

EXTRACTION OIL & GAS

Weld County

Sec 28-T1N-R68W

COYOTE TRAILS 34S-20-15N

ORIGINAL WELLBORE

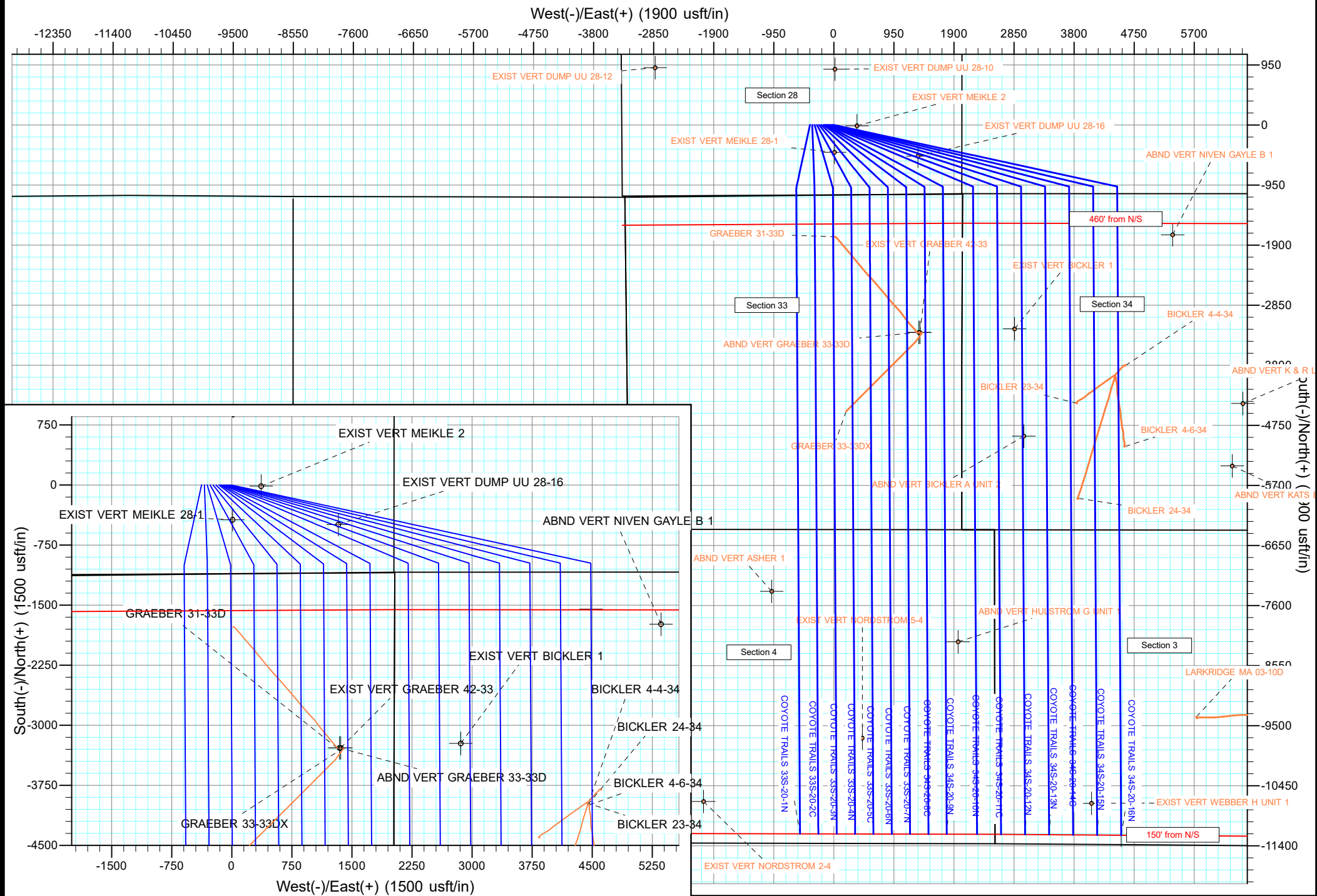
PROPOSAL 1

Anticollision Report

17 August, 2017



Project: Weld County
Site: Sec 28-T1N-R68W
Well: COYOTE TRAILS 34S-20-16N
ORIGINAL WELLBORE
PROPOSAL 1



Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well COYOTE TRAILS 34S-20-15N
Project:	Weld County	TVD Reference:	KB 25' @ 5269.00usft
Reference Site:	Sec 28-T1N-R68W	MD Reference:	KB 25' @ 5269.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	COYOTE TRAILS 34S-20-15N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL 1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00usft	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:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	8/17/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	19,234.64	PROPOSAL 1 (ORIGINAL WELLBORE)	MWD OWSG	OWSG MWD - Standard

