



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.17-T3N-R65W

REI H17-21D Pad Sec.17-T3N-R65W

REI H17-30D

Wellbore #1

Noble REI H17-30D Plan #2 (2-20-12)

Anticollision Report

21 February, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H17-30D
Project:	SEC.17-T3N-R65W	TVD Reference:	WELL @ 4942.0ft (Original Well Elev)
Reference Site:	REI H17-21D Pad Sec.17-T3N-R65W	MD Reference:	WELL @ 4942.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	REI H17-30D	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Noble REI H17-30D Plan #2 (2-20-12)	Offset TVD Reference:	Offset Datum

Reference	Noble REI H17-30D Plan #2 (2-20-1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 2/20/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
0.0	8,036.8	Noble REI H17-30D Plan #2 (2-20-12) (W	MWD
			Description
			MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
REI H17-21D Pad Sec.17-T3N-R65W						
REI H17-28D - Wellbore #1 - Noble NEI H17-28D Plan #	200.0	199.0	21.9	21.2	34.003	CC, ES
REI H17-28D - Wellbore #1 - Noble NEI H17-28D Plan #	500.0	498.2	35.2	33.2	17.519	SF
UPRC 17-4J (Exist.) - Wellbore #1 - Design #1	3,827.4	3,679.1	225.1	196.6	7.896	CC, ES
UPRC 17-4J (Exist.) - Wellbore #1 - Design #1	3,900.0	3,748.4	226.1	197.0	7.778	SF
REI H17-31 PAD SEC.17-T3N-R65W						
REI H17-31 (Exist) - REI H17-31 - REI H17-31	2,535.9	2,353.1	525.6	510.7	35.276	CC
REI H17-31 (Exist) - REI H17-31 - REI H17-31	2,600.0	2,414.0	526.1	510.5	33.588	ES
REI H17-31 (Exist) - REI H17-31 - REI H17-31	3,500.0	3,249.8	640.2	615.3	25.723	SF

Offset Design REI H17-21D Pad Sec.17-T3N-R65W - REI H17-28D - Wellbore #1 - Noble NEI H17-28D Plan #2 (2-20-12)													
Survey Program: 0-MWD													
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-21.9	0.0	21.9				
100.0	100.0	99.0	99.0	0.1	0.1	180.00	-21.9	0.0	21.9	21.7	0.19	112.341	
200.0	200.0	199.0	199.0	0.3	0.3	180.00	-21.9	0.0	21.9	21.2	0.64	34.003	CC, ES
300.0	300.0	299.0	299.0	0.5	0.5	-139.64	-21.9	0.0	23.2	22.1	1.09	21.152	
400.0	399.8	398.8	398.8	0.8	0.8	-146.71	-21.9	0.0	27.4	25.8	1.55	17.598	
500.0	499.5	498.2	498.2	1.0	1.0	-157.21	-21.6	1.7	35.2	33.2	2.01	17.519	SF
600.0	598.7	596.6	596.4	1.3	1.2	-168.71	-20.7	6.6	48.4	45.9	2.47	19.580	
700.0	697.5	694.1	693.6	1.6	1.4	-177.97	-19.0	14.7	67.6	64.6	2.95	22.913	
800.0	795.6	791.1	790.0	2.0	1.7	174.91	-15.1	25.0	91.1	87.7	3.43	26.535	
900.0	893.1	886.8	884.7	2.5	2.0	169.34	-8.6	37.0	118.9	114.9	3.95	30.088	
1,000.0	989.6	980.9	977.3	3.0	2.3	164.89	0.1	50.7	150.7	146.2	4.51	33.426	
1,100.0	1,085.3	1,073.1	1,067.6	3.5	2.6	161.29	11.1	65.9	186.4	181.3	5.12	36.421	
1,200.0	1,180.7	1,164.1	1,156.1	4.1	3.0	158.27	24.2	82.6	224.0	218.2	5.80	38.649	
1,300.0	1,276.1	1,253.9	1,242.8	4.7	3.4	155.48	39.3	100.7	262.6	256.1	6.53	40.217	
1,400.0	1,371.5	1,342.5	1,327.5	5.3	3.9	152.87	56.3	120.2	302.5	295.1	7.32	41.328	
1,500.0	1,466.9	1,429.7	1,410.1	5.9	4.4	150.41	75.2	140.9	343.6	335.5	8.15	42.136	
1,600.0	1,562.3	1,515.4	1,490.3	6.5	5.0	148.09	95.6	162.7	386.2	377.2	9.04	42.743	
1,700.0	1,657.7	1,604.3	1,573.3	7.1	5.6	145.97	117.8	186.1	429.8	419.8	9.96	43.141	
1,800.0	1,753.1	1,693.3	1,656.2	7.8	6.2	144.24	140.0	209.4	473.7	462.8	10.90	43.479	

