

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: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30 015 48902
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)

- | | |
|---|---|
| <ul style="list-style-type: none"> 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). | <ul style="list-style-type: none"> 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: SESW / 1050 FSL / 1843 FWL / TWSP: 26S / RANGE: 31E / SECTION: 23 / LAT: 32.023732 / LONG: -103.751451 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 100 FSL / 2313 FWL / TWSP: 26S / RANGE: 31E / SECTION: 23 / LAT: 32.021125 / LONG: -103.749923 (TVD: 11379 feet, MD: 11495 feet)

BHL: NENW / 42 FNL / 2310 FWL / TWSP: 26S / RANGE: 31E / SECTION: 14 / LAT: 32.05005 / LONG: -103.749964 (TVD: 11830 feet, MD: 22259 feet)

BLM Point of Contact

Name: CIJI METHOLA

Title: GIS Support - Adjudicator

Phone: (575) 234-5924

Email: cmethoda@blm.gov

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30 015 48902		² Pool Code 98081		³ Pool Name Zia Hills; Wolfcamp	
⁴ Property Code 330828		⁵ Property Name ZHU 2331 WC		⁶ Well Number 10H	
⁷ OGRID No. 217817		⁸ Operator Name ConocoPhillips Company		⁹ Elevation 3189.7'	

¹⁰ Surface Location

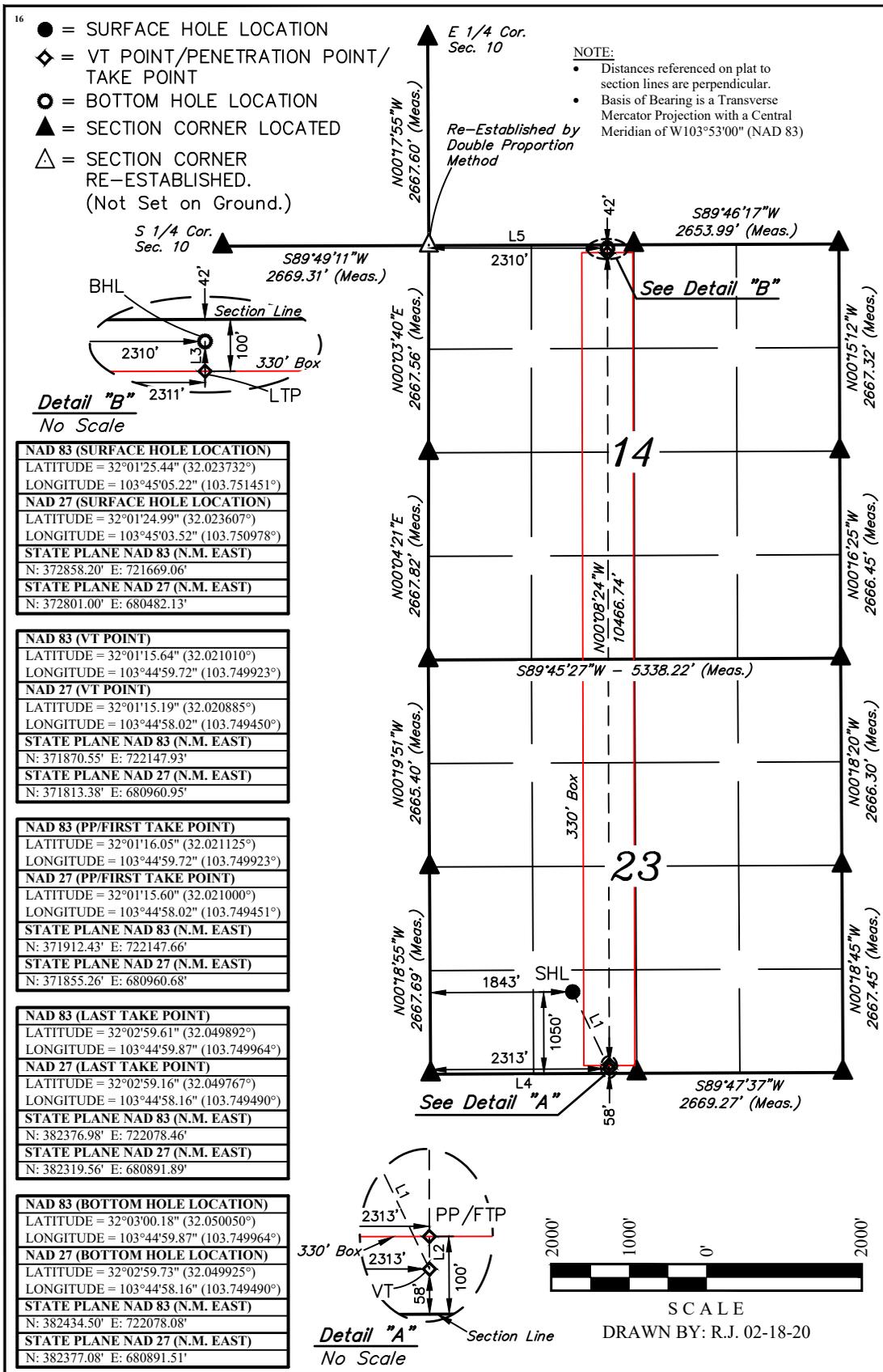
UL or lot no. N	Section 23	Township 26S	Range 31E	Lot Idn	Feet from the 1050	North/South line SOUTH	Feet from the 1843	East/West line WEST	County EDDY
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. C	Section 14	Township 26S	Range 31E	Lot Idn	Feet from the 42	North/South line NORTH	Feet from the 2310	East/West line WEST	County EDDY
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¹² Dedicated Acres 0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



17 OPERATOR CERTIFICATION

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

Signature: *Jeremy Lee* Date: 3/23/20
Printed Name: **Jeremy Lee**
E-mail Address: **Jeremy.L.Lee@cop.com**

18 SURVEYOR CERTIFICATION

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.

October 03, 2019
Date of Survey
Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
02-18-20
PROFESSIONAL SURVEYOR

Certificate Number:

Infill Horizontal Well

LINE TABLE

LINE	DIRECTION	LENGTH
L1	S25°37'42"E	1097.82'
L2	N00°08'25"W	41.88'
L3	N00°08'24"W	57.53'
L4	S89°44'08"W	2667.65'
L5	S89°46'35"W	2653.48'

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: _____ **OGRID:** _____ **Date:** ____/____/____

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

IV. Central Delivery Point Name: _____ [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

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:

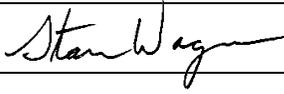
(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit 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.

Page 8

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:
Title:
E-mail Address:
Date:
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

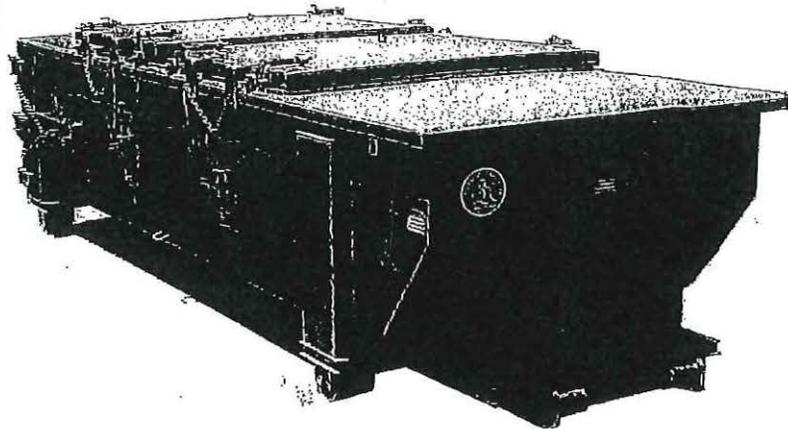
- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize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

