

Well Name: ZHU 2331 WC	Well Location: T26S / R31E / SEC 23 / SWSW /	County or Parish/State:
Well Number: 5H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMLC064756	Unit or CA Name:	Unit or CA Number: NMNM038329X
US Well Number: 3001548585	Well Status: Approved Application for Permit to Drill	Operator: CONOCOPHILLIPS COMPANY

Notice of Intent

Sundry ID: 2644566

Type of Submission: Notice of Intent	Type of Action: Other
Date Sundry Submitted: 11/16/2021	Time Sundry Submitted: 03:19
Date proposed operation will begin: 11/15/2021	

**Procedure Description:** ConocoPhillips Company requests an amendment to our approved APD for this well to reflect a change in BHL. Change BHL to: 50' FNL & 2010' FWL NENW 14-26S-31E Eddy Co. Revised C-102 and drill plan attached.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- ZHU\_2331\_WC\_\_20211116151911
- ZHU\_2331\_WC\_5H\_signed\_C\_102\_11\_16\_21\_20211116151911.pdf
- ZHU\_2331\_WC\_5H\_Revised\_Drill\_Plan\_11\_16\_21\_20211116151911.pdf
- ZHU\_2331\_WC\_\_20211116151911

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Conditions of Approval

**Specialist Review**  
ZHU\_2331\_WC\_BATCH\_WELLS\_COA\_20211210154409.pdf

Operator Certification

*I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.*

<b>Operator Electronic Signature:</b> STAN WAGNER	<b>Signed on:</b> NOV 16, 2021 03:19 PM
<b>Name:</b> CONOCOPHILLIPS COMPANY	
<b>Title:</b> Regulatory Advisor	
<b>Street Address:</b> 600 WEST ILLINOIS AVE	
<b>City:</b> MIDLAND	<b>State:</b> TX
<b>Phone:</b> (432) 253-9685	
<b>Email address:</b> STAN.S.WAGNER@CONOCOPHILLIPS.COM	

Field Representative

<b>Representative Name:</b>		
<b>Street Address:</b>		
<b>City:</b>	<b>State:</b>	<b>Zip:</b>
<b>Phone:</b>		
<b>Email address:</b>		

BLM Point of Contact

<b>BLM POC Name:</b> ZOTA M STEVENS	<b>BLM POC Title:</b> Petroleum Engineer
<b>BLM POC Phone:</b> 5752345998	<b>BLM POC Email Address:</b> ZSTEVENS@BLM.GOV
<b>Disposition:</b> Approved	<b>Disposition Date:</b> 12/10/2021
<b>Signature:</b> Zota Stevens	

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

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

<b>WELL NAME &amp; NO.:</b>	<b>ZHU 2331 BS 1H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1050'S & 1014'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 330'/W

<b>WELL NAME &amp; NO.:</b>	<b>ZHU 2331 BS 2H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1050'S & 1034'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 750'/W

<b>WELL NAME &amp; NO.:</b>	<b>ZHU 2331 BS 3H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1050'S & 1054'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 1170'/W

<b>WELL NAME &amp; NO.:</b>	<b>ZHU 2331 BS 4H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1050'S & 1074'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 1590'/W

<b>WELL NAME &amp; NO.:</b>	<b>ZHU 2331 BS 5H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1050'S & 1094'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 2010'/W

<b>WELL NAME &amp; NO.:</b>	<b>ZHU 2331 BS 6H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1050'S & 1114'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 2430'/W

COA

### ALL PREVIOUS COA STILL APPLY

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 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 checked="" type="checkbox"/> Unit

## A. HYDROGEN SULFIDE

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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 **10-3/4** 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.
2. 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. **Excess calculates to 22%. Addition cement maybe required.**

**Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**

  - ❖ 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.

## 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 **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.

#### **D. SPECIAL REQUIREMENT (S)**

##### **Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

##### **Commercial Well Determination**

A commercial well determination shall be submitted after production has been established for at least six months. (This is not necessary for secondary recovery unit wells)

## **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 2<sup>nd</sup> 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.

**ZS121021**

**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

<sup>1</sup> API Number 30-015-48585		<sup>2</sup> Pool Code 98081	<sup>3</sup> Pool Name Zia Hills; Wolfcamp	
<sup>4</sup> Property Code 330828	<sup>5</sup> Property Name ZHU 2331 WC			<sup>6</sup> Well Number 5H
<sup>7</sup> OGRID No. 217817	<sup>8</sup> Operator Name ConocoPhillips Company			<sup>9</sup> Elevation 3180.0'