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

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.17-T3N-R65W
Reference Site: REI H17-21D Pad Sec.17-T3N-R65W
Site Error: 0.0ft
Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Offset Design REI H17-21D Pad Sec.17-T3N-R65W - REI H17-28D - Wellbore #1 - Noble NEI H17-28D Plan #2 (2-20-12)													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
1,900.0	1,848.5	1,782.2	1,739.1	8.4	6.8	142.79	162.2	232.8	518.0	506.1	11.83	43.768	
2,000.0	1,943.9	1,871.2	1,822.0	9.0	7.4	141.57	184.5	256.2	562.4	549.7	12.78	44.020	
2,100.0	2,039.3	1,960.2	1,904.9	9.6	8.1	140.53	206.7	279.5	607.1	593.4	13.72	44.242	
2,200.0	2,134.7	2,049.1	1,987.8	10.2	8.7	139.63	228.9	302.9	651.9	637.2	14.67	44.439	
2,300.0	2,230.1	2,138.1	2,070.8	10.9	9.3	138.84	251.1	326.2	696.8	681.2	15.62	44.615	
2,400.0	2,325.5	2,227.1	2,153.7	11.5	10.0	138.15	273.3	349.6	741.8	725.2	16.57	44.773	
2,500.0	2,420.9	2,316.0	2,236.6	12.1	10.6	137.54	295.5	373.0	786.9	769.4	17.52	44.916	
2,600.0	2,516.3	2,405.0	2,319.5	12.7	11.3	136.99	317.7	396.3	832.0	813.6	18.47	45.046	
2,700.0	2,611.7	2,493.9	2,402.4	13.3	11.9	136.50	339.9	419.7	877.2	857.8	19.42	45.163	
2,800.0	2,707.1	2,582.9	2,485.3	14.0	12.5	136.06	362.2	443.0	922.5	902.1	20.38	45.271	
2,900.0	2,802.5	2,671.9	2,568.3	14.6	13.2	135.66	384.4	466.4	967.8	946.4	21.33	45.370	
3,000.0	2,897.8	2,760.8	2,651.2	15.2	13.8	135.29	406.6	489.7	1,013.1	990.8	22.28	45.461	
3,100.0	2,993.2	2,849.8	2,734.1	15.8	14.5	134.96	428.8	513.1	1,058.4	1,035.2	23.24	45.545	
3,200.0	3,088.6	2,938.7	2,817.0	16.5	15.1	134.65	451.0	536.5	1,103.8	1,079.6	24.19	45.624	
3,300.0	3,184.0	3,027.7	2,899.9	17.1	15.8	134.37	473.2	559.8	1,149.2	1,124.1	25.15	45.696	
3,400.0	3,279.4	3,116.7	2,982.8	17.7	16.4	134.10	495.4	583.2	1,194.6	1,168.5	26.10	45.764	
3,500.0	3,374.8	3,205.6	3,065.8	18.3	17.1	133.86	517.7	606.5	1,240.1	1,213.0	27.06	45.827	
3,600.0	3,470.2	3,294.6	3,148.7	18.9	17.7	133.64	539.9	629.9	1,285.5	1,257.5	28.02	45.886	
3,700.0	3,565.6	3,383.6	3,231.6	19.6	18.4	133.43	562.1	653.3	1,331.0	1,302.0	28.97	45.941	
3,800.0	3,661.0	3,472.5	3,314.5	20.2	19.0	133.23	584.3	676.6	1,376.5	1,346.5	29.93	45.993	
3,900.0	3,756.4	3,561.5	3,397.4	20.8	19.7	133.05	606.5	700.0	1,422.0	1,391.1	30.88	46.042	
4,000.0	3,851.8	3,650.4	3,480.3	21.4	20.3	132.87	628.7	723.3	1,467.5	1,435.6	31.84	46.088	
4,100.0	3,947.2	3,739.4	3,563.3	22.1	21.0	132.71	650.9	746.7	1,513.0	1,480.2	32.80	46.131	
4,200.0	4,042.6	3,828.4	3,646.2	22.7	21.6	132.56	673.2	770.1	1,558.5	1,524.8	33.75	46.173	
4,300.0	4,138.0	3,917.3	3,729.1	23.3	22.3	132.42	695.4	793.4	1,604.0	1,569.3	34.71	46.211	
4,400.0	4,233.4	4,006.3	3,812.0	23.9	22.9	132.28	717.6	816.8	1,649.6	1,613.9	35.67	46.248	
4,500.0	4,328.8	4,095.3	3,894.9	24.6	23.6	132.15	739.8	840.1	1,695.1	1,658.5	36.63	46.283	
4,600.0	4,424.2	4,184.2	3,977.8	25.2	24.2	132.03	762.0	863.5	1,740.7	1,703.1	37.58	46.316	
4,700.0	4,519.6	4,273.2	4,060.8	25.8	24.9	131.91	784.2	886.9	1,786.2	1,747.7	38.54	46.347	
4,800.0	4,615.0	4,362.1	4,143.7	26.4	25.5	131.80	806.4	910.2	1,831.8	1,792.3	39.50	46.377	
4,900.0	4,710.4	4,451.1	4,226.6	27.1	26.2	131.70	828.6	933.6	1,877.4	1,836.9	40.46	46.406	
5,000.0	4,805.8	4,540.1	4,309.5	27.7	26.9	131.60	850.9	956.9	1,922.9	1,881.5	41.41	46.433	
5,100.0	4,901.2	4,629.0	4,392.4	28.3	27.5	131.50	873.1	980.3	1,968.5	1,926.2	42.37	46.459	
5,200.0	4,996.6	4,718.0	4,475.3	28.9	28.2	131.41	895.3	1,003.7	2,014.1	1,970.8	43.33	46.483	
5,300.0	5,092.0	4,807.0	4,558.3	29.6	28.8	131.33	917.5	1,027.0	2,059.7	2,015.4	44.29	46.507	
5,400.0	5,187.5	4,896.0	4,641.3	30.1	29.5	131.60	939.7	1,050.4	2,105.0	2,059.7	45.33	46.438	
5,500.0	5,283.9	4,985.9	4,725.0	30.6	30.1	132.17	962.2	1,074.0	2,148.6	2,102.2	46.38	46.321	
5,600.0	5,381.1	5,076.6	4,809.5	31.0	30.8	132.62	984.8	1,097.8	2,190.0	2,142.6	47.39	46.209	
5,700.0	5,479.1	5,213.0	4,937.1	31.3	31.7	132.82	1,018.2	1,132.9	2,229.0	2,180.5	48.53	45.927	
5,800.0	5,577.7	5,430.4	5,144.4	31.6	32.8	132.81	1,063.1	1,180.2	2,261.8	2,212.0	49.77	45.448	
5,900.0	5,676.9	5,658.3	5,366.5	31.9	33.6	132.82	1,098.5	1,217.3	2,286.9	2,236.1	50.82	45.000	
6,000.0	5,776.4	5,894.3	5,599.8	32.1	34.3	132.90	1,122.1	1,242.2	2,303.9	2,252.3	51.66	44.599	
6,100.0	5,876.2	6,135.0	5,840.0	32.2	34.7	133.03	1,132.6	1,253.2	2,312.7	2,260.4	52.25	44.264	
6,200.0	5,976.2	6,270.2	5,975.2	32.3	34.8	133.12	1,133.0	1,253.7	2,314.6	2,262.1	52.54	44.052	
6,300.0	6,076.2	6,370.2	6,075.2	32.4	34.8	89.82	1,133.0	1,253.7	2,314.7	2,261.9	52.74	43.885	
6,400.0	6,176.2	6,470.2	6,175.2	32.5	34.9	89.82	1,133.0	1,253.7	2,314.7	2,261.7	52.95	43.715	
6,500.0	6,276.2	6,570.2	6,275.2	32.6	35.0	89.82	1,133.0	1,253.7	2,314.7	2,261.5	53.16	43.543	
6,600.0	6,376.2	6,670.2	6,375.2	32.7	35.1	89.82	1,133.0	1,253.7	2,314.7	2,261.3	53.37	43.371	
6,700.0	6,476.2	6,770.2	6,475.2	32.8	35.2	89.82	1,133.0	1,253.7	2,314.7	2,261.1	53.58	43.198	
6,800.0	6,576.2	6,870.2	6,575.2	32.9	35.3	89.82	1,133.0	1,253.7	2,314.7	2,260.9	53.80	43.024	
6,900.0	6,676.2	6,970.2	6,675.2	33.0	35.4	89.82	1,133.0	1,253.7	2,314.7	2,260.7	54.02	42.848	
7,000.0	6,776.2	7,070.2	6,775.2	33.1	35.4	89.82	1,133.0	1,253.7	2,314.7	2,260.4	54.24	42.672	

