

EXTRACTION OIL & GAS

Weld County

Sec 28-T1N-R68W

COYOTE TRAILS 34S-20-10N

ORIGINAL WELLBORE

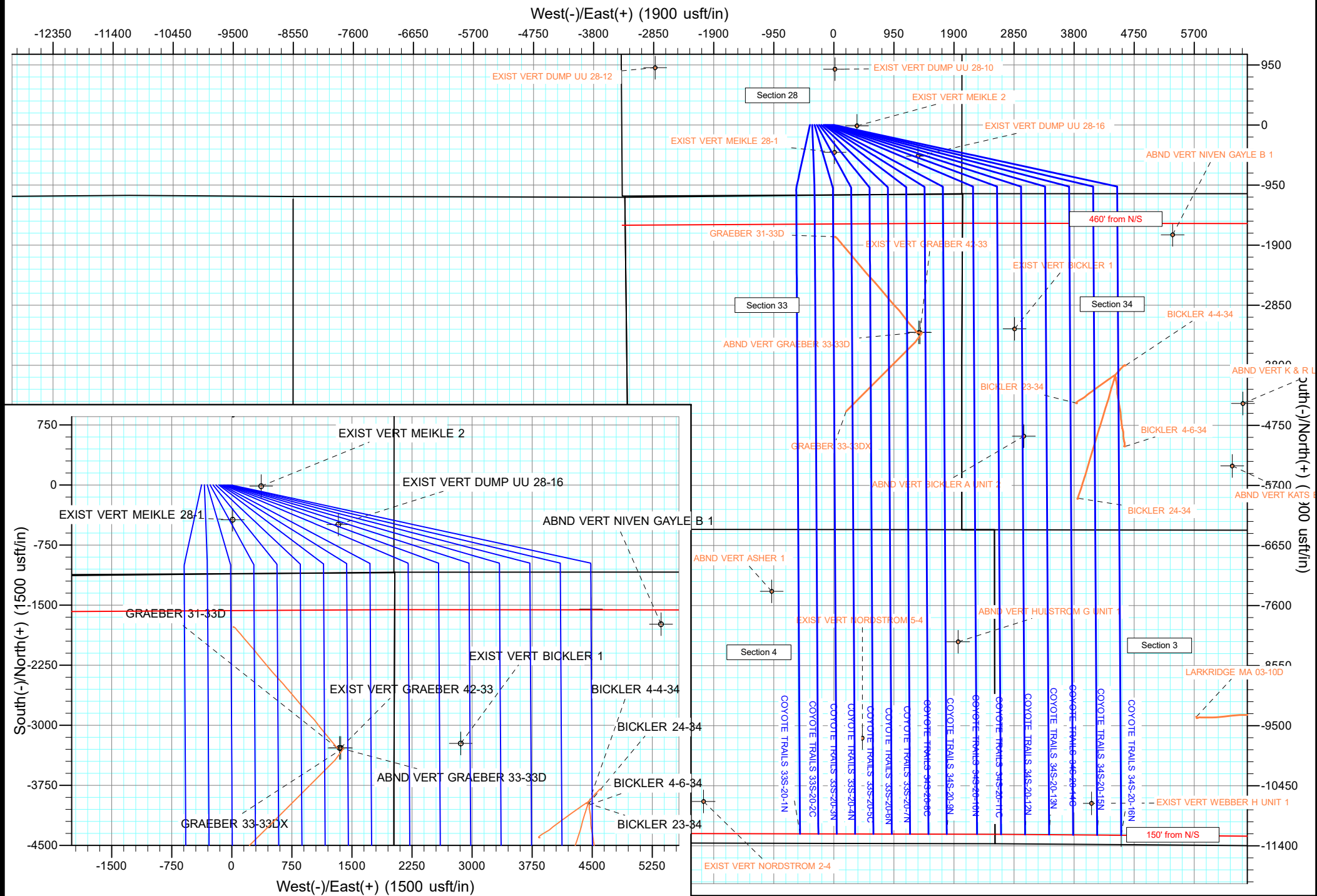
PROPOSAL 1

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-20-10N
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-20-10N	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	18,339.77	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 -	700.00	700.00	269.92	265.35	59.057	CC, ES
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	18,315.53	17,878.95	2,797.75	2,397.71	6.994	SF
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	700.00	700.00	233.93	229.36	51.184	CC, ES
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	18,339.93	18,124.67	2,521.57	2,122.21	6.314	SF
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	700.00	700.00	197.94	193.37	43.309	CC, ES
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	18,339.93	17,877.44	2,217.73	1,817.69	5.544	SF
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	700.00	700.00	161.95	157.38	35.434	CC, ES
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	18,339.93	17,898.35	1,927.71	1,527.88	4.821	SF
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	700.00	700.00	125.97	121.39	27.560	CC, ES
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	18,339.93	18,185.16	1,658.33	1,260.89	4.172	SF
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	700.00	700.00	89.97	85.40	19.686	CC, ES
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	18,339.93	17,974.53	1,347.37	947.84	3.372	SF
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	700.00	700.00	53.99	49.42	11.812	CC, ES
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	18,313.98	18,010.00	1,056.84	657.77	2.648	SF
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	600.00	600.00	18.00	14.14	4.670	CC, ES
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	18,339.93	18,710.79	461.17	125.00	1.372	Level 3, SF
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	500.00	500.00	35.99	32.85	11.473	CC, ES
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	18,339.93	18,647.48	760.22	359.85	1.899	SF
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	400.00	400.00	53.98	51.56	22.310	CC, ES
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	18,339.93	18,820.86	1,140.45	739.55	2.845	SF
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	300.00	300.00	71.98	70.28	42.272	CC, ES
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	18,339.93	19,205.55	1,542.76	1,149.07	3.919	SF
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	200.00	200.00	89.97	88.99	91.271	CC, ES
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	18,339.93	19,210.11	1,900.64	1,499.15	4.734	SF
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	100.00	100.00	107.97	107.70	401.593	CC, ES
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	18,339.93	19,421.69	2,280.86	1,879.11	5.677	SF
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	700.00	700.00	35.99	31.42	7.875	CC, ES
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	18,328.97	18,341.15	810.34	423.24	2.093	SF
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	700.00	700.00	18.00	13.42	3.937	CC, ES
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	18,339.93	18,181.70	476.99	76.70	1.192	Level 2, SF