WELL PLAN SUMMARY										Date: Mar 23, 2020																																																	
1280 Extended Reach Single Lateral										Version: 1																																																	
WELL: ZHU 2331 WC 10H										Prepared by: M. Callahan																																																	
SURFACE LOC: Sec 23 T26S R31E BH LOC: Sec 14 T26S R31E				1050' FSL 1843' FWL 42' FNL 2310' FWL				COUNTY, STATE: Eddy, Co, NM API No.: TRRC Permit: BLM Permit:				AFE: WAF.OND. Drilling Network No.: Invoice Handler ID: VENNECP COST ESTIMATE DRILLING COMPLETION FACILITIES TOTAL																																															
ELEVATIONS: GL 3,189.7' KB +30.5'				WH Coord.: LAT 32° 1' 24.99" N (NAD-27) LON 103° 45' 3.52" W																																																							
				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>FORMATION TOP:</th> <th>TVD</th> <th>SUBSEA</th> </tr> </thead> <tbody> <tr><td>Quaternary Fill</td><td>0</td><td>3,190</td></tr> <tr><td>Base of Fresh Water</td><td>300</td><td>2,890</td></tr> <tr><td>Rustler</td><td>786</td><td>2,404</td></tr> <tr><td>Top of Salt</td><td>956</td><td>2,234</td></tr> <tr><td>Castille</td><td>1,876</td><td>1,314</td></tr> <tr><td>Delaware Base of Salt</td><td>4,088</td><td>(898)</td></tr> <tr><td>Ford Shale</td><td>4,108</td><td>(918)</td></tr> <tr><td>Cherry Canyon</td><td>5,076</td><td>(1,886)</td></tr> <tr><td>Brushy Canyon</td><td>6,394</td><td>(3,204)</td></tr> <tr><td>Bone Springs</td><td>7,843</td><td>(4,653)</td></tr> <tr><td>Bone Springs 1st Sand</td><td>9,058</td><td>(5,868)</td></tr> <tr><td>Bone Springs 2nd Sand</td><td>9,775</td><td>(6,585)</td></tr> <tr><td>Bone Springs 3rd Carb</td><td>10,268</td><td>(7,078)</td></tr> <tr><td>Wolfcamp</td><td>11,380</td><td>(8,190)</td></tr> <tr><td>Wolfcamp 1</td><td>11,607</td><td>(8,417)</td></tr> </tbody> </table>				FORMATION TOP:	TVD	SUBSEA	Quaternary Fill	0	3,190	Base of Fresh Water	300	2,890	Rustler	786	2,404	Top of Salt	956	2,234	Castille	1,876	1,314	Delaware Base of Salt	4,088	(898)	Ford Shale	4,108	(918)	Cherry Canyon	5,076	(1,886)	Brushy Canyon	6,394	(3,204)	Bone Springs	7,843	(4,653)	Bone Springs 1st Sand	9,058	(5,868)	Bone Springs 2nd Sand	9,775	(6,585)	Bone Springs 3rd Carb	10,268	(7,078)	Wolfcamp	11,380	(8,190)	Wolfcamp 1	11,607	(8,417)	Objective This well is to be drilled with safety and protection of the environment as the primary objectives. The objective is to drill a single lateral well in the Wolfcamp formation and completed with 5-1/2\" cemented casing.			
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				Notes 1.) Refer to drilling procedure for additional detail and information. 2.) The primary regulatory agency is the BLM. 3.) Surface: 2\" max., 1\" 100' DLS; svy every 500' 4.) Int: 90\" max., 8\" 100'; svy every 90\" (svy every 30\" in build and drop, 30\" in curve) 5.) Losses to be expected in Chery and Brushy Canyon formations. Overpressure may be encountered throughout Delaware.																																																							
				Goals Have no lost time or recordable accidents. Have no spills or adverse environmental impact. Have no stuck pipe incidents. Avoid lost circulation incidents. Maintain well control and follow ConocoPhillips well control policy. Obtain good mud log data. Deliver usable wellbore to production department.																																																							
				CONTACTS				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Office</th> <th>Cell</th> </tr> </thead> <tbody> <tr> <td>Drilling Engineer: Mike Callahan</td> <td>832-486-2480</td> <td>907-231-2176</td> </tr> <tr> <td>Geologist: Josh Day</td> <td>281-206-5620</td> <td>423-512-0347</td> </tr> <tr> <td>Onsite Drilling Rep.: Greg Rivera</td> <td>432-309-9007</td> <td></td> </tr> <tr> <td>Manny Castillo</td> <td></td> <td></td> </tr> <tr> <td>Field Drilling Supt.: James Taylor</td> <td>830-583-4828</td> <td>956-229-1393</td> </tr> <tr> <td>Patrick Wellman</td> <td></td> <td>432-215-7079</td> </tr> <tr> <td>Drilling Supt.: J.G. Samuell</td> <td>281-293-1936</td> <td>832-465-8148</td> </tr> </tbody> </table>					Office	Cell	Drilling Engineer: Mike Callahan	832-486-2480	907-231-2176	Geologist: Josh Day	281-206-5620	423-512-0347	Onsite Drilling Rep.: Greg Rivera	432-309-9007		Manny Castillo			Field Drilling Supt.: James Taylor	830-583-4828	956-229-1393	Patrick Wellman		432-215-7079	Drilling Supt.: J.G. Samuell	281-293-1936	832-465-8148																								
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TARGET 22,259 11,830 Gas / Oil Formation Dip Rate: est 90.1° (up dip) PBSD 22,259 11,830 Gas / Oil				Estimated BH Static Temperature (°F): 185 Max. Anticipated BH Pressure: 0.700 psi/ft 8,281 psi 13.5 ppg Max Anticipated Surface Pressure: 1,024 psi																																																							
DRILLING FLUID:																																																											
		Type		Interval (MD)		Density (ppg)		Vis (sec/qt)		PV (cP)		YP (#/100ft2)		pH		FL (mL)		LGS (% by vol)		NaCl (ppb sol)		Remarks																																					
Surface:		Fresh Water		Surface - 836'		8.6		28-50		1-5		2-6		7.5-8.5		NC		< 5.0		10,000		Rig Tanks																																					
Intermediate 1:		Emulsified Brine		836' - 12448'		9.5		28-50		1-5		2-6		7.5-8.5		NC		< 5.0		180,000		Rig Tanks																																					
Production:		OBM		12448' - 22259'		13.5		50-70		18-25		8-14		9.5-10		< 8		< 8.0		400 - 00		Rig Tanks																																					
Reference Drilling Fluids Program																																																											
CASING:												BOP:																																															
Surface:		17-1/2"		TOP (MD) 31'		BTM (MD) 836'		Length 805'		Size 13 3/8		Wt 54.50		Grade J-55		Connection BTC		Minimum - COP Class 3 Well Control Requirements Rig - 13-5/8"x10M psi Rams / 4-1/16"x10M psi Manifold Stackup - Rotating Head, Annular Preventer, Pipe Ram, Blind Ram, Mud Cross (Choke & Kill Valves), Pipe Ram Waste Handling: Closed loop cuttings disposal system with haul off to approved facility. Mud Pit: Float Based Electronic PVT with Flow Sensor and Gravity Trip Tank, Alarms +/- 10 BBLs Wellhead: 13-5/8" x 10M psi (Casing Head - "A" Section)																																									
Intermediate		12-1/4"		31'		12,448'		12,418'		9 5/8		40.00		L80-IC		BTC																																											
Production:		8-1/2"		31'		22,259'		22,228'		5 1/2		20.00		P-110 ICY		TXP																																											
ACP/DV Tool run 100' below water board depth if necessary Reference Cementing Recommendation																																																											
CENTRALIZATION: Surface Casing: 1 per 4 joints. Intermediate Casing: Shoe joint. 1 per joint from FC to 7,800'. 1 per 2 joints 7,800' to 2,300'. 1 per 4 joints 2,300' to surface. Production Liner: Rigid body 1 per 2 joints TD to Int Shoe. Bow Spring 1 per 2 joints Int shoe to 100' above KOP. 1 per 4 joints to surface																																																											
CEMENT:																																																											
Surface:		17-1/2"X13-3/8"		MD 836'		TVD 836'		Spacer 20 bbl FW		Lead 530 sx Control Set 'C' + adds		Tail 660 sx Type 'III' + adds		COMMENTS Cemented to surface w/ 200%XS Add FiberBlock 13ppg 1.34 ft3/sk TOC 500' into previous casing shoe w/ 70%L / 30%T XS calc'd on 12.25" Add FiberBlock Cemented to TOL w/ 10% XS calc'd on 8.5" hole. Displ. = volume to float collar +/- half shoe track																																													
Intermediate:		12-1/4"X9-5/8"		12,448'		11,830		40 bbl Invert Spacer + 100 bbl SW		11.5ppg 1.77 ft3/sk		15ppg 1.63 ft3/sk																																															
Production:		8-1/2"X5-1/2"		22,259'		11,830'		40 bbl Visweep		#REF!																																																	
Reference Cementing Recommendation																																																											
DIRECTIONAL PLAN:																																																											
		Comments		MD (ft)		INC (deg)		AZI (deg)		TVD (ft)		NS (ft)		EW (ft)		DLS (°/100')		VS (ft)		SEC-T-R		Section Line Distance																																					
		Build @ 1.5"/100'		5,000'		0		0		5,000'		0		0		0		0		Sec 23 T26S R31E		1050' FSL 1843' FWL																																					
		End Build @ 11°		5,748'		11		159		5,743'		-68		26		1.5		-67		Sec 23 T26S R31E		982' FSL 1869' FWL																																					
		KOP Build @ 8"/100'		11,092'		11		159		10,985'		-1038		399		0.0		-1020		Sec 23 T26S R31E		12' FSL 2242' FWL																																					
		Curve LP		12,348'		90		360		11,830'		-334		455		8		-314		Sec 23 T26S R31E		716' FSL 2298' FWL																																					
		Toe Sleeve 2		22,159'		90		0		11,830'		9677		409		0		9,485		Sec 14 T26S R31E		150' FNL 2310' FWL																																					
		Toe Sleeve 1		22,209'		90		0		11,830'		9627		409		0		9,535		Sec 14 T26S R31E		100' FNL 2310' FWL																																					
		PBHL/TD		22,259'		90		360		11,830'		9577		409		0		9,585		Sec 14 T26S R31E		42' FNL 2310' FWL																																					
Reference Directional Plan																																																											
MWD Surveys will be taken at 90' interval below surface casing, 30' while building curve, and every 90' while drilling lateral.																																																											
FORMATION EVALUATION: Mud Logging - One-Man: First surface hole to TD. First intermediate hole to TD Mud Logging - Two-Man: Intermediate Casing Point to TD Open Hole - PEX None Cased Hole - GR/CBL/USIT NA MWD - GR 200' above KOP to TD												Correlation Well:																																															
OUR WORK IS NEVER SO URGENT OR IMPORTANT THAT WE CANNOT TAKE THE TIME TO DO IT SAFELY!																																																											