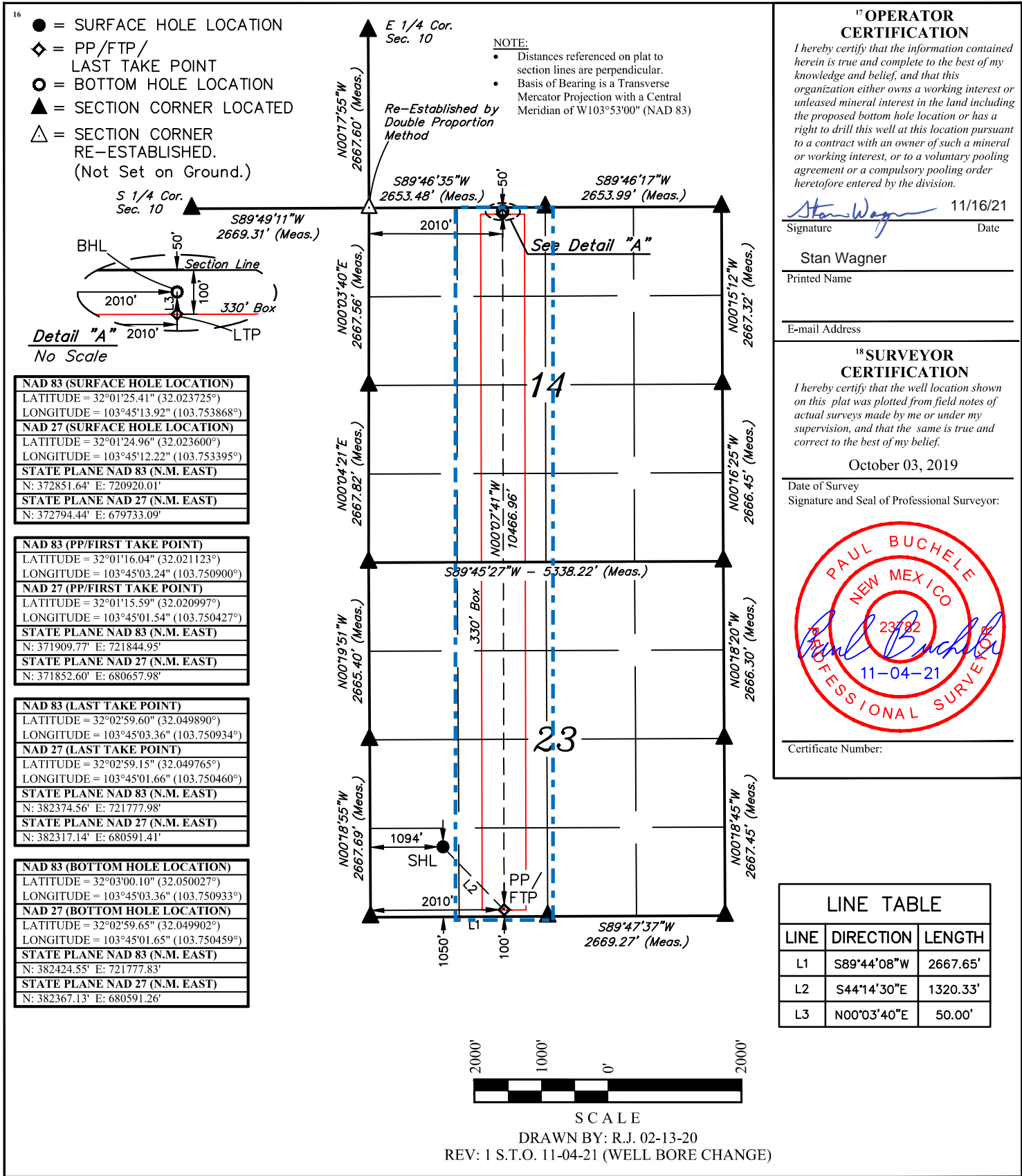
<sup>10</sup>Surface Location

UL or lot no. M	Section 23	Township 26S	Range 31E	Lot Idn	Feet from the 1050	North/South line SOUTH	Feet from the 1094	East/West line WEST	County EDDY
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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no. C	Section 14	Township 26S	Range 31E	Lot Idn	Feet from the 50	North/South line NORTH	Feet from the 2010	East/West line WEST	County EDDY
<sup>12</sup> Dedicated Acres 320		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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.



## ConocoPhillips - ZHU 2331 WC 5H

## 1. Geologic Formations

TVD of target	11,459' EOL	Pilot hole depth	NA
MD at TD:	21,880'	Deepest expected fresh water:	317'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1120	Water	
Top of Salt	1489	Salt	
Base of Salt	3861	Salt	
Lamar	4073	Salt Water	
Bell Canyon	4100	Salt Water	
Cherry Canyon	5042	Oil/Gas	
Brushy Canyon	6417	Oil/Gas	
Bone Spring Lime	8084	Oil/Gas	
1st Bone Spring Sand	9113	Oil/Gas	
2nd Bone Spring Sand	9707	Oil/Gas	
3rd Bone Spring Sand	10926	Oil/Gas	
Wolfcamp A	11314	Target	
Wolfcamp B	0	Not Penetrated	
Wolfcamp D	0	Not Penetrated	

## 2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	1350	10.75"	45.5	N80	BTC	4.00	1.67	16.93	17.86
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.16	2.88	2.90
8.750"	8500	11800	7.625"	29.7	P110 RY	W 513	1.33	1.55	2.68	1.61
6.75"	0	11300	5.5"	23	P110	BTC	1.98	2.34	2.80	2.79
6.75"	11300	21,880	5.5"	23	P110	W441	1.95	2.31	2.77	2.51
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

The 5 1/2" talon 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.

## ConocoPhillips - ZHU 2331 WC 5H

	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 <sup>rd</sup> 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 <sup>nd</sup> 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 - ZHU 2331 WC 5H

## 3. Cementing Program

Casing	# Skcs	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	644	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl <sub>2</sub>
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl <sub>2</sub>
Inter. Stage 1	840	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	524	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	998	14.4	1.24	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%
1 <sup>st</sup> Intermediate	0'	50%
Production	11,300'	35% OH in Lateral (KOP to EOL)

## ConocoPhillips - ZHU 2331 WC 5H

## 4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2.  On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.



## ConocoPhillips - ZHU 2331 WC 5H

## 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 - 9	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

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

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

## 6. Logging and Testing Procedures

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

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

## ConocoPhillips - ZHU 2331 WC 5H

## 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7450 psi at 11459' TVD
Abnormal Temperature	NO 170 Deg. F.

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

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

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N H<sub>2</sub>S is present

Y H<sub>2</sub>S Plan attached

## 8. Other Facets of Operation

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

x	H <sub>2</sub> S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

# **DELAWARE BASIN EAST**

**BULLDOG PROSPECT (NM-E)  
ZIA HILLS UNIT 2331 PROJECT  
ZHU 2331 WC #5H**

**OWB**

**Plan: PWP1**

## **Standard Survey Report**

**16 November, 2021**

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

<b>Project</b>	BULLDOG PROSPECT (NM-E)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Well</b>	ZHU 2331 WC #5H			
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	372,794.44 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	679,733.09 usft
<b>Position Uncertainty</b>		3.0 usft	<b>Wellhead Elevation:</b>	usft
			<b>Latitude:</b>	32° 1' 24.961 N
			<b>Longitude:</b>	103° 45' 12.222 W
			<b>Ground Level:</b>	3,180.0 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2021	11/15/2021	6.51	59.59	47,474.24834813

<b>Design</b>	PWP1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	5.12	

<b>Survey Tool Program</b>	<b>Date</b>	11/16/2021			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	11,093.2	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,093.2	21,880.4	PWP1 (OWB)	MWD+IFR+MS	MWD + IFR + Multi Station	