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

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.17-T3N-R65W
Reference Site: REI H17-21D Pad Sec.17-T3N-R65W
Site Error: 0.0ft
Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Offset Design REI H17-21D Pad Sec.17-T3N-R65W - REI H17-28D - Wellbore #1 - Noble NEI H17-28D Plan #2 (2-20-12)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
7,100.0	6,876.2	7,170.2	6,875.2	33.2	35.5	89.82	1,133.0	1,253.7	2,314.7	2,260.2	54.47	42.496		
7,200.0	6,976.2	7,270.2	6,975.2	33.3	35.6	89.82	1,133.0	1,253.7	2,314.7	2,260.0	54.70	42.318		
7,300.0	7,076.2	7,370.2	7,075.2	33.4	35.7	89.82	1,133.0	1,253.7	2,314.7	2,259.7	54.93	42.140		
7,400.0	7,176.2	7,470.2	7,175.2	33.5	35.8	89.82	1,133.0	1,253.7	2,314.7	2,259.5	55.16	41.962		
7,500.0	7,276.2	7,570.2	7,275.2	33.6	35.9	89.82	1,133.0	1,253.7	2,314.7	2,259.3	55.40	41.783		
7,600.0	7,376.2	7,670.2	7,375.2	33.7	36.0	89.82	1,133.0	1,253.7	2,314.7	2,259.0	55.64	41.603		
7,700.0	7,476.2	7,770.2	7,475.2	33.8	36.1	89.82	1,133.0	1,253.7	2,314.7	2,258.8	55.88	41.423		
7,800.0	7,576.2	7,870.2	7,575.2	33.9	36.2	89.82	1,133.0	1,253.7	2,314.7	2,258.6	56.12	41.243		
7,900.0	7,676.2	7,970.2	7,675.2	34.0	36.3	89.82	1,133.0	1,253.7	2,314.7	2,258.3	56.37	41.063		
8,000.0	7,776.2	8,070.2	7,775.2	34.1	36.4	89.82	1,133.0	1,253.7	2,314.7	2,258.1	56.62	40.882		
8,004.1	7,780.3	8,074.3	7,779.3	34.1	36.4	89.82	1,133.0	1,253.7	2,314.7	2,258.0	56.63	40.875		
8,036.8	7,813.0	8,084.0	7,789.0	34.1	36.4	89.82	1,133.0	1,253.7	2,314.8	2,258.1	56.68	40.838		

