

PDC ENERGY

**WELD COUNTY, COLORADO
NE SE SEC. 7 T6N R64W 6th P.M.
CARLSON 7S-204**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

04 March, 2016



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well CARLSON 7S-204
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4762.0usft
Reference Site:	NE SE SEC. 7 T6N R64W 6th P.M.	MD Reference:	KB-EST @ 4762.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	CARLSON 7S-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
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 98.4usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 us	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	04/03/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	12,203.7	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NE NE SEC. 7 T6N R64W 6th P.M.						
BISHOP 7C-204 - ORIGINAL WELLBORE - PROPOSAL	6,496.3	6,538.5	959.2	903.5	17.230	CC
BISHOP 7C-204 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,236.9	959.3	668.7	3.302	ES, SF
BISHOP 7C-232 - ORIGINAL WELLBORE - PROPOSAL	6,750.0	7,892.1	1,057.2	996.3	17.376	SF
BISHOP 7C-232 - ORIGINAL WELLBORE - PROPOSAL	7,185.0	7,561.6	1,009.6	956.3	18.943	ES
BISHOP 7C-232 - ORIGINAL WELLBORE - PROPOSAL	7,350.7	7,402.2	1,008.7	958.1	19.953	CC
BISHOP 7C-332 - ORIGINAL WELLBORE - PROPOSAL	6,889.7	7,902.2	853.3	795.3	14.702	SF
BISHOP 7C-332 - ORIGINAL WELLBORE - PROPOSAL	7,743.0	7,096.6	805.5	757.6	16.812	CC
BISHOP 7C-332 - ORIGINAL WELLBORE - PROPOSAL	7,775.6	7,067.6	805.6	757.6	16.762	ES
BISHOP 7C-334 - ORIGINAL WELLBORE - PROPOSAL	6,400.2	6,445.6	753.3	697.1	13.399	CC
BISHOP 7C-334 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,332.8	758.3	470.0	2.630	ES, SF
BISHOP 7C-402 - ORIGINAL WELLBORE - PROPOSAL	6,650.0	8,055.3	1,343.7	1,281.8	21.724	SF
BISHOP 7C-402 - ORIGINAL WELLBORE - PROPOSAL	7,847.7	6,995.2	1,227.3	1,178.9	25.349	CC
BISHOP 7C-402 - ORIGINAL WELLBORE - PROPOSAL	7,874.0	6,974.2	1,227.4	1,178.7	25.199	ES
BISHOP 7C-404 - ORIGINAL WELLBORE - PROPOSAL	6,453.7	6,477.4	1,178.7	1,123.4	21.304	CC
BISHOP 7C-404 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,356.2	1,194.0	907.4	4.165	ES, SF
BISHOP 7S-214 - ORIGINAL WELLBORE - PROPOSAL	6,346.7	6,433.0	491.0	449.9	11.919	CC
BISHOP 7S-214 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,290.0	491.1	200.8	1.692	ES, SF
NE SE SEC. 7 T6N R64W 6th P.M.						
CARLSON 7S-202 - ORIGINAL WELLBORE - PROPOS	7,260.3	7,493.8	49.8	-2.2	0.958	Level 1, CC, ES, SF
CARLSON 7S-212 - ORIGINAL WELLBORE - PROPOS	1,160.0	1,160.0	29.8	24.8	6.026	CC
CARLSON 7S-212 - ORIGINAL WELLBORE - PROPOS	1,181.1	1,181.1	29.8	24.8	5.929	ES
CARLSON 7S-212 - ORIGINAL WELLBORE - PROPOS	1,200.0	1,200.0	30.0	24.9	5.869	SF
CARLSON 7S-312 - ORIGINAL WELLBORE - PROPOS	1,160.0	1,159.0	44.8	39.8	9.072	CC
CARLSON 7S-312 - ORIGINAL WELLBORE - PROPOS	1,181.1	1,180.1	44.8	39.8	8.918	ES
CARLSON 7S-312 - ORIGINAL WELLBORE - PROPOS	7,800.0	7,081.9	300.5	251.3	6.104	SF
CARLSON 7S-314 - ORIGINAL WELLBORE - PROPOS	1,160.0	1,159.0	15.0	10.1	3.043	CC
CARLSON 7S-314 - ORIGINAL WELLBORE - PROPOS	12,203.7	12,305.7	256.6	-24.4	0.913	Level 1, ES, SF
CARLSON 7S-404 - ORIGINAL WELLBORE - PROPOS	1,044.1	1,045.1	15.0	10.6	3.399	CC
CARLSON 7S-404 - ORIGINAL WELLBORE - PROPOS	1,082.7	1,083.6	15.1	10.5	3.294	ES
CARLSON 7S-404 - ORIGINAL WELLBORE - PROPOS	12,203.7	12,288.1	325.8	76.1	1.305	Level 3, SF
CARLSON 7S-432 - ORIGINAL WELLBORE - PROPOS	1,045.9	1,043.9	74.8	70.4	16.923	CC
CARLSON 7S-432 - ORIGINAL WELLBORE - PROPOS	1,082.7	1,080.3	74.9	70.3	16.328	ES
CARLSON 7S-432 - ORIGINAL WELLBORE - PROPOS	7,874.0	6,980.8	324.3	275.6	6.656	SF