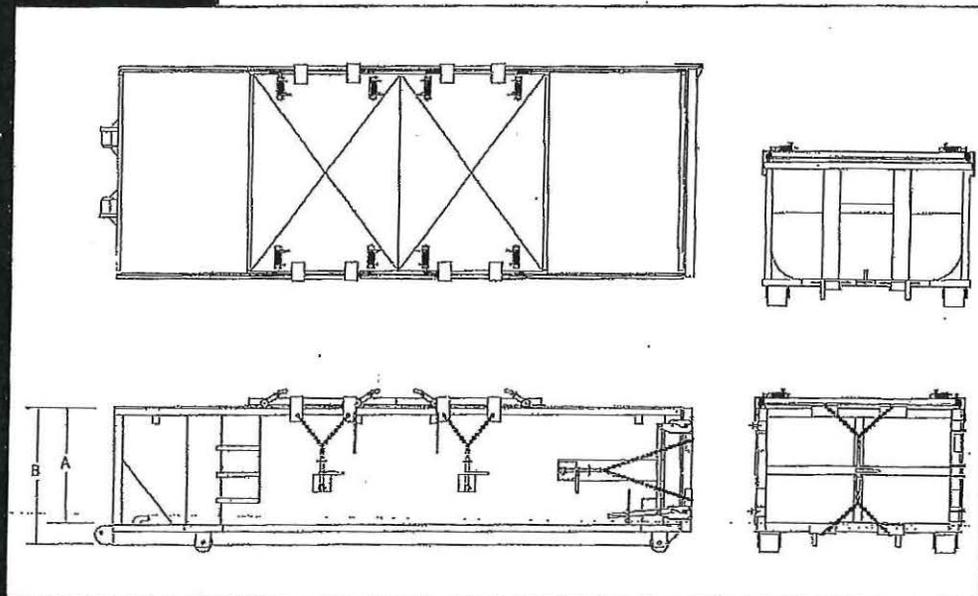
SPECIFICATIONS

Heavy Duty Split Metal Rolling Lid

FLOOR: 3/16" PL one piece
 CROSS MEMBER: 3 x 4.1 channel 16" on center
 WALLS: 3/16" PL solid welded with tubing top, inside liner hooks
 DOOR: 3/16" PL with tubing frame
 FRONT: 3/16" PL slant formed
 PICK UP: Standard cable with 2" x 6" x 1/4" rails, gusset at each crossmember
 WHEELS: 10 DIA x 9 long with rease fittings
 DOOR LATCH: 3 Independent ratchet binders with chains, vertical second latch
 GASKETS: Extruded rubber seal with metal retainers
 WELDS: All welds continuous except substructure crossmembers
 FINISH: Coated inside and out with direct to metal, rust inhibiting acrylic enamel color coat
 HYDROTESTING: Full capacity static test
 DIMENSIONS: 22'-11" long (21'-8" inside), 99" wide (88" inside), see drawing for height
 OPTIONS: Steel grit blast and special paint, Ampliroll, Heil and Dino pickup
 ROOF: 3/16" PL roof panels with tubing and channel support frame
 LIDS: (2) 68" x 90" metal rolling lids spring loaded, self raising
 ROLLERS: 4" V-groove rollers with delrin bearings and grease fittings
 OPENING: (2) 60" x 82" openings with 8" divider centered on container
 LATCH: (2) independent ratchet binders with chains per lid
 GASKETS: Extruded rubber seal with metal retainers



CONT.	A	B
20 YD	41	53
25 YD	53	65
30 YD	65	77



ConocoPhillips MCBU - Permian-Panhandle Gold Data

Planning - NM East State Zone - 3001

ZHU 2331 WC 10H_WC1_LO-W0503

ZHU 2331 WC 10H_WC1

ZHU 2331 WC 10H_WC1

Plan: ZHU 2331 WC 10H_WC1

Standard Planning Report

11 February, 2020

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well ZHU 2331 WC 10H_WC1
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3235.70ft (RKB)
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3235.70ft (RKB)
Site:	ZHU 2331 WC 10H_WC1_LO-W0503	North Reference:	Grid
Well:	ZHU 2331 WC 10H_WC1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZHU 2331 WC 10H_WC1		
Design:	ZHU 2331 WC 10H_WC1		

Project	Planning - NM East State Zone - 3001, Permian Basin - New Mexico - East/South East, Planning Project for Permian wells in NM Zone 3001		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	ZHU 2331 WC 10H_WC1_LO-W0503				
Site Position:		Northing:	372,801.001 usft	Latitude:	32° 1' 24.986 N
From:	Map	Easting:	680,482.129 usft	Longitude:	103° 45' 3.521 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16"	Grid Convergence:	0.31 °

Well	ZHU 2331 WC 10H_WC1					
Well Position	+N/-S	0.00 ft	Northing:	372,801.001 usft	Latitude:	32° 1' 24.986 N
	+E/-W	0.00 ft	Easting:	680,482.129 usft	Longitude:	103° 45' 3.521 W
Position Uncertainty		2.00 ft	Wellhead Elevation:	ft	Ground Level:	3,205.70 ft

Wellbore	ZHU 2331 WC 10H_WC1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	User Defined	2/10/2020	0.00	0.00	0.00000000

Design	ZHU 2331 WC 10H_WC1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	2.45

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,747.55	11.21	159.00	5,742.78	-68.08	26.13	1.50	1.50	0.00	159.00	
11,092.12	11.21	159.00	10,985.33	-1,038.39	398.50	0.00	0.00	0.00	0.00	
12,348.10	90.00	359.74	11,829.70	-333.87	454.55	8.00	6.27	-12.68	-158.90	ZHU 2331 WC 10H_V
22,258.68	90.00	359.74	11,829.70	9,576.61	409.40	0.00	0.00	0.00	0.00	ZHU 2331 WC 10H_V

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well ZHU 2331 WC 10H_WC1
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3235.70ft (RKB)
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3235.70ft (RKB)
Site:	ZHU 2331 WC 10H_WC1_LO-W0503	North Reference:	Grid
Well:	ZHU 2331 WC 10H_WC1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZHU 2331 WC 10H_WC1		
Design:	ZHU 2331 WC 10H_WC1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,100.00	1.50	159.00	5,099.99	-1.22	0.47	-1.20	1.50	1.50	0.00	
5,200.00	3.00	159.00	5,199.91	-4.89	1.88	-4.80	1.50	1.50	0.00	
5,300.00	4.50	159.00	5,299.69	-10.99	4.22	-10.80	1.50	1.50	0.00	

