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3177.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3177.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 709H	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	47,256.91562214

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	-0.1	0.0	180.83

Plan Survey Tool Program	Date	2/4/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	19,633.1 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	-0.1	0.0	0.00	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	-0.1	0.0	0.00	0.00	0.00	0.00	
2,455.4	7.11	316.34	2,454.5	15.9	-15.2	2.00	2.00	0.00	316.34	
3,802.2	7.11	316.34	3,790.9	136.4	-130.2	0.00	0.00	0.00	0.00	
4,513.1	0.00	0.00	4,500.0	168.3	-160.6	1.00	-1.00	0.00	180.00	
11,685.6	0.00	0.00	11,672.5	168.3	-160.6	0.00	0.00	0.00	0.00	
12,435.6	90.00	179.62	12,150.0	-309.1	-157.4	12.00	12.00	23.95	179.62	
19,633.1	90.00	179.62	12,150.0	-7,506.5	-109.3	0.00	0.00	0.00	0.00	

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Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3177.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3177.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-0.1	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	-0.1	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	-0.1	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	-0.1	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	-0.1	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	-0.1	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	-0.1	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	-0.1	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	-0.1	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	-0.1	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	-0.1	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	-0.1	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	-0.1	0.0	0.0	0.00	0.00	0.00
2,200.0	2.00	316.34	2,200.0	1.2	-1.2	-1.2	2.00	2.00	0.00
2,300.0	4.00	316.34	2,299.8	5.0	-4.8	-5.0	2.00	2.00	0.00
2,400.0	6.00	316.34	2,399.5	11.3	-10.8	-11.2	2.00	2.00	0.00
2,455.4	7.11	316.34	2,454.5	15.9	-15.2	-15.7	2.00	2.00	0.00
2,500.0	7.11	316.34	2,498.7	19.9	-19.0	-19.6	0.00	0.00	0.00
2,600.0	7.11	316.34	2,598.0	28.8	-27.5	-28.5	0.00	0.00	0.00
2,700.0	7.11	316.34	2,697.2	37.8	-36.1	-37.3	0.00	0.00	0.00
2,800.0	7.11	316.34	2,796.4	46.7	-44.6	-46.1	0.00	0.00	0.00
2,900.0	7.11	316.34	2,895.7	55.7	-53.2	-55.0	0.00	0.00	0.00
3,000.0	7.11	316.34	2,994.9	64.6	-61.7	-63.8	0.00	0.00	0.00
3,100.0	7.11	316.34	3,094.1	73.6	-70.2	-72.6	0.00	0.00	0.00
3,200.0	7.11	316.34	3,193.4	82.5	-78.8	-81.4	0.00	0.00	0.00
3,300.0	7.11	316.34	3,292.6	91.5	-87.3	-90.3	0.00	0.00	0.00
3,400.0	7.11	316.34	3,391.8	100.4	-95.9	-99.1	0.00	0.00	0.00
3,500.0	7.11	316.34	3,491.1	109.4	-104.4	-107.9	0.00	0.00	0.00
3,600.0	7.11	316.34	3,590.3	118.3	-113.0	-116.7	0.00	0.00	0.00
3,700.0	7.11	316.34	3,689.5	127.3	-121.5	-125.6	0.00	0.00	0.00
3,800.0	7.11	316.34	3,788.8	136.2	-130.0	-134.4	0.00	0.00	0.00
3,802.2	7.11	316.34	3,790.9	136.4	-130.2	-134.6	0.00	0.00	0.00
3,900.0	6.13	316.34	3,888.1	144.6	-138.0	-142.6	1.00	-1.00	0.00
4,000.0	5.13	316.34	3,987.6	151.7	-144.8	-149.6	1.00	-1.00	0.00
4,100.0	4.13	316.34	4,087.3	157.5	-150.4	-155.4	1.00	-1.00	0.00
4,200.0	3.13	316.34	4,187.1	162.1	-154.7	-159.9	1.00	-1.00	0.00
4,300.0	2.13	316.34	4,287.0	165.4	-157.9	-163.2	1.00	-1.00	0.00
4,400.0	1.13	316.34	4,386.9	167.5	-159.9	-165.2	1.00	-1.00	0.00
4,500.0	0.13	316.34	4,486.9	168.3	-160.6	-166.0	1.00	-1.00	0.00
4,513.1	0.00	0.00	4,500.0	168.3	-160.6	-166.0	1.00	-1.00	0.00