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.17-T3N-R65W
Reference Site: REI H17-21D Pad Sec.17-T3N-R65W
Site Error: 0.0ft
Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Offset Design REI H17-21D Pad Sec.17-T3N-R65W - UPRC 17-4J (Exist.) - Wellbore #1 - Design #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-56.53	-56.53	542.8	-820.9	984.2				
100.0	100.0	92.0	92.0	0.1	0.1	-56.53	-56.53	542.8	-820.9	984.1	984.0	0.19	5,242.470	
200.0	200.0	192.0	192.0	0.3	0.3	-56.53	-56.53	542.8	-820.9	984.1	983.5	0.63	1,569.360	
300.0	300.0	292.0	292.0	0.5	0.5	-13.25	-13.25	542.8	-820.9	982.4	981.4	1.08	908.629	
400.0	399.8	391.8	391.8	0.8	0.8	-13.35	-13.35	542.8	-820.9	977.3	975.8	1.54	635.050	
500.0	499.5	491.5	491.5	1.0	1.0	-13.50	-13.50	542.8	-820.9	968.9	966.9	2.00	484.748	
600.0	598.7	590.7	590.7	1.3	1.2	-13.73	-13.73	542.8	-820.9	957.0	954.6	2.46	388.896	
700.0	697.5	689.5	689.5	1.6	1.4	-14.03	-14.03	542.8	-820.9	941.8	938.9	2.93	321.802	
800.0	795.6	787.6	787.6	2.0	1.6	-14.41	-14.41	542.8	-820.9	923.3	919.9	3.40	271.730	
900.0	893.1	885.1	885.1	2.5	1.9	-14.88	-14.88	542.8	-820.9	901.5	897.6	3.88	232.568	
1,000.0	889.6	881.6	881.6	3.0	2.1	-15.45	-15.45	542.8	-820.9	876.5	872.1	4.36	200.821	
1,100.0	1,085.3	1,077.3	1,077.3	3.5	2.3	-16.09	-16.09	542.8	-820.9	848.4	843.5	4.87	174.310	
1,200.0	1,180.7	1,172.7	1,172.7	4.1	2.5	-16.67	-16.67	542.8	-820.9	819.5	814.1	5.39	152.095	
1,300.0	1,276.1	1,268.1	1,268.1	4.7	2.7	-17.29	-17.29	542.8	-820.9	790.7	784.8	5.92	133.544	
1,400.0	1,371.5	1,363.5	1,363.5	5.3	2.9	-17.96	-17.96	542.8	-820.9	762.0	755.5	6.46	117.868	
1,500.0	1,466.9	1,458.9	1,458.9	5.9	3.2	-18.68	-18.68	542.8	-820.9	733.4	726.4	7.02	104.474	
1,600.0	1,562.3	1,554.3	1,554.3	6.5	3.4	-19.45	-19.45	542.8	-820.9	704.9	697.3	7.59	92.917	
1,700.0	1,657.7	1,649.7	1,649.7	7.1	3.6	-20.29	-20.29	542.8	-820.9	676.6	668.4	8.17	82.855	
1,800.0	1,753.1	1,745.1	1,745.1	7.8	3.8	-21.21	-21.21	542.8	-820.9	648.4	639.6	8.76	74.026	
1,900.0	1,848.5	1,840.5	1,840.5	8.4	4.0	-22.20	-22.20	542.8	-820.9	620.3	611.0	9.37	66.225	
2,000.0	1,943.9	1,935.9	1,935.9	9.0	4.2	-23.29	-23.29	542.8	-820.9	592.5	582.5	9.99	59.288	
2,100.0	2,039.3	2,031.3	2,031.3	9.6	4.4	-24.49	-24.49	542.8	-820.9	564.8	554.2	10.64	53.088	
2,200.0	2,134.7	2,126.7	2,126.7	10.2	4.7	-25.80	-25.80	542.8	-820.9	537.5	526.2	11.31	47.521	
2,300.0	2,230.1	2,222.1	2,222.1	10.9	4.9	-27.25	-27.25	542.8	-820.9	510.4	498.4	12.01	42.502	
2,400.0	2,325.5	2,317.5	2,317.5	11.5	5.1	-28.86	-28.86	542.8	-820.9	483.7	470.9	12.74	37.965	
2,500.0	2,420.9	2,412.9	2,412.9	12.1	5.3	-30.65	-30.65	542.8	-820.9	457.3	443.8	13.51	33.853	
2,600.0	2,516.3	2,508.3	2,508.3	12.7	5.5	-32.66	-32.66	542.8	-820.9	431.5	417.1	14.32	30.124	
2,700.0	2,611.7	2,603.7	2,603.7	13.3	5.7	-34.91	-34.91	542.8	-820.9	406.2	391.0	15.19	26.741	
2,800.0	2,707.1	2,699.1	2,699.1	14.0	5.9	-37.44	-37.44	542.8	-820.9	381.6	365.5	16.12	23.676	
2,900.0	2,802.5	2,794.5	2,794.5	14.6	6.2	-40.31	-40.31	542.8	-820.9	357.8	340.7	17.11	20.909	
3,000.0	2,897.8	2,889.8	2,889.8	15.2	6.4	-43.55	-43.55	542.8	-820.9	335.0	316.8	18.18	18.423	
3,100.0	2,993.2	2,985.2	2,985.2	15.8	6.6	-47.24	-47.24	542.8	-820.9	313.4	294.1	19.34	16.208	
3,200.0	3,088.6	3,080.6	3,080.6	16.5	6.8	-51.43	-51.43	542.8	-820.9	293.4	272.8	20.58	14.257	
3,300.0	3,184.0	3,176.0	3,176.0	17.1	7.0	-56.16	-56.16	542.8	-820.9	275.1	253.2	21.89	12.567	
3,400.0	3,279.4	3,271.4	3,271.4	17.7	7.2	-61.48	-61.48	542.8	-820.9	259.0	235.8	23.26	11.137	
3,500.0	3,374.8	3,366.8	3,366.8	18.3	7.4	-67.40	-67.40	542.8	-820.9	245.6	220.9	24.64	9.966	
3,600.0	3,470.2	3,462.2	3,462.2	18.9	7.7	-73.88	-73.88	542.8	-820.9	235.2	209.2	25.98	9.052	
3,700.0	3,565.6	3,557.6	3,557.6	19.6	7.9	-80.80	-80.80	542.8	-820.9	228.3	201.1	27.21	8.390	
3,800.0	3,661.0	3,653.0	3,653.0	20.2	8.1	-88.00	-88.00	542.8	-820.9	225.2	197.0	28.26	7.970	
3,827.4	3,687.1	3,679.1	3,679.1	20.4	8.1	-90.00	-90.00	542.8	-820.9	225.1	196.6	28.51	7.896 CC, ES	
3,900.0	3,756.4	3,748.4	3,748.4	20.8	8.3	-95.27	-95.27	542.8	-820.9	226.1	197.0	29.07	7.778 SF	
4,000.0	3,851.8	3,843.8	3,843.8	21.4	8.5	-102.37	-102.37	542.8	-820.9	230.9	201.3	29.64	7.792	
4,100.0	3,947.2	3,939.2	3,939.2	22.1	8.7	-109.11	-109.11	542.8	-820.9	239.5	209.5	29.98	7.988	
4,200.0	4,042.6	4,034.6	4,034.6	22.7	8.9	-115.34	-115.34	542.8	-820.9	251.3	221.2	30.13	8.339	
4,300.0	4,138.0	4,130.0	4,130.0	23.3	9.2	-120.99	-120.99	542.8	-820.9	266.0	235.8	30.17	8.817	
4,400.0	4,233.4	4,225.4	4,225.4	23.9	9.4	-126.05	-126.05	542.8	-820.9	283.1	253.0	30.13	9.395	
4,500.0	4,328.8	4,320.8	4,320.8	24.6	9.6	-130.53	-130.53	542.8	-820.9	302.2	272.2	30.07	10.050	
4,600.0	4,424.2	4,416.2	4,416.2	25.2	9.8	-134.48	-134.48	542.8	-820.9	323.0	293.0	30.02	10.760	
4,700.0	4,519.6	4,511.6	4,511.6	25.8	10.0	-137.96	-137.96	542.8	-820.9	345.2	315.2	29.99	11.509	
4,800.0	4,615.0	4,607.0	4,607.0	26.4	10.2	-141.03	-141.03	542.8	-820.9	368.4	338.4	30.00	12.281	
4,900.0	4,710.4	4,702.4	4,702.4	27.1	10.4	-143.74	-143.74	542.8	-820.9	392.6	362.6	30.05	13.067	
5,000.0	4,805.8	4,797.8	4,797.8	27.7	10.7	-146.14	-146.14	542.8	-820.9	417.5	387.4	30.13	13.855	