<b>Planned Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	135.52	2,600.0	-1.2	1.2	-1.1	2.00	2.00	0.00
2,700.0	4.00	135.52	2,699.8	-5.0	4.9	-4.5	2.00	2.00	0.00
2,800.0	6.00	135.52	2,799.5	-11.2	11.0	-10.2	2.00	2.00	0.00
2,900.0	8.00	135.52	2,898.7	-19.9	19.5	-18.1	2.00	2.00	0.00
3,000.0	10.00	135.52	2,997.5	-31.1	30.5	-28.2	2.00	2.00	0.00
Start 6849.9 hold at 3000.0 MD									
3,100.0	10.00	135.52	3,095.9	-43.4	42.7	-39.5	0.00	0.00	0.00
3,200.0	10.00	135.52	3,194.4	-55.8	54.8	-50.7	0.00	0.00	0.00
3,300.0	10.00	135.52	3,292.9	-68.2	67.0	-62.0	0.00	0.00	0.00
3,400.0	10.00	135.52	3,391.4	-80.6	79.2	-73.2	0.00	0.00	0.00
3,500.0	10.00	135.52	3,489.9	-93.0	91.3	-84.5	0.00	0.00	0.00
3,600.0	10.00	135.52	3,588.3	-105.4	103.5	-95.7	0.00	0.00	0.00
3,700.0	10.00	135.52	3,686.8	-117.8	115.7	-107.0	0.00	0.00	0.00
3,800.0	10.00	135.52	3,785.3	-130.2	127.8	-118.2	0.00	0.00	0.00
3,900.0	10.00	135.52	3,883.8	-142.6	140.0	-129.5	0.00	0.00	0.00
4,000.0	10.00	135.52	3,982.3	-155.0	152.2	-140.7	0.00	0.00	0.00
4,100.0	10.00	135.52	4,080.8	-167.3	164.3	-152.0	0.00	0.00	0.00
4,200.0	10.00	135.52	4,179.2	-179.7	176.5	-163.3	0.00	0.00	0.00
4,300.0	10.00	135.52	4,277.7	-192.1	188.7	-174.5	0.00	0.00	0.00
4,400.0	10.00	135.52	4,376.2	-204.5	200.8	-185.8	0.00	0.00	0.00
4,500.0	10.00	135.52	4,474.7	-216.9	213.0	-197.0	0.00	0.00	0.00
4,600.0	10.00	135.52	4,573.2	-229.3	225.2	-208.3	0.00	0.00	0.00
4,700.0	10.00	135.52	4,671.6	-241.7	237.3	-219.5	0.00	0.00	0.00
4,800.0	10.00	135.52	4,770.1	-254.1	249.5	-230.8	0.00	0.00	0.00
4,900.0	10.00	135.52	4,868.6	-266.5	261.7	-242.0	0.00	0.00	0.00
5,000.0	10.00	135.52	4,967.1	-278.8	273.8	-253.3	0.00	0.00	0.00
5,100.0	10.00	135.52	5,065.6	-291.2	286.0	-264.5	0.00	0.00	0.00
5,200.0	10.00	135.52	5,164.0	-303.6	298.2	-275.8	0.00	0.00	0.00
5,300.0	10.00	135.52	5,262.5	-316.0	310.3	-287.0	0.00	0.00	0.00
5,400.0	10.00	135.52	5,361.0	-328.4	322.5	-298.3	0.00	0.00	0.00
5,500.0	10.00	135.52	5,459.5	-340.8	334.7	-309.6	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)	
5,600.0	10.00	135.52	5,558.0	-353.2	346.8	-320.8	0.00	0.00	0.00	
5,700.0	10.00	135.52	5,656.4	-365.6	359.0	-332.1	0.00	0.00	0.00	
5,800.0	10.00	135.52	5,754.9	-378.0	371.2	-343.3	0.00	0.00	0.00	
5,900.0	10.00	135.52	5,853.4	-390.4	383.3	-354.6	0.00	0.00	0.00	
6,000.0	10.00	135.52	5,951.9	-402.7	395.5	-365.8	0.00	0.00	0.00	
6,100.0	10.00	135.52	6,050.4	-415.1	407.7	-377.1	0.00	0.00	0.00	
6,200.0	10.00	135.52	6,148.9	-427.5	419.8	-388.3	0.00	0.00	0.00	
6,300.0	10.00	135.52	6,247.3	-439.9	432.0	-399.6	0.00	0.00	0.00	
6,400.0	10.00	135.52	6,345.8	-452.3	444.2	-410.8	0.00	0.00	0.00	
6,500.0	10.00	135.52	6,444.3	-464.7	456.3	-422.1	0.00	0.00	0.00	
6,600.0	10.00	135.52	6,542.8	-477.1	468.5	-433.3	0.00	0.00	0.00	
6,700.0	10.00	135.52	6,641.3	-489.5	480.7	-444.6	0.00	0.00	0.00	
6,800.0	10.00	135.52	6,739.7	-501.9	492.8	-455.9	0.00	0.00	0.00	
6,900.0	10.00	135.52	6,838.2	-514.3	505.0	-467.1	0.00	0.00	0.00	
7,000.0	10.00	135.52	6,936.7	-526.6	517.2	-478.4	0.00	0.00	0.00	
7,100.0	10.00	135.52	7,035.2	-539.0	529.3	-489.6	0.00	0.00	0.00	
7,200.0	10.00	135.52	7,133.7	-551.4	541.5	-500.9	0.00	0.00	0.00	
7,300.0	10.00	135.52	7,232.1	-563.8	553.7	-512.1	0.00	0.00	0.00	
7,400.0	10.00	135.52	7,330.6	-576.2	565.8	-523.4	0.00	0.00	0.00	
7,500.0	10.00	135.52	7,429.1	-588.6	578.0	-534.6	0.00	0.00	0.00	
7,600.0	10.00	135.52	7,527.6	-601.0	590.2	-545.9	0.00	0.00	0.00	
7,700.0	10.00	135.52	7,626.1	-613.4	602.3	-557.1	0.00	0.00	0.00	
7,800.0	10.00	135.52	7,724.5	-625.8	614.5	-568.4	0.00	0.00	0.00	
7,900.0	10.00	135.52	7,823.0	-638.2	626.7	-579.6	0.00	0.00	0.00	
8,000.0	10.00	135.52	7,921.5	-650.5	638.8	-590.9	0.00	0.00	0.00	
8,100.0	10.00	135.52	8,020.0	-662.9	651.0	-602.2	0.00	0.00	0.00	
8,200.0	10.00	135.52	8,118.5	-675.3	663.2	-613.4	0.00	0.00	0.00	
8,300.0	10.00	135.52	8,216.9	-687.7	675.3	-624.7	0.00	0.00	0.00	
8,400.0	10.00	135.52	8,315.4	-700.1	687.5	-635.9	0.00	0.00	0.00	
8,500.0	10.00	135.52	8,413.9	-712.5	699.7	-647.2	0.00	0.00	0.00	
8,600.0	10.00	135.52	8,512.4	-724.9	711.8	-658.4	0.00	0.00	0.00	
8,700.0	10.00	135.52	8,610.9	-737.3	724.0	-669.7	0.00	0.00	0.00	
8,800.0	10.00	135.52	8,709.4	-749.7	736.2	-680.9	0.00	0.00	0.00	
8,900.0	10.00	135.52	8,807.8	-762.0	748.3	-692.2	0.00	0.00	0.00	
9,000.0	10.00	135.52	8,906.3	-774.4	760.5	-703.4	0.00	0.00	0.00	
9,100.0	10.00	135.52	9,004.8	-786.8	772.7	-714.7	0.00	0.00	0.00	
9,200.0	10.00	135.52	9,103.3	-799.2	784.8	-725.9	0.00	0.00	0.00	
9,300.0	10.00	135.52	9,201.8	-811.6	797.0	-737.2	0.00	0.00	0.00	
9,400.0	10.00	135.52	9,300.2	-824.0	809.2	-748.5	0.00	0.00	0.00	
9,500.0	10.00	135.52	9,398.7	-836.4	821.3	-759.7	0.00	0.00	0.00	
9,600.0	10.00	135.52	9,497.2	-848.8	833.5	-771.0	0.00	0.00	0.00	
9,700.0	10.00	135.52	9,595.7	-861.2	845.7	-782.2	0.00	0.00	0.00	
9,800.0	10.00	135.52	9,694.2	-873.6	857.8	-793.5	0.00	0.00	0.00	
9,849.9	10.00	135.52	9,743.3	-879.7	863.9	-799.1	0.00	0.00	0.00	

