

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 21 2018

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WPX Energy

Eddy County, New Mexico NAD 83

Cass Draw/Johnson 10-23-27 Fee

Johnson 10-23-27 Fee 401H

API: ???

Wellbore #1

30-015-45044

Plan #1

Anticollision Report

14 May, 2018



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Scientific Drilling, Intl

Anticollision Report

Company:	WPX Energy	Local Co-ordinate Reference:	Well Johnson 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:	Johnson 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	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	5/14/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,145.84	Plan #1 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM	

Summary							
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
Offset Well - Wellbore - Design							
Cass Draw/Johnson 10-23-27 Fee							
Cass Draw 10-23-27 Fee 401H - Wellbore #1 - Plan #1	2,500.00	2,500.00	25.00	7.55	1.432	Level 3, CC	
Cass Draw 10-23-27 Fee 401H - Wellbore #1 - Plan #1	2,600.00	2,599.75	25.47	7.32	1.403	Level 3, ES, SF	

Offset Design	Cass Draw/Johnson 10-23-27 Fee - Cass Draw 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		Distance				Minimum Separation			Separation Factor	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)			
0.00	0.00	0.00	0.00	0.00	0.00	89.08	0.40	25.00	25.00					
100.00	100.00	100.00	100.00	0.13	0.13	89.08	0.40	25.00	25.00	24.75	0.25	99.842		
200.00	200.00	200.00	200.00	0.48	0.48	89.08	0.40	25.00	25.00	24.04	0.97	25.833		
300.00	300.00	300.00	300.00	0.84	0.84	89.08	0.40	25.00	25.00	23.32	1.68	14.840		
400.00	400.00	400.00	400.00	1.20	1.20	89.08	0.40	25.00	25.00	22.60	2.40	10.410		
500.00	500.00	500.00	500.00	1.56	1.56	89.08	0.40	25.00	25.00	21.88	3.12	8.017		
600.00	600.00	600.00	600.00	1.92	1.92	89.08	0.40	25.00	25.00	21.17	3.84	6.519		
700.00	700.00	700.00	700.00	2.28	2.28	89.08	0.40	25.00	25.00	20.45	4.55	5.492		
800.00	800.00	800.00	800.00	2.63	2.63	89.08	0.40	25.00	25.00	19.73	5.27	4.745		
900.00	900.00	900.00	900.00	2.99	2.99	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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	89.08	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: Johnson 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Johnson 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 - Cass Draw 10-23-27 Fee 401H - Wellbore #1 - Plan #1													Offset Site Error:	0.00 usft
Survey Program: O-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)						
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.73	89.08	0.40	25.00	25.00	7.55	1.432 Level 3, CC			
2,600.00	2,600.00	2,599.75	2,599.73	9.09	9.07	92.88	-1.28	25.44	25.47	7.32	1.403 Level 3, ES, SF			
2,700.00	2,700.00	2,699.26	2,699.10	9.45	9.39	103.25	-6.30	26.76	27.51	8.68	1.461 Level 3			
2,800.00	2,800.00	2,798.86	2,798.41	9.80	9.72	115.45	-13.66	28.69	31.82	12.32	1.832			
2,900.00	2,900.00	2,898.57	2,897.82	10.16	10.05	124.54	-21.10	30.65	37.28	17.10	1.848			
3,000.00	3,000.00	2,998.27	2,997.22	10.52	10.38	131.20	-28.55	32.61	43.43	22.57	2.082			
3,100.00	3,099.98	3,097.83	3,096.49	10.88	10.71	122.45	-35.98	34.56	50.93	29.39	2.365			
3,200.00	3,199.84	3,197.04	3,195.40	11.24	11.05	129.78	-43.39	36.51	61.11	38.89	2.750			
3,251.09	3,250.77	3,247.55	3,245.76	11.42	11.22	133.44	-47.16	37.50	67.53	44.96	2.992			
3,300.00	3,299.49	3,295.84	3,293.91	11.59	11.38	136.65	-50.77	38.45	74.22	51.31	3.240			
3,400.00	3,399.11	3,394.57	3,392.34	11.95	11.72	141.67	-58.15	40.39	88.43	64.84	3.748			
3,500.00	3,498.72	3,493.31	3,490.78	12.31	12.06	145.29	-65.52	42.33	103.13	78.85	4.247			