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

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.17-T3N-R65W
Reference Site: REI H17-21D Pad Sec.17-T3N-R65W
Site Error: 0.0ft
Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Offset Design REI H17-21D Pad Sec.17-T3N-R65W - UPRC 17-4J (Exist.) - Wellbore #1 - Design #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	4,901.2	4,893.2	4,893.2	28.3	10.9	-148.28	542.8	-820.9	443.1	412.8	30.26	14.641		
5,200.0	4,996.6	4,988.6	4,988.6	28.9	11.1	-150.18	542.8	-820.9	469.2	438.7	30.43	15.419		
5,300.0	5,092.0	5,084.0	5,084.0	29.6	11.3	-151.89	542.8	-820.9	495.7	465.1	30.63	16.185		
5,400.0	5,187.5	5,179.5	5,179.5	30.1	11.5	-153.52	542.8	-820.9	522.2	491.4	30.85	16.928		
5,500.0	5,283.9	5,275.9	5,275.9	30.6	11.7	-154.97	542.8	-820.9	546.4	515.4	31.06	17.591		
5,600.0	5,381.1	5,373.1	5,373.1	31.0	11.9	-156.14	542.8	-820.9	567.7	536.4	31.31	18.134		
5,700.0	5,479.1	5,471.1	5,471.1	31.3	12.2	-157.07	542.8	-820.9	586.1	554.5	31.57	18.564		
5,800.0	5,577.7	5,569.7	5,569.7	31.6	12.4	-157.80	542.8	-820.9	601.3	569.4	31.84	18.885		
5,900.0	5,676.9	5,668.9	5,668.9	31.9	12.6	-158.35	542.8	-820.9	613.4	581.3	32.11	19.104		
6,000.0	5,776.4	5,768.4	5,768.4	32.1	12.8	-158.74	542.8	-820.9	622.3	589.9	32.37	19.224		
6,100.0	5,876.2	5,868.2	5,868.2	32.2	13.1	-158.98	542.8	-820.9	627.9	595.3	32.62	19.249		
6,200.0	5,976.2	5,968.2	5,968.2	32.3	13.3	-159.08	542.8	-820.9	630.3	597.5	32.86	19.181		
6,300.0	6,076.2	6,068.2	6,068.2	32.4	13.5	157.61	542.8	-820.9	630.4	597.2	33.19	18.996		
6,400.0	6,176.2	6,168.2	6,168.2	32.5	13.7	157.61	542.8	-820.9	630.4	596.9	33.56	18.787		
6,500.0	6,276.2	6,268.2	6,268.2	32.6	14.0	157.61	542.8	-820.9	630.4	596.5	33.93	18.582		
6,600.0	6,376.2	6,368.2	6,368.2	32.7	14.2	157.61	542.8	-820.9	630.4	596.1	34.30	18.380		
6,700.0	6,476.2	6,468.2	6,468.2	32.8	14.4	157.61	542.8	-820.9	630.4	595.7	34.67	18.182		
6,800.0	6,576.2	6,568.2	6,568.2	32.9	14.6	157.61	542.8	-820.9	630.4	595.4	35.05	17.988		
6,900.0	6,676.2	6,668.2	6,668.2	33.0	14.9	157.61	542.8	-820.9	630.4	595.0	35.42	17.797		
7,000.0	6,776.2	6,768.2	6,768.2	33.1	15.1	157.61	542.8	-820.9	630.4	594.6	35.80	17.609		
7,100.0	6,876.2	6,868.2	6,868.2	33.2	15.3	157.61	542.8	-820.9	630.4	594.2	36.18	17.425		
7,200.0	6,976.2	6,968.2	6,968.2	33.3	15.5	157.61	542.8	-820.9	630.4	593.9	36.56	17.244		
7,300.0	7,076.2	7,068.2	7,068.2	33.4	15.8	157.61	542.8	-820.9	630.4	593.5	36.94	17.066		
7,400.0	7,176.2	7,168.2	7,168.2	33.5	16.0	157.61	542.8	-820.9	630.4	593.1	37.32	16.891		
7,500.0	7,276.2	7,268.2	7,268.2	33.6	16.2	157.61	542.8	-820.9	630.4	592.7	37.71	16.719		
7,600.0	7,376.2	7,368.2	7,368.2	33.7	16.4	157.61	542.8	-820.9	630.4	592.3	38.09	16.550		
7,700.0	7,476.2	7,468.2	7,468.2	33.8	16.7	157.61	542.8	-820.9	630.4	591.9	38.48	16.384		
7,800.0	7,576.2	7,568.2	7,568.2	33.9	16.9	157.61	542.8	-820.9	630.4	591.5	38.87	16.221		
7,900.0	7,676.2	7,668.2	7,668.2	34.0	17.1	157.61	542.8	-820.9	630.4	591.2	39.25	16.060		
8,000.0	7,776.2	7,768.2	7,768.2	34.1	17.3	157.61	542.8	-820.9	630.4	590.8	39.64	15.902		
8,022.6	7,798.8	7,790.8	7,790.8	34.1	17.4	157.61	542.8	-820.9	630.4	590.7	39.73	15.867		
8,036.8	7,813.0	7,800.0	7,800.0	34.1	17.4	157.61	542.8	-820.9	630.4	590.7	39.78	15.850		

