

**NM OIL CONSERVATION
ARTESIA DISTRICT**

JUN 21 2018

RECEIVED

WPX Energy

Eddy County, New Mexico NAD 83

Cass Draw/Johnson 10-23-27 Fee

Cass Draw 10-23-27 Fee 401H

API: ???

Wellbore #1

Plan #1

30-015-45043

Anticollision Report

14 May, 2018



www.scientificdrilling.com

Scientific Drilling, Intl

Anticollision Report

Company:	WPX Energy	Local Co-ordinate Reference:	Well Cass Draw 10-23-27 Fee 401H
Project:	Eddy County, New Mexico NAD 83	TVD Reference:	GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
Reference Site:	Cass Draw/Johnson 10-23-27 Fee	MD Reference:	GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Cass Draw 10-23-27 Fee 401H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Midland District
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 9,999.98 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program	Date	5/14/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,141.89	Plan #1 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Cass Draw/Johnson 10-23-27 Fee						
Johnson 10-23-27 Fee 401H - Wellbore #1 - Plan #1	2,500.00	2,500.00	25.00	7.55	1.432	Level 3, CC
Johnson 10-23-27 Fee 401H - Wellbore #1 - Plan #1	2,600.00	2,599.98	25.48	7.32	1.403	Level 3, ES, SF

Offset Design	Cass Draw/Johnson 10-23-27 Fee - Johnson 10-23-27 Fee 401H - Wellbore #1 - Plan #1	Offset Site Error:	0.00 usft											
Survey Program:	0-MWD+HDGM	Offset Well Error:	0.00 usft											
Reference	Offset	Semi Major Axis												
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-90.92	-0.40	-25.00	25.00					
100.00	100.00	100.00	100.00	0.13	0.13	-90.92	-0.40	-25.00	25.00	24.75	0.25	99.642		
200.00	200.00	200.00	200.00	0.48	0.48	-90.92	-0.40	-25.00	25.00	24.04	0.97	25.833		
300.00	300.00	300.00	300.00	0.84	0.84	-90.92	-0.40	-25.00	25.00	23.32	1.68	14.840		
400.00	400.00	400.00	400.00	1.20	1.20	-90.92	-0.40	-25.00	25.00	22.60	2.40	10.410		
500.00	500.00	500.00	500.00	1.56	1.56	-90.92	-0.40	-25.00	25.00	21.88	3.12	8.017		
600.00	600.00	600.00	600.00	1.92	1.92	-90.92	-0.40	-25.00	25.00	21.17	3.84	6.519		
700.00	700.00	700.00	700.00	2.28	2.28	-90.92	-0.40	-25.00	25.00	20.45	4.55	5.492		
800.00	800.00	800.00	800.00	2.63	2.63	-90.92	-0.40	-25.00	25.00	19.73	5.27	4.745		
900.00	900.00	900.00	900.00	2.99	2.99	-90.92	-0.40	-25.00	25.00	19.02	5.99	4.177		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	-90.92	-0.40	-25.00	25.00	18.30	6.70	3.730		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	-90.92	-0.40	-25.00	25.00	17.58	7.42	3.370		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	-90.92	-0.40	-25.00	25.00	16.87	8.14	3.073		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	-90.92	-0.40	-25.00	25.00	16.15	8.85	2.824		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	-90.92	-0.40	-25.00	25.00	15.43	9.57	2.612		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	-90.92	-0.40	-25.00	25.00	14.72	10.29	2.430		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	-90.92	-0.40	-25.00	25.00	14.00	11.01	2.272		
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	-90.92	-0.40	-25.00	25.00	13.28	11.72	2.133		
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	-90.92	-0.40	-25.00	25.00	12.56	12.44	2.010		
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	-90.92	-0.40	-25.00	25.00	11.85	13.16	1.901		
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	-90.92	-0.40	-25.00	25.00	11.13	13.87	1.802		
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	-90.92	-0.40	-25.00	25.00	10.41	14.59	1.714		
2,200.00	2,200.00	2,200.00	2,200.00	7.65	7.65	-90.92	-0.40	-25.00	25.00	9.70	15.31	1.633		
2,300.00	2,300.00	2,300.00	2,300.00	8.01	8.01	-90.92	-0.40	-25.00	25.00	8.98	16.02	1.560		
2,400.00	2,400.00	2,400.00	2,400.00	8.37	8.37	-90.92	-0.40	-25.00	25.00	8.26	16.74	1.494	Level 3	

