EXTRACTION OIL & GAS

Weld County
Sec 28-T1N-R68W
COYOTE TRAILS 34S-20-16N

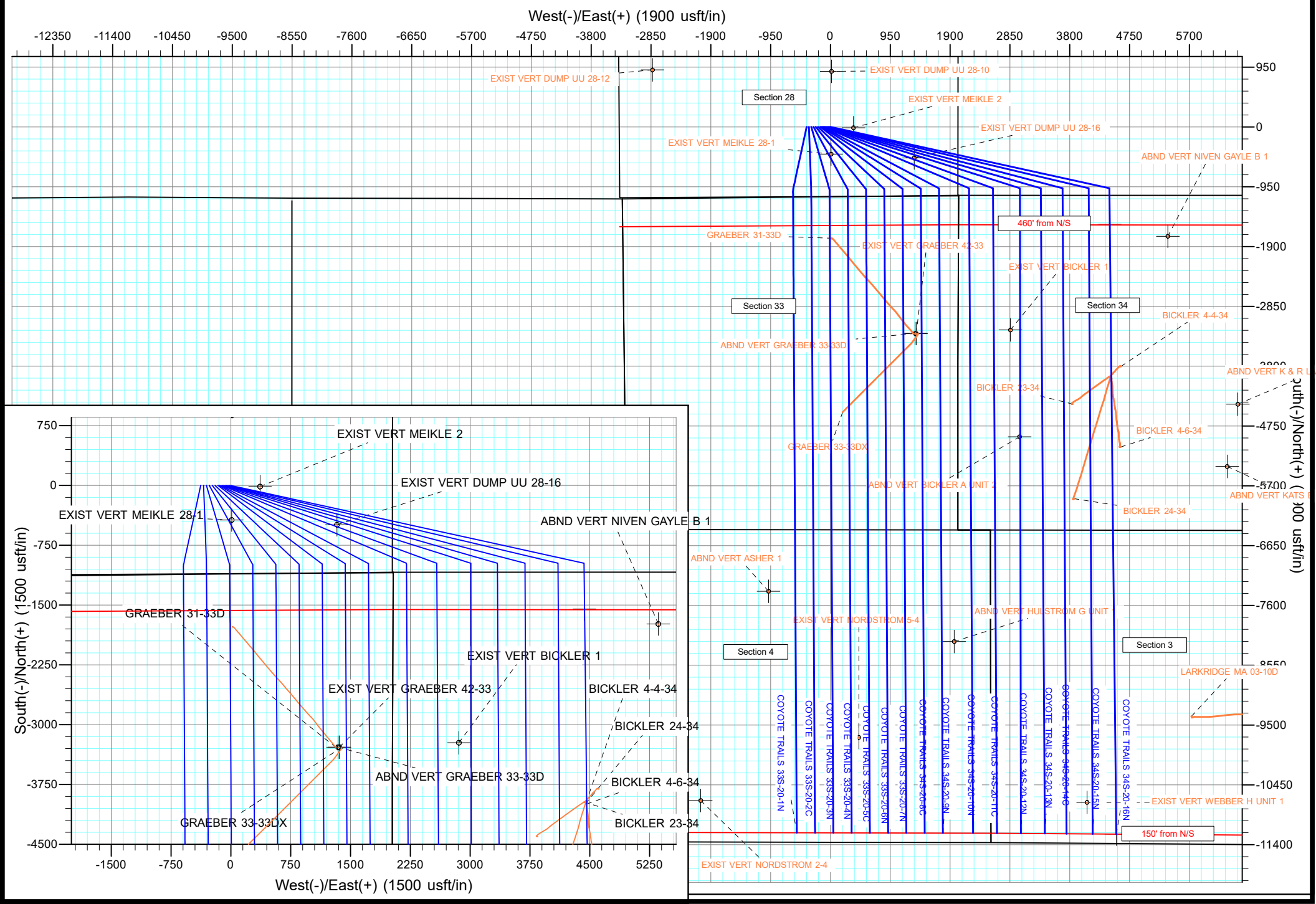
ORIGINAL WELLBORE
PROPOSAL 1

Anticollision Report

12 September, 2017

EXTRACTION Oil & Gas

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-20-16N
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-20-16N	**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** 9/12/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	19,415.71	PROPOSAL 1 (ORIGINAL WELLBORE)	MWD OWSG	OWSG MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 28-T1N-R68W						
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	100.00	100.00	377.89	377.62	1,405.569	CC, ES
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	19,400.00	17,871.77	5,073.89	4,672.25	12.633	SF
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	100.00	100.00	341.90	341.64	1,271.712	CC, ES
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	19,400.00	18,124.67	4,790.96	4,388.68	11.909	SF
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	100.00	100.00	305.91	305.65	1,137.844	CC, ES
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	19,400.00	17,877.44	4,493.55	4,091.81	11.185	SF
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	100.00	100.00	269.92	269.65	1,003.976	CC, ES
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	19,400.00	17,898.35	4,203.54	3,801.99	10.468	SF
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	100.00	100.00	233.93	233.67	870.119	CC, ES
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	19,400.00	18,185.16	3,922.19	3,520.22	9.758	SF
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	100.00	100.00	197.94	197.68	736.251	CC, ES
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	19,400.00	17,974.53	3,623.20	3,221.94	9.030	SF
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	100.00	100.00	161.96	161.69	602.394	CC, ES
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	19,416.15	18,027.46	3,333.41	2,932.54	8.315	SF
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	100.00	100.00	107.97	107.70	401.593	CC, ES
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	19,400.00	18,339.93	2,275.83	1,874.32	5.668	SF
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	100.00	100.00	89.97	89.71	334.659	CC, ES
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	19,400.00	18,712.13	1,913.47	1,511.46	4.760	SF
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	100.00	100.00	71.98	71.71	267.735	CC, ES
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	19,400.00	18,663.29	1,515.59	1,114.18	3.776	SF
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	100.00	100.00	53.99	53.72	200.802	CC, ES
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	19,400.00	18,831.81	1,135.35	732.39	2.817	SF
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	100.00	100.00	35.99	35.72	133.868	CC, ES
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	19,401.43	19,215.53	832.12	434.50	2.093	SF
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	100.00	100.00	18.00	17.73	66.934	CC
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	19,400.00	19,223.68	375.14	-28.50	0.929	Level 1, ES, SF
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	100.00	100.00	143.96	143.69	535.460	CC, ES
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	19,400.00	18,344.02	3,054.34	2,652.47	7.600	SF
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	100.00	100.00	125.97	125.70	468.526	CC, ES
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	19,400.00	18,176.22	2,752.85	2,351.62	6.861	SF