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.17-T3N-R65W
Reference Site: REI H17-21D Pad Sec.17-T3N-R65W
Site Error: 0.0ft
Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Offset Design REI H17-31 PAD SEC.17-T3N-R65W - REI H17-31 (Exist) - REI H17-31 - REI H17-31													Offset Site Error:	0.0ft
Survey Program: 728-MWD													Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-58.76	495.5	-816.7	955.3					
100.0	100.0	89.6	89.6	0.1	0.1	-58.76	495.4	-816.7	955.2	955.0	0.20	4,852.318		
200.0	200.0	190.3	190.3	0.3	0.2	-58.76	495.3	-816.7	955.1	954.6	0.53	1,792.119		
300.0	300.0	291.0	290.9	0.5	0.3	-15.51	495.1	-816.6	953.3	952.4	0.87	1,095.049		
400.0	399.8	391.5	391.5	0.8	0.4	-15.63	494.8	-816.5	948.0	946.8	1.21	781.700		
500.0	499.5	491.7	491.7	1.0	0.5	-15.84	494.3	-816.4	939.3	937.7	1.56	600.186		
600.0	598.7	591.6	591.6	1.3	0.7	-16.14	493.8	-816.2	927.2	925.2	1.93	479.950		
700.0	697.5	690.9	690.9	1.6	0.8	-16.53	493.3	-816.1	911.7	909.4	2.32	393.385		
800.0	795.6	787.6	787.6	2.0	0.9	-17.01	492.7	-815.9	893.0	890.2	2.75	324.743		
900.0	893.1	882.5	882.5	2.5	1.1	-17.58	492.3	-815.9	871.3	868.0	3.21	271.377		
1,000.0	989.6	978.8	978.8	3.0	1.3	-18.29	492.1	-816.0	846.5	842.8	3.69	229.269		
1,100.0	1,085.3	1,074.6	1,074.6	3.5	1.5	-19.09	491.8	-816.2	818.8	814.6	4.19	195.425		
1,200.0	1,180.7	1,172.9	1,172.8	4.1	1.7	-19.84	491.4	-816.1	790.2	785.5	4.71	167.724		
1,300.0	1,276.1	1,270.7	1,270.7	4.7	1.9	-20.61	491.3	-815.6	761.3	756.1	5.25	145.048		
1,400.0	1,371.5	1,362.7	1,362.7	5.3	2.1	-21.41	490.9	-815.0	732.5	726.7	5.79	126.541		
1,500.0	1,466.9	1,447.3	1,447.3	5.9	2.3	-22.32	489.7	-816.0	704.9	698.6	6.33	111.380		
1,600.0	1,562.3	1,533.4	1,533.3	6.5	2.5	-23.44	487.7	-818.8	679.0	672.2	6.89	98.563		
1,700.0	1,657.7	1,626.8	1,626.6	7.1	2.7	-24.89	484.2	-823.4	654.4	646.9	7.51	87.174		
1,800.0	1,753.1	1,725.3	1,724.7	7.8	2.9	-26.76	478.3	-828.8	630.0	621.8	8.19	76.898		
1,900.0	1,848.5	1,818.9	1,817.7	8.4	3.2	-28.92	470.1	-834.6	606.1	597.1	8.92	67.928		
2,000.0	1,943.9	1,902.6	1,900.6	9.0	3.4	-31.23	460.5	-841.3	584.0	574.3	9.68	60.352		
2,100.0	2,039.3	1,983.6	1,980.5	9.6	3.6	-33.78	450.0	-849.8	565.2	554.7	10.48	53.934		
2,200.0	2,134.7	2,070.3	2,065.6	10.2	3.9	-36.78	437.8	-860.8	550.0	538.6	11.38	48.314		
2,300.0	2,230.1	2,156.1	2,149.5	10.9	4.2	-40.05	424.2	-872.7	537.7	525.4	12.36	43.499		
2,400.0	2,325.5	2,238.5	2,229.5	11.5	4.5	-43.48	409.3	-885.6	529.5	516.1	13.39	39.536		
2,500.0	2,420.9	2,322.4	2,310.4	12.1	4.9	-47.20	392.6	-900.2	525.9	511.4	14.49	36.282		
2,535.9	2,455.1	2,353.1	2,339.9	12.3	5.1	-48.59	386.3	-905.8	525.6	510.7	14.90	35.276 CC		
2,600.0	2,516.3	2,414.0	2,398.5	12.7	5.3	-51.37	373.5	-916.8	526.1	510.5	15.66	33.588 ES		
2,700.0	2,611.7	2,510.5	2,491.3	13.3	5.7	-55.79	353.0	-933.4	529.0	512.1	16.85	31.392		
2,800.0	2,707.1	2,606.4	2,583.8	14.0	6.1	-60.11	332.9	-948.9	534.2	516.2	18.00	29.685		
2,900.0	2,802.5	2,699.9	2,674.2	14.6	6.5	-64.15	314.3	-963.7	541.9	522.8	19.09	28.395		
3,000.0	2,897.8	2,790.6	2,762.1	15.2	6.9	-67.84	297.5	-978.4	552.4	532.3	20.12	27.451		
3,100.0	2,993.2	2,879.7	2,848.5	15.8	7.2	-71.22	281.8	-993.7	565.8	544.7	21.12	26.786		
3,200.0	3,088.6	2,974.0	2,939.9	16.5	7.7	-74.63	265.4	-1,010.0	581.5	559.4	22.11	26.296		
3,300.0	3,184.0	3,065.1	3,028.2	17.1	8.1	-77.79	249.4	-1,025.5	599.2	576.1	23.07	25.978		
3,400.0	3,279.4	3,158.0	3,118.2	17.7	8.5	-80.86	232.7	-1,041.3	619.0	595.0	24.00	25.797		
3,500.0	3,374.8	3,249.8	3,207.3	18.3	8.9	-83.69	216.8	-1,056.7	640.2	615.3	24.89	25.723 SF		
3,600.0	3,470.2	3,335.8	3,290.5	18.9	9.3	-86.19	201.3	-1,071.8	663.8	638.0	25.74	25.784		
3,700.0	3,565.6	3,427.0	3,378.7	19.6	9.8	-88.76	184.0	-1,087.3	689.1	662.5	26.60	25.910		
3,800.0	3,661.0	3,517.2	3,465.9	20.2	10.2	-91.16	166.6	-1,102.5	716.0	688.5	27.43	26.103		
3,900.0	3,756.4	3,604.9	3,550.6	20.8	10.6	-93.27	150.0	-1,118.1	744.3	716.0	28.24	26.356		
4,000.0	3,851.8	3,696.5	3,638.9	21.4	11.1	-95.29	132.6	-1,135.0	774.1	745.0	29.05	26.646		
4,100.0	3,947.2	3,787.6	3,726.8	22.1	11.6	-97.08	116.2	-1,152.6	804.5	774.7	29.85	26.949		
4,200.0	4,042.6	3,874.9	3,810.8	22.7	12.0	-98.67	100.2	-1,169.8	836.1	805.4	30.65	27.277		
4,300.0	4,138.0	3,961.1	3,893.8	23.3	12.5	-100.15	83.9	-1,187.0	868.8	837.4	31.45	27.629		
4,400.0	4,233.4	4,045.7	3,975.0	23.9	12.9	-101.54	67.1	-1,203.6	902.8	870.6	32.24	28.007		
4,500.0	4,328.8	4,131.0	4,056.7	24.6	13.4	-102.88	49.4	-1,220.2	938.0	905.0	33.03	28.403		
4,600.0	4,424.2	4,224.1	4,146.0	25.2	13.9	-104.29	29.6	-1,238.0	974.0	940.2	33.82	28.799		
4,700.0	4,519.6	4,326.0	4,244.0	25.8	14.4	-105.76	8.5	-1,256.3	1,009.5	974.9	34.62	29.163		
4,800.0	4,615.0	4,411.0	4,325.7	26.4	14.8	-106.95	-9.6	-1,270.9	1,045.6	1,010.2	35.38	29.552		
4,900.0	4,710.4	4,479.2	4,391.1	27.1	15.2	-107.88	-25.3	-1,282.6	1,083.5	1,047.4	36.12	29.997		
5,000.0	4,805.8	4,567.0	4,475.0	27.7	15.7	-109.03	-46.2	-1,297.6	1,122.6	1,085.7	36.89	30.433		

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

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.17-T3N-R65W
Reference Site: REI H17-21D Pad Sec.17-T3N-R65W
Site Error: 0.0ft
Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