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

Scientific Drilling, Intl

Anticollision Report

Company: WPX Energy
 Project: Eddy County, New Mexico NAD 83
 Reference Site: Cass Draw/Johnson 10-23-27 Fee
 Site Error: 0.00 usft
 Reference Well: Cass Draw 10-23-27 Fee 401H
 Well Error: 0.00 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Cass Draw 10-23-27 Fee 401H
 TVD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
 MD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: Midland District
 Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.73	-90.92	-0.40	-25.00	25.00	7.55	17.46	1.432	Level 3, CC	
2,600.00	2,599.88	2,599.98	2,599.98	9.07	9.09	107.61	-0.40	-25.00	25.48	7.32	18.16	1.403	Level 3, ES, SF	
2,700.00	2,699.84	2,699.84	2,699.84	9.39	9.45	118.01	-0.40	-25.00	27.52	8.68	18.84	1.461	Level 3	
2,721.44	2,721.22	2,721.22	2,721.22	9.46	9.52	120.81	-0.40	-25.00	28.29	9.31	18.98	1.490	Level 3	
2,800.00	2,799.55	2,799.55	2,799.55	9.72	9.80	130.21	-0.40	-25.00	31.83	12.31	19.52	1.631		
2,900.00	2,899.25	2,899.25	2,899.25	10.05	10.16	139.30	-0.40	-25.00	37.30	17.09	20.21	1.846		
3,000.00	2,998.95	2,998.95	2,998.95	10.38	10.52	145.95	-0.40	-25.00	43.45	22.56	20.89	2.079		
3,100.00	3,098.65	3,097.73	3,097.71	10.72	10.87	152.47	1.21	-24.56	50.93	29.35	21.58	2.360		
3,200.00	3,198.35	3,195.82	3,195.67	11.06	11.22	159.80	6.05	-23.24	61.04	38.80	22.24	2.744		
3,300.00	3,298.05	3,293.80	3,293.32	11.40	11.57	166.67	13.82	-21.12	74.08	51.18	22.90	3.235		
3,400.00	3,397.75	3,392.54	3,391.67	11.74	11.92	171.71	22.15	-18.85	88.29	64.71	23.58	3.744		
3,500.00	3,497.45	3,491.27	3,490.03	12.08	12.28	175.34	30.49	-16.57	102.98	78.72	24.26	4.244		
3,600.00	3,597.16	3,590.00	3,588.38	12.43	12.63	178.05	38.83	-14.30	117.98	93.03	24.95	4.729		
3,700.00	3,696.86	3,688.74	3,686.73	12.78	12.98	-179.84	47.17	-12.02	133.18	107.54	25.64	5.194		
3,800.00	3,796.56	3,787.47	3,785.09	13.13	13.34	-178.17	55.51	-9.75	148.52	122.19	26.33	5.640		
3,900.00	3,896.26	3,886.20	3,883.44	13.48	13.70	-176.82	63.84	-7.48	163.96	136.93	27.03	6.067		
4,000.00	3,995.96	3,984.94	3,981.80	13.83	14.05	-175.69	72.18	-5.20	179.47	151.75	27.72	6.474		
4,100.00	4,095.66	4,083.87	4,080.15	14.18	14.41	-174.75	80.52	-2.93	195.04	166.63	28.42	6.864		
4,200.00	4,195.36	4,182.40	4,178.51	14.54	14.77	-173.94	88.86	-0.65	210.66	181.54	29.12	7.235		
4,300.00	4,295.07	4,281.14	4,276.88	14.89	15.13	-173.25	97.19	1.62	226.31	196.50	29.81	7.591		
4,400.00	4,394.77	4,379.87	4,375.21	15.25	15.49	-172.64	105.53	3.90	241.99	211.47	30.51	7.930		
4,500.00	4,494.47	4,478.60	4,473.57	15.61	15.85	-172.11	113.87	6.17	257.69	226.47	31.22	8.255		
4,600.00	4,594.17	4,577.34	4,571.92	15.97	16.21	-171.65	122.21	8.44	273.41	241.49	31.92	8.566		
4,700.00	4,693.87	4,676.07	4,670.28	16.33	16.57	-171.23	130.55	10.72	289.15	256.53	32.62	8.864		
