

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 26 2018

RECEIVED

WPX Energy

Eddy County, New Mexico (NAD 83)

Frontier 32-23-26 State Pad

Frontier 32-23-26 State 431H

API: ???

Wellbore #1

30-015-45274

Plan: Plan #1

Standard Planning Report

26 September, 2018

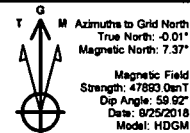


www.scientificdrilling.com

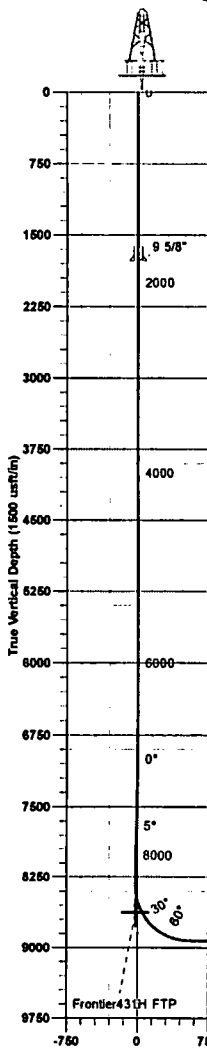
WPXENERGY

Frontier 32-23-26 State 431H
Eddy County, New Mexico (NAD 83)
Northing: 456164.70
Easting: 549203.30
Plan #1

GL 3437 + RKB 26 = @ 3463.00usft (HP 265)



To convert a Magnetic Direction to a Grid Direction, Add 7.37°
 To convert a True Direction to a Grid Direction, Subtract 0.01°



WELL DETAILS					
Frontier 32-23-26 State 431H					
Ground Level: 3437.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	456164.70	549203.30	32.254070	-104.307888

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	0.00
7230.79	4.62	12.29	7230.55	9.08	1.98	2.00	12.29	-2.04
8126.65	4.62	12.29	8123.49	79.52	17.32	0.00	0.00	-17.85
8357.44	0.00	0.00	8354.04	88.60	19.30	2.00	180.00	-19.89
9257.44	90.00	269.62	8927.00	84.85	-553.65	10.00	269.62	553.07
13435.69	90.00	269.62	8927.00	57.50	-4731.80	0.00	0.00	4731.31

SITE DETAILS: Frontier 32-23-26 State 431H
PROJECT DETAILS: Eddy County, New Mexico (NAD 83)

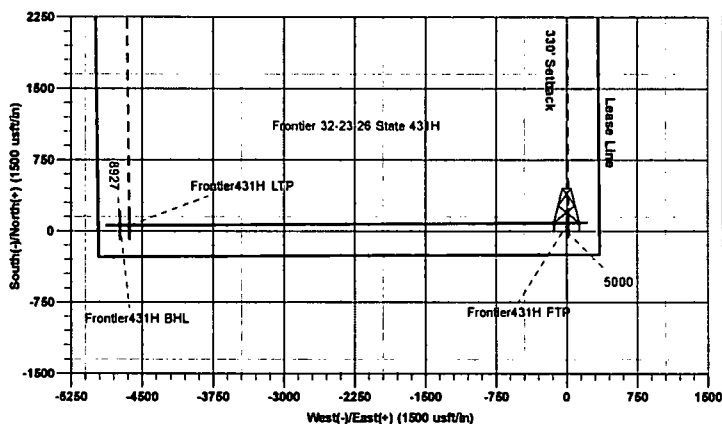
Site Centre Northing: 456164.70
 Easting: 549203.30
 Positional Uncertainty: 0.00
 Convergence: 0.01
 Local North: Grid

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

DESIGN TARGET DETAILS			
Name	TVD	+N/-S	+E/-W
Frontier431H FTP	8630.00	88.60	19.30
Frontier431H BHL	8927.00	57.50	-4731.80
Frontier431H LTP	8927.00	58.20	-4831.80