4,600.0	0.00	0.00	4,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3177.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3177.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.0	0.00	0.00	5,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,000.0	0.00	0.00	7,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,000.0	0.00	0.00	8,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,000.0	0.00	0.00	9,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3177.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3177.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,500.0	0.00	0.00	10,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,686.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,800.0	0.00	0.00	10,786.9	168.3	-160.6	-166.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,886.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,000.0	0.00	0.00	10,986.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,100.0	0.00	0.00	11,086.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,186.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,286.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,386.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,486.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,600.0	0.00	0.00	11,586.9	168.3	-160.6	-166.0	0.00	0.00	0.00
11,685.6	0.00	0.00	11,672.5	168.3	-160.6	-166.0	0.00	0.00	0.00
11,700.0	1.73	179.62	11,686.9	168.1	-160.6	-165.8	12.00	12.00	0.00
11,800.0	13.73	179.62	11,785.8	154.7	-160.5	-152.4	12.00	12.00	0.00
11,900.0	25.73	179.62	11,879.8	121.0	-160.3	-118.7	12.00	12.00	0.00
12,000.0	37.73	179.62	11,964.7	68.5	-160.0	-66.2	12.00	12.00	0.00
12,100.0	49.73	179.62	12,036.8	-0.5	-159.5	2.8	12.00	12.00	0.00
12,200.0	61.73	179.62	12,093.0	-83.0	-159.0	85.2	12.00	12.00	0.00
12,300.0	73.73	179.62	12,130.8	-175.4	-158.3	177.6	12.00	12.00	0.00
12,400.0	85.73	179.62	12,148.6	-273.6	-157.7	275.8	12.00	12.00	0.00
12,435.6	90.00	179.62	12,150.0	-309.1	-157.4	311.3	12.00	12.00	0.00
12,500.0	90.00	179.62	12,150.0	-373.6	-157.0	375.7	0.00	0.00	0.00
12,600.0	90.00	179.62	12,150.0	-473.6	-156.3	475.7	0.00	0.00	0.00
12,700.0	90.00	179.62	12,150.0	-573.6	-155.7	575.7	0.00	0.00	0.00
12,800.0	90.00	179.62	12,150.0	-673.6	-155.0	675.7	0.00	0.00	0.00
12,900.0	90.00	179.62	12,150.0	-773.6	-154.3	775.6	0.00	0.00	0.00
13,000.0	90.00	179.62	12,150.0	-873.5	-153.7	875.6	0.00	0.00	0.00
13,100.0	90.00	179.62	12,150.0	-973.5	-153.0	975.6	0.00	0.00	0.00
13,200.0	90.00	179.62	12,150.0	-1,073.5	-152.3	1,075.6	0.00	0.00	0.00
13,300.0	90.00	179.62	12,150.0	-1,173.5	-151.7	1,175.6	0.00	0.00	0.00
13,400.0	90.00	179.62	12,150.0	-1,273.5	-151.0	1,275.5	0.00	0.00	0.00
13,500.0	90.00	179.62	12,150.0	-1,373.5	-150.3	1,375.5	0.00	0.00	0.00
13,600.0	90.00	179.62	12,150.0	-1,473.5	-149.7	1,475.5	0.00	0.00	0.00
13,700.0	90.00	179.62	12,150.0	-1,573.5	-149.0	1,575.5	0.00	0.00	0.00
13,800.0	90.00	179.62	12,150.0	-1,673.5	-148.3	1,675.4	0.00	0.00	0.00
13,900.0	90.00	179.62	12,150.0	-1,773.5	-147.7	1,775.4	0.00	0.00	0.00
14,000.0	90.00	179.62	12,150.0	-1,873.5	-147.0	1,875.4	0.00	0.00	0.00
14,100.0	90.00	179.62	12,150.0	-1,973.5	-146.3	1,975.4	0.00	0.00	0.00
14,200.0	90.00	179.62	12,150.0	-2,073.5	-145.7	2,075.4	0.00	0.00	0.00
14,300.0	90.00	179.62	12,150.0	-2,173.5	-145.0	2,175.3	0.00	0.00	0.00
14,400.0	90.00	179.62	12,150.0	-2,273.5	-144.3	2,275.3	0.00	0.00	0.00
14,500.0	90.00	179.62	12,150.0	-2,373.5	-143.7	2,375.3	0.00	0.00	0.00
14,600.0	90.00	179.62	12,150.0	-2,473.5	-143.0	2,475.3	0.00	0.00	0.00
14,700.0	90.00	179.62	12,150.0	-2,573.5	-142.3	2,575.2	0.00	0.00	0.00
14,800.0	90.00	179.62	12,150.0	-2,673.5	-141.6	2,675.2	0.00	0.00	0.00
14,900.0	90.00	179.62	12,150.0	-2,773.5	-141.0	2,775.2	0.00	0.00	0.00
15,000.0	90.00	179.62	12,150.0	-2,873.5	-140.3	2,875.2	0.00	0.00	0.00
15,100.0	90.00	179.62	12,150.0	-2,973.5	-139.6	2,975.2	0.00	0.00	0.00
15,200.0	90.00	179.62	12,150.0	-3,073.5	-139.0	3,075.1	0.00	0.00	0.00
15,300.0	90.00	179.62	12,150.0	-3,173.5	-138.3	3,175.1	0.00	0.00	0.00
15,400.0	90.00	179.62	12,150.0	-3,273.5	-137.6	3,275.1	0.00	0.00	0.00
15,500.0	90.00	179.62	12,150.0	-3,373.5	-137.0	3,375.1	0.00	0.00	0.00
15,600.0	90.00	179.62	12,150.0	-3,473.5	-136.3	3,475.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3177.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3177.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