4,800.00	4,793.57	4,774.80	4,768.63	16.69	16.93	-170.85	138.88	12.99	304.90	271.57	33.32	9.150		
4,900.00	4,893.27	4,873.53	4,866.99	17.05	17.29	-170.51	147.22	15.27	320.66	286.63	34.03	9.423		
5,000.00	4,992.98	4,972.27	4,965.34	17.41	17.66	-170.21	155.56	17.54	336.43	301.70	34.73	9.688		
5,100.00	5,092.68	5,071.00	5,063.69	17.77	18.02	-169.93	163.90	19.82	352.21	316.77	35.44	9.939		
5,200.00	5,192.38	5,169.73	5,162.05	18.13	18.38	-169.67	172.24	22.09	368.00	331.85	36.14	10.181		
5,300.00	5,292.08	5,268.47	5,260.40	18.49	18.74	-169.44	180.57	24.37	383.79	346.94	36.85	10.415		
5,400.00	5,391.78	5,367.20	5,358.76	18.86	19.11	-169.22	188.91	26.64	399.59	362.03	37.56	10.639		
5,500.00	5,491.48	5,465.93	5,457.11	19.22	19.47	-169.02	197.25	28.91	415.40	377.13	38.27	10.856		
5,600.00	5,591.18	5,564.67	5,555.47	19.59	19.83	-168.84	205.59	31.19	431.20	392.23	38.97	11.064		
5,700.00	5,690.89	5,663.40	5,653.82	19.95	20.20	-168.67	213.93	33.46	447.02	407.34	39.68	11.265		
5,800.00	5,790.59	5,762.13	5,752.17	20.32	20.56	-168.51	222.26	35.74	462.84	422.44	40.39	11.459		
5,900.00	5,890.29	5,860.87	5,850.53	20.68	20.93	-168.36	230.60	38.01	478.66	437.56	41.10	11.646		
6,000.00	5,989.99	5,959.60	5,948.88	21.05	21.29	-168.22	238.94	40.29	494.48	452.67	41.81	11.827		
6,100.00	6,089.69	6,058.33	6,047.24	21.41	21.66	-168.09	247.28	42.56	510.30	467.79	42.52	12.002		
6,200.00	6,189.39	6,157.07	6,145.59	21.78	22.02	-167.96	255.61	44.84	526.13	482.90	43.23	12.171		
6,300.00	6,289.09	6,255.80	6,243.95	22.15	22.39	-167.85	263.95	47.11	541.96	498.02	43.94	12.334		
6,400.00	6,388.80	6,354.53	6,342.30	22.52	22.75	-167.74	272.29	49.38	557.80	513.15	44.65	12.492		
6,500.00	6,488.50	6,453.27	6,440.65	22.88	23.12	-167.63	280.63	51.66	573.63	528.27	45.36	12.645		
6,600.00	6,588.20	6,552.00	6,539.01	23.25	23.48	-167.54	288.97	53.93	589.47	543.39	46.07	12.794		
6,700.00	6,687.90	6,650.73	6,637.36	23.62	23.85	-167.44	297.30	56.21	605.31	558.52	46.79	12.938		
6,800.00	6,787.60	6,749.47	6,735.72	23.99	24.22	-167.36	305.64	58.48	621.14	573.65	47.50	13.077		
6,900.00	6,887.30	6,848.20	6,834.07	24.35	24.58	-167.27	313.98	60.76	636.99	588.77	48.21	13.212		
7,000.00	6,987.00	6,946.93	6,932.42	24.72	24.95	-167.19	322.32	63.03	652.83	603.90	48.92	13.344		
7,100.00	7,086.71	7,045.67	7,030.78	25.09	25.31	-167.12	330.66	65.30	668.67	619.03	49.64	13.471		
7,200.00	7,186.41	7,144.40	7,129.13	25.46	25.68	-167.04	338.99	67.58	684.51	634.17	50.35	13.595		
7,300.00	7,286.11	7,243.13	7,227.49	25.83	26.05	-166.97	347.33	69.85	700.36	649.30	51.06	13.718		
7,400.00	7,385.81	7,341.87	7,325.84	26.20	26.41	-166.91	355.67	72.13	716.21	664.43	51.78	13.833		
7,500.00	7,485.51	7,440.60	7,424.20	26.57	26.78	-166.85	364.01	74.40	732.05	679.56	52.49	13.947		