CASING DETAILS			
TVD	MD	Size	
1771.00	1771.00	9-5/8	

FORMATION TOP DETAILS	
TVDPath	Formation
429.00	Salado
822.00	Castile
1771.00	Bell Canyon (Base of Salt)
2639.00	Cherry Canyon
3533.00	Brushy Canyon
5255.00	Bone Spring
5537.00	Avellan
6119.00	1st Bone Spring Sand
6344.00	2nd Bone Spring Lime
6431.00	2nd Bone Spring Sand
6710.00	3rd Bone Spring Lime
6252.00	3rd Bone Spring Sand
6830.00	Wolfcamp Top
6852.00	WC_X
6714.00	WC_Y
6883.00	Wolfcamp A
6905.00	Top Target
8927.00	Landing Point



8:08, 8/24/2018
 Scientific Drilling
 325 S Pauline Rd.
 Odessa, TX 79765

Scientific Drilling, Intl

Planning Report

Database: Midland District
Company: WPX Energy
Project: Eddy County, New Mexico (NAD 83)
Site: Frontier 32-23-26 State Pad
Well: Frontier 32-23-26 State 431H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Frontier 32-23-26 State 431H
TVD Reference: GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
MD Reference: GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Frontier 32-23-26 State Pad				
Site Position:		Northing:	456,164.70 usft	Latitude:	32.254070
From:	Map	Easting:	549,203.30 usft	Longitude:	-104.307889
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.01 °

Well	Frontier 32-23-26 State 431H					
Well Position	+N/-S	0.00 usft	Northing:	456,164.70 usft	Latitude:	32.254070
	+E/-W	0.00 usft	Easting:	549,203.30 usft	Longitude:	-104.307889
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level:	3,437.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/25/2018	7.38	59.92	47,893

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	269.62

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,230.79	4.62	12.29	7,230.55	9.08	1.98	2.00	2.00	0.00	12.29	
8,126.65	4.62	12.29	8,123.49	79.52	17.32	0.00	0.00	0.00	0.00	
8,357.44	0.00	0.00	8,354.04	88.60	19.30	2.00	-2.00	0.00	180.00	
9,257.44	90.00	269.62	8,927.00	84.85	-553.65	10.00	10.00	-10.04	269.62	
13,435.69	90.00	269.62	8,927.00	57.50	-4,731.80	0.00	0.00	0.00	0.00	Frontier431H BHL

Scientific Drilling, Intl

Planning Report

Database: Midland District
 Company: WPX Energy
 Project: Eddy County, New Mexico (NAD 83)
 Site: Frontier 32-23-26 State Pad
 Well: Frontier 32-23-26 State 431H
 Wellbore: Wellbore #1
 Design: Plan #1

Local Co-ordinate Reference: Well Frontier 32-23-26 State 431H
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 MD Reference: GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
429.00	0.00	0.00	429.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
822.00	0.00	0.00	822.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
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
1,771.00	0.00	0.00	1,771.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon (Base of Salt) - 9 5/8"									
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
2,639.00	0.00	0.00	2,639.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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
3,533.00	0.00	0.00	3,533.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
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

Scientific Drilling, Intl

Planning Report

Database: Midland District
 Company: WPX Energy
 Project: Eddy County, New Mexico (NAD 83)
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 Well: Frontier 32-23-26 State 431H
 Wellbore: Wellbore #1
 Design: Plan #1

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 MD Reference: GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,255.00	0.00	0.00	5,255.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,537.00	0.00	0.00	5,537.00	0.00	0.00	0.00	0.00	0.00	0.00
Avalon									
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,119.00	0.00	0.00	6,119.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Sand									
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,344.00	0.00	0.00	6,344.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Lime									
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,451.00	0.00	0.00	6,451.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Sand									
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,710.00	0.00	0.00	6,710.00	0.00	0.00	0.00	0.00	0.00	0.00
3rd Bone Spring Lime									
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	2.00	12.29	7,099.98	1.71	0.37	-0.38	2.00	2.00	0.00
7,200.00	4.00	12.29	7,199.84	6.82	1.49	-1.53	2.00	2.00	0.00
7,230.79	4.62	12.29	7,230.55	9.08	1.98	-2.04	2.00	2.00	0.00
7,300.00	4.62	12.29	7,299.53	14.52	3.16	-3.26	0.00	0.00	0.00
7,400.00	4.62	12.29	7,399.20	22.38	4.88	-5.02	0.00	0.00	0.00
7,500.00	4.62	12.29	7,498.88	30.25	6.59	-6.79	0.00	0.00	0.00
7,600.00	4.62	12.29	7,598.55	38.11	8.30	-8.55	0.00	0.00	0.00
7,700.00	4.62	12.29	7,698.23	45.97	10.01	-10.32	0.00	0.00	0.00
7,800.00	4.62	12.29	7,797.90	53.84	11.73	-12.08	0.00	0.00	0.00
7,900.00	4.62	12.29	7,897.58	61.70	13.44	-13.85	0.00	0.00	0.00
8,000.00	4.62	12.29	7,997.26	69.56	15.15	-15.61	0.00	0.00	0.00
8,100.00	4.62	12.29	8,096.93	77.43	16.87	-17.38	0.00	0.00	0.00
8,126.65	4.62	12.29	8,123.49	79.52	17.32	-17.85	0.00	0.00	0.00
8,200.00	3.15	12.29	8,196.67	84.37	18.38	-18.94	2.00	-2.00	0.00