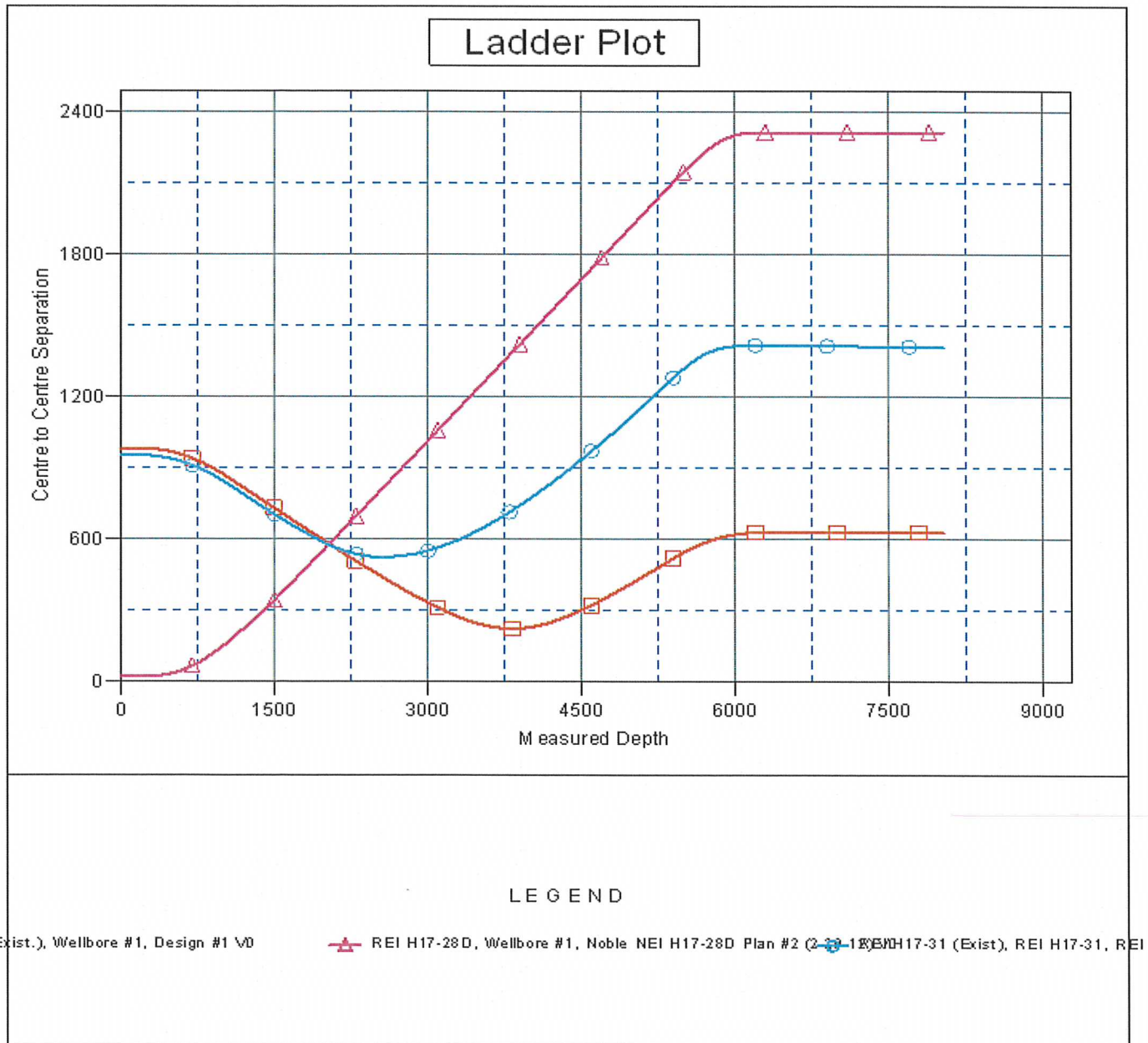
Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Offset Design REI H17-31 PAD SEC.17-T3N-R65W - REI H17-31 (Exist) - REI H17-31 - REI H17-31													Offset Site Error:	0.0 ft
Survey Program: 728-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	4,901.2	4,655.0	4,559.1	28.3	16.2	-110.12	-67.2	-1,312.4	1,162.1	1,124.5	37.65	30.869		
5,200.0	4,996.6	4,738.3	4,638.7	28.9	16.6	-111.10	-87.5	-1,326.2	1,202.3	1,163.9	38.40	31.309		
5,300.0	5,092.0	4,824.5	4,721.0	29.6	17.1	-112.02	-108.5	-1,341.5	1,243.2	1,204.0	39.17	31.739		
5,400.0	5,187.5	4,957.7	4,848.4	30.1	17.8	-113.61	-138.6	-1,365.7	1,282.8	1,242.8	39.99	32.074		
5,500.0	5,283.9	5,067.5	4,954.3	30.6	18.3	-115.14	-161.1	-1,384.0	1,319.1	1,278.4	40.64	32.456		
5,600.0	5,381.1	5,186.8	5,069.9	31.0	18.9	-116.47	-184.3	-1,402.6	1,352.9	1,311.6	41.29	32.768		
5,700.0	5,479.1	5,408.8	5,287.3	31.3	19.8	-117.86	-216.3	-1,432.9	1,380.4	1,338.3	42.14	32.758		
5,800.0	5,577.7	5,580.0	5,457.1	31.6	20.3	-118.73	-229.9	-1,449.8	1,398.9	1,356.1	42.81	32.677		
5,900.0	5,676.9	5,731.9	5,608.6	31.9	20.6	-119.41	-236.6	-1,458.4	1,411.1	1,367.7	43.35	32.552		
6,000.0	5,776.4	5,898.9	5,775.6	32.1	20.8	-120.03	-238.4	-1,460.2	1,416.9	1,373.1	43.80	32.347		
6,100.0	5,876.2	5,999.8	5,876.5	32.2	20.9	-120.28	-237.6	-1,460.1	1,419.2	1,375.1	44.11	32.172		
6,200.0	5,976.2	6,099.4	5,976.1	32.3	21.0	-120.36	-236.7	-1,460.3	1,419.7	1,375.3	44.39	31.982		
6,300.0	6,076.2	6,198.2	6,074.9	32.4	21.1	-163.63	-235.8	-1,460.9	1,419.1	1,374.4	44.65	31.785		
6,400.0	6,176.2	6,298.9	6,175.6	32.5	21.2	-163.58	-234.8	-1,461.9	1,418.4	1,373.4	44.92	31.576		
6,500.0	6,276.2	6,399.6	6,276.2	32.6	21.4	-163.53	-233.6	-1,463.0	1,417.6	1,372.4	45.20	31.365		
6,600.0	6,376.2	6,499.2	6,375.9	32.7	21.5	-163.46	-232.5	-1,464.2	1,416.8	1,371.4	45.48	31.154		
6,700.0	6,476.2	6,592.9	6,469.5	32.8	21.6	-163.40	-231.5	-1,465.5	1,416.2	1,370.4	45.75	30.956		
6,733.4	6,509.6	6,621.9	6,498.6	32.8	21.6	-163.39	-231.3	-1,465.8	1,416.1	1,370.3	45.83	30.897		
6,800.0	6,576.2	6,679.9	6,556.5	32.9	21.7	-163.38	-231.4	-1,466.1	1,416.3	1,370.3	46.01	30.787		
6,900.0	6,676.2	6,782.9	6,659.6	33.0	21.9	-163.40	-232.3	-1,465.9	1,417.1	1,370.8	46.28	30.619		
7,000.0	6,776.2	6,900.5	6,777.1	33.1	22.0	-163.41	-232.1	-1,465.4	1,416.9	1,370.3	46.58	30.417		
7,100.0	6,876.2	6,998.3	6,874.9	33.2	22.1	-163.43	-231.5	-1,464.8	1,416.1	1,369.3	46.85	30.228		
7,200.0	6,976.2	7,096.3	6,972.9	33.3	22.2	-163.46	-231.2	-1,463.9	1,415.5	1,368.4	47.12	30.043		
7,300.0	7,076.2	7,194.9	7,071.5	33.4	22.3	-163.49	-230.9	-1,463.1	1,415.0	1,367.6	47.39	29.860		
7,400.0	7,176.2	7,294.8	7,171.4	33.5	22.5	-163.52	-230.7	-1,462.4	1,414.6	1,366.9	47.66	29.678		
7,500.0	7,276.2	7,395.8	7,272.4	33.6	22.6	-163.54	-230.4	-1,461.6	1,414.1	1,366.1	47.94	29.495		
7,600.0	7,376.2	7,495.1	7,371.7	33.7	22.7	-163.57	-230.1	-1,460.9	1,413.6	1,365.4	48.22	29.314		
7,700.0	7,476.2	7,594.7	7,471.3	33.8	22.8	-163.58	-229.8	-1,460.4	1,413.2	1,364.7	48.51	29.134		
7,800.0	7,576.2	7,697.6	7,574.2	33.9	23.0	-163.60	-229.4	-1,459.7	1,412.6	1,363.8	48.80	28.950		
7,900.0	7,676.2	7,800.1	7,676.7	34.0	23.1	-163.63	-228.9	-1,458.8	1,411.9	1,362.8	49.09	28.764		
8,000.0	7,776.2	7,902.1	7,778.7	34.1	23.2	-163.66	-228.3	-1,457.9	1,411.0	1,361.6	49.37	28.578		
8,036.8	7,813.0	7,939.3	7,815.8	34.1	23.3	-163.68	-228.0	-1,457.5	1,410.7	1,361.2	49.48	28.510		