ConocoPhillips

Planning Report

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Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3235.70ft (RKB)
Site:	ZHU 2331 WC 10H_WC1_LO-W0503	North Reference:	Grid
Well:	ZHU 2331 WC 10H_WC1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZHU 2331 WC 10H_WC1		
Design:	ZHU 2331 WC 10H_WC1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	6.00	159.00	5,399.27	-19.54	7.50	-19.20	1.50	1.50	0.00
5,500.00	7.50	159.00	5,498.57	-30.51	11.71	-29.98	1.50	1.50	0.00
5,600.00	9.00	159.00	5,597.54	-43.91	16.85	-43.15	1.50	1.50	0.00
5,700.00	10.50	159.00	5,696.09	-59.72	22.92	-58.68	1.50	1.50	0.00
5,747.55	11.21	159.00	5,742.78	-68.08	26.13	-66.90	1.50	1.50	0.00
5,800.00	11.21	159.00	5,794.24	-77.60	29.78	-76.26	0.00	0.00	0.00
5,900.00	11.21	159.00	5,892.33	-95.75	36.75	-94.10	0.00	0.00	0.00
6,000.00	11.21	159.00	5,990.42	-113.91	43.71	-111.94	0.00	0.00	0.00
6,100.00	11.21	159.00	6,088.51	-132.06	50.68	-129.78	0.00	0.00	0.00
6,200.00	11.21	159.00	6,186.60	-150.22	57.65	-147.62	0.00	0.00	0.00
6,300.00	11.21	159.00	6,284.69	-168.37	64.62	-165.46	0.00	0.00	0.00
6,400.00	11.21	159.00	6,382.78	-186.53	71.58	-183.30	0.00	0.00	0.00
6,500.00	11.21	159.00	6,480.87	-204.68	78.55	-201.14	0.00	0.00	0.00
6,600.00	11.21	159.00	6,578.96	-222.84	85.52	-218.98	0.00	0.00	0.00
6,700.00	11.21	159.00	6,677.06	-240.99	92.49	-236.82	0.00	0.00	0.00
6,800.00	11.21	159.00	6,775.15	-259.15	99.45	-254.67	0.00	0.00	0.00
6,900.00	11.21	159.00	6,873.24	-277.30	106.42	-272.51	0.00	0.00	0.00
7,000.00	11.21	159.00	6,971.33	-295.46	113.39	-290.35	0.00	0.00	0.00
7,100.00	11.21	159.00	7,069.42	-313.61	120.35	-308.19	0.00	0.00	0.00
7,200.00	11.21	159.00	7,167.51	-331.77	127.32	-326.03	0.00	0.00	0.00
7,300.00	11.21	159.00	7,265.60	-349.92	134.29	-343.87	0.00	0.00	0.00
7,400.00	11.21	159.00	7,363.69	-368.08	141.26	-361.71	0.00	0.00	0.00
7,500.00	11.21	159.00	7,461.78	-386.24	148.22	-379.55	0.00	0.00	0.00
7,600.00	11.21	159.00	7,559.87	-404.39	155.19	-397.39	0.00	0.00	0.00
7,700.00	11.21	159.00	7,657.97	-422.55	162.16	-415.23	0.00	0.00	0.00
7,800.00	11.21	159.00	7,756.06	-440.70	169.13	-433.07	0.00	0.00	0.00
7,900.00	11.21	159.00	7,854.15	-458.86	176.09	-450.92	0.00	0.00	0.00
8,000.00	11.21	159.00	7,952.24	-477.01	183.06	-468.76	0.00	0.00	0.00
8,100.00	11.21	159.00	8,050.33	-495.17	190.03	-486.60	0.00	0.00	0.00
8,200.00	11.21	159.00	8,148.42	-513.32	196.99	-504.44	0.00	0.00	0.00
8,300.00	11.21	159.00	8,246.51	-531.48	203.96	-522.28	0.00	0.00	0.00
8,400.00	11.21	159.00	8,344.60	-549.63	210.93	-540.12	0.00	0.00	0.00
8,500.00	11.21	159.00	8,442.69	-567.79	217.90	-557.96	0.00	0.00	0.00
8,600.00	11.21	159.00	8,540.78	-585.94	224.86	-575.80	0.00	0.00	0.00
8,700.00	11.21	159.00	8,638.88	-604.10	231.83	-593.64	0.00	0.00	0.00
8,800.00	11.21	159.00	8,736.97	-622.25	238.80	-611.48	0.00	0.00	0.00
8,900.00	11.21	159.00	8,835.06	-640.41	245.77	-629.32	0.00	0.00	0.00
9,000.00	11.21	159.00	8,933.15	-658.56	252.73	-647.17	0.00	0.00	0.00
9,100.00	11.21	159.00	9,031.24	-676.72	259.70	-665.01	0.00	0.00	0.00
9,200.00	11.21	159.00	9,129.33	-694.87	266.67	-682.85	0.00	0.00	0.00
9,300.00	11.21	159.00	9,227.42	-713.03	273.63	-700.69	0.00	0.00	0.00
9,400.00	11.21	159.00	9,325.51	-731.18	280.60	-718.53	0.00	0.00	0.00
9,500.00	11.21	159.00	9,423.60	-749.34	287.57	-736.37	0.00	0.00	0.00
9,600.00	11.21	159.00	9,521.70	-767.49	294.54	-754.21	0.00	0.00	0.00
9,700.00	11.21	159.00	9,619.79	-785.65	301.50	-772.05	0.00	0.00	0.00
9,800.00	11.21	159.00	9,717.88	-803.80	308.47	-789.89	0.00	0.00	0.00
9,900.00	11.21	159.00	9,815.97	-821.96	315.44	-807.73	0.00	0.00	0.00
10,000.00	11.21	159.00	9,914.06	-840.11	322.41	-825.57	0.00	0.00	0.00
10,100.00	11.21	159.00	10,012.15	-858.27	329.37	-843.42	0.00	0.00	0.00
10,200.00	11.21	159.00	10,110.24	-876.42	336.34	-861.26	0.00	0.00	0.00
10,300.00	11.21	159.00	10,208.33	-894.58	343.31	-879.10	0.00	0.00	0.00
10,400.00	11.21	159.00	10,306.42	-912.73	350.27	-896.94	0.00	0.00	0.00
10,500.00	11.21	159.00	10,404.51	-930.89	357.24	-914.78	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well ZHU 2331 WC 10H_WC1
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3235.70ft (RKB)
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3235.70ft (RKB)
Site:	ZHU 2331 WC 10H_WC1_LO-W0503	North Reference:	Grid
Well:	ZHU 2331 WC 10H_WC1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZHU 2331 WC 10H_WC1		
Design:	ZHU 2331 WC 10H_WC1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,600.00	11.21	159.00	10,502.61	-949.04	364.21	-932.62	0.00	0.00	0.00
10,700.00	11.21	159.00	10,600.70	-967.20	371.18	-950.46	0.00	0.00	0.00
10,800.00	11.21	159.00	10,698.79	-985.35	378.14	-968.30	0.00	0.00	0.00
10,900.00	11.21	159.00	10,796.88	-1,003.51	385.11	-986.14	0.00	0.00	0.00
11,000.00	11.21	159.00	10,894.97	-1,021.66	392.08	-1,003.98	0.00	0.00	0.00
11,092.12	11.21	159.00	10,985.33	-1,038.39	398.50	-1,020.42	0.00	0.00	0.00
11,100.00	10.63	157.77	10,993.07	-1,039.77	399.05	-1,021.78	8.00	-7.43	-15.62
11,150.00	7.09	145.38	11,042.47	-1,046.58	402.54	-1,028.44	8.00	-7.08	-24.78
11,200.00	4.42	114.48	11,092.22	-1,049.92	406.05	-1,031.62	8.00	-5.34	-61.81
11,250.00	4.55	61.51	11,142.09	-1,049.77	409.55	-1,031.32	8.00	0.27	-105.93
11,300.00	7.34	32.74	11,191.83	-1,046.14	413.03	-1,027.54	8.00	5.58	-57.54
11,350.00	10.91	21.09	11,241.19	-1,039.03	416.46	-1,020.30	8.00	7.13	-23.30
11,400.00	14.70	15.26	11,289.94	-1,028.50	419.83	-1,009.63	8.00	7.58	-11.67
11,450.00	18.58	11.79	11,337.84	-1,014.57	423.13	-995.58	8.00	7.75	-6.93
11,500.00	22.50	9.50	11,384.65	-997.34	426.34	-978.22	8.00	7.84	-4.59
11,550.00	26.44	7.85	11,430.15	-976.87	429.44	-957.64	8.00	7.88	-3.29
11,600.00	30.39	6.61	11,474.12	-953.27	432.42	-933.93	8.00	7.91	-2.48
11,650.00	34.36	5.63	11,516.34	-926.65	435.26	-907.22	8.00	7.93	-1.96
11,700.00	38.33	4.83	11,556.61	-897.15	437.95	-877.63	8.00	7.94	-1.60
11,750.00	42.31	4.16	11,594.72	-864.90	440.48	-845.30	8.00	7.95	-1.34
11,800.00	46.29	3.59	11,630.50	-830.07	442.83	-810.40	8.00	7.96	-1.15
11,850.00	50.27	3.08	11,663.77	-792.82	444.99	-773.09	8.00	7.96	-1.01
11,900.00	54.25	2.63	11,694.37	-753.34	446.96	-733.56	8.00	7.97	-0.90
11,950.00	58.24	2.23	11,722.14	-711.81	448.72	-692.00	8.00	7.97	-0.81
12,000.00	62.23	1.86	11,746.96	-668.45	450.27	-648.61	8.00	7.97	-0.74
12,050.00	66.21	1.51	11,768.70	-623.45	451.59	-603.59	8.00	7.98	-0.69
12,100.00	70.20	1.19	11,787.26	-577.05	452.68	-557.19	8.00	7.98	-0.65
12,150.00	74.19	0.88	11,802.54	-529.46	453.54	-509.60	8.00	7.98	-0.62
12,200.00	78.18	0.58	11,814.48	-480.92	454.15	-461.08	8.00	7.98	-0.59
12,250.00	82.17	0.29	11,823.01	-431.66	454.53	-411.86	8.00	7.98	-0.58
12,300.00	86.16	0.01	11,828.09	-381.93	454.66	-362.16	8.00	7.98	-0.57
12,348.10	90.00	359.74	11,829.70	-333.87	454.55	-314.15	8.00	7.98	-0.56
12,400.00	90.00	359.74	11,829.70	-281.97	454.31	-262.31	0.00	0.00	0.00
12,500.00	90.00	359.74	11,829.70	-181.97	453.86	-162.42	0.00	0.00	0.00
12,600.00	90.00	359.74	11,829.70	-81.97	453.40	-62.53	0.00	0.00	0.00
12,700.00	90.00	359.74	11,829.70	18.03	452.95	37.36	0.00	0.00	0.00
12,800.00	90.00	359.74	11,829.70	118.03	452.49	137.25	0.00	0.00	0.00
12,900.00	90.00	359.74	11,829.70	218.03	452.04	237.13	0.00	0.00	0.00
13,000.00	90.00	359.74	11,829.70	318.03	451.58	337.02	0.00	0.00	0.00
13,100.00	90.00	359.74	11,829.70	418.02	451.12	436.91	0.00	0.00	0.00
13,200.00	90.00	359.74	11,829.70	518.02	450.67	536.80	0.00	0.00	0.00
13,300.00	90.00	359.74	11,829.70	618.02	450.21	636.69	0.00	0.00	0.00