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)
Start Drop -1.00									
9,900.0	9.50	135.52	9,792.7	-885.8	869.9	-804.6	1.00	-1.00	0.00
10,000.0	8.50	135.52	9,891.4	-897.0	880.8	-814.7	1.00	-1.00	0.00
10,100.0	7.50	135.52	9,990.5	-906.9	890.6	-823.7	1.00	-1.00	0.00
10,200.0	6.50	135.52	10,089.7	-915.6	899.1	-831.6	1.00	-1.00	0.00
10,300.0	5.50	135.52	10,189.2	-923.0	906.4	-838.4	1.00	-1.00	0.00
10,400.0	4.50	135.52	10,288.8	-929.2	912.5	-844.1	1.00	-1.00	0.00
10,500.0	3.50	135.52	10,388.5	-934.2	917.4	-848.6	1.00	-1.00	0.00
10,600.0	2.50	135.52	10,488.4	-938.0	921.1	-852.0	1.00	-1.00	0.00
10,700.0	1.50	135.52	10,588.3	-940.4	923.5	-854.2	1.00	-1.00	0.00
10,800.0	0.50	135.52	10,688.3	-941.7	924.7	-855.4	1.00	-1.00	0.00
10,849.9	0.00	0.00	10,738.2	-941.8	924.9	-855.5	1.00	-1.00	0.00
Start 243.3 hold at 10849.9 MD									
10,900.0	0.00	0.00	10,788.3	-941.8	924.9	-855.5	0.00	0.00	0.00
11,000.0	0.00	0.00	10,888.3	-941.8	924.9	-855.5	0.00	0.00	0.00
11,093.2	0.00	0.00	10,981.5	-941.8	924.9	-855.5	0.00	0.00	0.00
Start DLS 12.00 TFO 359.64									
11,100.0	0.82	359.64	10,988.3	-941.8	924.9	-855.4	12.00	12.00	0.00
11,200.0	12.82	359.64	11,087.4	-929.9	924.8	-843.6	12.00	12.00	0.00
11,300.0	24.82	359.64	11,181.9	-897.7	924.6	-811.6	12.00	12.00	0.00
11,400.0	36.82	359.64	11,267.6	-846.6	924.3	-760.7	12.00	12.00	0.00
11,500.0	48.82	359.64	11,340.9	-778.8	923.9	-693.2	12.00	12.00	0.00
11,600.0	60.82	359.64	11,398.4	-697.2	923.3	-611.9	12.00	12.00	0.00
11,700.0	72.82	359.64	11,437.7	-605.4	922.8	-520.6	12.00	12.00	0.00
11,800.0	84.82	359.64	11,457.0	-507.5	922.1	-423.1	12.00	12.00	0.00
11,843.2	90.00	359.64	11,459.0	-464.4	921.9	-380.2	12.00	12.00	0.00
Start 10037.3 hold at 11843.2 MD									
11,900.0	90.00	359.64	11,459.0	-407.6	921.5	-323.6	0.00	0.00	0.00
12,000.0	90.00	359.64	11,459.0	-307.6	920.9	-224.1	0.00	0.00	0.00
12,100.0	90.00	359.64	11,459.0	-207.6	920.2	-124.6	0.00	0.00	0.00
12,200.0	90.00	359.64	11,459.0	-107.6	919.6	-25.0	0.00	0.00	0.00
12,300.0	90.00	359.64	11,459.0	-7.6	919.0	74.5	0.00	0.00	0.00
12,400.0	90.00	359.64	11,459.0	92.4	918.3	174.1	0.00	0.00	0.00
12,500.0	90.00	359.64	11,459.0	192.4	917.7	273.6	0.00	0.00	0.00
12,600.0	90.00	359.64	11,459.0	292.4	917.1	373.1	0.00	0.00	0.00
12,700.0	90.00	359.64	11,459.0	392.4	916.4	472.7	0.00	0.00	0.00
12,800.0	90.00	359.64	11,459.0	492.4	915.8	572.2	0.00	0.00	0.00
12,900.0	90.00	359.64	11,459.0	592.4	915.2	671.8	0.00	0.00	0.00
13,000.0	90.00	359.64	11,459.0	692.4	914.5	771.3	0.00	0.00	0.00
13,100.0	90.00	359.64	11,459.0	792.4	913.9	870.9	0.00	0.00	0.00
13,200.0	90.00	359.64	11,459.0	892.4	913.3	970.4	0.00	0.00	0.00
13,300.0	90.00	359.64	11,459.0	992.4	912.6	1,069.9	0.00	0.00	0.00
13,400.0	90.00	359.64	11,459.0	1,092.4	912.0	1,169.5	0.00	0.00	0.00
13,500.0	90.00	359.64	11,459.0	1,192.4	911.3	1,269.0	0.00	0.00	0.00



## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

## 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)
13,600.0	90.00	359.64	11,459.0	1,292.4	910.7	1,368.6	0.00	0.00	0.00
13,700.0	90.00	359.64	11,459.0	1,392.4	910.1	1,468.1	0.00	0.00	0.00
13,800.0	90.00	359.64	11,459.0	1,492.4	909.4	1,567.7	0.00	0.00	0.00
13,900.0	90.00	359.64	11,459.0	1,592.4	908.8	1,667.2	0.00	0.00	0.00
14,000.0	90.00	359.64	11,459.0	1,692.4	908.2	1,766.7	0.00	0.00	0.00
14,100.0	90.00	359.64	11,459.0	1,792.4	907.5	1,866.3	0.00	0.00	0.00
14,200.0	90.00	359.64	11,459.0	1,892.4	906.9	1,965.8	0.00	0.00	0.00
14,300.0	90.00	359.64	11,459.0	1,992.4	906.3	2,065.4	0.00	0.00	0.00
14,400.0	90.00	359.64	11,459.0	2,092.4	905.6	2,164.9	0.00	0.00	0.00
14,500.0	90.00	359.64	11,459.0	2,192.4	905.0	2,264.4	0.00	0.00	0.00
14,600.0	90.00	359.64	11,459.0	2,292.4	904.4	2,364.0	0.00	0.00	0.00
14,700.0	90.00	359.64	11,459.0	2,392.4	903.7	2,463.5	0.00	0.00	0.00
14,800.0	90.00	359.64	11,459.0	2,492.4	903.1	2,563.1	0.00	0.00	0.00
14,900.0	90.00	359.64	11,459.0	2,592.4	902.5	2,662.6	0.00	0.00	0.00
15,000.0	90.00	359.64	11,459.0	2,692.4	901.8	2,762.2	0.00	0.00	0.00
15,100.0	90.00	359.64	11,459.0	2,792.4	901.2	2,861.7	0.00	0.00	0.00
15,200.0	90.00	359.64	11,459.0	2,892.4	900.6	2,961.2	0.00	0.00	0.00
15,300.0	90.00	359.64	11,459.0	2,992.4	899.9	3,060.8	0.00	0.00	0.00
15,400.0	90.00	359.64	11,459.0	3,092.4	899.3	3,160.3	0.00	0.00	0.00
15,500.0	90.00	359.64	11,459.0	3,192.4	898.7	3,259.9	0.00	0.00	0.00
15,600.0	90.00	359.64	11,459.0	3,292.4	898.0	3,359.4	0.00	0.00	0.00
15,700.0	90.00	359.64	11,459.0	3,392.4	897.4	3,458.9	0.00	0.00	0.00
15,800.0	90.00	359.64	11,459.0	3,492.4	896.8	3,558.5	0.00	0.00	0.00
15,900.0	90.00	359.64	11,459.0	3,592.4	896.1	3,658.0	0.00	0.00	0.00
16,000.0	90.00	359.64	11,459.0	3,692.4	895.5	3,757.6	0.00	0.00	0.00
16,100.0	90.00	359.64	11,459.0	3,792.4	894.8	3,857.1	0.00	0.00	0.00
16,200.0	90.00	359.64	11,459.0	3,892.4	894.2	3,956.7	0.00	0.00	0.00
16,300.0	90.00	359.64	11,459.0	3,992.4	893.6	4,056.2	0.00	0.00	0.00
16,400.0	90.00	359.64	11,459.0	4,092.4	892.9	4,155.7	0.00	0.00	0.00
16,500.0	90.00	359.64	11,459.0	4,192.4	892.3	4,255.3	0.00	0.00	0.00
16,600.0	90.00	359.64	11,459.0	4,292.4	891.7	4,354.8	0.00	0.00	0.00
16,700.0	90.00	359.64	11,459.0	4,392.3	891.0	4,454.4	0.00	0.00	0.00
16,800.0	90.00	359.64	11,459.0	4,492.3	890.4	4,553.9	0.00	0.00	0.00
16,900.0	90.00	359.64	11,459.0	4,592.3	889.8	4,653.4	0.00	0.00	0.00
17,000.0	90.00	359.64	11,459.0	4,692.3	889.1	4,753.0	0.00	0.00	0.00
17,100.0	90.00	359.64	11,459.0	4,792.3	888.5	4,852.5	0.00	0.00	0.00
17,200.0	90.00	359.64	11,459.0	4,892.3	887.9	4,952.1	0.00	0.00	0.00
17,300.0	90.00	359.64	11,459.0	4,992.3	887.2	5,051.6	0.00	0.00	0.00
17,400.0	90.00	359.64	11,459.0	5,092.3	886.6	5,151.2	0.00	0.00	0.00
17,500.0	90.00	359.64	11,459.0	5,192.3	886.0	5,250.7	0.00	0.00	0.00
17,600.0	90.00	359.64	11,459.0	5,292.3	885.3	5,350.2	0.00	0.00	0.00
17,700.0	90.00	359.64	11,459.0	5,392.3	884.7	5,449.8	0.00	0.00	0.00
17,800.0	90.00	359.64	11,459.0	5,492.3	884.1	5,549.3	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