Scientific Drilling, Intl

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Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,255.38	2.04	12.29	8,252.00	86.82	18.91	-19.49	2.00	-2.00	0.00
3rd Bone Spring Sand									
8,300.00	1.15	12.29	8,296.60	88.04	19.18	-19.76	2.00	-2.00	0.00
8,357.44	0.00	0.00	8,354.04	88.60	19.30	-19.89	2.00	-2.00	0.00
KOP									
8,400.00	4.26	269.62	8,396.56	88.59	17.72	-18.31	10.00	10.00	0.00
8,450.00	9.26	269.62	8,446.19	88.55	11.84	-12.43	10.00	10.00	0.00
8,500.00	14.26	269.62	8,495.13	88.48	1.66	-2.24	10.00	10.00	0.00
8,550.00	19.26	269.62	8,542.99	88.39	-12.75	12.17	10.00	10.00	0.00
8,600.00	24.26	269.62	8,589.42	88.27	-31.28	30.69	10.00	10.00	0.00
8,613.73	25.63	269.62	8,601.86	88.23	-37.07	36.48	10.00	10.00	0.00
Frontier431H FTP									
8,645.37	28.79	269.62	8,630.00	88.14	-51.53	50.95	10.00	10.00	0.00
Wolfcamp Top									
8,650.00	29.26	269.62	8,634.05	88.12	-53.78	53.19	10.00	10.00	0.00
8,670.79	31.33	269.62	8,652.00	88.05	-64.27	63.68	10.00	10.00	0.00
WC_X									
8,700.00	34.26	269.62	8,676.55	87.95	-80.09	79.50	10.00	10.00	0.00
8,746.66	38.92	269.62	8,714.00	87.77	-107.89	107.30	10.00	10.00	0.00
WC_Y									
8,750.00	39.26	269.62	8,716.60	87.75	-110.00	109.41	10.00	10.00	0.00
8,800.00	44.26	269.62	8,753.88	87.54	-143.28	142.70	10.00	10.00	0.00
8,850.00	49.26	269.62	8,788.13	87.30	-179.69	179.11	10.00	10.00	0.00
8,900.00	54.26	269.62	8,819.07	87.04	-218.95	218.37	10.00	10.00	0.00
8,950.00	59.26	269.62	8,846.47	86.77	-260.75	260.17	10.00	10.00	0.00
9,000.00	64.26	269.62	8,870.13	86.48	-304.78	304.20	10.00	10.00	0.00
9,031.44	67.40	269.62	8,883.00	86.29	-333.46	332.88	10.00	10.00	0.00
Wolfcamp A									
9,050.00	69.26	269.62	8,889.85	86.18	-350.71	350.13	10.00	10.00	0.00
9,098.16	74.07	269.62	8,905.00	85.88	-396.41	395.83	10.00	10.00	0.00
Top Target									
9,100.00	74.26	269.62	8,905.50	85.87	-398.18	397.60	10.00	10.00	0.00
9,150.00	79.26	269.62	8,916.95	85.55	-446.83	446.25	10.00	10.00	0.00
9,200.00	84.26	269.62	8,924.12	85.22	-496.30	495.72	10.00	10.00	0.00
9,250.00	89.26	269.62	8,926.95	84.90	-546.20	545.63	10.00	10.00	0.00
9,257.44	90.00	269.62	8,927.00	84.85	-553.65	553.07	10.00	10.00	0.00
Landing Point									
9,300.00	90.00	269.62	8,927.00	84.57	-596.20	595.63	0.00	0.00	0.00
9,400.00	90.00	269.62	8,927.00	83.92	-696.20	695.63	0.00	0.00	0.00
9,500.00	90.00	269.62	8,927.00	83.26	-796.20	795.63	0.00	0.00	0.00
9,600.00	90.00	269.62	8,927.00	82.61	-896.19	895.63	0.00	0.00	0.00
9,700.00	90.00	269.62	8,927.00	81.95	-996.19	995.63	0.00	0.00	0.00
9,800.00	90.00	269.62	8,927.00	81.30	-1,096.19	1,095.63	0.00	0.00	0.00
9,900.00	90.00	269.62	8,927.00	80.64	-1,196.19	1,195.63	0.00	0.00	0.00
10,000.00	90.00	269.62	8,927.00	79.99	-1,296.18	1,295.63	0.00	0.00	0.00
10,100.00	90.00	269.62	8,927.00	79.33	-1,396.18	1,395.63	0.00	0.00	0.00
10,200.00	90.00	269.62	8,927.00	78.68	-1,496.18	1,495.63	0.00	0.00	0.00
10,300.00	90.00	269.62	8,927.00	78.03	-1,596.18	1,595.63	0.00	0.00	0.00
10,400.00	90.00	269.62	8,927.00	77.37	-1,696.18	1,695.63	0.00	0.00	0.00
10,500.00	90.00	269.62	8,927.00	76.72	-1,796.17	1,795.63	0.00	0.00	0.00
10,600.00	90.00	269.62	8,927.00	76.06	-1,896.17	1,895.63	0.00	0.00	0.00
10,700.00	90.00	269.62	8,927.00	75.41	-1,996.17	1,995.63	0.00	0.00	0.00
10,800.00	90.00	269.62	8,927.00	74.75	-2,096.17	2,095.63	0.00	0.00	0.00