13,400.00	90.00	359.74	11,829.70	718.02	449.76	736.58	0.00	0.00	0.00
13,500.00	90.00	359.74	11,829.70	818.02	449.30	836.46	0.00	0.00	0.00
13,600.00	90.00	359.74	11,829.70	918.02	448.85	936.35	0.00	0.00	0.00
13,700.00	90.00	359.74	11,829.70	1,018.02	448.39	1,036.24	0.00	0.00	0.00
13,800.00	90.00	359.74	11,829.70	1,118.02	447.94	1,136.13	0.00	0.00	0.00
13,900.00	90.00	359.74	11,829.70	1,218.02	447.48	1,236.02	0.00	0.00	0.00
14,000.00	90.00	359.74	11,829.70	1,318.02	447.02	1,335.91	0.00	0.00	0.00
14,100.00	90.00	359.74	11,829.70	1,418.01	446.57	1,435.79	0.00	0.00	0.00
14,200.00	90.00	359.74	11,829.70	1,518.01	446.11	1,535.68	0.00	0.00	0.00
14,300.00	90.00	359.74	11,829.70	1,618.01	445.66	1,635.57	0.00	0.00	0.00
14,400.00	90.00	359.74	11,829.70	1,718.01	445.20	1,735.46	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well ZHU 2331 WC 10H_WC1
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3235.70ft (RKB)
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3235.70ft (RKB)
Site:	ZHU 2331 WC 10H_WC1_LO-W0503	North Reference:	Grid
Well:	ZHU 2331 WC 10H_WC1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZHU 2331 WC 10H_WC1		
Design:	ZHU 2331 WC 10H_WC1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,500.00	90.00	359.74	11,829.70	1,818.01	444.75	1,835.35	0.00	0.00	0.00
14,600.00	90.00	359.74	11,829.70	1,918.01	444.29	1,935.23	0.00	0.00	0.00
14,700.00	90.00	359.74	11,829.70	2,018.01	443.84	2,035.12	0.00	0.00	0.00
14,800.00	90.00	359.74	11,829.70	2,118.01	443.38	2,135.01	0.00	0.00	0.00
14,900.00	90.00	359.74	11,829.70	2,218.01	442.92	2,234.90	0.00	0.00	0.00
15,000.00	90.00	359.74	11,829.70	2,318.00	442.47	2,334.79	0.00	0.00	0.00
15,100.00	90.00	359.74	11,829.70	2,418.00	442.01	2,434.68	0.00	0.00	0.00
15,200.00	90.00	359.74	11,829.70	2,518.00	441.56	2,534.56	0.00	0.00	0.00
15,300.00	90.00	359.74	11,829.70	2,618.00	441.10	2,634.45	0.00	0.00	0.00
15,400.00	90.00	359.74	11,829.70	2,718.00	440.65	2,734.34	0.00	0.00	0.00
15,500.00	90.00	359.74	11,829.70	2,818.00	440.19	2,834.23	0.00	0.00	0.00
15,600.00	90.00	359.74	11,829.70	2,918.00	439.74	2,934.12	0.00	0.00	0.00
15,700.00	90.00	359.74	11,829.70	3,018.00	439.28	3,034.01	0.00	0.00	0.00
15,800.00	90.00	359.74	11,829.70	3,118.00	438.82	3,133.89	0.00	0.00	0.00
15,900.00	90.00	359.74	11,829.70	3,218.00	438.37	3,233.78	0.00	0.00	0.00
16,000.00	90.00	359.74	11,829.70	3,317.99	437.91	3,333.67	0.00	0.00	0.00
16,100.00	90.00	359.74	11,829.70	3,417.99	437.46	3,433.56	0.00	0.00	0.00
16,200.00	90.00	359.74	11,829.70	3,517.99	437.00	3,533.45	0.00	0.00	0.00
16,300.00	90.00	359.74	11,829.70	3,617.99	436.55	3,633.34	0.00	0.00	0.00
16,400.00	90.00	359.74	11,829.70	3,717.99	436.09	3,733.22	0.00	0.00	0.00
16,500.00	90.00	359.74	11,829.70	3,817.99	435.64	3,833.11	0.00	0.00	0.00
16,600.00	90.00	359.74	11,829.70	3,917.99	435.18	3,933.00	0.00	0.00	0.00
16,700.00	90.00	359.74	11,829.70	4,017.99	434.73	4,032.89	0.00	0.00	0.00
16,800.00	90.00	359.74	11,829.70	4,117.99	434.27	4,132.78	0.00	0.00	0.00
16,900.00	90.00	359.74	11,829.70	4,217.98	433.81	4,232.66	0.00	0.00	0.00
17,000.00	90.00	359.74	11,829.70	4,317.98	433.36	4,332.55	0.00	0.00	0.00
17,100.00	90.00	359.74	11,829.70	4,417.98	432.90	4,432.44	0.00	0.00	0.00
17,200.00	90.00	359.74	11,829.70	4,517.98	432.45	4,532.33	0.00	0.00	0.00
17,300.00	90.00	359.74	11,829.70	4,617.98	431.99	4,632.22	0.00	0.00	0.00
17,400.00	90.00	359.74	11,829.70	4,717.98	431.54	4,732.11	0.00	0.00	0.00
17,500.00	90.00	359.74	11,829.70	4,817.98	431.08	4,831.99	0.00	0.00	0.00
17,600.00	90.00	359.74	11,829.70	4,917.98	430.63	4,931.88	0.00	0.00	0.00
17,700.00	90.00	359.74	11,829.70	5,017.98	430.17	5,031.77	0.00	0.00	0.00
17,800.00	90.00	359.74	11,829.70	5,117.98	429.71	5,131.66	0.00	0.00	0.00
17,900.00	90.00	359.74	11,829.70	5,217.97	429.26	5,231.55	0.00	0.00	0.00
18,000.00	90.00	359.74	11,829.70	5,317.97	428.80	5,331.44	0.00	0.00	0.00
18,100.00	90.00	359.74	11,829.70	5,417.97	428.35	5,431.32	0.00	0.00	0.00
18,200.00	90.00	359.74	11,829.70	5,517.97	427.89	5,531.21	0.00	0.00	0.00
18,300.00	90.00	359.74	11,829.70	5,617.97	427.44	5,631.10	0.00	0.00	0.00
18,400.00	90.00	359.74	11,829.70	5,717.97	426.98	5,730.99	0.00	0.00	0.00
18,500.00	90.00	359.74	11,829.70	5,817.97	426.53	5,830.88	0.00	0.00	0.00
18,600.00	90.00	359.74	11,829.70	5,917.97	426.07	5,930.76	0.00	0.00	0.00
18,700.00	90.00	359.74	11,829.70	6,017.97	425.61	6,030.65	0.00	0.00	0.00
18,800.00	90.00	359.74	11,829.70	6,117.97	425.16	6,130.54	0.00	0.00	0.00
18,900.00	90.00	359.74	11,829.70	6,217.96	424.70	6,230.43	0.00	0.00	0.00
19,000.00	90.00	359.74	11,829.70	6,317.96	424.25	6,330.32	0.00	0.00	0.00
19,100.00	90.00	359.74	11,829.70	6,417.96	423.79	6,430.21	0.00	0.00	0.00
19,200.00	90.00	359.74	11,829.70	6,517.96	423.34	6,530.09	0.00	0.00	0.00
19,300.00	90.00	359.74	11,829.70	6,617.96	422.88	6,629.98	0.00	0.00	0.00
19,400.00	90.00	359.74	11,829.70	6,717.96	422.43	6,729.87	0.00	0.00	0.00
19,500.00	90.00	359.74	11,829.70	6,817.96	421.97	6,829.76	0.00	0.00	0.00
19,600.00	90.00	359.74	11,829.70	6,917.96	421.51	6,929.65	0.00	0.00	0.00
19,700.00	90.00	359.74	11,829.70	7,017.96	421.06	7,029.54	0.00	0.00	0.00
19,800.00	90.00	359.74	11,829.70	7,117.95	420.60	7,129.42	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well ZHU 2331 WC 10H_WC1
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3235.70ft (RKB)
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3235.70ft (RKB)
Site:	ZHU 2331 WC 10H_WC1_LO-W0503	North Reference:	Grid
Well:	ZHU 2331 WC 10H_WC1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZHU 2331 WC 10H_WC1		
Design:	ZHU 2331 WC 10H_WC1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
19,900.00	90.00	359.74	11,829.70	7,217.95	420.15	7,229.31	0.00	0.00	0.00	
20,000.00	90.00	359.74	11,829.70	7,317.95	419.69	7,329.20	0.00	0.00	0.00	
20,100.00	90.00	359.74	11,829.70	7,417.95	419.24	7,429.09	0.00	0.00	0.00	
20,200.00	90.00	359.74	11,829.70	7,517.95	418.78	7,528.98	0.00	0.00	0.00	
20,300.00	90.00	359.74	11,829.70	7,617.95	418.33	7,628.87	0.00	0.00	0.00	
20,400.00	90.00	359.74	11,829.70	7,717.95	417.87	7,728.75	0.00	0.00	0.00	
20,500.00	90.00	359.74	11,829.70	7,817.95	417.41	7,828.64	0.00	0.00	0.00	
20,600.00	90.00	359.74	11,829.70	7,917.95	416.96	7,928.53	0.00	0.00	0.00	
20,700.00	90.00	359.74	11,829.70	8,017.95	416.50	8,028.42	0.00	0.00	0.00	
20,800.00	90.00	359.74	11,829.70	8,117.94	416.05	8,128.31	0.00	0.00	0.00	
20,900.00	90.00	359.74	11,829.70	8,217.94	415.59	8,228.19	0.00	0.00	0.00	
21,000.00	90.00	359.74	11,829.70	8,317.94	415.14	8,328.08	0.00	0.00	0.00	
21,100.00	90.00	359.74	11,829.70	8,417.94	414.68	8,427.97	0.00	0.00	0.00	
21,200.00	90.00	359.74	11,829.70	8,517.94	414.23	8,527.86	0.00	0.00	0.00	
21,300.00	90.00	359.74	11,829.70	8,617.94	413.77	8,627.75	0.00	0.00	0.00	
21,400.00	90.00	359.74	11,829.70	8,717.94	413.31	8,727.64	0.00	0.00	0.00	
21,500.00	90.00	359.74	11,829.70	8,817.94	412.86	8,827.52	0.00	0.00	0.00	
21,600.00	90.00	359.74	11,829.70	8,917.94	412.40	8,927.41	0.00	0.00	0.00	
21,700.00	90.00	359.74	11,829.70	9,017.94	411.95	9,027.30	0.00	0.00	0.00	
21,800.00	90.00	359.74	11,829.70	9,117.93	411.49	9,127.19	0.00	0.00	0.00	
21,900.00	90.00	359.74	11,829.70	9,217.93	411.04	9,227.08	0.00	0.00	0.00	
22,000.00	90.00	359.74	11,829.70	9,317.93	410.58	9,326.97	0.00	0.00	0.00	
22,100.00	90.00	359.74	11,829.70	9,417.93	410.13	9,426.85	0.00	0.00	0.00	
22,200.00	90.00	359.74	11,829.70	9,517.93	409.67	9,526.74	0.00	0.00	0.00	
22,258.68	90.00	359.74	11,829.70	9,576.61	409.40	9,585.36	0.00	0.00	0.00	