## 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)
17,900.0	90.00	359.64	11,459.0	5,592.3	883.4	5,648.9	0.00	0.00	0.00
18,000.0	90.00	359.64	11,459.0	5,692.3	882.8	5,748.4	0.00	0.00	0.00
18,100.0	90.00	359.64	11,459.0	5,792.3	882.2	5,848.0	0.00	0.00	0.00
18,200.0	90.00	359.64	11,459.0	5,892.3	881.5	5,947.5	0.00	0.00	0.00
18,300.0	90.00	359.64	11,459.0	5,992.3	880.9	6,047.0	0.00	0.00	0.00
18,400.0	90.00	359.64	11,459.0	6,092.3	880.3	6,146.6	0.00	0.00	0.00
18,500.0	90.00	359.64	11,459.0	6,192.3	879.6	6,246.1	0.00	0.00	0.00
18,600.0	90.00	359.64	11,459.0	6,292.3	879.0	6,345.7	0.00	0.00	0.00
18,700.0	90.00	359.64	11,459.0	6,392.3	878.4	6,445.2	0.00	0.00	0.00
18,800.0	90.00	359.64	11,459.0	6,492.3	877.7	6,544.7	0.00	0.00	0.00
18,900.0	90.00	359.64	11,459.0	6,592.3	877.1	6,644.3	0.00	0.00	0.00
19,000.0	90.00	359.64	11,459.0	6,692.3	876.4	6,743.8	0.00	0.00	0.00
19,100.0	90.00	359.64	11,459.0	6,792.3	875.8	6,843.4	0.00	0.00	0.00
19,200.0	90.00	359.64	11,459.0	6,892.3	875.2	6,942.9	0.00	0.00	0.00
19,300.0	90.00	359.64	11,459.0	6,992.3	874.5	7,042.5	0.00	0.00	0.00
19,400.0	90.00	359.64	11,459.0	7,092.3	873.9	7,142.0	0.00	0.00	0.00
19,500.0	90.00	359.64	11,459.0	7,192.3	873.3	7,241.5	0.00	0.00	0.00
19,600.0	90.00	359.64	11,459.0	7,292.3	872.6	7,341.1	0.00	0.00	0.00
19,700.0	90.00	359.64	11,459.0	7,392.3	872.0	7,440.6	0.00	0.00	0.00
19,800.0	90.00	359.64	11,459.0	7,492.3	871.4	7,540.2	0.00	0.00	0.00
19,900.0	90.00	359.64	11,459.0	7,592.3	870.7	7,639.7	0.00	0.00	0.00
20,000.0	90.00	359.64	11,459.0	7,692.3	870.1	7,739.2	0.00	0.00	0.00
20,100.0	90.00	359.64	11,459.0	7,792.3	869.5	7,838.8	0.00	0.00	0.00
20,200.0	90.00	359.64	11,459.0	7,892.3	868.8	7,938.3	0.00	0.00	0.00
20,300.0	90.00	359.64	11,459.0	7,992.3	868.2	8,037.9	0.00	0.00	0.00
20,400.0	90.00	359.64	11,459.0	8,092.3	867.6	8,137.4	0.00	0.00	0.00
20,500.0	90.00	359.64	11,459.0	8,192.3	866.9	8,237.0	0.00	0.00	0.00
20,600.0	90.00	359.64	11,459.0	8,292.3	866.3	8,336.5	0.00	0.00	0.00
20,700.0	90.00	359.64	11,459.0	8,392.3	865.7	8,436.0	0.00	0.00	0.00
20,800.0	90.00	359.64	11,459.0	8,492.3	865.0	8,535.6	0.00	0.00	0.00
20,900.0	90.00	359.64	11,459.0	8,592.3	864.4	8,635.1	0.00	0.00	0.00
21,000.0	90.00	359.64	11,459.0	8,692.3	863.8	8,734.7	0.00	0.00	0.00
21,100.0	90.00	359.64	11,459.0	8,792.3	863.1	8,834.2	0.00	0.00	0.00
21,200.0	90.00	359.64	11,459.0	8,892.3	862.5	8,933.8	0.00	0.00	0.00
21,300.0	90.00	359.64	11,459.0	8,992.3	861.9	9,033.3	0.00	0.00	0.00
21,400.0	90.00	359.64	11,459.0	9,092.3	861.2	9,132.8	0.00	0.00	0.00
21,500.0	90.00	359.64	11,459.0	9,192.3	860.6	9,232.4	0.00	0.00	0.00
21,600.0	90.00	359.64	11,459.0	9,292.3	859.9	9,331.9	0.00	0.00	0.00
21,700.0	90.00	359.64	11,459.0	9,392.2	859.3	9,431.5	0.00	0.00	0.00
21,800.0	90.00	359.64	11,459.0	9,492.2	858.7	9,531.0	0.00	0.00	0.00
21,880.4	90.00	359.64	11,459.0	9,572.7	858.2	9,611.1	0.00	0.00	0.00
TD at 21880.4									

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well ZHU 2331 WC #5H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Site:</b>	ZIA HILLS UNIT 2331 PROJECT	<b>MD Reference:</b>	KB=31' @ 3211.0usft (Nabors 894)
<b>Well:</b>	ZHU 2331 WC #5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

## Design Targets

## Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (ZHU 2331 WC # - plan misses target center by 198.0usft at 11475.8usft MD (11324.4 TVD, -796.6 N, 924.0 E) - Circle (radius 50.0)	0.00	0.00	11,459.0	-941.8	924.9	371,852.60	680,657.98	32° 1' 15.591 N	103° 45' 1.538 W
LTP (ZHU 2331 WC # - plan misses target center by 30.5usft at 21800.0usft MD (11459.0 TVD, 9492.2 N, 858.7 E) - Point	0.00	0.00	11,459.0	9,522.7	858.3	382,317.14	680,591.41	32° 2' 59.153 N	103° 45' 1.655 W
PBHL (ZHU 2331 WC - plan hits target center - Rectangle (sides W100.0 H10,525.0 D20.0)	0.00	179.64	11,459.0	9,572.7	858.2	382,367.13	680,591.26	32° 2' 59.648 N	103° 45' 1.654 W

## Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2500	2500	0	0	Start Build 2.00
3000	2997	-31	30	Start 6849.9 hold at 3000.0 MD
9850	9743	-880	864	Start Drop -1.00
10,850	10,738	-942	925	Start 243.3 hold at 10849.9 MD
11,093	10,982	-942	925	Start DLS 12.00 TFO 359.64
11,843	11,459	-464	922	Start 10037.3 hold at 11843.2 MD
21,880	11,459	9573	858	TD at 21880.4