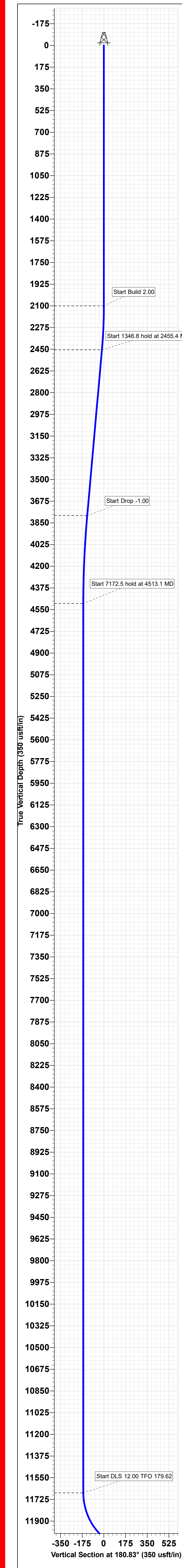
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,700.0	90.00	179.62	12,150.0	-3,573.5	-135.6	3,575.0	0.00	0.00	0.00
15,800.0	90.00	179.62	12,150.0	-3,673.5	-135.0	3,675.0	0.00	0.00	0.00
15,900.0	90.00	179.62	12,150.0	-3,773.5	-134.3	3,775.0	0.00	0.00	0.00
16,000.0	90.00	179.62	12,150.0	-3,873.5	-133.6	3,874.9	0.00	0.00	0.00
16,100.0	90.00	179.62	12,150.0	-3,973.5	-133.0	3,974.9	0.00	0.00	0.00
16,200.0	90.00	179.62	12,150.0	-4,073.5	-132.3	4,074.9	0.00	0.00	0.00
16,300.0	90.00	179.62	12,150.0	-4,173.5	-131.6	4,174.9	0.00	0.00	0.00
16,400.0	90.00	179.62	12,150.0	-4,273.5	-131.0	4,274.9	0.00	0.00	0.00
16,500.0	90.00	179.62	12,150.0	-4,373.5	-130.3	4,374.8	0.00	0.00	0.00
16,600.0	90.00	179.62	12,150.0	-4,473.5	-129.6	4,474.8	0.00	0.00	0.00
16,700.0	90.00	179.62	12,150.0	-4,573.5	-128.9	4,574.8	0.00	0.00	0.00
16,800.0	90.00	179.62	12,150.0	-4,673.5	-128.3	4,674.8	0.00	0.00	0.00
16,900.0	90.00	179.62	12,150.0	-4,773.5	-127.6	4,774.7	0.00	0.00	0.00
17,000.0	90.00	179.62	12,150.0	-4,873.5	-126.9	4,874.7	0.00	0.00	0.00
17,100.0	90.00	179.62	12,150.0	-4,973.5	-126.3	4,974.7	0.00	0.00	0.00
17,200.0	90.00	179.62	12,150.0	-5,073.5	-125.6	5,074.7	0.00	0.00	0.00
17,300.0	90.00	179.62	12,150.0	-5,173.5	-124.9	5,174.7	0.00	0.00	0.00
17,400.0	90.00	179.62	12,150.0	-5,273.5	-124.3	5,274.6	0.00	0.00	0.00
17,500.0	90.00	179.62	12,150.0	-5,373.4	-123.6	5,374.6	0.00	0.00	0.00
17,600.0	90.00	179.62	12,150.0	-5,473.4	-122.9	5,474.6	0.00	0.00	0.00
17,700.0	90.00	179.62	12,150.0	-5,573.4	-122.3	5,574.6	0.00	0.00	0.00
17,800.0	90.00	179.62	12,150.0	-5,673.4	-121.6	5,674.5	0.00	0.00	0.00