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well CARLSON 7S-204
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4762.0usft
Reference Site:	NE SE SEC. 7 T6N R64W 6th P.M.	MD Reference:	KB-EST @ 4762.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	CARLSON 7S-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
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)	Between Ellipses (usft)	Separation Factor	Warning
SE SE SEC. 7 T6N R64W 6th P.M.						
ABDN VERT DYER #42-7 - Wellbore #1 - Design #1	8,133.9	6,862.0	554.1	378.8	3.162	CC, ES
ABDN VERT DYER #42-7 - Wellbore #1 - Design #1	8,169.3	6,862.0	555.2	379.2	3.155	SF
ABDN VERT EHRLICH #3 - Wellbore #1 - Design #1	10,388.1	6,840.0	800.7	568.7	3.452	CC
ABDN VERT EHRLICH #3 - Wellbore #1 - Design #1	10,400.0	6,840.0	800.8	568.5	3.447	ES
ABDN VERT EHRLICH #3 - Wellbore #1 - Design #1	10,433.0	6,840.0	802.0	568.8	3.439	SF
ABDN VERT GRADY #1 - Wellbore #1 - Design #1	6,346.7	6,182.8	573.0	429.4	3.990	CC
ABDN VERT GRADY #1 - Wellbore #1 - Design #1	6,400.0	6,236.0	573.4	424.3	3.845	ES
ABDN VERT GRADY #1 - Wellbore #1 - Design #1	6,500.0	6,334.9	576.5	425.8	3.825	SF
ELVERA 7D-212 - ORIGINAL WELLBORE - PROPOSAL	6,750.0	7,899.0	891.7	826.1	13.583	SF
ELVERA 7D-212 - ORIGINAL WELLBORE - PROPOSAL	7,150.0	7,601.5	841.1	784.7	14.914	ES
ELVERA 7D-212 - ORIGINAL WELLBORE - PROPOSAL	7,261.5	7,497.4	840.2	786.1	15.552	CC
ELVERA 7D-312 - ORIGINAL WELLBORE - PROPOSAL	1,989.3	2,189.5	1,065.6	1,056.2	112.815	CC
ELVERA 7D-312 - ORIGINAL WELLBORE - PROPOSAL	2,000.0	2,199.9	1,065.6	1,056.1	112.105	ES
ELVERA 7D-312 - ORIGINAL WELLBORE - PROPOSAL	6,700.0	7,984.2	1,201.7	1,136.0	18.280	SF
ELVERA 7D-314 - ORIGINAL WELLBORE - PROPOSAL	5,272.6	5,445.2	1,069.2	1,018.7	21.201	CC
ELVERA 7D-314 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,302.0	1,078.0	788.5	3.724	ES, SF
ELVERA 7D-402 - ORIGINAL WELLBORE - PROPOSAL	1,987.4	2,181.2	1,039.8	1,030.3	109.936	CC
ELVERA 7D-402 - ORIGINAL WELLBORE - PROPOSAL	2,000.0	2,190.2	1,039.8	1,030.3	109.240	ES
ELVERA 7D-402 - ORIGINAL WELLBORE - PROPOSAL	6,650.0	8,048.8	1,464.2	1,398.5	22.281	SF
ELVERA 7D-404 - ORIGINAL WELLBORE - PROPOSAL	1,438.9	1,482.6	1,099.5	1,093.2	175.743	CC
ELVERA 7D-404 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,351.0	1,316.1	1,027.9	4.567	ES, SF
ELVERA 7S-234 - ORIGINAL WELLBORE - PROPOSAL	6,034.4	6,173.4	788.3	731.7	13.935	CC
ELVERA 7S-234 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,281.7	789.3	499.8	2.726	ES, SF
ELVERA 7S-332 - ORIGINAL WELLBORE - PROPOSAL	6,950.0	7,899.4	629.4	566.8	10.049	SF
ELVERA 7S-332 - ORIGINAL WELLBORE - PROPOSAL	7,720.2	7,163.5	585.2	534.8	11.613	CC, ES
ELVERA 7S-334 - ORIGINAL WELLBORE - PROPOSAL	6,381.8	6,556.8	532.7	475.1	9.241	CC
ELVERA 7S-334 - ORIGINAL WELLBORE - PROPOSAL	12,203.7	12,433.7	535.6	246.8	1.855	ES, SF
EXIST VERT CARLSON #33-7 - Wellbore #1 - Design #1	8,974.7	6,827.0	697.0	502.4	3.582	CC