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						
Sec 28-T1N-R68W						
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	200.00	200.00	359.90	358.91	365.083	CC, ES
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	19,234.64	17,871.77	4,698.85	4,297.62	11.711	SF
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	200.00	200.00	323.91	322.92	328.576	CC, ES
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	19,234.64	18,124.67	4,416.53	4,014.75	10.992	SF
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	200.00	200.00	287.92	286.93	292.067	CC, ES
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	19,192.57	17,881.09	4,118.29	3,716.86	10.259	SF
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	200.00	200.00	251.93	250.94	255.557	CC, ES
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	19,200.00	17,903.44	3,828.29	3,426.94	9.538	SF
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	200.00	200.00	215.94	214.95	219.051	CC, ES
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	19,200.00	18,187.39	3,547.87	3,146.25	8.834	SF
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	200.00	200.00	179.95	178.96	182.541	CC, ES
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	19,200.00	17,967.43	3,247.97	2,847.28	8.106	SF
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	200.00	200.00	143.96	142.97	146.035	CC, ES
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	19,234.64	18,027.46	2,958.15	2,557.68	7.387	SF
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	200.00	200.00	89.97	88.99	91.271	CC, ES
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	19,200.00	18,339.92	1,900.67	1,498.80	4.730	SF
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	200.00	200.00	71.98	70.99	73.016	CC, ES
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	19,200.00	18,702.19	1,542.53	1,141.67	3.848	SF
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	200.00	200.00	53.99	53.00	54.764	CC, ES
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	19,200.00	18,628.13	1,140.35	739.41	2.844	SF
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	200.00	200.00	35.99	35.01	36.509	CC, ES
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	19,200.00	18,809.38	760.17	358.32	1.892	SF
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	200.00	200.00	18.00	17.01	18.255	CC, ES
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	19,230.96	19,236.22	460.97	95.93	1.263	Level 3, SF
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	100.00	100.00	18.00	17.73	66.934	CC
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	19,235.06	19,446.71	380.22	-23.63	0.941	Level 1, ES, SF
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	200.00	200.00	125.97	124.98	127.780	CC, ES
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	19,200.00	18,343.05	2,680.70	2,279.16	6.676	SF
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	200.00	200.00	107.97	106.98	109.525	CC, ES
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	19,205.03	18,182.96	2,377.64	1,976.07	5.921	SF
EXIST VERT CARR 1 - Wellbore #1 - Design #1	200.00	200.00	3,920.29	3,916.31	984.806	CC
EXIST VERT CARR 1 - Wellbore #1 - Design #1	300.00	300.02	3,921.61	3,915.20	611.754	ES
EXIST VERT CARR 1 - Wellbore #1 - Design #1	9,200.00	7,702.43	7,775.74	7,574.78	38.692	SF
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	200.00	219.00	883.01	878.69	204.682	CC
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	500.00	518.45	886.13	874.61	76.928	ES
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	2,400.00	2,210.62	1,301.38	1,243.73	22.576	SF
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	200.00	208.00	2,950.81	2,946.69	716.900	CC

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

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well COYOTE TRAILS 34S-20-15N
Project:	Weld County	TVD Reference:	KB 25' @ 5269.00usft
Reference Site:	Sec 28-T1N-R68W	MD Reference:	KB 25' @ 5269.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	COYOTE TRAILS 34S-20-15N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

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						
Sec 28-T1N-R68W						
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	300.00	308.02	2,952.55	2,946.01	451.199	ES
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	9,450.00	7,810.00	7,318.71	7,125.06	37.794	SF
EXIST VERT DUMP UU 28-16 - Wellbore #1 - Design #1	3,336.98	2,907.29	168.91	78.96	1.878	CC, ES, SF
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	200.00	172.00	3,776.11	3,772.80	1,142.147	CC
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	600.00	570.70	3,781.31	3,768.31	290.959	ES
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	8,950.00	7,508.91	6,225.41	6,011.13	29.052	SF
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	200.00	223.00	3,692.56	3,688.14	833.927	CC
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	300.00	322.98	3,694.13	3,687.28	539.354	ES
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	9,350.00	7,805.12	7,889.26	7,691.91	39.976	SF
EXIST VERT MEIKLE 2 - Wellbore #1 - Design #1	1,686.56	1,623.74	75.35	34.05	1.824	CC
EXIST VERT MEIKLE 2 - Wellbore #1 - Design #1	1,700.00	1,635.39	75.65	34.01	1.817	ES, SF
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,057.48	1,027.73	414.18	389.74	16.943	CC
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,200.00	1,162.82	416.66	388.62	14.859	ES
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,700.00	1,615.39	487.14	446.55	12.002	SF
Sec 33-T1N-R68W						
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	10,900.00	7,178.00	2,857.91	2,649.37	13.704	SF
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	11,268.68	7,178.00	2,834.03	2,629.04	13.825	CC, ES
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	11,000.00	7,768.98	2,767.09	2,540.12	12.191	SF
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	11,269.51	7,768.98	2,753.94	2,529.29	12.259	CC, ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	3,730.30	3,679.80	2,376.89	2,319.75	41.596	CC
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	3,800.00	3,715.39	2,377.63	2,319.21	40.699	ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	5,000.00	4,346.46	2,614.40	2,539.47	34.892	SF
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	3,116.68	2,636.81	3,152.93	3,117.69	89.479	CC
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	3,200.00	2,588.30	3,153.66	3,117.46	87.123	ES
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	12,400.00	12,400.00	3,931.27	3,793.02	28.437	SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well COYOTE TRAILS 34S-20-15N
Project:	Weld County	TVD Reference:	KB 25' @ 5269.00usft
Reference Site:	Sec 28-T1N-R68W	MD Reference:	KB 25' @ 5269.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	COYOTE TRAILS 34S-20-15N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