17,900.0	90.00	179.62	12,150.0	-5,773.4	-120.9	5,774.5	0.00	0.00	0.00
18,000.0	90.00	179.62	12,150.0	-5,873.4	-120.3	5,874.5	0.00	0.00	0.00
18,100.0	90.00	179.62	12,150.0	-5,973.4	-119.6	5,974.5	0.00	0.00	0.00
18,200.0	90.00	179.62	12,150.0	-6,073.4	-118.9	6,074.5	0.00	0.00	0.00
18,300.0	90.00	179.62	12,150.0	-6,173.4	-118.3	6,174.4	0.00	0.00	0.00
18,400.0	90.00	179.62	12,150.0	-6,273.4	-117.6	6,274.4	0.00	0.00	0.00
18,500.0	90.00	179.62	12,150.0	-6,373.4	-116.9	6,374.4	0.00	0.00	0.00
18,600.0	90.00	179.62	12,150.0	-6,473.4	-116.3	6,474.4	0.00	0.00	0.00
18,700.0	90.00	179.62	12,150.0	-6,573.4	-115.6	6,574.3	0.00	0.00	0.00
18,800.0	90.00	179.62	12,150.0	-6,673.4	-114.9	6,674.3	0.00	0.00	0.00
18,900.0	90.00	179.62	12,150.0	-6,773.4	-114.2	6,774.3	0.00	0.00	0.00
19,000.0	90.00	179.62	12,150.0	-6,873.4	-113.6	6,874.3	0.00	0.00	0.00
19,100.0	90.00	179.62	12,150.0	-6,973.4	-112.9	6,974.2	0.00	0.00	0.00
19,200.0	90.00	179.62	12,150.0	-7,073.4	-112.2	7,074.2	0.00	0.00	0.00
19,300.0	90.00	179.62	12,150.0	-7,173.4	-111.6	7,174.2	0.00	0.00	0.00
19,400.0	90.00	179.62	12,150.0	-7,273.4	-110.9	7,274.2	0.00	0.00	0.00
19,500.0	90.00	179.62	12,150.0	-7,373.4	-110.2	7,374.2	0.00	0.00	0.00
19,600.0	90.00	179.62	12,150.0	-7,473.4	-109.6	7,474.1	0.00	0.00	0.00
19,633.1	90.00	179.62	12,150.0	-7,506.5	-109.3	7,507.2	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _LIL JOHN FED COM 709H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB @ 3177.3usft
Project:	ZIA HILLS UNIT AREA	MD Reference:	KB @ 3177.3usft
Site:	LIL JOHN FEDERAL PROJECT	North Reference:	Grid
Well:	_LIL JOHN FED COM 709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