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
ZHU 2331 WC 10H_WC - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	11,829.70	-333.87	454.55	372,467.149	680,936.654	32° 1' 21.657 N	103° 44' 58.263 W	
ZHU 2331 WC 10H_WC - plan hits target center - Point	0.00	0.00	11,829.70	9,576.61	409.40	382,377.077	680,891.509	32° 2' 59.730 N	103° 44' 58.165 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
2,200.00	2,200.00	16"	16	17-1/2		
12,348.10	11,829.70	9 5/8"	9-5/8	12-1/4		
22,258.68	11,829.70	7" x 8 3/4"	7	8-3/4		

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	ConocoPhillips
LEASE NO.:	NMLC064756
LOCATION:	Section 23, T.26 S., R.31 E., NMPPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	ZHU 2331 WC 10H
SURFACE HOLE FOOTAGE:	1050'S & 1843'/W
BOTTOM HOLE FOOTAGE:	42'/N & 2310'/W

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input type="checkbox"/> Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **836** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) 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.

Intermediate casing must be kept ½ (50%) fluid filled to meet BLM minimum collapse requirement.

2. 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.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. **Operator shall call BLM ((575) 361-2822) before using a DV Tool.** The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
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.
Minimum Max MW in this location due to Abnormal Pressure is 12.5 ppg.
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.

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 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 5000 (5M) 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.

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
 Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
 (575) 361-2822

Lea County
 Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

- a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 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. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 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-P 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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.

ZS 072221



H₂S Contingency Plan
November 2016

H₂S Contingency Plan Holders:

Attached is an H₂S Contingency Plan for COPC Permian Drilling working in the West Texas and Southeastern New Mexico areas operated by ConocoPhillips Company.

If you have any question regarding this plan, please call Matt Oster (830) 583-1297, or Ryan Vacarella (985) 217-7594.

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HYDROGEN SULFIDE (H₂S) OPERATIONS

Contingency Plan
For
Permian Drilling Operations

ConocoPhillips Company

Mid-Continent Business Unit Permian Asset Area

I. PURPOSE

The purpose of this Contingency Plan is to provide an organized plan of action for alerting and protecting the public following the release of a potentially hazardous volume of hydrogen sulfide. This plan prescribes mandatory safety procedures to be followed in the event of a release of H₂S into the atmosphere from exploration and production operations included in the scope of this plan. The extent of action taken will be determined by the supervisor and will depend on the severity and extent of H₂S release. Release of H₂S must be reported to the Drilling Superintendent and documented on the IADC and in Wellview.