EXIST VERT CARR 1 - Wellbore #1 - Design #1	100.00	100.00	3,930.92	3,929.58	2,949.701	CC
EXIST VERT CARR 1 - Wellbore #1 - Design #1	200.00	200.02	3,932.22	3,928.25	988.901	ES
EXIST VERT CARR 1 - Wellbore #1 - Design #1	9,400.00	7,714.67	8,058.86	7,855.68	39.665	SF
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	100.00	119.00	882.57	880.87	521.850	CC
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	400.00	418.45	885.76	876.62	96.825	ES
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	2,289.01	2,101.13	1,299.10	1,243.92	23.544	SF
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	100.00	108.00	2,967.97	2,966.50	2,010.013	CC

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

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well COYOTE TRAILS 34S-20-16N
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-20-16N	**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 Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 28-T1N-R68W						
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	200.00	208.02	2,969.71	2,965.60	722.114	ES
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	9,650.00	7,806.55	7,638.46	7,444.03	39.287	SF
EXIST VERT DUMP UU 28-16 - Wellbore #1 - Design #1	3,168.75	2,733.30	195.09	109.06	2.268	CC, ES
EXIST VERT DUMP UU 28-16 - Wellbore #1 - Design #1	3,200.00	2,755.86	196.29	109.45	2.260	SF
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	100.00	72.00	3,775.39	3,774.42	3,898.623	CC
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	500.00	470.70	3,780.28	3,769.65	355.407	ES
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	9,250.00	7,589.57	6,491.80	6,272.87	29.652	SF
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	100.00	123.00	3,706.50	3,704.68	2,034.997	CC
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	200.00	222.98	3,708.06	3,703.63	838.336	ES
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	9,500.00	7,784.52	8,169.20	7,970.89	41.194	SF
EXIST VERT MEIKLE 2 - Wellbore #1 - Design #1	1,553.03	1,505.47	65.64	27.25	1.710	CC, ES, SF
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	871.44	845.15	419.90	399.92	21.010	CC
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,000.00	968.27	421.53	398.31	18.159	ES
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,700.00	1,601.11	535.34	494.71	13.175	SF
Sec 33-T1N-R68W						
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	4,053.61	3,320.17	2,915.60	2,803.68	26.049	CC
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	4,200.00	3,425.86	2,917.36	2,800.98	25.067	ES
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	11,000.00	7,178.00	3,194.56	2,983.98	15.171	SF
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	4,078.36	3,336.03	2,912.59	2,799.92	25.852	CC
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	4,300.00	3,503.94	2,916.62	2,797.08	24.397	ES
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	11,100.00	7,768.94	3,109.74	2,881.70	13.636	SF
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	3,537.23	3,470.64	2,435.15	2,379.84	44.028	CC
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	3,600.00	3,494.68	2,435.80	2,379.32	43.126	ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	4,800.00	4,089.43	2,665.51	2,591.57	36.050	SF
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	3,228.60	2,646.13	3,142.26	3,103.14	80.317	CC, ES
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	12,900.00	12,900.00	4,279.82	4,138.23	30.227	SF