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

Scientific Drilling, Intl

Anticollision Report

Company: WPX Energy
Project: Eddy County, New Mexico NAD 83
Reference Site: Cass Draw/Johnson 10-23-27 Fee
Site Error: 0.00 usft
Reference Well: Cass Draw 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Cass Draw 10-23-27 Fee 401H
TVD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
MD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Midland District
Offset TVD Reference: Offset Datum

Offset Design Cass Draw/Johnson 10-23-27 Fee - Johnson 10-23-27 Fee 401H - Wellbore #1 - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
7,600.00	7,585.21	7,539.33	7,522.55	26.94	27.15	-166.79	372.35	76.68	747.90	694.70	14.057		
7,700.00	7,684.91	7,638.07	7,620.90	27.31	27.51	-166.73	380.68	76.95	763.75	709.83	14.165		
7,800.00	7,784.62	7,736.80	7,719.26	27.68	27.88	-166.67	389.02	81.23	778.60	724.97	14.270		
7,900.00	7,884.32	7,835.53	7,817.61	28.05	28.25	-166.62	397.36	83.50	785.45	740.10	14.372		
8,000.00	7,984.02	7,934.26	7,915.97	28.42	28.61	-166.57	405.70	85.77	811.30	755.24	14.472		
8,100.00	8,083.72	8,033.00	8,014.32	28.79	28.98	-166.52	414.03	88.05	827.15	770.38	14.569		
8,200.00	8,183.42	8,131.73	8,112.68	29.16	29.35	-166.47	422.37	90.32	843.00	785.51	14.663		
8,300.00	8,283.12	8,230.46	8,211.03	29.53	29.72	-166.42	430.71	92.60	858.86	800.65	14.755		
8,327.78	8,310.82	8,257.89	8,238.35	29.64	29.82	-166.41	433.03	93.23	863.26	804.86	14.781		
8,400.00	8,382.89	8,343.13	8,323.29	29.90	30.13	-166.41	439.85	95.09	873.57	814.54	14.798		
8,500.00	8,482.82	8,484.31	8,464.30	30.26	30.65	-166.40	446.19	96.82	881.40	821.39	14.688		
8,549.22	8,532.04	8,552.17	8,532.16	30.43	30.89	-1.13	446.85	97.02	882.27	821.84	14.600		
8,574.33	8,557.14	8,577.89	8,557.87	30.51	30.97	-91.07	446.85	97.83	882.27	821.66	14.557		
8,600.00	8,582.75	8,604.16	8,584.06	30.60	31.06	-91.05	446.86	99.84	882.27	821.49	14.515		
8,650.00	8,632.30	8,655.31	8,634.66	30.77	31.24	-91.01	446.89	107.20	882.29	821.14	14.430		
8,700.00	8,681.08	8,706.39	8,684.34	30.95	31.41	-90.96	446.94	119.01	882.31	820.81	14.347		
8,750.00	8,728.73	8,757.40	8,732.70	31.12	31.59	-90.90	447.01	135.18	882.36	820.50	14.264		
8,800.00	8,774.89	8,808.34	8,779.37	31.29	31.76	-90.84	447.10	155.55	882.41	820.19	14.181		
8,850.00	8,819.19	8,859.19	8,823.97	31.45	31.93	-90.77	447.20	179.94	882.48	819.89	14.098		
8,900.00	8,861.31	8,909.95	8,866.16	31.62	32.10	-90.69	447.32	208.14	882.56	819.59	14.014		
8,950.00	8,900.93	8,960.62	8,905.62	31.78	32.28	-90.61	447.45	239.89	882.66	819.28	13.926		
9,000.00	8,937.73	9,011.18	8,942.05	31.94	32.48	-90.53	447.60	274.93	882.77	818.95	13.832		
9,050.00	8,971.45	9,061.64	8,975.19	32.13	32.70	-90.44	447.76	312.96	882.89	818.59	13.730		
9,100.00	9,001.83	9,111.99	9,004.79	32.34	32.96	-90.34	447.93	353.67	883.02	818.18	13.618		
9,150.00	9,028.63	9,162.23	9,030.65	32.59	33.26	-90.25	448.12	396.73	883.17	817.72	13.494		
9,200.00	9,051.64	9,212.36	9,052.60	32.89	33.60	-90.15	448.31	441.78	883.32	817.18	13.357		
9,250.00	9,070.71	9,262.38	9,070.50	33.24	33.98	-90.05	448.50	488.47	883.48	816.57	13.204		
9,300.00	9,085.68	9,312.29	9,084.22	33.65	34.42	-89.95	448.70	536.44	883.64	815.87	13.038		
9,350.00	9,096.43	9,362.09	9,093.71	34.11	34.89	-89.86	448.91	585.31	883.82	815.08	12.859		
9,400.00	9,102.89	9,411.78	9,098.91	34.62	35.41	-89.76	449.12	634.71	883.99	814.22	12.669		
9,449.22	9,105.00	9,460.72	9,100.00	35.16	35.96	-89.68	449.33	683.63	884.17	813.29	12.475		
9,500.00	9,105.00	9,511.50	9,100.00	35.77	36.58	-89.68	449.54	734.40	884.34	812.24	12.264		
9,600.00	9,105.00	9,611.50	9,100.00	37.09	37.92	-89.68	449.96	834.40	884.69	809.90	11.829		
9,700.00	9,105.00	9,711.50	9,100.00	38.59	39.42	-89.68	450.38	934.40	885.04	807.24	11.377		
9,800.00	9,105.00	9,811.50	9,100.00	40.23	41.06	-89.68	450.81	1,034.40	885.39	804.29	10.918		
9,900.00	9,105.00	9,911.50	9,100.00	42.00	42.83	-89.68	451.23	1,134.40	885.73	801.09	10.464		
10,000.00	9,105.00	10,011.50	9,100.00	43.89	44.71	-89.68	451.65	1,234.40	886.08	797.66	10.021		
10,100.00	9,105.00	10,111.50	9,100.00	45.87	46.69	-89.68	452.07	1,334.40	886.43	794.03	9.594		
10,200.00	9,105.00	10,211.50	9,100.00	47.95	48.76	-89.68	452.49	1,434.39	886.77	790.23	9.185		
10,300.00	9,105.00	10,311.49	9,100.00	50.10	50.90	-89.68	452.92	1,534.39	887.12	786.28	8.797		
10,400.00	9,105.00	10,411.49	9,100.00	52.31	53.11	-89.68	453.34	1,634.39	887.47	782.20	8.430		
10,500.00	9,105.00	10,511.49	9,100.00	54.59	55.37	-89.68	453.76	1,734.39	887.81	778.00	8.084		
10,600.00	9,105.00	10,611.49	9,100.00	56.92	57.69	-89.68	454.18	1,834.39	888.16	773.69	7.759		
10,700.00	9,105.00	10,711.49	9,100.00	59.29	60.05	-89.68	454.60	1,934.39	888.51	769.30	7.453		
10,800.00	9,105.00	10,811.49	9,100.00	61.70	62.46	-89.68	455.03	2,034.38	888.86	764.82	7.166		
10,900.00	9,105.00	10,911.49	9,100.00	64.15	64.90	-89.68	455.45	2,134.38	889.20	760.27	6.897		
11,000.00	9,105.00	11,011.49	9,100.00	66.63	67.37	-89.68	455.87	2,234.38	889.55	755.66	6.644		
11,100.00	9,105.00	11,111.49	9,100.00	69.14	69.87	-89.68	456.29	2,334.38	889.90	751.00	6.407		
11,200.00	9,105.00	11,211.49	9,100.00	71.68	72.40	-89.68	456.72	2,434.38	890.24	746.28	6.184		
11,300.00	9,105.00	11,311.49	9,100.00	74.23	74.95	-89.68	457.14	2,534.38	890.59	741.51	5.974		
11,400.00	9,105.00	11,411.49	9,100.00	76.81	77.52	-89.68	457.56	2,634.38	890.94	736.71	5.777		
11,500.00	9,105.00	11,511.49	9,100.00	79.41	80.11	-89.68	457.98	2,734.37	891.29	731.87	5.591		