3,600.00	3,598.34	3,592.04	3,589.22	12.67	12.40	148.00	-72.89	44.26	118.13	93.16	4.730			
3,700.00	3,697.96	3,690.77	3,687.66	13.03	12.75	150.09	-80.27	46.20	133.34	107.67	5.195			
3,800.00	3,797.57	3,789.51	3,786.10	13.39	13.09	151.76	-87.84	48.14	148.68	122.32	5.840			
3,900.00	3,897.19	3,888.24	3,884.54	13.75	13.44	153.12	-95.01	50.08	164.12	137.06	6.066			
4,000.00	3,996.80	3,986.97	3,982.97	14.11	13.78	154.24	-102.39	52.02	179.83	151.88	6.473			
4,100.00	4,096.42	4,085.71	4,081.41	14.47	14.13	155.18	-109.76	53.95	195.20	166.75	6.861			
4,200.00	4,196.04	4,184.44	4,179.85	14.83	14.48	155.98	-117.14	55.89	210.82	181.67	7.232			
4,300.00	4,295.65	4,283.17	4,278.29	15.20	14.83	156.68	-124.51	57.83	226.47	196.62	7.587			
4,400.00	4,395.27	4,381.91	4,376.73	15.56	15.19	157.28	-131.88	59.77	242.15	211.60	7.926			
4,500.00	4,494.88	4,480.64	4,475.17	15.93	15.54	157.81	-139.26	61.71	257.85	226.60	8.251			
4,600.00	4,494.50	4,479.37	4,473.61	16.29	15.89	158.28	-146.63	63.65	273.57	241.62	8.561			
4,700.00	4,494.12	4,478.11	4,472.04	16.66	16.25	158.70	-154.00	65.58	289.31	256.65	8.859			
4,800.00	4,493.73	4,476.84	4,470.48	17.02	16.60	159.07	-161.38	67.52	305.06	271.70	9.144			
4,900.00	4,493.35	4,475.57	4,468.92	17.39	16.96	159.41	-168.75	69.46	320.82	286.75	9.418			
5,000.00	4,992.97	4,974.31	4,967.36	17.76	17.31	159.72	-176.13	71.40	336.59	301.82	9.680			
5,100.00	5,092.58	5,073.04	5,065.80	18.12	17.67	159.99	-183.50	73.34	352.37	316.90	9.933			
5,200.00	5,192.20	5,171.77	5,164.24	18.49	18.03	160.25	-190.87	75.27	368.16	331.88	10.175			
5,300.00	5,291.81	5,270.51	5,262.67	18.86	18.39	160.48	-198.25	77.21	383.95	347.06	10.408			
5,400.00	5,391.43	5,369.24	5,361.11	19.23	18.75	160.70	-205.62	79.15	399.75	362.16	10.633			
5,500.00	5,491.05	5,467.87	5,459.55	19.60	19.11	160.90	-213.00	81.09	415.56	377.25	10.849			
5,600.00	5,590.66	5,566.71	5,557.99	19.96	19.47	161.08	-220.37	83.03	431.37	392.35	11.057			
5,700.00	5,690.28	5,665.44	5,656.43	20.33	19.83	161.25	-227.74	84.96	447.18	407.46	11.258			
5,800.00	5,789.89	5,764.17	5,754.87	20.70	20.19	161.41	-235.12	86.90	463.00	422.57	11.452			
5,900.00	5,889.51	5,862.91	5,853.30	21.07	20.55	161.56	-242.49	88.84	478.82	437.68	11.639			
6,000.00	5,989.13	5,961.64	5,951.74	21.44	20.91	161.70	-249.86	90.78	494.64	452.79	11.819			
6,100.00	6,088.74	6,060.37	6,050.18	21.81	21.27	161.83	-257.24	92.72	510.47	467.91	11.994			
6,200.00	6,188.36	6,159.11	6,148.62	22.18	21.63	161.96	-264.61	94.65	526.30	483.03	12.163			
6,300.00	6,287.98	6,257.84	6,247.06	22.55	21.99	162.07	-271.99	96.59	542.13	498.14	12.326			
6,400.00	6,387.59	6,356.57	6,345.50	22.92	22.36	162.18	-279.36	98.53	557.96	513.27	12.484			
6,500.00	6,487.21	6,455.30	6,443.94	23.29	22.72	162.29	-286.73	100.47	573.79	528.39	12.638			
6,600.00	6,586.82	6,554.04	6,542.37	23.66	23.08	162.38	-294.11	102.41	589.63	543.51	12.786			
6,700.00	6,686.44	6,652.77	6,640.81	24.03	23.44	162.48	-301.48	104.35	605.47	558.64	12.930			
6,800.00	6,786.06	6,751.50	6,739.25	24.40	23.81	162.56	-308.85	106.28	621.31	573.77	13.069			
6,900.00	6,885.67	6,850.24	6,837.69	24.77	24.17	162.65	-316.23	108.22	637.15	588.90	13.205			
7,000.00	6,985.29	6,948.97	6,936.13	25.14	24.54	162.73	-323.60	110.16	652.99	604.03	13.336			
7,100.00	7,084.90	7,047.70	7,034.57	25.52	24.90	162.80	-330.98	112.10	668.83	619.16	13.463			
7,200.00	7,184.52	7,146.44	7,133.00	25.89	25.26	162.88	-338.35	114.04	684.68	634.29	13.587			
7,300.00	7,284.14	7,245.17	7,231.44	26.26	25.63	162.94	-345.72	115.97	700.52	649.42	13.708			
7,400.00	7,383.75	7,343.90	7,329.88	26.63	25.99	163.01	-353.10	117.91	716.37	664.55	13.825			
7,500.00	7,483.37	7,442.64	7,428.32	27.00	26.36	163.07	-360.47	119.85	732.22	679.68	13.939			