Scientific Drilling, Intl

Planning Report

Database: Midland District
 Company: WPX Energy
 Project: Eddy County, New Mexico (NAD 83)
 Site: Frontier 32-23-26 State Pad
 Well: Frontier 32-23-26 State 431H
 Wellbore: Wellbore #1
 Design: Plan #1

Local Co-ordinate Reference: Well Frontier 32-23-26 State 431H
 TVD Reference: GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
 MD Reference: GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Buid Rate (°/100usft)	Turn Rate (°/100usft)
10,900.00	90.00	269.62	8,927.00	74.10	-2,196.17	2,195.63	0.00	0.00	0.00
11,000.00	90.00	269.62	8,927.00	73.44	-2,296.16	2,295.63	0.00	0.00	0.00
11,100.00	90.00	269.62	8,927.00	72.79	-2,396.16	2,395.63	0.00	0.00	0.00
11,200.00	90.00	269.62	8,927.00	72.13	-2,496.16	2,495.63	0.00	0.00	0.00
11,300.00	90.00	269.62	8,927.00	71.48	-2,596.16	2,595.63	0.00	0.00	0.00
11,400.00	90.00	269.62	8,927.00	70.83	-2,696.15	2,695.63	0.00	0.00	0.00
11,500.00	90.00	269.62	8,927.00	70.17	-2,796.15	2,795.63	0.00	0.00	0.00
11,600.00	90.00	269.62	8,927.00	69.52	-2,896.15	2,895.63	0.00	0.00	0.00
11,700.00	90.00	269.62	8,927.00	68.86	-2,996.15	2,995.63	0.00	0.00	0.00
11,800.00	90.00	269.62	8,927.00	68.21	-3,096.15	3,095.63	0.00	0.00	0.00
11,900.00	90.00	269.62	8,927.00	67.55	-3,196.14	3,195.63	0.00	0.00	0.00
12,000.00	90.00	269.62	8,927.00	66.90	-3,296.14	3,295.63	0.00	0.00	0.00
12,100.00	90.00	269.62	8,927.00	66.24	-3,396.14	3,395.63	0.00	0.00	0.00
12,200.00	90.00	269.62	8,927.00	65.59	-3,496.14	3,495.63	0.00	0.00	0.00
12,300.00	90.00	269.62	8,927.00	64.93	-3,596.14	3,595.63	0.00	0.00	0.00
12,400.00	90.00	269.62	8,927.00	64.28	-3,696.13	3,695.63	0.00	0.00	0.00
12,500.00	90.00	269.62	8,927.00	63.62	-3,796.13	3,795.63	0.00	0.00	0.00
12,600.00	90.00	269.62	8,927.00	62.97	-3,896.13	3,895.63	0.00	0.00	0.00
12,700.00	90.00	269.62	8,927.00	62.32	-3,996.13	3,995.63	0.00	0.00	0.00
12,800.00	90.00	269.62	8,927.00	61.66	-4,096.12	4,095.63	0.00	0.00	0.00
12,900.00	90.00	269.62	8,927.00	61.01	-4,196.12	4,195.63	0.00	0.00	0.00
13,000.00	90.00	269.62	8,927.00	60.35	-4,296.12	4,295.63	0.00	0.00	0.00
13,100.00	90.00	269.62	8,927.00	59.70	-4,396.12	4,395.63	0.00	0.00	0.00
13,200.00	90.00	269.62	8,927.00	59.04	-4,496.12	4,495.63	0.00	0.00	0.00