II. SCOPE

This Contingency plan shall cover the West Texas and Southeastern New Mexico areas, which contain H₂S gas and could result in a release where the R.O.E. is greater than 100 ppm at 50' and less than 3000' and does not include a public area and 500 ppm R.O.E. does not include a public road. Radius of exposure is defined as the maximum distance from the source of release that a specified calculated average concentration of H₂S could exist under specific weather conditions.

III. PROCEDURES

First Employee on Scene

___ Assess the incident and ensure your own safety.

Note the following:

- ___ Location of the incident.
- ___ Nature of the incident.
- ___ Wind direction and weather conditions.
- ___ Other assistance that may be needed.

___ Call local supervisory personnel (refer to Section V: Emergency Call List) until personal contact is made with a person on the list.

___ Perform emergency assessment and response as needed. The response may include rescue and/or evacuation of personnel, shutting in a system and/or notification of nearby residents/public (refer to Section VII: Public Notification/Evacuation).

___ Secure the site.

___ Follow the direction of the On-scene Incident Commander (first ConocoPhillips supervisor arriving on-scene).

First Supervisor on Scene (ConocoPhillips On-scene Incident Commander)

___ Becomes ConocoPhillips' On-scene Incident Commander upon arrival to location.

___ Follow the principles of the **D.E.C.I.D.E.** process below to assess the incident. (Note wind direction and weather conditions and ensure everyone's safety).

- DETECT** the problem
- ESTIMATE** likely harm without intervention
- CHOOSE** response objectives
- IDENTIFY** action options
- DO** the best option
- EVALUATE** the progress

_____ Complete the Preliminary Emergency Information Sheet (refer to Section VIII: Forms/Reports).

_____ Call your supervisor (refer to Section V: Emergency Call List).

_____ Perform emergency response as necessary. (This may include notification & evacuation of all personnel and/or nearby residents/public (refer to Section VII: Public Notification/Evacuation), requesting assistance from ConocoPhillips personnel or outside agencies (refer to Section V: Emergency Call List) and obtaining any safety equipment that may be required (refer to Section IV: Emergency Equipment and Maintenance).

_____ Notify appropriate local emergency response agencies of the incident as needed. Also notify the appropriate regulatory agencies. (refer to Section V: Emergency Call List).

_____ Ensure site security.

_____ Set barricades and /or warning signs at or beyond the calculated 100 ppm H₂S radius of exposure (ROE). All manned barricades must be equipped with an H₂S monitor and a 2-way radio.

_____ Set roadblocks and staging area as determined.

_____ Establish the Incident Command Structure by designating appropriate on-scene response personnel as follows:

Recording Secretary	_____
Public Information Officer	_____
Safety/Medical Officer	_____
Decontamination Officer	_____

_____ Have the "Recording Secretary" begin documenting the incident on the "Incident Log" (refer to Section VIII: Forms/Reports).

_____ If needed, request radio silence on all channels that use your radio tower stating that, until further notice, the channels should be used for emergency communications only.

_____ Perform a Site Characterization and designate the following:

Hot Zone	--	Hazardous Area
Warm Zone	--	Preparation & Decontamination Area
Cold Zone	--	Safe Area

AND

On-Scene Incident Command Post	(Cold Zone)
Public Relations Briefing Area	(Cold Zone)
Staging Area	(Cold Zone)
Triage Area	(Cold Zone)
Decontamination Area	(Warm Zone)

____ Refer all media personnel to ConocoPhillips' On-Scene Public Information Officer (refer to Section VI: Public Media Relations).

____ Coordinate the attempt to stop the release of H₂S. You should consider closing upstream and downstream valves to shut-off gas supply sources, and/or plugging or clamping leaks. Igniting escaping gas to reduce the toxicity hazard should be used **ONLY AS A LAST RESORT**. (It must first be determined if the gas can be safely ignited, taking into consideration if there is a possibility of a widespread flammable atmosphere.)

____ Once the emergency is over, return the situation to normal by:

Confirming the absence of H₂S and combustible gas throughout the area,

Discontinuing the radio silence on all channels, stating that the emergency incident is over,

Removing all barricades and warning signs,

Allowing evacuees to return to the area, and

Advising all parties previously notified that the emergency has ended.

____ Ensure the proper regulatory authorities/agencies are notified of the incident (refer to Section V: Emergency Call List).

____ Clean up the site. (Be sure all contractor crews have had appropriate HAZWOPER training.)

____ Report completion of the cleanup to the Asset Environmentalist. (Environmentalist will report this to the proper State and/or Federal agencies.)

_____ Fill out all required incident reports and send originals to the Safety Department. (Keep a copy for your records.)

- Company employee receiving occupational injury or illnesses.
- Company employee involved in a vehicle accident while driving a company vehicle.
- Company property that is damaged or lost.
- Accident involving the public or a contractor; includes personal injuries, vehicle accidents, and property damage. Also includes any situation, which could result in a claim against the Company.
- Hazardous Material Spill/Release Report Form
- Emergency Drill Report

_____ Assist the Safety Department in the investigation of the incident. Review the factors that caused or allowed the incident to occur, and modify operating, maintenance, and/or surveillance procedures as needed. Make appropriate repairs and train or retrain employees in the use and operation of the system.

_____ If this incident was simulated for practice in emergency response, complete the Emergency Drill Report found in Section VIII: Forms/Reports and submit a copy to the Drilling Manager. (Keep one copy in area files to document exercising of the plan.)

Emergency Procedures Responsibility

In the event of a release of potentially hazardous amounts of H₂S, all personnel will immediately proceed upwind/ crosswind to the nearest designated briefing area. The COPC Drilling Rep. will immediately, upon assessing the situation, set this into action by taking the proper procedures to contain the gas and notify appropriate people and agencies.

1. In an emergency situation, the Drilling Rep. on duty will have complete responsibility and will take whatever action is deemed necessary in an emergency situation to insure the personnel's safety, to protect the well and to prevent property damage.
2. The Toolpusher will assume all responsibilities of the Drilling Rep. in an emergency situation in the event the Drilling Rep. becomes incapacitated.
3. Advise each contractor, service company, and all others entering the site that H₂S may be encountered and the potential hazards that may exist.
4. Authorize the evacuation of local residents if H₂S threatens their safety.
5. Keep the number of persons on location to a minimum during hazardous operations.
6. Direct corrective actions to control the flow of gas.
7. Has full responsibility for igniting escaping gas to reduce the toxicity hazard.

This should be used **ONLY AS A LAST RESORT.**

IV. EMERGENCY EQUIPMENT and MAINTENANCE

Emergency Equipment Suppliers

DXP/ Safety International – Odessa, Tx.

H₂S monitors 432.580.3770
 Breathing air includes cascade systems
 First aid and medical supplies
 Safety equipment
 H₂S Specialist

Total Safety US Odessa, Tx/ Hobbs, NM

H₂S monitors 432.561.5049 Odessa
 575.392.2973 Hobbs
 Breathing air includes cascade systems
 First aid and medical supplies
 Safety equipment

DXP/ Indian Fire & Safety – Hobbs, NM

H₂S monitors 575.393.3093
 Breathing air including cascade systems trailer mounted
 30 minute air packs
 Safety Equipment

TC Safety – Odessa, Tx.

H₂S monitors 432.413.8240
 Cascade systems trailer mounted
 30 minute air packs
 Safety Equipment
 H₂S Specialist

Secorp Industries – Odessa, Tx.

H₂S Monitor Systems 432.614.2565
 Cascade Systems
 H₂S Specialist
 H₂S, CPR, First Aid Training

Emergency Equipment and Maintenance (continued)

General Information

Materials used for repair should be suitable for use where H₂S concentrations exceed 100 ppm. In general, carbon steels having low-yield strengths and a hardness below RC-22 are suitable. The engineering staff should be consulted if any doubt exists on material specifications.

Appropriate signs should be maintained in good condition at location entrance and other locations as specified in Texas Rule 36 and NMOCD Rule 118.

All notification lists should be kept current with changes in names, telephone numbers, etc.

All shutdown devices, alarms, monitors, breathing air systems, etc., should be maintained in accordance with applicable regulations.

All personnel working in H₂S areas shall have received training on the hazards, characteristics, and properties of H₂S, and on procedures and safety equipment applicable for use in H₂S areas.

H2S Safety Equipment and Monitoring Systems

An H2S emergency response package will be maintained at locations requiring H2S monitoring. The package will contain at a minimum the following:

3 – Fixed H2S sensors located as follows:

- 1 – on the rig floor
- 1 – at the Bell Nipple
- 1 – at the Shale Shaker or Flowline

1 – Entrance Warning Sign located at the main entrance to the location, with warning signs and colored flags to determine the current status for entry into the location.