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						
Sec 34-T1N-R68W						
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,700.00	7,746.96	1,142.65	884.35	4.424	SF
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,900.00	7,746.96	1,121.58	870.92	4.474	ES
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,919.25	7,746.96	1,121.42	871.59	4.489	CC
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	12,424.64	5,503.00	3,235.58	3,074.98	20.147	CC
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	12,500.00	5,503.00	3,236.46	3,073.75	19.892	ES
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	14,000.00	5,503.00	3,598.71	3,393.69	17.553	SF
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,411.55	7,702.96	2,172.96	1,915.99	8.456	CC
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,500.00	7,702.96	2,174.76	1,913.63	8.328	ES
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	14,000.00	7,702.96	2,251.23	1,969.50	7.991	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,200.00	5,145.00	1,877.29	1,739.99	13.673	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,337.38	5,145.00	1,869.06	1,733.25	13.762	CC, ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,300.00	7,772.98	308.70	176.49	2.335	SF
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,400.00	7,773.95	291.19	175.80	2.523	ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,402.53	7,773.97	291.18	176.30	2.535	CC
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,900.00	8,056.15	270.70	114.16	1.729	ES, SF
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,909.71	8,056.10	270.52	115.94	1.750	CC
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,812.05	7,722.67	487.60	385.10	4.757	CC
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,900.00	7,723.83	495.47	380.44	4.307	ES
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	12,000.00	7,725.14	522.56	396.01	4.129	SF
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	13,089.18	7,817.88	467.29	336.33	3.568	CC
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	13,200.00	7,817.62	480.25	333.62	3.275	ES, SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	11,000.00	7,809.98	1,275.72	1,043.03	5.483	SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	11,200.00	7,809.98	1,256.33	1,030.69	5.568	ES
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	11,222.74	7,809.98	1,256.13	1,031.32	5.588	CC
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,374.71	8,016.89	1,578.76	1,379.73	7.932	CC
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,500.00	8,017.26	1,583.72	1,377.66	7.685	ES
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,800.00	8,018.15	1,635.04	1,415.70	7.454	SF
Sec 3-T1S-R68W						
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,700.00	7,771.99	91.15	-270.29	0.252	Level 1, ES
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,733.50	7,771.99	84.77	-264.24	0.243	Level 1, CC, SF
Sec 4-T1N-R68W						
ABND VERT ASHER 1 - Wellbore #1 - Design #1	15,349.45	5,625.00	5,571.87	5,346.86	24.763	CC, ES
ABND VERT ASHER 1 - Wellbore #1 - Design #1	15,700.00	5,625.00	5,582.89	5,356.87	24.701	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	16,000.00	7,753.96	2,185.46	1,879.12	7.134	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	16,165.52	7,753.96	2,179.18	1,874.85	7.160	CC, ES
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,666.57	7,815.99	6,220.59	5,871.86	17.838	CC
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,700.00	7,815.99	6,220.68	5,871.74	17.827	ES
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	19,100.00	7,816.00	6,235.68	5,884.58	17.761	SF
EXIST VERT NORDSTROM 5-4 - Wellbore #1 - Design #	17,678.91	7,779.98	3,704.18	3,373.31	11.195	CC, ES, SF

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-89.68	2.00	-359.89	359.90					
100.00	100.00	100.00	100.00	0.13	0.13	-89.68	2.00	-359.89	359.90	359.63	0.27	1,338.635		
200.00	200.00	200.00	200.00	0.49	0.49	-89.68	2.00	-359.89	359.90	358.91	0.99	365.083	CC, ES	
300.00	299.98	300.02	299.98	0.84	0.85	167.07	2.00	-359.89	361.60	359.90	1.70	213.267		

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