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Site Error: 0.00 usft
Reference Well: Johnson 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Johnson 10-23-27 Fee 401H
TVD Reference: GL 3116 + RKB 30 = @ 3146.00usft (HP 265)
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Database: Midland District
Offset TVD Reference: Offset Datum

Offset Design Cass Draw/Johnson 10-23-27 Fee - Cass Draw 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 Tooface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	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)							
7,600.00	7,582.99	7,541.37	7,526.76	27.37	26.72	163.13	-367.84	121.79	748.06	694.82	53.25	14.049			
7,700.00	7,682.60	7,640.10	7,625.20	27.74	27.09	163.19	-375.22	123.73	763.91	709.95	53.96	14.157			
7,800.00	7,782.22	7,738.84	7,723.63	28.12	27.45	163.25	-382.59	125.66	779.76	725.09	54.67	14.262			
7,900.00	7,881.83	7,837.57	7,822.07	28.49	27.82	163.30	-389.97	127.60	795.61	740.22	55.39	14.364			
8,000.00	7,981.45	7,936.30	7,920.51	28.86	28.18	163.35	-397.34	129.54	811.46	755.36	56.10	14.464			
8,100.00	8,081.07	8,035.04	8,018.95	29.23	28.55	163.40	-404.71	131.48	827.31	770.50	56.82	14.561			
8,200.00	8,180.68	8,133.77	8,117.39	29.60	28.92	163.45	-412.09	133.42	843.17	785.63	57.53	14.655			
8,295.96	8,276.27	8,228.51	8,211.85	29.96	29.27	163.49	-419.16	135.28	858.38	800.16	58.22	14.744			
8,300.00	8,280.30	8,232.50	8,215.83	29.98	29.28	163.50	-419.46	135.36	859.02	800.77	58.25	14.748			
8,400.00	8,380.06	8,333.07	8,316.10	30.34	29.66	163.59	-426.97	137.33	873.08	814.10	58.98	14.804			
8,500.00	8,480.00	8,474.97	8,457.80	30.70	30.17	163.61	-433.92	139.16	881.25	821.28	59.97	14.895			
8,547.05	8,527.04	8,542.09	8,524.90	30.87	30.40	178.87	-434.84	139.40	882.27	821.88	60.39	14.610			
8,550.00	8,529.99	8,546.30	8,529.12	30.88	30.42	89.11	-434.85	139.40	882.27	821.86	60.41	14.604			
8,600.00	8,579.92	8,595.83	8,578.60	31.05	30.59	89.14	-434.85	141.29	882.27	821.51	60.76	14.521			
8,650.00	8,629.44	8,644.47	8,626.85	31.22	30.76	89.18	-434.84	147.30	882.28	821.18	61.10	14.439			
8,700.00	8,678.18	8,693.17	8,674.48	31.39	30.93	89.22	-434.84	157.39	882.31	820.86	61.45	14.358			
8,750.00	8,725.78	8,741.93	8,721.14	31.56	31.09	89.27	-434.83	171.50	882.35	820.55	61.80	14.277			
8,800.00	8,771.86	8,790.76	8,766.49	31.73	31.26	89.33	-434.81	189.56	882.40	820.24	62.16	14.196			
8,850.00	8,816.07	8,839.68	8,810.21	31.90	31.42	89.39	-434.80	211.46	882.47	819.95	62.52	14.115			
8,900.00	8,858.09	8,888.68	8,851.98	32.07	31.58	89.45	-434.78	237.05	882.55	819.65	62.90	14.032			
8,950.00	8,897.59	8,937.78	8,891.49	32.24	31.74	89.52	-434.75	266.18	882.64	819.35	63.29	13.946			
9,000.00	8,934.27	8,986.98	8,928.44	32.43	31.90	89.59	-434.73	298.65	882.74	819.03	63.71	13.855			
9,050.00	8,967.84	9,036.30	8,962.53	32.65	32.07	89.67	-434.70	334.26	882.86	818.68	64.18	13.757			