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

Scientific Drilling, Intl

Anticollision Report

Company: WPX Energy
Project: Eddy County, New Mexico NAD 83
Reference Site: Cass Draw/Johnson 10-23-27 Fee
Site Error: 0.00 usft
Reference Well: Cass Draw 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Cass Draw 10-23-27 Fee 401H
TVD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
MD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Midland District
Offset TVD Reference: Offset Datum

Offset Design Cass Draw/Johnson 10-23-27 Fee - Johnson 10-23-27 Fee 401H - Wellbore #1 - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
11,600.00	9,105.00	11,611.49	9,100.00	82.02	82.71	-89.68	458.40	2,834.37	891.63	726.99	164.64	5.416		
11,700.00	9,105.00	11,711.49	9,100.00	84.65	85.33	-89.68	458.83	2,934.37	891.98	722.09	169.89	5.250		
11,800.00	9,105.00	11,811.49	9,100.00	87.29	87.97	-89.68	459.25	3,034.37	892.33	717.15	175.17	5.094		
11,900.00	9,105.00	11,911.48	9,100.00	89.95	90.62	-89.68	459.67	3,134.37	892.67	712.19	180.48	4.946		
12,000.00	9,105.00	12,011.48	9,100.00	92.62	93.28	-89.68	460.09	3,234.37	893.02	707.21	185.81	4.806		
12,100.00	9,105.00	12,111.48	9,100.00	95.29	95.95	-89.68	460.51	3,334.37	893.37	702.21	191.16	4.673		
12,200.00	9,105.00	12,211.48	9,100.00	97.98	98.63	-89.68	460.94	3,434.36	893.71	697.18	196.53	4.547		
12,300.00	9,105.00	12,311.48	9,100.00	100.68	101.32	-89.68	461.36	3,534.36	894.06	692.14	201.92	4.428		
12,400.00	9,105.00	12,411.48	9,100.00	103.38	104.02	-89.68	461.78	3,634.36	894.41	687.09	207.32	4.314		
12,500.00	9,105.00	12,511.48	9,100.00	106.09	106.73	-89.68	462.20	3,734.36	894.76	682.01	212.74	4.206		
12,600.00	9,105.00	12,611.48	9,100.00	108.81	109.44	-89.68	462.62	3,834.36	895.10	676.93	218.18	4.103		
12,700.00	9,105.00	12,711.48	9,100.00	111.54	112.16	-89.68	463.05	3,934.36	895.45	671.83	223.62	4.004		
12,800.00	9,105.00	12,811.48	9,100.00	114.27	114.89	-89.68	463.47	4,034.35	895.80	666.71	229.08	3.910		
12,900.00	9,105.00	12,911.48	9,100.00	117.00	117.62	-89.68	463.89	4,134.35	896.14	661.59	234.55	3.821		
13,000.00	9,105.00	13,011.48	9,100.00	119.75	120.36	-89.68	464.31	4,234.35	896.49	656.46	240.04	3.735		
13,100.00	9,105.00	13,111.48	9,100.00	122.49	123.10	-89.68	464.73	4,334.35	896.84	651.31	245.53	3.653		
13,200.00	9,105.00	13,211.48	9,100.00	125.25	125.85	-89.68	465.16	4,434.35	897.19	646.16	251.03	3.574		
13,300.00	9,105.00	13,311.48	9,100.00	128.00	128.60	-89.68	465.58	4,534.35	897.53	641.00	256.54	3.499		
13,400.00	9,105.00	13,411.48	9,100.00	130.76	131.36	-89.68	466.00	4,634.35	897.88	635.83	262.05	3.426		
13,500.00	9,105.00	13,511.48	9,100.00	133.52	134.12	-89.68	466.42	4,734.34	898.23	630.65	267.58	3.357		
13,600.00	9,105.00	13,611.47	9,100.00	136.29	136.88	-89.68	466.84	4,834.34	898.57	625.46	273.11	3.290		
13,700.00	9,105.00	13,711.47	9,100.00	139.06	139.65	-89.68	467.27	4,934.34	898.92	620.27	278.65	3.226		
13,800.00	9,105.00	13,811.47	9,100.00	141.84	142.42	-89.68	467.69	5,034.34	899.27	615.08	284.19	3.164		
13,900.00	9,105.00	13,911.47	9,100.00	144.61	145.19	-89.68	468.11	5,134.34	899.61	609.87	289.74	3.105		
14,000.00	9,105.00	14,011.47	9,100.00	147.39	147.96	-89.68	468.53	5,234.34	899.96	604.66	295.30	3.048		
14,100.00	9,105.00	14,111.47	9,100.00	150.17	150.74	-89.68	468.95	5,334.34	900.31	599.45	300.86	2.992		
14,142.47	9,105.00	14,145.84	9,100.00	150.88	151.70	-89.68	469.10	5,368.70	900.49	597.99	302.50	2.977		