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

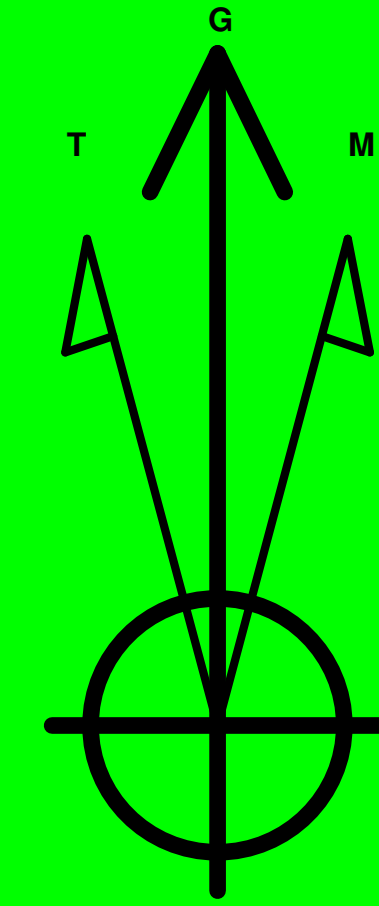




Project: BULLDOG PROSPECT (NM-E)  
Site: ZIA HILLS UNIT 2331 PROJECT  
Well: ZHU 2331 WC #5H  
Wellbore: OWB  
Design: PWP1  
GL: 3180.0  
KB=31' @ 3211.0usft (Nabors 894)

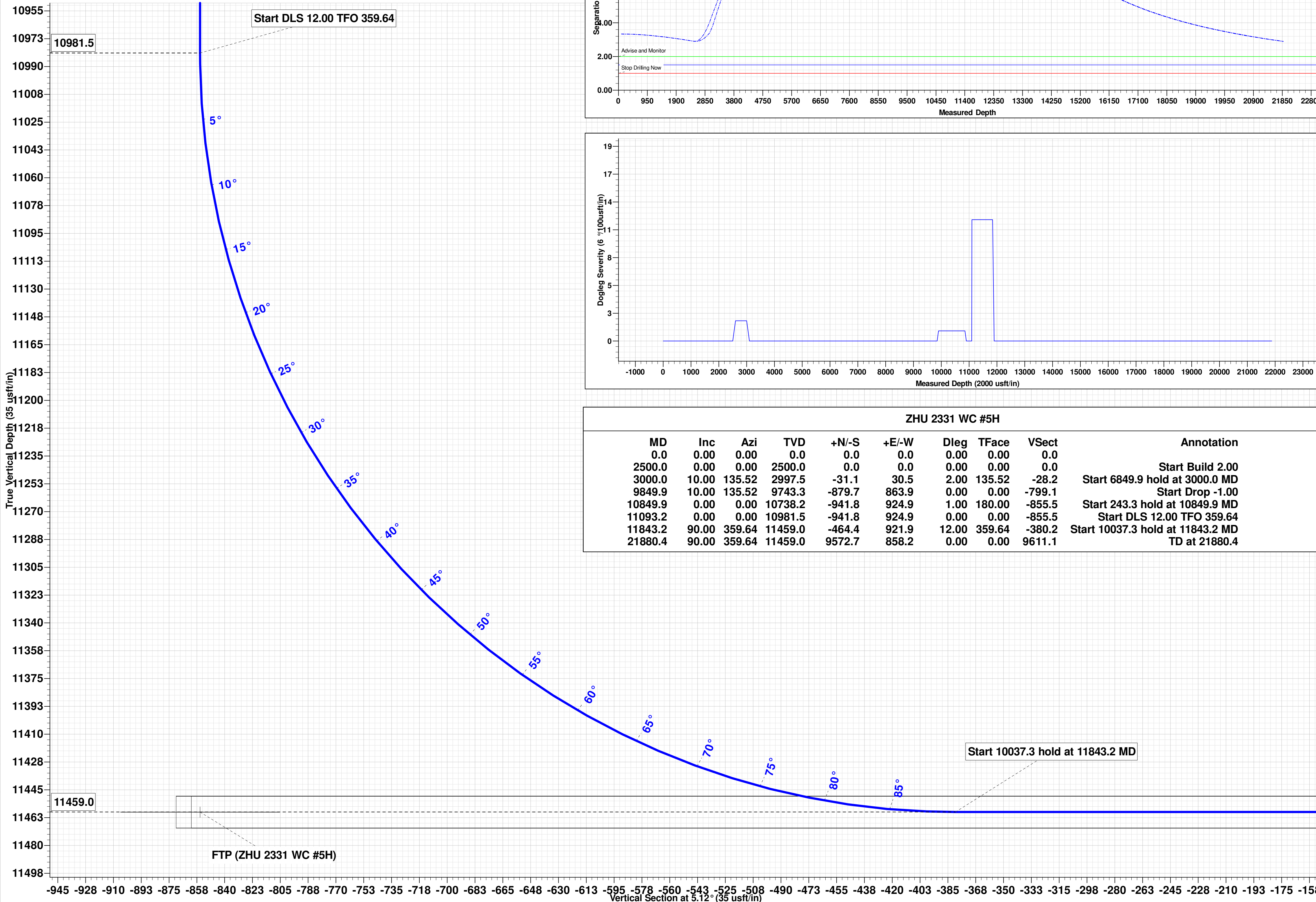
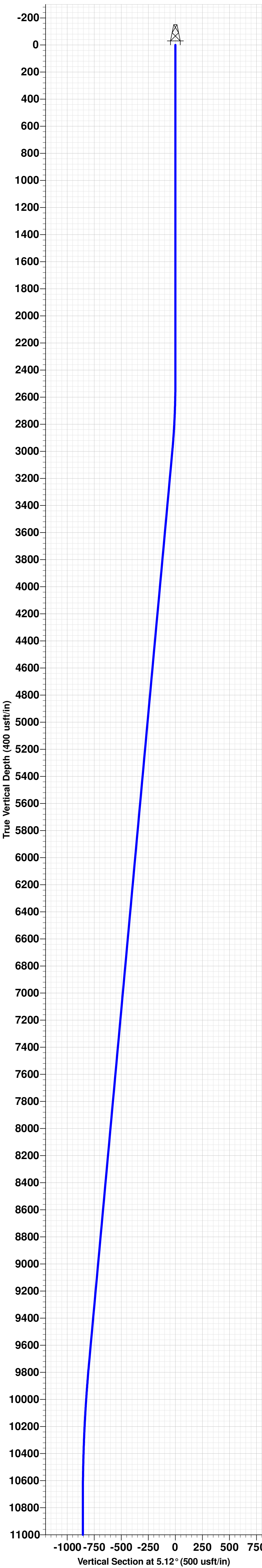
WELL DETAILS: ZHU 2331 WC #5H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	372794.44	679733.09	32° 1' 24.961 N	103° 45' 12.222 W

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
FTP (ZHU 2331 WC #5H)	11459.0	-941.8	924.9	371852.60	680657.98	32° 1' 15.591 N
LTP (ZHU 2331 WC #5H)	11459.0	9522.7	858.3	382317.14	680591.41	32° 2' 59.153 N
PBHL (ZHU 2331 WC #5H)	11459.0	9572.7	858.2	382367.13	680591.26	32° 2' 59.648 N