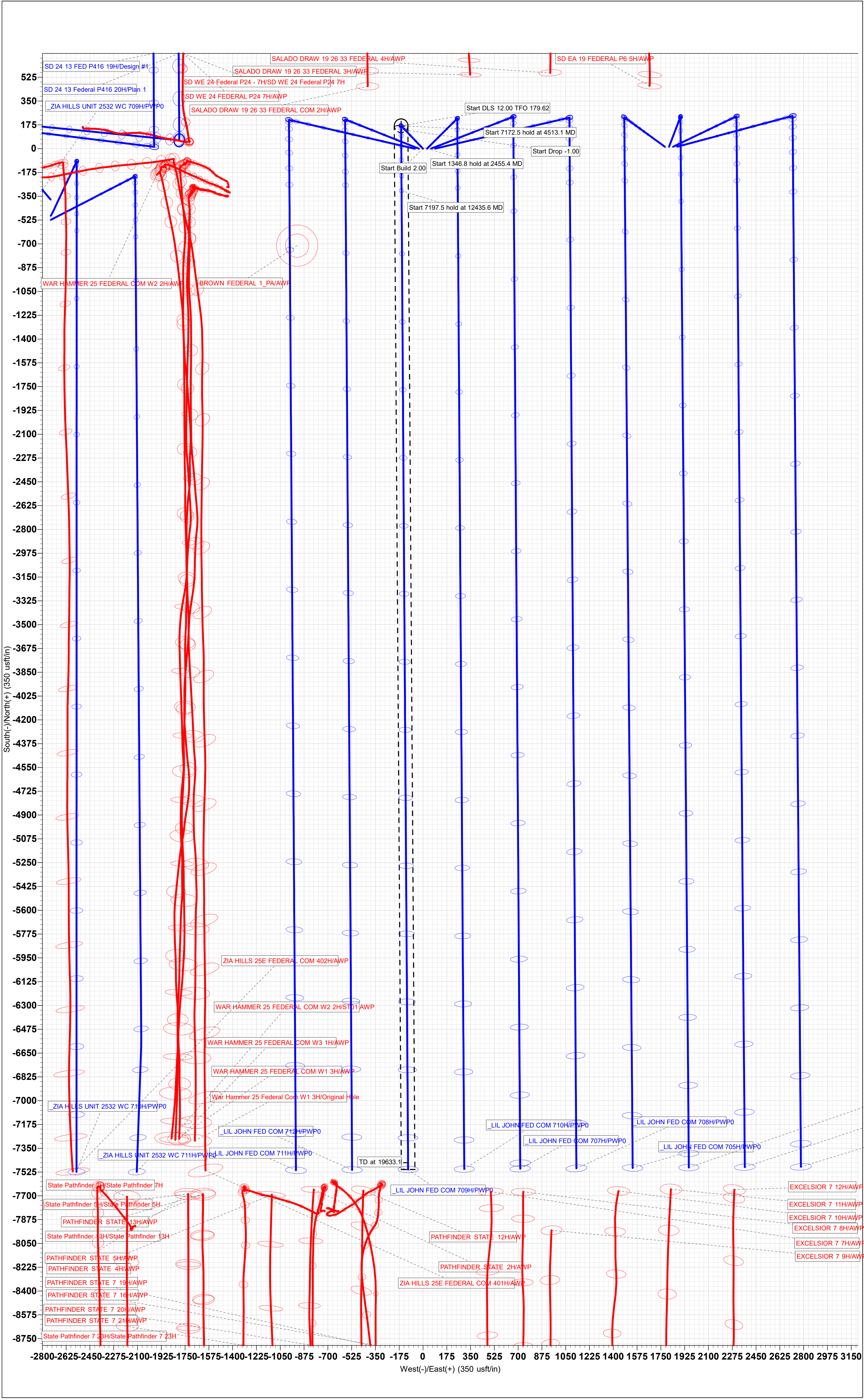
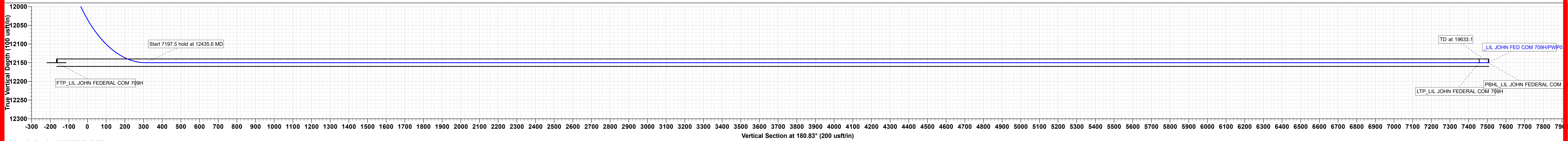
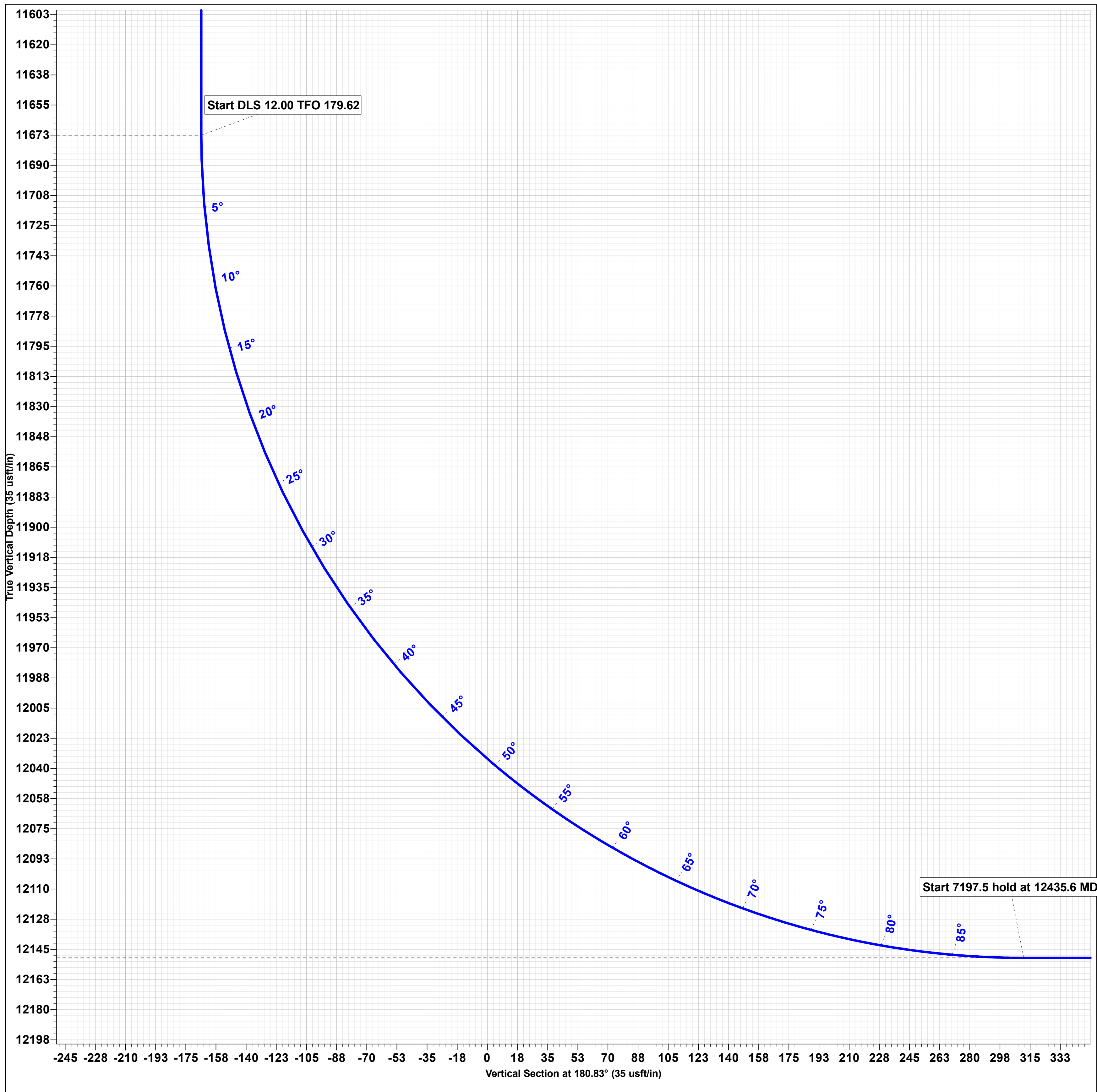
Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
LTP_LIL JOHN FEDER#	0.00	0.00	12,150.0	-7,456.4	-109.7	364,607.17	722,488.37	32° 0' 1.399 N	103° 36' 56.239 W
- plan misses target center by 0.1usft at 19583.0usft MD (12150.0 TVD, -7456.4 N, -109.7 E)									
- Point									
FTP_LIL JOHN FEDER#	0.00	0.01	12,150.0	168.6	-160.7	372,232.16	722,437.44	32° 1' 16.858 N	103° 36' 56.242 W
- plan misses target center by 198.1usft at 12064.8usft MD (12013.1 TVD, 25.4 N, -159.7 E)									
- Circle (radius 50.0)									
PBHL_LIL JOHN FEDEF	0.00	359.62	12,150.0	-7,506.4	-109.4	364,557.17	722,488.72	32° 0' 0.904 N	103° 36' 56.238 W
- plan misses target center by 0.1usft at 19633.0usft MD (12150.0 TVD, -7506.4 N, -109.3 E)									
- Rectangle (sides W100.0 H7,672.4 D20.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	19,633.1	12,150.0	5-1/2" Production Casing	5-1/2	6