Scientific Drilling, Intl

Anticollision Report

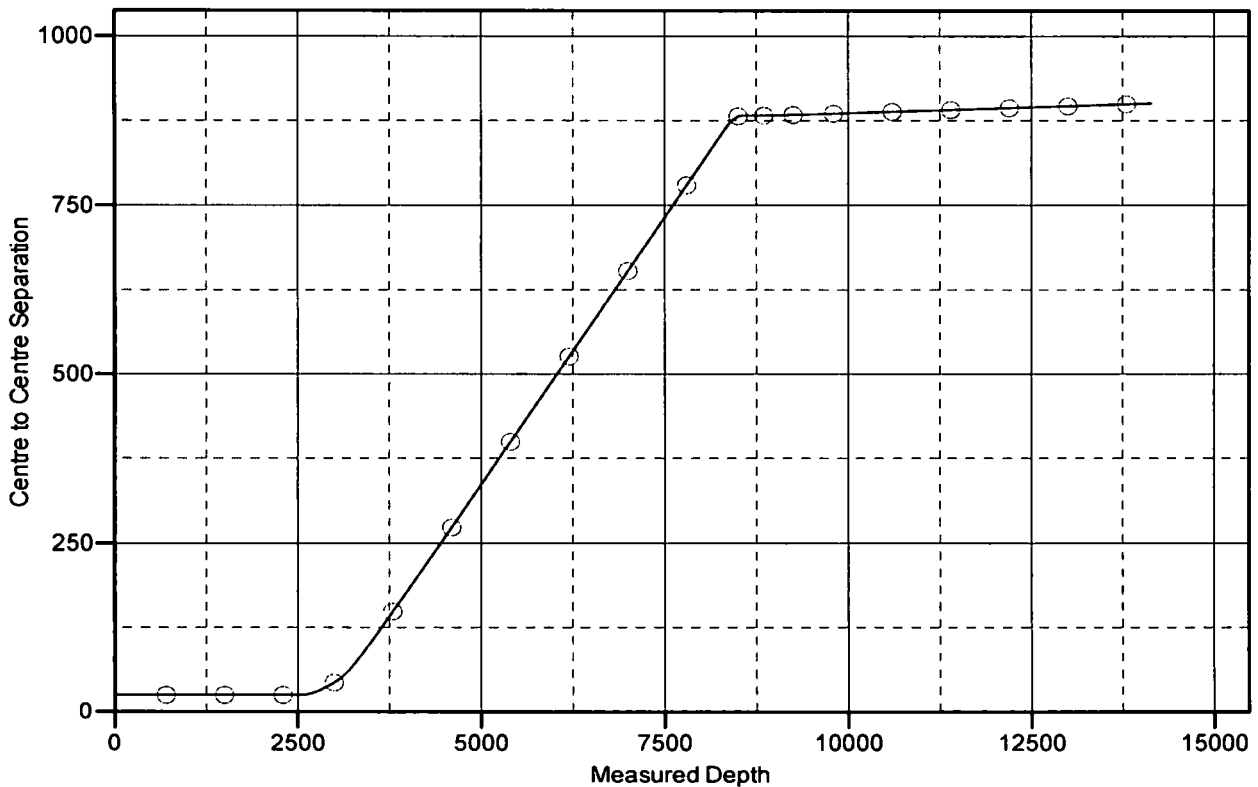
Company: WPX Energy
Project: Eddy County, New Mexico NAD 83
Reference Site: Cass Draw/Johnson 10-23-27 Fee
Site Error: 0.00 usft
Reference Well: Cass Draw 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Cass Draw 10-23-27 Fee 401H
TVD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
MD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Midland District
Offset TVD Reference: Offset Datum