EXIST VERT CARR 1 - Wellbore #1 - Design #1	700.00	700.00	3,867.97	3,852.00	242.282	CC
EXIST VERT CARR 1 - Wellbore #1 - Design #1	800.00	800.02	3,869.44	3,851.11	211.106	ES
EXIST VERT CARR 1 - Wellbore #1 - Design #1	8,300.00	7,708.45	6,290.92	6,101.52	33.214	SF
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	700.00	719.00	890.69	874.40	54.684	CC
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	1,000.00	1,018.45	894.82	871.46	38.297	ES
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	8,050.00	7,521.92	2,910.62	2,725.99	15.765	SF
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	700.00	708.00	2,865.15	2,849.06	178.003	CC

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

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well COYOTE TRAILS 34S-20-10N
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-20-10N	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	800.00	808.02	2,866.89	2,848.43	155.300	ES
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	8,400.00	7,736.49	5,486.92	5,299.39	29.258	SF
EXIST VERT DUMP UU 28-16 - Wellbore #1 - Design #1	4,782.54	4,469.28	105.31	-17.62	0.857	Level 1, CC
EXIST VERT DUMP UU 28-16 - Wellbore #1 - Design #1	4,800.00	4,484.95	105.59	-17.73	0.856	Level 1, ES, SF
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	700.00	672.00	3,781.02	3,765.65	246.011	CC
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	900.00	871.84	3,783.27	3,763.18	188.324	ES
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	8,100.00	7,518.00	5,250.23	5,055.31	26.935	SF
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	700.00	723.00	3,623.42	3,607.02	220.959	CC
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	800.00	822.98	3,625.08	3,606.32	193.214	ES
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	8,300.00	7,714.55	6,189.33	6,002.07	33.051	SF
EXIST VERT MEIKLE 2 - Wellbore #1 - Design #1	2,345.79	2,269.20	171.62	114.91	3.026	CC, ES
EXIST VERT MEIKLE 2 - Wellbore #1 - Design #1	2,400.00	2,317.86	173.28	115.19	2.983	SF
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,971.65	1,913.30	352.66	306.19	7.589	CC
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	2,008.18	1,946.19	353.02	305.61	7.447	ES
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	2,300.00	2,208.11	381.15	326.42	6.964	SF
Sec 33-T1N-R68W						
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	10,200.00	7,178.00	1,072.43	896.56	6.098	SF
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	10,398.43	7,178.00	1,053.91	883.00	6.166	CC, ES
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	10,300.00	7,768.98	859.65	636.04	3.844	SF
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	10,399.26	7,768.98	853.90	632.41	3.855	CC, ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	5,186.89	5,224.82	1,873.11	1,805.79	27.825	CC
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	5,200.00	5,227.70	1,873.18	1,805.70	27.761	ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	8,600.00	8,100.43	2,205.04	2,119.24	25.699	SF
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	11,633.41	8,144.92	2,024.62	1,903.17	16.671	CC, ES
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	11,700.00	8,141.32	2,025.71	1,903.95	16.637	SF