Project: ZIA HILLS UNIT AREA
Site: LIL JOHN FEDERAL PROJECT
Well: LIL JOHN FED COM 709H
Wellbore: OWB
Design: PWP0

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	
0.0	0.00	0.00	0.0	-0.1	0.0	0.00	0.00	0.0	
2100.0	0.00	0.00	2100.0	-0.1	0.0	0.00	0.00	0.0	
2455.4	7.11	316.34	2454.5	15.9	-15.2	2.00	316.34	-15.7	
3802.2	7.11	316.34	3790.9	136.4	-130.2	0.00	0.00	-134.6	
4513.1	0.00	0.00	4500.0	168.3	-160.6	1.00	180.00	-166.0	
11685.6	0.00	0.00	11672.5	168.3	-160.6	0.00	0.00	-166.0	
12435.6	90.00	179.62	12150.0	-309.1	-157.4	12.00	179.62	311.3	
19633.1	90.00	179.62	12150.0	-7506.5	-109.3	0.00	0.00	7507.2	



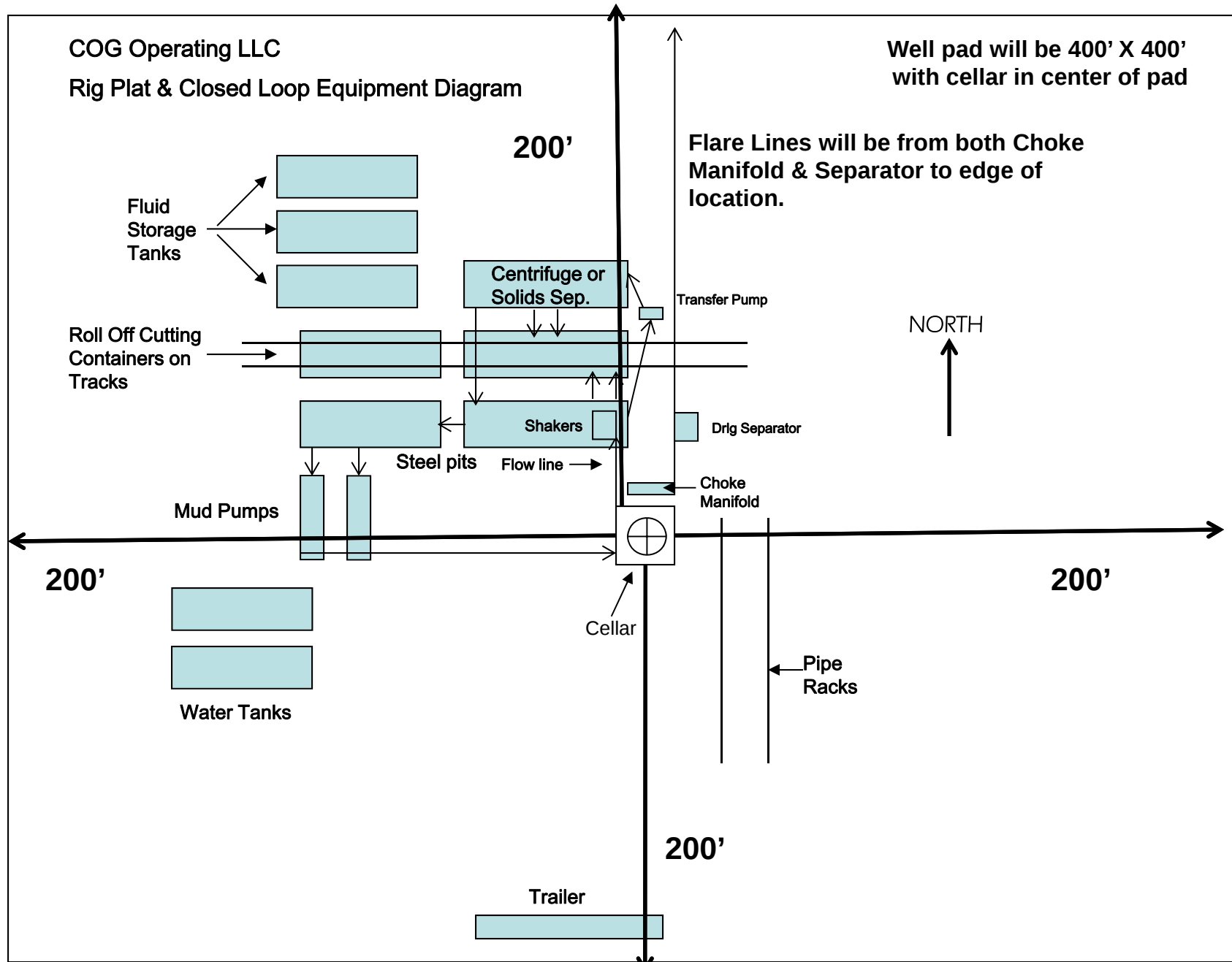


Exhibit 1

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

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: ConocoPhillips Company

OGRID: 217817

Date: 02/18/2025

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Lil John Federal Com 707H	30-025-	C-30-26S-33E	270 FNL & 1375 FWL	± 765	± 2001	± 1760
Lil John Federal Com 708H	30-025-	C-30-26S-33E	270 FNL & 1405 FWL	± 765	± 2001	± 1760
Lil John Federal Com 709H	30-025-	C-30-26S-33E	270 FNL & 1315 FWL	± 765	± 2001	± 1760
Lil John Federal Com 710H	30-025-	C-30-26S-33E	270 FNL & 1345 FWL	± 765	± 2001	± 1760
Lil John Federal Com 711H	30-025-	C-30-26S-33E	270 FNL & 1255 FWL	± 765	± 2001	± 1760
Lil John Federal Com 712H	30-025-	C-30-26S-33E	270 FNL & 1285 FWL	± 765	± 2001	± 1760

IV. Central Delivery Point Name: Lil John Federal Com CTB NENW 920' FNL & 1348' FWL 30-26S-33E [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Lil John Federal Com	Pending	± 5/1/2026	± 25 days from spud	TBD	TBD	TBD
707H, 708H, 709H, 710H, 711H, 712H						

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

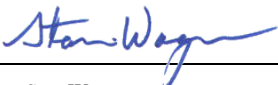
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 02/18/2025
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