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Reference Well: REI H17-30D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble REI H17-30D Plan #2 (2-20-12)

Local Co-ordinate Reference: Well REI H17-30D
TVD Reference: WELL @ 4942.0ft (Original Well Elev)
MD Reference: WELL @ 4942.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4942.0ft (Original Well Elev) Coordinates are relative to: REI H17-30D
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.52°

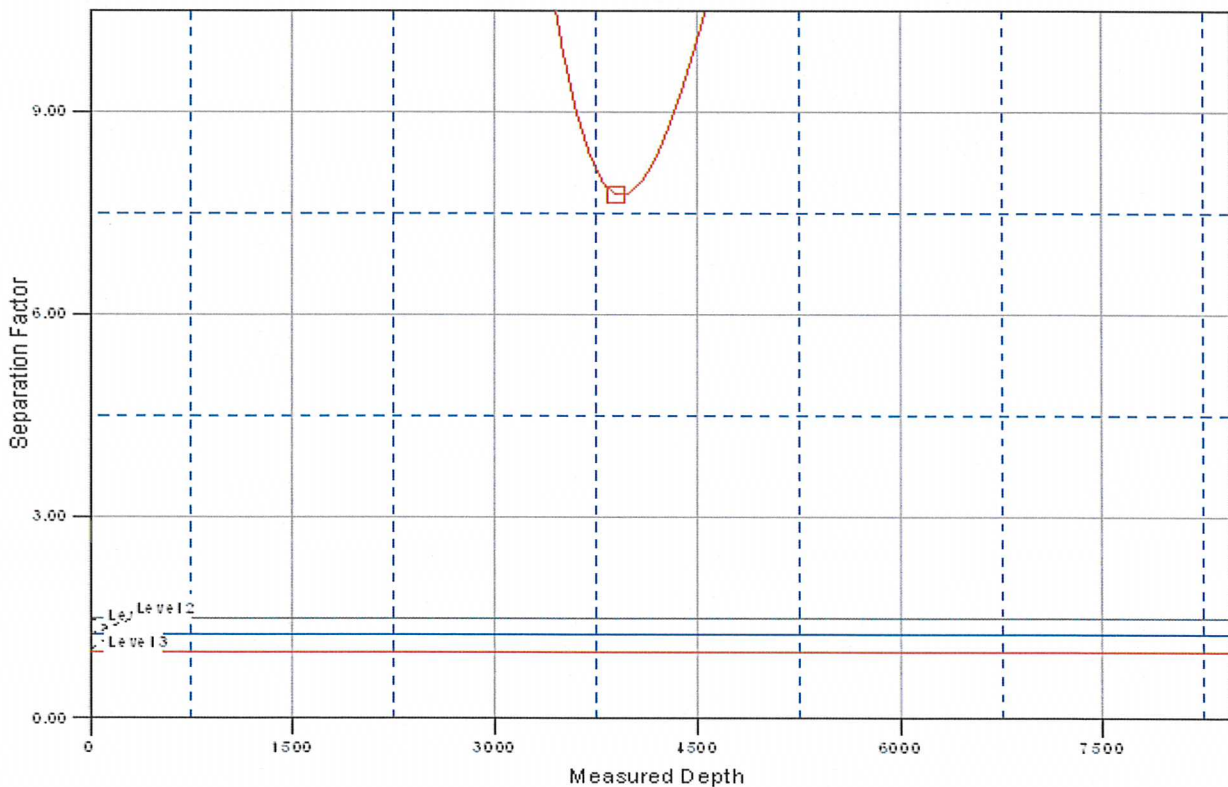


Company: NOBLE ENERGY INC WELD COUNTY CO
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North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4942.0ft (Original Well Elev) Coordinates are relative to: REI H17-30D
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.52°

Separation Factor Plot



LEGEND

(Exist.), Wellbore #1, Design #1 V0

REI H17-28D, Wellbore #1, Noble NEI H17-28D Plan #2 (2-20-12) REI H17-31 (Exist), REI H17-31, REI H17-31