9,100.00	8,998.07	9,085.73	8,993.51	32.89	32.27	89.75	-434.67	372.76	882.99	818.29	64.69	13.649			
9,150.00	9,024.71	9,135.28	9,021.12	33.18	32.51	89.83	-434.64	413.89	883.13	817.85	65.28	13.529			
9,200.00	9,047.56	9,184.96	9,045.13	33.50	32.79	89.91	-434.61	457.36	883.27	817.34	65.94	13.396			
9,250.00	9,066.45	9,234.76	9,065.33	33.88	33.13	89.99	-434.58	502.87	883.43	816.75	66.69	13.248			
9,300.00	9,081.23	9,284.70	9,081.54	34.30	33.52	90.07	-434.54	550.09	883.60	816.07	67.53	13.085			
9,350.00	9,091.80	9,334.77	9,093.61	34.77	33.97	90.15	-434.51	598.67	883.77	815.31	68.46	12.909			
9,400.00	9,098.07	9,384.98	9,101.40	35.28	34.46	90.23	-434.47	648.25	883.94	814.46	69.49	12.721			
9,447.05	9,100.00	9,432.34	9,104.75	35.80	34.97	90.31	-434.43	695.48	884.11	813.59	70.53	12.536			
9,500.00	9,100.00	9,485.43	9,105.00	36.43	35.59	90.32	-434.39	748.67	884.30	812.52	71.78	12.320			
9,600.00	9,100.00	9,585.43	9,105.00	37.75	36.90	90.32	-434.32	848.57	884.65	810.22	74.42	11.887			
9,700.00	9,100.00	9,685.43	9,105.00	39.23	38.37	90.32	-434.24	948.57	884.99	807.60	77.39	11.436			
9,800.00	9,100.00	9,785.43	9,105.00	40.86	39.99	90.32	-434.17	1,048.57	885.34	804.69	80.65	10.978			
9,900.00	9,100.00	9,885.43	9,105.00	42.62	41.74	90.32	-434.09	1,148.57	885.69	801.52	84.17	10.523			
10,000.00	9,100.00	9,985.43	9,105.00	44.49	43.61	90.32	-434.02	1,248.57	886.03	798.12	87.92	10.078			
10,100.00	9,100.00	10,085.43	9,105.00	46.46	45.58	90.32	-433.94	1,348.56	886.38	794.51	91.87	9.648			
10,200.00	9,100.00	10,185.43	9,105.00	48.51	47.64	90.32	-433.87	1,448.56	886.73	790.74	95.99	9.237			
10,300.00	9,100.00	10,285.43	9,105.00	50.65	49.78	90.32	-433.79	1,548.56	887.08	786.80	100.27	8.847			
10,400.00	9,100.00	10,385.43	9,105.00	52.85	51.99	90.32	-433.72	1,648.56	887.42	782.73	104.69	8.477			
10,500.00	9,100.00	10,485.43	9,105.00	55.11	54.26	90.32	-433.64	1,748.56	887.77	778.55	109.22	8.128			
10,600.00	9,100.00	10,585.43	9,105.00	57.42	56.58	90.32	-433.57	1,848.56	888.12	774.26	113.86	7.800			
10,700.00	9,100.00	10,685.42	9,105.00	59.78	58.94	90.32	-433.49	1,948.56	888.46	769.87	118.59	7.492			
10,800.00	9,100.00	10,785.42	9,105.00	62.18	61.35	90.32	-433.42	2,048.56	888.81	765.41	123.40	7.203			
10,900.00	9,100.00	10,885.42	9,105.00	64.61	63.79	90.32	-433.34	2,148.56	889.16	760.87	128.29	6.931			
11,000.00	9,100.00	10,985.42	9,105.00	67.08	66.27	90.32	-433.27	2,248.56	889.50	756.27	133.24	6.676			
11,100.00	9,100.00	11,085.42	9,105.00	69.58	68.78	90.32	-433.19	2,348.56	889.85	751.61	138.24	6.437			
11,200.00	9,100.00	11,185.42	9,105.00	72.11	71.31	90.32	-433.12	2,448.56	890.20	746.90	143.30	6.212			
11,300.00	9,100.00	11,285.42	9,105.00	74.65	73.86	90.32	-433.04	2,548.56	890.55	742.14	148.41	6.001			
11,400.00	9,100.00	11,385.42	9,105.00	77.22	76.44	90.32	-432.97	2,648.56	890.89	737.34	153.56	5.802			
11,500.00	9,100.00	11,485.42	9,105.00	79.81	79.03	90.32	-432.89	2,748.56	891.24	732.50	158.74	5.614			