2 – Windsocks that are clearly visible.

1 – Audible warning system located on rig floor

2 – Visual warning systems (Beacon Lights)

- 1 – Located at the rig floor
- 1 – Located in the mud mixing room

Note: All alarms (audible and visual) should be set to alarm at 10 ppm.

2 - Briefing areas clearly marked

- 2 - SCBA's at each briefing area
- 1- SCBA located at the Drilling Reqs office

Note:

- 1. All SCBA's must be **positive pressure type only!!!**
- 2. All SCBA's must either be **Scott or Drager** brand.
- 3. All SCBA's face pieces should be **size large**, unless otherwise specified by the Drilling Supervisor.

5 – Emergency Escape Paks located at Top Doghouse.

Note: Ensure provisions are included for any personnel working above rig floor in derrick.

1 – Tri or Quad gas monitor located at the Drilling Reqs office. This will be used to determine if the work area is safe to re-enter prior to returning to work following any alarm.

V. EMERGENCY CALL LIST:

The following is a priority list of personnel to contact in an emergency situation:

Supervisory Personnel	Office No.	Cellphone
Drilling Supt. (Unconventional) Scott Nicholson	432.688.9065	432.230.8010
Field Superintendents: Clint Case.	432.688.6878	940.231.2839
Safety Support: Matt Oster Ryan Vaccarella	830.583.1245 985.217.7594	601.540.6988 NA
Supt Operations-SEMN/Shale Mike Neuschafer	432.688.6834	713.419.9919
MCBU Safety Coordinator James Buzan	432.688.6860	832.630.4320
Manger GCBU/MCBU D & C Seth Crissman	832.486.6191	832.513.9308

EMERGENCY CALL LIST: State Officials

Regulatory Agencies

Texas Railroad Commission (District 8)
Midland, Texas

Office: 432.684.5581

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240-1980

Office: 575.393.6161

Bureau of Land Mngt.

Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220

Office: 575.234.5972
Fax: 575.885.9264

EMERGENCY CALL LIST: Local Officials

Refer to the Location Information Sheet

Note: The LIS should include any area residents (i.e. rancher's house, etc)

VI. Public Media Relations

The **Public Information Officer** becomes the ConocoPhillips on-scene contact (once designated by the Phillips On-Scene Incident Commander).

Confers with Houston Office's Human Relations Representative, who is responsible for assisting in the coordination of local public relations duties.

Answer media questions honestly and **only with facts**, do not speculate about the cause, amount of damage, or the potential impact of the incident of the community, company, employees, or environment. (This information will be formally determined in the incident investigation.)

If you are comfortable answering a question or if you are unsure of the answer, use terms such as the following:

- "I do not know. I will try to find out."
- I am not qualified to answer that question, but I will try to find someone who can."
- "It is under investigation."

Note:

Do Not Say "No Comment." (This implies a cover-up.)

Do Not Disclose Names of Injured or Dead! Confer with the Houston Office's Human Relations Representative, who is responsible for providing that information.

VII. Public Notification/Evacuation

Alert and/or Evacuate People within the Exposure Area

1. Public Notification – If the escape of gas could result in a hazard to area residents, the general public, or employees, the person **first** observing the leak should take **immediate** steps to cause notification of any nearby residents. The avoidance of injury or loss of life should be of prime consideration and given top priority in all cases. If the incident is of such magnitude, or at such location as to create a hazardous situation, local authorities will be requested to assist in the evacuation and roadblocks of the designated area until the situation can be returned to normal.

Note: Bilingual employees may be needed to assist in notification of residents.

2. Evacuation Procedures – Evacuation will proceed upwind from the source of the release of H₂S. Extreme caution should be exercised in order to avoid any depressions or low-lying areas in the terrain. The public area within the radius of exposure should be evacuated in a southwesterly and southeasterly direction so as to avoid the prevailing southern wind direction.

Roadblocks and the staging area should be established as necessary for current wind conditions.

Note: In all situations, consideration should be given to wind direction and weather conditions. H₂S is heavier than air and can settle in low spots. Shifts in wind direction can also change the location of possible hazardous areas.

VIII. **FORMS & REPORTS**

- I. Incident Log

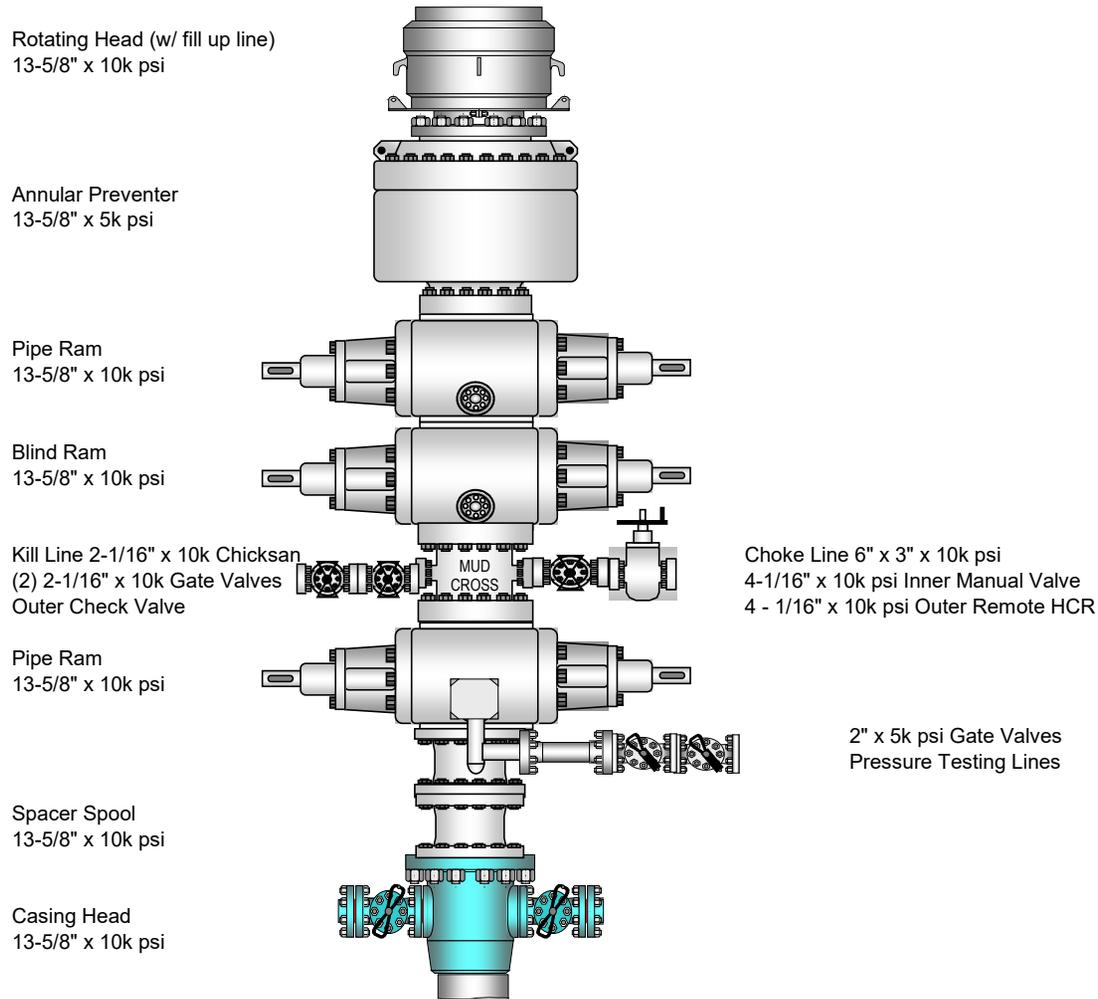
- II. Preliminary Emergency Information Sheet

- III. Emergency Drill Report

- IV. Onshore Hazardous Material Spill/Release Report Form

- V. Immediate Report of Occupational Injury or Illness
Report of Accident-Public Contractor
Report of Loss or Damage to Company Property
Report of Automotive Incident

BOPE Configuration & Specifications
13-5/8" x 10,000 psi System



District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 42235

COMMENTS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 42235
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 8/20/2021	8/20/2021

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CONDITIONS
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CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	8/20/2021
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/20/2021
kpickford	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	8/20/2021
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	8/20/2021
kpickford	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	8/20/2021