Reference Depths are relative to GL 3116 + RKB 30 = @ 3146.00usft (
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Cass Draw 10-23-27 Fee 401H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.08°

Ladder Plot



LEGEND

on 10-23-27 Fee 401H, Wellbore #1, Plan #1 V0

Scientific Drilling, Intl

Anticollision Report

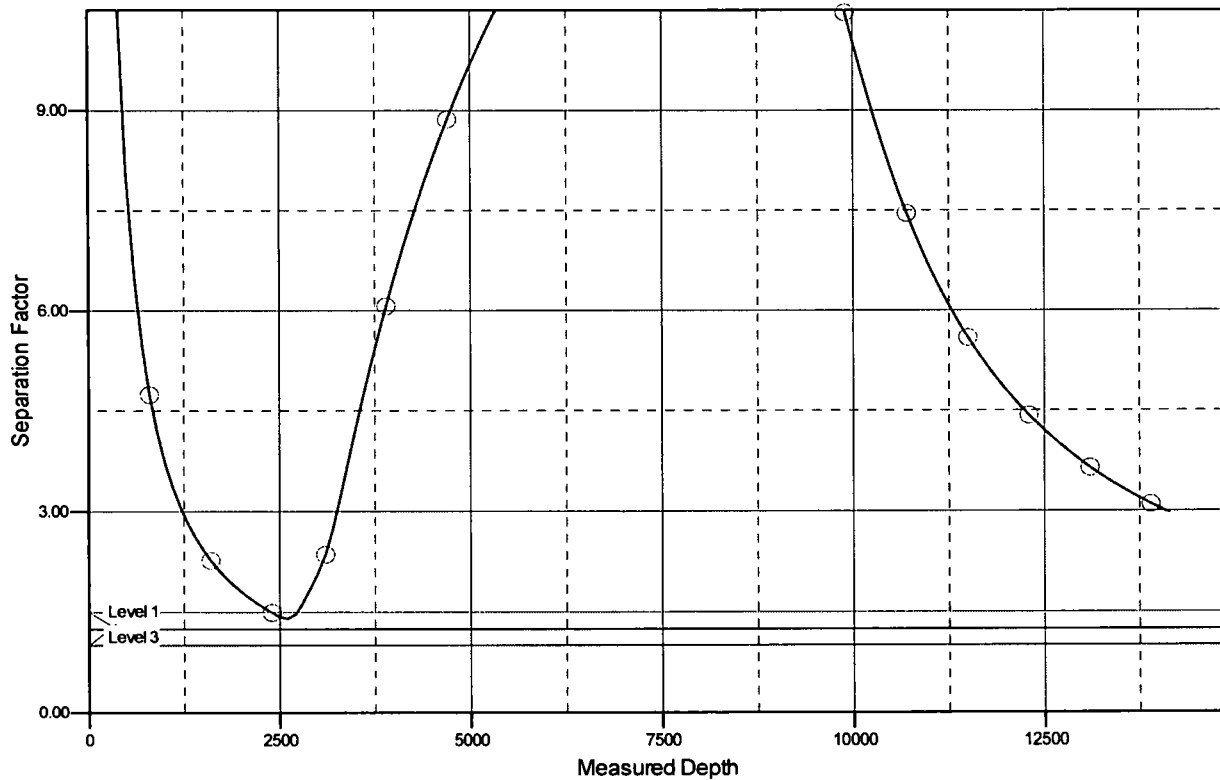
Company: WPX Energy
Project: Eddy County, New Mexico NAD 83
Reference Site: Cass Draw/Johnson 10-23-27 Fee
Site Error: 0.00 usft
Reference Well: Cass Draw 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Cass Draw 10-23-27 Fee 401H
TVD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
MD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Midland District
Offset TVD Reference: Offset Datum

Reference Depths are relative to GL 3116 + RKB 30 = @ 3146.00usft (
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Cass Draw 10-23-27 Fee 401H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.08°