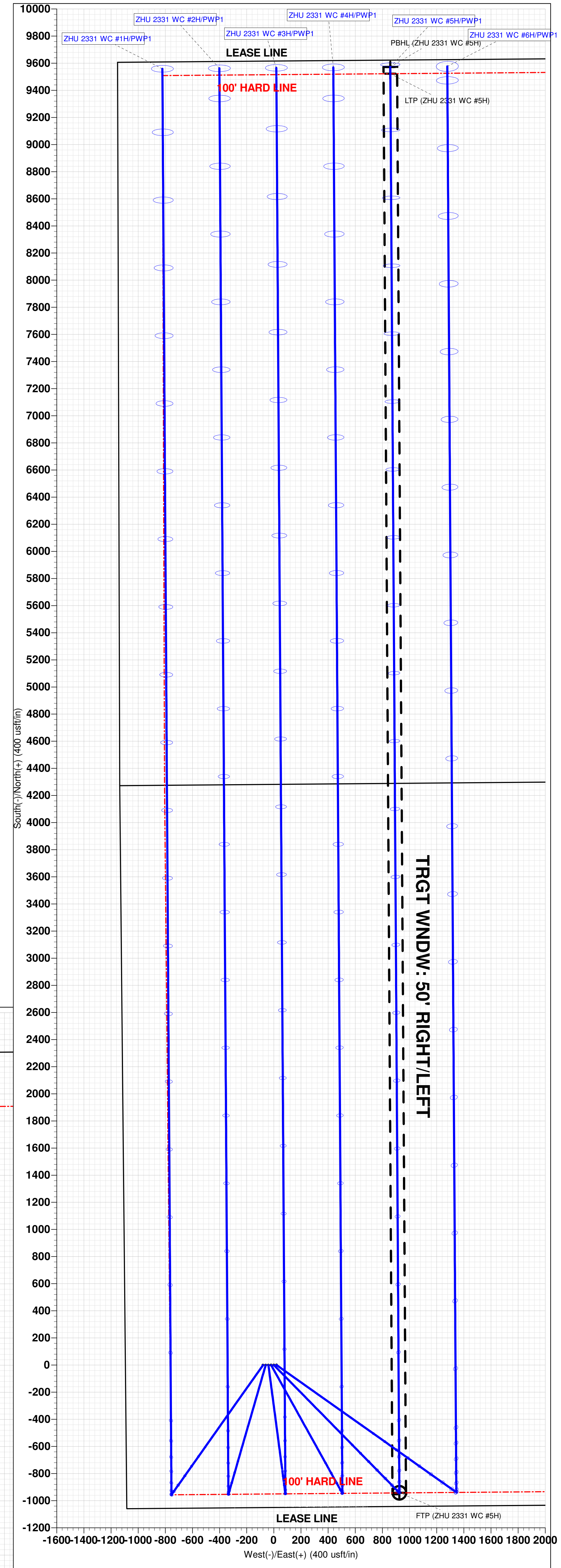
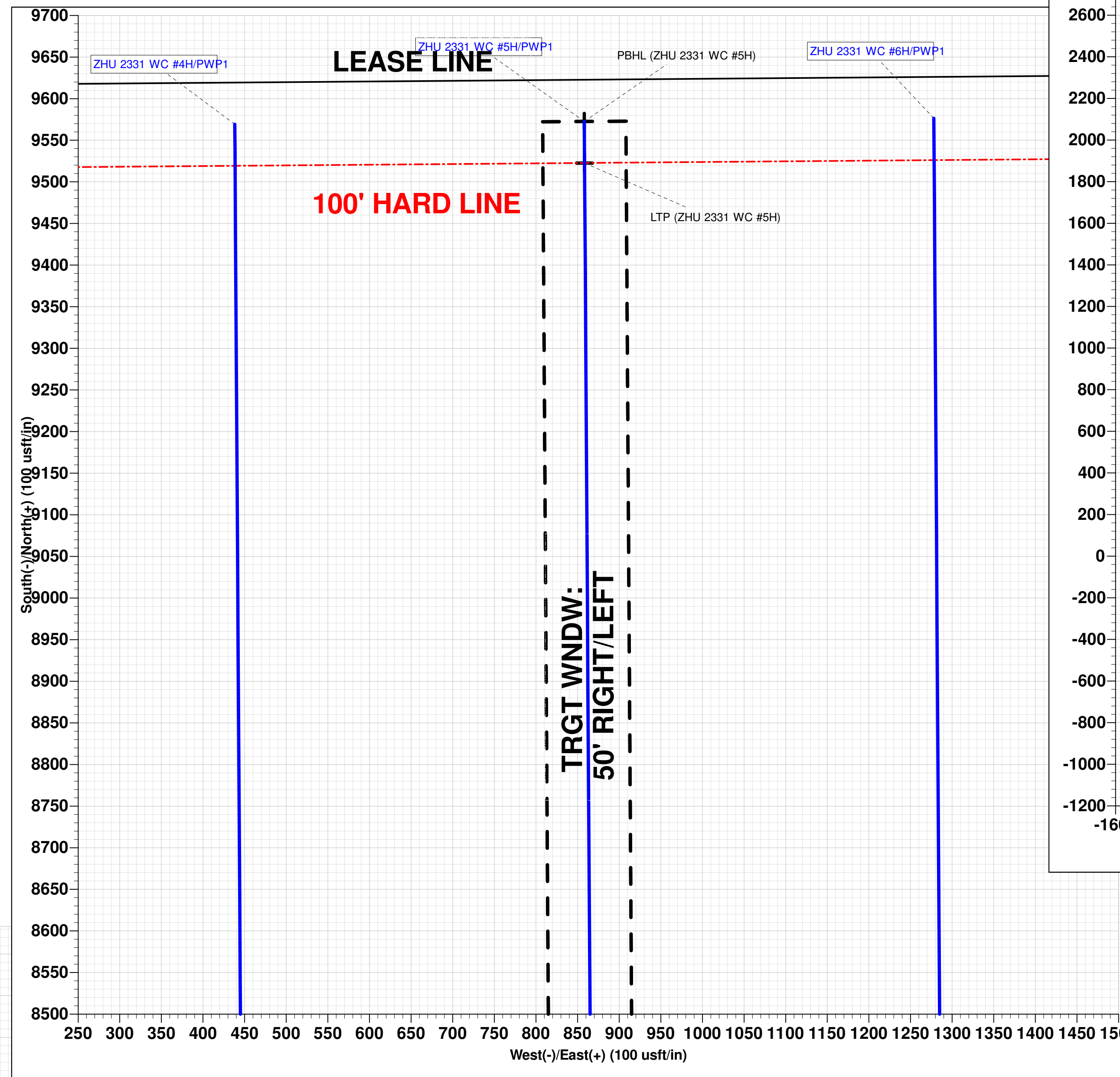
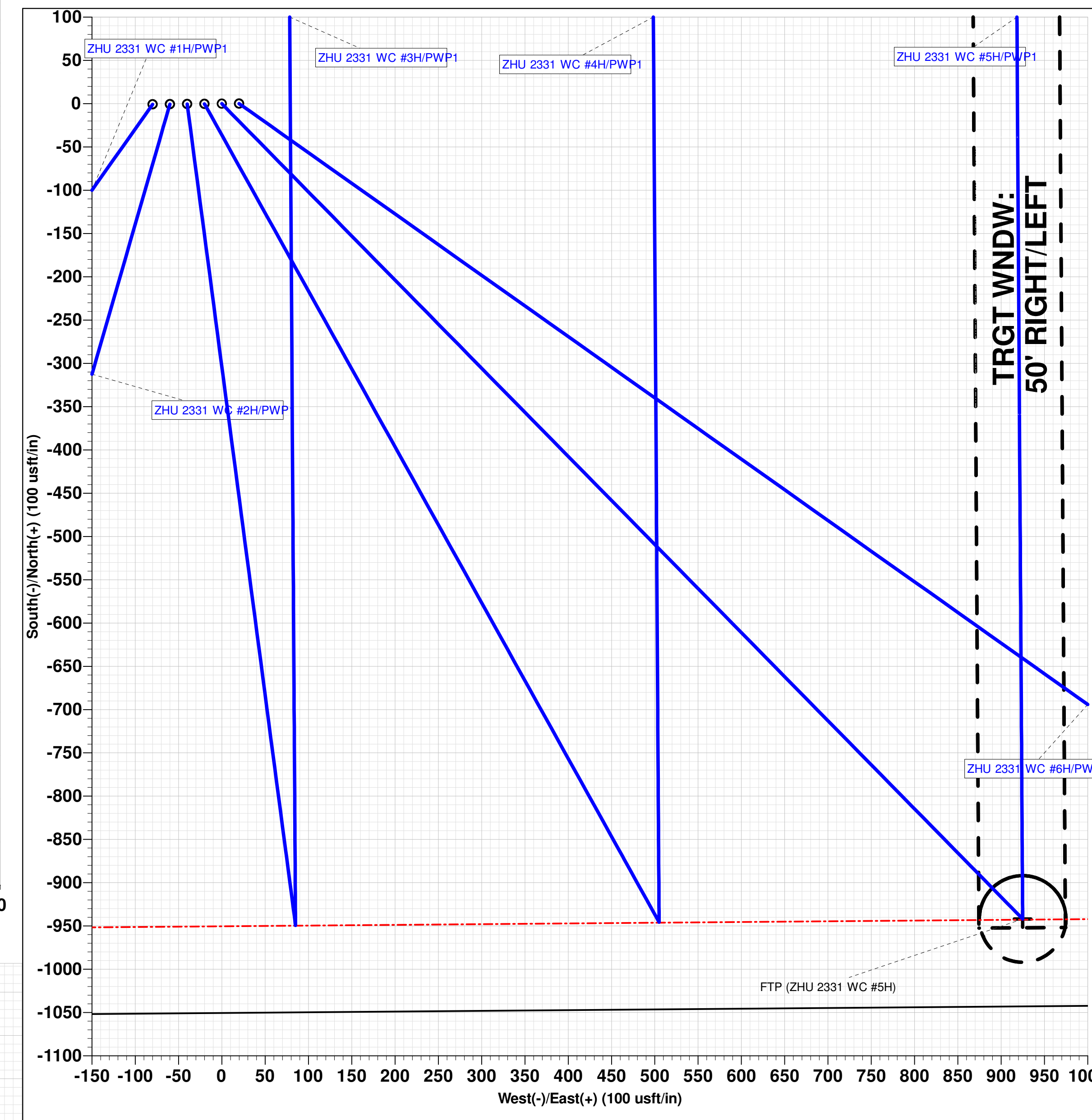
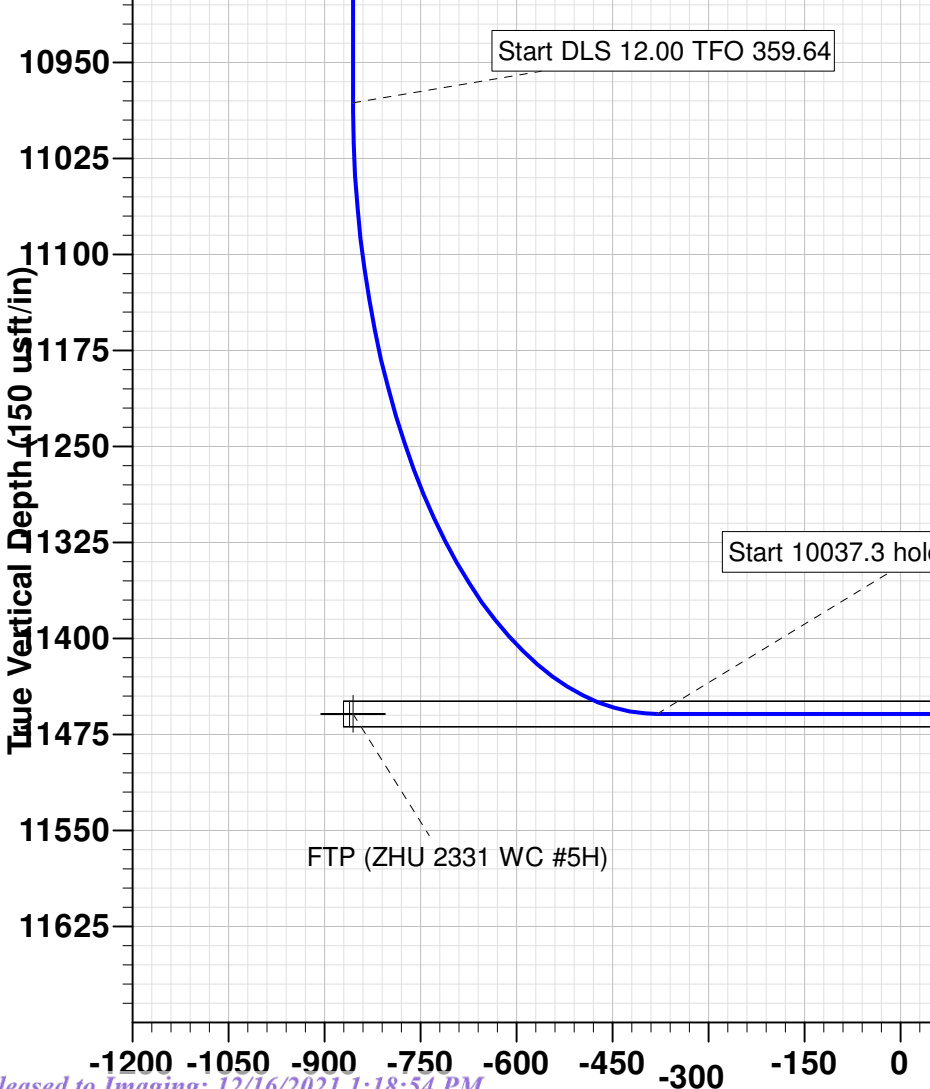