13,300.00	90.00	269.62	8,927.00	58.39	-4,596.11	4,595.63	0.00	0.00	0.00
13,335.69	90.00	269.62	8,927.00	58.15	-4,631.80	4,631.31	0.00	0.00	0.00
Frontier431H LTP									
13,400.00	90.00	269.62	8,927.00	57.73	-4,696.11	4,695.63	0.00	0.00	0.00
13,435.69	90.00	269.62	8,927.00	57.50	-4,731.80	4,731.31	0.00	0.00	0.00
Frontier431H BHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Frontier431H FTP	0.00	0.00	8,630.00	88.60	19.30	456,253.30	549,222.60	32.254313	-104.307826
- hit/miss target									
- Shape									
- plan misses target center by 63.00usft at 8613.73usft MD (8601.86 TVD, 88.23 N, -37.07 E)									
- Point									
Frontier431H BHL	0.00	0.00	8,927.00	57.50	-4,731.80	456,222.20	544,471.50	32.254230	-104.323195
- plan hits target center									
- Point									
Frontier431H LTP	0.00	0.00	8,927.00	58.20	-4,631.80	456,222.90	544,571.50	32.254232	-104.322872
- plan misses target center by 0.05usft at 13335.69usft MD (8927.00 TVD, 58.15 N, -4631.80 E)									
- Point									

Scientific Drilling, Intl

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Frontier 32-23-26 State 431H
Company:	WPX Energy	TVD Reference:	GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	GL 3437 + RKB 26 = @ 3463.00usft (HP 265)
Site:	Frontier 32-23-26 State Pad	North Reference:	Grid
Well:	Frontier 32-23-26 State 431H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,771.00	1,771.00	9 5/8"	9-5/8	12-1/4

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (bearing)
429.00	429.00	Salado			
822.00	822.00	Castile			
1,771.00	1,771.00	Bell Canyon (Base of Salt)			
2,639.00	2,639.00	Cherry Canyon			
3,533.00	3,533.00	Brushy Canyon			
5,255.00	5,255.00	Bone Spring			
5,537.00	5,537.00	Avalon			
6,119.00	6,119.00	1st Bone Spring Sand			
6,344.00	6,344.00	2nd Bone Spring Lime			
6,451.00	6,451.00	2nd Bone Spring Sand			
6,710.00	6,710.00	3rd Bone Spring Lime			
8,255.38	8,252.00	3rd Bone Spring Sand			
8,645.37	8,630.00	Wolfcamp Top			
8,670.79	8,652.00	WC_X			
8,746.66	8,714.00	WC_Y			
9,031.44	8,883.00	Wolfcamp A			
9,098.16	8,905.00	Top Target			
9,257.44	8,927.00	Landing Point			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,357.44	8,354.04	88.60	19.30	KOP