Anticollision Report

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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-20-10N	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	12,048.91	7,746.96	778.74	531.27	3.147	CC
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,100.00	7,746.96	780.42	529.92	3.116	ES
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,200.00	7,746.96	793.26	537.91	3.107	SF
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	11,554.02	5,503.00	4,796.16	4,618.27	26.961	CC
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	11,700.00	5,503.00	4,798.38	4,617.39	26.512	ES
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	13,400.00	5,503.00	5,139.14	4,926.16	24.130	SF
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	12,540.92	7,702.95	4,073.16	3,818.39	15.987	CC
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	12,600.00	7,702.95	4,073.59	3,817.31	15.895	ES
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,700.00	7,702.94	4,234.87	3,954.68	15.114	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	6,700.00	5,145.00	3,544.99	3,416.78	27.650	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	6,790.77	5,145.00	3,542.40	3,414.49	27.695	CC, ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	11,532.02	7,764.23	1,608.91	1,496.68	14.336	CC
BICKLER 23-34 - Wellbore #1 - Wellbore #1	11,600.00	7,764.79	1,610.35	1,495.68	14.043	ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,000.00	7,768.07	1,675.59	1,549.34	13.272	SF
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,039.72	8,004.51	1,628.91	1,476.72	10.703	CC
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,100.00	8,003.95	1,630.03	1,475.83	10.571	ES
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,400.00	8,001.09	1,668.28	1,506.60	10.319	SF
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	10,941.10	7,687.86	2,387.36	2,287.97	24.019	CC
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,000.00	7,688.74	2,388.09	2,286.93	23.606	ES
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,900.00	7,701.26	2,572.70	2,449.94	20.956	SF
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	12,218.76	7,792.54	2,367.26	2,238.79	18.427	CC
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	12,300.00	7,792.40	2,368.66	2,237.63	18.078	ES
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	13,000.00	7,791.19	2,492.84	2,344.95	16.856	SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	10,352.39	7,809.98	643.90	422.28	2.905	CC
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	10,400.00	7,809.98	645.66	420.92	2.873	ES
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	10,500.00	7,809.98	660.61	430.23	2.868	SF
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	16,504.11	8,028.73	3,479.34	3,281.67	17.601	CC
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	16,600.00	8,029.01	3,480.66	3,280.42	17.382	ES
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,400.00	8,031.40	3,592.83	3,375.47	16.529	SF
Sec 3-T1S-R68W						
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	17,863.07	7,771.88	1,816.03	1,468.31	5.223	CC
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	17,900.00	7,771.88	1,816.40	1,467.33	5.204	ES
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,100.00	7,771.88	1,831.42	1,476.39	5.159	SF
Sec 4-T1N-R68W						
ABND VERT ASHER 1 - Wellbore #1 - Design #1	14,479.58	5,625.00	3,896.87	3,693.13	19.127	CC
ABND VERT ASHER 1 - Wellbore #1 - Design #1	14,500.00	5,625.00	3,896.92	3,693.08	19.118	ES
ABND VERT ASHER 1 - Wellbore #1 - Design #1	14,800.00	5,625.00	3,910.02	3,704.87	19.060	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	15,295.32	7,753.92	278.70	-24.05	0.921	Level 1, CC, ES, SF
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	17,796.96	7,815.89	4,319.81	3,972.36	12.433	CC
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	17,800.00	7,815.89	4,319.81	3,972.33	12.432	ES
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,100.00	7,815.88	4,330.42	3,980.71	12.383	SF
EXIST VERT NORDSTROM 5-4 - Wellbore #1 - Design #	16,800.00	7,779.90	1,803.55	1,474.04	5.473	ES, SF
EXIST VERT NORDSTROM 5-4 - Wellbore #1 - Design #	16,808.93	7,779.90	1,803.53	1,474.04	5.474	CC

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
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

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