Azimuths to Grid North  
True North: -0.31°  
Magnetic North: 6.21°

Magnetic Field  
Strength: 47474.2nT  
Dip Angle: 59.59°  
Date: 11/15/2021  
Model: BGGM2021



ZHU 2331 WC #5H									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
3000.0	10.00	135.52	2997.5	-31.1	30.5	2.00	135.52	-28.2	Start 6849.9 hold at 3000.0 MD
9849.9	10.00	135.52	9743.3	-879.7	863.9	0.00	0.00	-799.1	Start Drop -1.00
10849.9	0.00	0.00	10738.2	-941.8	924.9	1.00	180.00	-855.5	Start 243.3 hold at 10849.9 MD
11093.2	0.00	0.00	10981.5	-941.8	924.9	0.00	0.00	-855.5	Start DLS 12.00 TFO 359.64
11843.2	90.00	359.64	11459.0	-464.4	921.9	12.00	359.64	-380.2	Start 10037.3 hold at 11843.2 MD
21880.4	90.00	359.64	11459.0	9572.7	858.2	0.00	0.00	9611.1	TD at 21880.4



TRGT WNDW: 10'  
ABOVE/BELOW



**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 66588

COMMENTS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 66588
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 12/14/2021	12/14/2021

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CONDITIONS

Action 66588

**CONDITIONS**

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 66588
	Action Type: [C-103] NOI Change of Plans (C-103A)

**CONDITIONS**

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	12/14/2021