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	Local Co-ordinate Reference:	Well Johnson 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:	Johnson 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

Offset Design Cass Draw/Johnson 10-23-27 Fee - Cass Draw 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		Distance		Minimum		Separation		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		
11,600.00	9,100.00	11,585.42	9,105.00	82.41	81.64	90.32	-432.82	2,848.55	891.59	727.63	163.96	5.438		
11,700.00	9,100.00	11,685.42	9,105.00	85.03	84.27	90.32	-432.74	2,948.55	891.93	722.73	169.21	5.271		
11,800.00	9,100.00	11,785.42	9,105.00	87.67	86.91	90.32	-432.67	3,048.55	892.28	717.80	174.48	5.114		
11,900.00	9,100.00	11,885.42	9,105.00	90.31	89.56	90.32	-432.59	3,148.55	892.63	712.84	179.79	4.965		
12,000.00	9,100.00	11,985.42	9,105.00	92.97	92.23	90.32	-432.52	3,248.55	892.98	707.86	185.11	4.824		
12,100.00	9,100.00	12,085.42	9,105.00	95.64	94.90	90.32	-432.44	3,348.55	893.32	702.86	190.46	4.690		
12,200.00	9,100.00	12,185.42	9,105.00	98.32	97.59	90.32	-432.37	3,448.55	893.67	697.84	195.83	4.563		
12,300.00	9,100.00	12,285.42	9,105.00	101.01	100.28	90.32	-432.29	3,548.55	894.02	692.80	201.22	4.443		
12,400.00	9,100.00	12,385.41	9,105.00	103.71	102.99	90.32	-432.22	3,648.55	894.36	687.75	206.62	4.329		
12,500.00	9,100.00	12,485.41	9,105.00	106.42	105.70	90.32	-432.14	3,748.55	894.71	682.67	212.04	4.220		
12,600.00	9,100.00	12,585.41	9,105.00	109.13	108.41	90.32	-432.07	3,848.55	895.06	677.59	217.47	4.116		
12,700.00	9,100.00	12,685.41	9,105.00	111.85	111.14	90.32	-431.99	3,948.55	895.40	672.49	222.91	4.017		
12,800.00	9,100.00	12,785.41	9,105.00	114.57	113.87	90.32	-431.92	4,048.55	895.75	667.38	228.37	3.922		
12,900.00	9,100.00	12,885.41	9,105.00	117.31	116.60	90.32	-431.84	4,148.55	896.10	662.26	233.84	3.832		
13,000.00	9,100.00	12,985.41	9,105.00	120.04	119.35	90.32	-431.77	4,248.55	896.45	657.12	239.32	3.746		
13,100.00	9,100.00	13,085.41	9,105.00	122.79	122.09	90.32	-431.69	4,348.55	896.79	651.98	244.81	3.663		
13,200.00	9,100.00	13,185.41	9,105.00	125.53	124.84	90.32	-431.62	4,448.54	897.14	646.83	250.31	3.584		
13,300.00	9,100.00	13,285.41	9,105.00	128.28	127.60	90.32	-431.54	4,548.54	897.49	641.67	255.82	3.508		
13,400.00	9,100.00	13,385.41	9,105.00	131.04	130.36	90.32	-431.47	4,648.54	897.83	636.50	261.33	3.436		
13,500.00	9,100.00	13,485.41	9,105.00	133.80	133.12	90.32	-431.39	4,748.54	898.18	631.32	266.86	3.366		
13,600.00	9,100.00	13,585.41	9,105.00	136.56	135.89	90.32	-431.32	4,848.54	898.53	626.14	272.39	3.299		
13,700.00	9,100.00	13,685.41	9,105.00	139.33	138.66	90.32	-431.24	4,948.54	898.88	620.95	277.93	3.234		
13,800.00	9,100.00	13,785.41	9,105.00	142.10	141.43	90.32	-431.17	5,048.54	899.22	615.75	283.47	3.172		
13,900.00	9,100.00	13,885.41	9,105.00	144.87	144.21	90.32	-431.09	5,148.54	899.57	610.55	289.02	3.112		
14,000.00	9,100.00	13,985.41	9,105.00	147.65	146.99	90.32	-431.02	5,248.54	899.92	605.34	294.57	3.055		
14,100.00	9,100.00	14,085.40	9,105.00	150.42	149.77	90.32	-430.94	5,348.54	900.26	600.13	300.14	3.000		
14,145.84	9,100.00	14,131.24	9,105.00	151.70	150.69	90.32	-430.91	5,394.38	900.42	598.09	302.33	2.978		