Anticollision Report

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Reference Well:	COYOTE TRAILS 34S-20-16N	**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 Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 34-T1N-R68W						
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,900.00	7,746.89	1,479.35	1,222.83	5.767	SF
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	13,000.00	7,746.89	1,469.95	1,216.46	5.799	ES
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	13,088.67	7,746.89	1,467.27	1,216.71	5.856	CC
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	12,610.31	5,503.00	2,995.52	2,841.62	19.464	CC
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	12,700.00	5,503.00	2,996.86	2,840.35	19.148	ES
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	14,100.00	5,503.00	3,345.50	3,145.27	16.709	SF
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,596.34	7,702.88	1,824.77	1,566.82	7.074	CC
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,700.00	7,702.88	1,827.71	1,563.98	6.930	ES
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	14,100.00	7,702.88	1,893.00	1,609.77	6.684	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,300.00	5,145.00	1,619.99	1,476.34	11.278	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,400.00	5,145.00	1,612.65	1,470.25	11.325	ES
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,427.60	5,145.00	1,612.28	1,470.35	11.359	CC
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,400.00	7,774.27	658.53	528.16	5.051	SF
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,500.00	7,775.27	639.13	516.53	5.213	ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,575.84	7,776.03	634.62	518.91	5.485	CC
BICKLER 24-34 - Wellbore #1 - Wellbore #1	14,000.00	8,068.70	626.35	464.33	3.866	ES, SF
BICKLER 24-34 - Wellbore #1 - Wellbore #1	14,083.04	8,068.34	620.82	465.42	3.995	CC
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,989.07	7,728.70	146.96	43.51	1.421	Level 3, CC
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	12,000.00	7,728.84	147.37	38.52	1.354	Level 3, ES
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	12,100.00	7,730.15	184.12	43.72	1.311	Level 3, SF
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	13,266.00	7,823.20	120.67	-11.18	0.915	Level 1, CC
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	13,300.00	7,823.12	125.36	-24.65	0.836	Level 1, ES, SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	11,100.00	7,809.94	1,620.47	1,386.48	6.925	SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	11,300.00	7,809.93	1,596.66	1,368.33	6.993	ES
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	11,391.52	7,809.93	1,594.04	1,368.41	7.065	CC
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,556.62	8,014.55	1,212.16	1,012.26	6.064	CC
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,600.00	8,014.67	1,212.93	1,009.78	5.971	ES
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,900.00	8,015.55	1,259.86	1,038.92	5.702	SF
Sec 3-T1S-R68W						
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,900.00	7,771.97	457.71	106.86	1.305	Level 3, ES, SF
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,907.70	7,771.98	457.64	107.88	1.308	Level 3, CC
Sec 4-T1N-R68W						
ABND VERT ASHER 1 - Wellbore #1 - Design #1	15,500.24	5,625.00	5,901.88	5,674.56	25.962	CC, ES
ABND VERT ASHER 1 - Wellbore #1 - Design #1	15,900.00	5,625.00	5,915.40	5,687.00	25.899	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	16,100.00	7,753.89	2,550.54	2,243.32	8.302	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	16,300.00	7,753.89	2,540.32	2,235.04	8.321	ES
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	16,330.02	7,753.89	2,540.15	2,235.22	8.330	CC
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,812.43	7,815.97	6,593.10	6,244.11	18.892	CC, ES
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	19,300.00	7,815.99	6,611.10	6,259.56	18.806	SF
EXIST VERT NORDSTROM 5-4 - Wellbore #1 - Design #	17,800.00	7,779.93	4,072.31	3,740.95	12.290	SF
EXIST VERT NORDSTROM 5-4 - Wellbore #1 - Design #	17,836.36	7,779.93	4,072.15	3,740.81	12.290	CC, ES

Offset Design Sec 28-T1N-R68W - COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE - PROPOSAL 1

Survey Program: 0-MWD OWSG

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +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	2.10	-377.89	377.89				
100.00	100.00	100.00	100.00	0.13	0.13	-89.68	2.10	-377.89	377.89	377.62	0.27	1,405.569	CC, ES

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