VIII. Best Management Practices

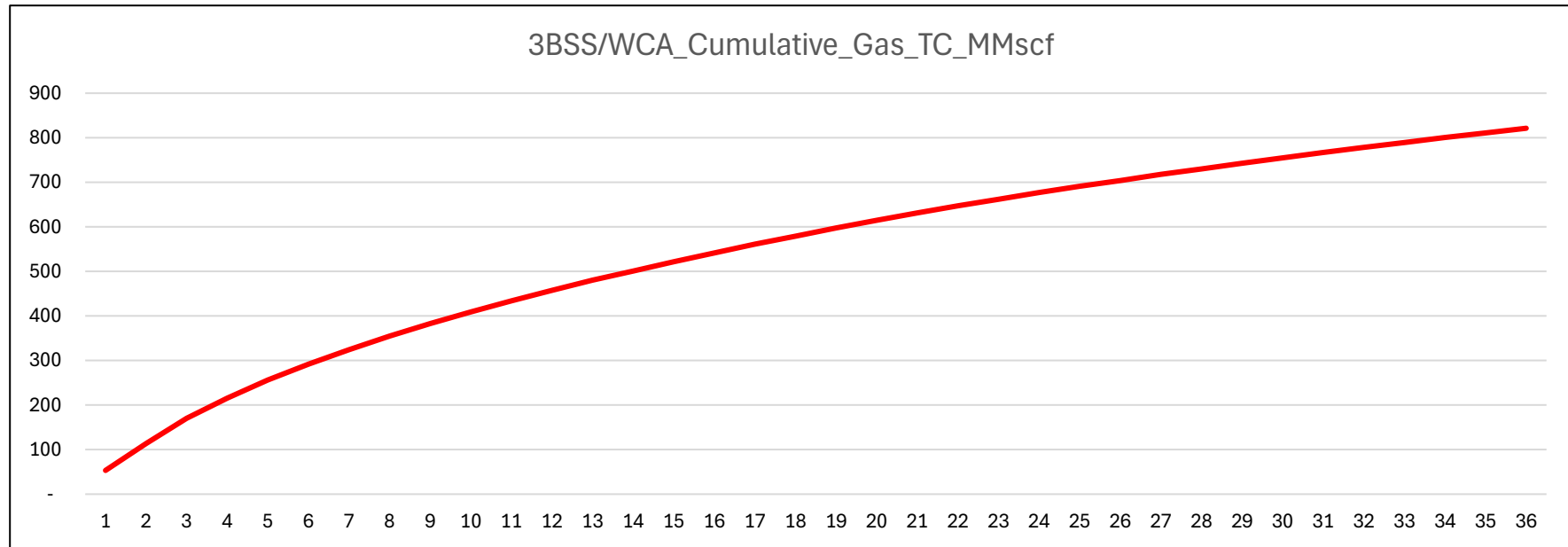
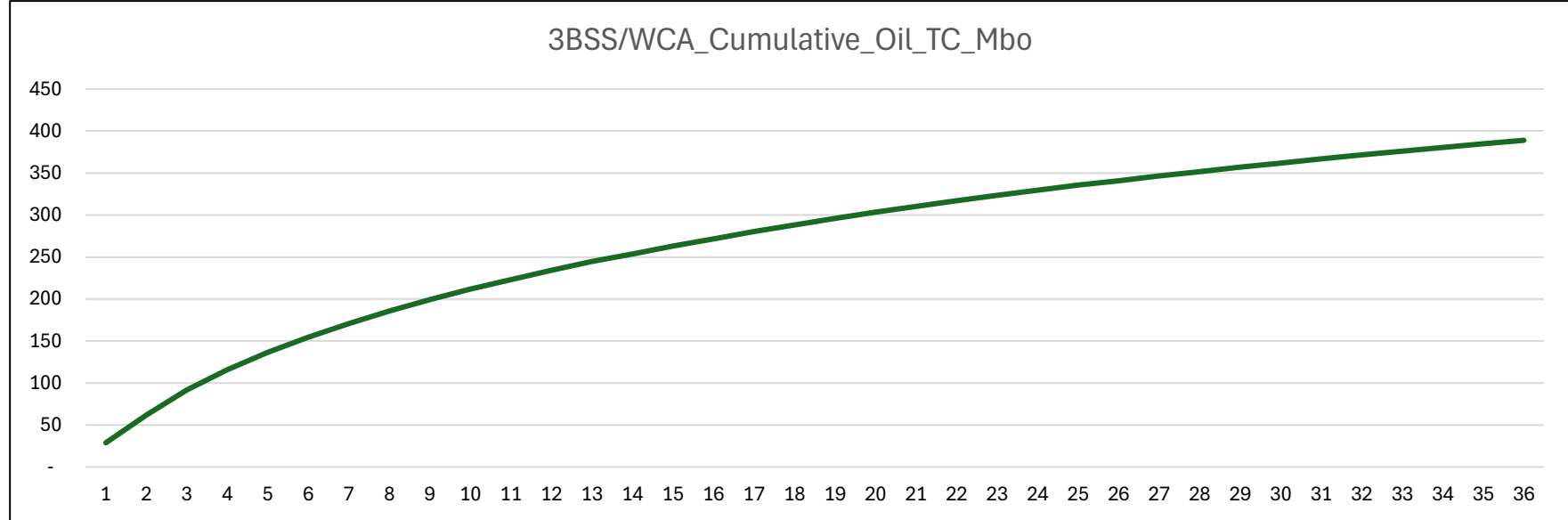
- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize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

Waste Minimization Plan

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

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

Anticipated Production Decline Curve



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	LIL JOHN FED COM 709H
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 490142

ACKNOWLEDGMENTS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 490142
	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 490142

CONDITIONS

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