Scientific Drilling, Intl
Anticollision Report

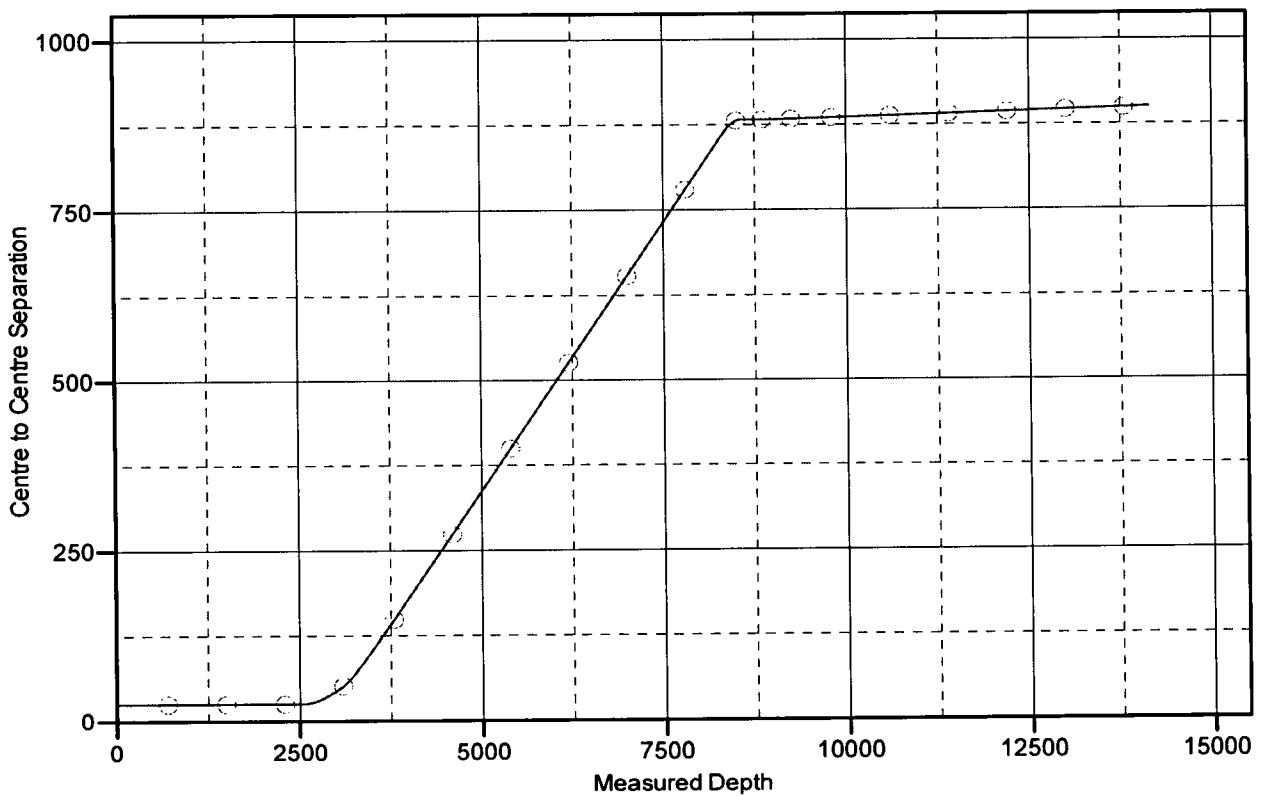
Company: WPX Energy
Project: Eddy County, New Mexico NAD 83
Reference Site: Cass Draw/Johnson 10-23-27 Fee
Site Error: 0.00 usft
Reference Well: Johnson 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Johnson 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: Johnson 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