Separation Factor Plot



LEGEND

or 10-23-27 Fee 401H, Wellbore #1, Plan #1 V0



1" = 200 FEET

NB/4 NE/4

NE/4 NW/4

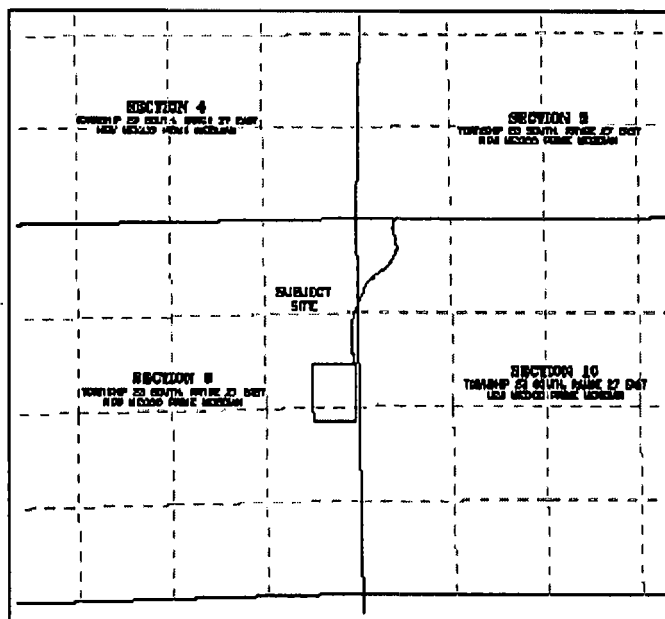
SECTION 9

TOWNSHIP 23 SOUTH,
RANGE 27 EAST
NEW MEXICO PRIME
MERIDIAN

SECTION 10

TOWNSHIP 23 SOUTH, RANGE 27 EAST
NEW MEXICO PRIME MERIDIAN

VICINITY MAP



JOHNSON AND CARR DRAW PROPOSED ROAD DESCRIPTION:

DESCRIPTION OF A STRIP OF LAND 300 FEET WIDE AND 2,228.78 FEET, 135.68 RO DS, OR 0.42 MILES IN LENGTH OR BEGINNING TO NB 9 AND 10, TO TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M. BY CO. COUNTY, NEW MEXICO AND BEING 150 FEET RIGHT AND 150 FEET LEFT OF THE ABOVE PLATTED CENTER LINE OF ROAD SURVEY, COMPRISING 1.5407 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

SE 1/4 SECTION 9 = 0.0007 OF AN ACRE (BASEMENT ONLY)
NW 1/4 SECTION 10 = 1.4058 FEET = 85.43 RO DS = 0.97 OF AN ACRE
NE 1/4 SECTION 9 = 11.80 FEET = 6.86 RO DS = 0.28 OF AN ACRE
SE 1/4 SECTION 10 = 71.30 FEET = 4.29 RO DS = 0.19 OF AN ACRE

PROPOSED ROAD

LINE	BEARING	DISTANCE
L1	S 13°00'00" W	140.50
L2	S 15°17'43" E	210.70
L3	S 07°23'57" E	84.31
L4	S 09°19'10" W	200.00
L5	S 44°28'42" W	110.35
L6	S 51°55'19" W	213.00
L7	S 37°28'45" W	187.25
L8	S 27°00'03" W	400.00
L9	S 15°21'25" W	118.17
L10	S 01°02'54" E	270.30
L11	S 01°04'14" E	150.00
L12	S 01°01'03" E	151.10

PROPOSED PAD

LINE	BEARING	DISTANCE
L13	N 88°08'44" E	800.00
L14	S 01°02'54" E	800.11
L15	S 88°57'08" W	800.00
L16	N 01°02'57" W	800.04

LEGEND

- SECTION LINE
- EXISTING ROAD
- EXISTING OVERHEAD ELECTRIC FENCE
- POWER POLE
- PROPOSED PAD
- PROPOSED ROAD
- FOUND MONUMENT AS NOTED

GENERAL NOTES

- BEARINGS AND COORDINATES SHOWN HEREIN ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM - NEW MEXICO EAST ZONE NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
- LATITUDE BAND LONGITUDE VALUES SHOWN HEREIN ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RIGHT OF WAY PLAT FOR:

BKI EXPLORATION & PRODUCTION, LLC

NB/4 NE/4

3/8" FOUND
IRON ROD
16 15

PROPOSED JOHNSON 401H
PROPOSED CARR 401H

400' X 800' PRODUCTION AREA

400' X 800' DRILLING AREA

P.O.S.
N: 450,883.94
E: 555,988.44

P.O.T.
N: 480,704.43
E: 585,088.23

SE/4 NE/4

SW/4 NW/4

IRRIGATION CANAL

OK

L13

S 07°23'57" E
3221.00

L11

L12

L13

L14

L15

L16

L17

L18

L19

L20

L21

L22

L23

L24

L25

L26

L27

L28

L29

L30

L31

L32

L33

L34

L35

L36

L37

L38

L39

L40

L41

L42

L43

L44

L45

L46

L47

L48

L49

L50

L51

L52

L53

L54

L55

L56

L57

L58

L59

L60

L61

L62

L63

L64

L65

L66

L67

L68

L69

L70

L71

L72

L73

L74

L75

L76

L77

L78

L79

L80

L81

L82

L83

L84

L85

L86

L87

L88

L89

L90

L91

L92

L93

L94

L95

L96

L97

L98

L99

L100