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

Scientific Drilling, Intl
Anticollision Report

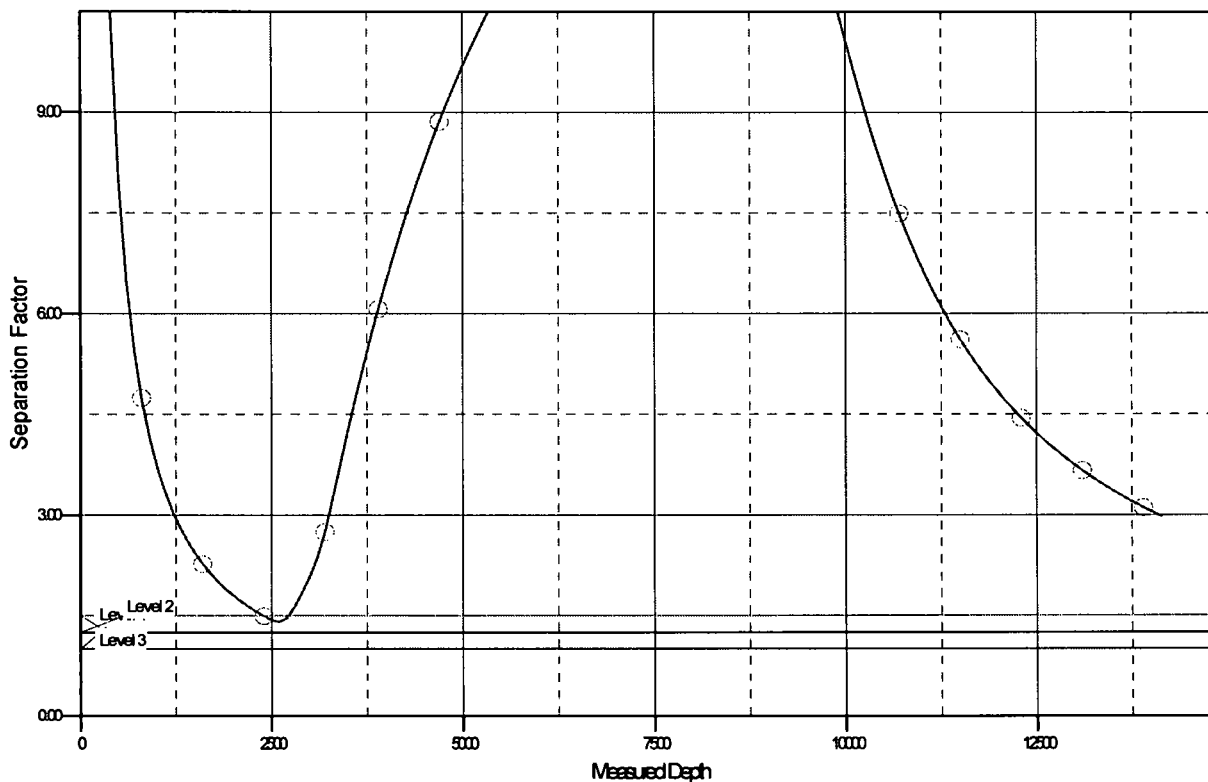
Company: WPX Energy
Project: Eddy County, New Mexico NAD 83
Reference Site: Cass Draw/Johnson 10-23-27 Fee
Site Error: 0.00 usft
Reference Well: Johnson 10-23-27 Fee 401H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1

Local Co-ordinate Reference: Well Johnson 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: Johnson 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

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