EXIST VERT CARLSON #33-7 - Wellbore #1 - Design #1	9,000.0	6,827.0	697.4	502.2	3.573	ES
EXIST VERT CARLSON #33-7 - Wellbore #1 - Design #1	9,055.1	6,827.0	701.6	505.0	3.568	SF
EXIST VERT CARLSON #34-7 - Wellbore #1 - Design #1	1,160.0	1,118.0	2,011.6	1,987.1	82.197	CC
EXIST VERT CARLSON #34-7 - Wellbore #1 - Design #1	9,251.9	6,840.0	2,071.4	1,869.6	10.265	ES
EXIST VERT CARLSON #34-7 - Wellbore #1 - Design #1	9,744.1	6,840.0	2,143.6	1,928.9	9.984	SF
EXIST VERT CARLSON #44-7 - Wellbore #1 - Design #1	1,160.0	1,136.0	1,460.2	1,435.5	59.224	CC
EXIST VERT CARLSON #44-7 - Wellbore #1 - Design #1	1,300.0	1,275.9	1,461.6	1,433.8	52.640	ES
EXIST VERT CARLSON #44-7 - Wellbore #1 - Design #1	8,464.5	6,858.0	2,030.8	1,848.3	11.128	SF
EXIST VERT DYER #41-7 - Wellbore #1 - Design #1	7,862.2	6,865.0	1,875.1	1,704.8	11.011	CC
EXIST VERT DYER #41-7 - Wellbore #1 - Design #1	7,900.0	6,865.0	1,875.5	1,704.5	10.971	ES
EXIST VERT DYER #41-7 - Wellbore #1 - Design #1	8,300.0	6,865.0	1,925.5	1,746.4	10.753	SF
EXIST VERT EHRLICH #1 - Wellbore #1 - Design #1	11,652.9	6,836.0	685.8	419.3	2.573	CC, ES
EXIST VERT EHRLICH #1 - Wellbore #1 - Design #1	11,700.0	6,836.0	687.4	419.6	2.566	SF
EXIST VERT EHRLICH #2 - Wellbore #1 - Design #1	11,600.3	6,827.0	2,161.3	1,896.3	8.156	CC
EXIST VERT EHRLICH #2 - Wellbore #1 - Design #1	11,700.0	6,827.0	2,163.6	1,895.8	8.081	ES
EXIST VERT EHRLICH #2 - Wellbore #1 - Design #1	12,100.0	6,827.0	2,218.3	1,939.5	7.957	SF
EXIST VERT EHRLICH #22-7 - Wellbore #1 - Design #1	10,743.4	6,844.0	19.2	-222.5	0.079	Level 1, CC, ES, SF
EXIST VERT EHRLICH #24-7 - Wellbore #1 - Design #1	10,471.1	6,830.0	2,081.3	1,847.2	8.889	CC
EXIST VERT EHRLICH #24-7 - Wellbore #1 - Design #1	10,531.5	6,830.0	2,082.2	1,846.4	8.831	ES
EXIST VERT EHRLICH #24-7 - Wellbore #1 - Design #1	11,000.0	6,830.0	2,147.4	1,898.9	8.640	SF
EXIST VERT EHRLICH #32-7 - Wellbore #1 - Design #1	8,980.2	6,847.0	377.8	182.8	1.938	CC, ES
EXIST VERT EHRLICH #32-7 - Wellbore #1 - Design #1	9,000.0	6,847.0	378.3	182.9	1.936	SF
EXIST VERT EHRLICH #4 - Wellbore #1 - Design #1	11,591.6	6,841.0	527.4	262.5	1.991	CC
EXIST VERT EHRLICH #4 - Wellbore #1 - Design #1	11,600.0	6,841.0	527.4	262.3	1.989	ES
EXIST VERT EHRLICH #4 - Wellbore #1 - Design #1	11,614.1	6,841.0	527.9	262.3	1.988	SF

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Summary

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SE SE SEC. 7 T6N R64W 6th P.M.						
EXIST VERT ERICKSON A #8-1 - Wellbore #1 - Design	5,796.1	4,843.0	4,739.1	4,630.8	43.756	CC
EXIST VERT ERICKSON A #8-1 - Wellbore #1 - Design	5,807.1	4,843.0	4,739.2	4,630.8	43.722	ES
EXIST VERT ERICKSON A #8-1 - Wellbore #1 - Design	6,316.7	4,843.0	4,814.2	4,691.6	39.272	SF
EXIST VERT ERICKSON A #8-17 - Wellbore #1 - Design	6,346.7	6,252.8	3,963.4	3,812.5	26.266	CC, ES, SF
EXIST VERT ERICKSON A #8-2 - Wellbore #1 - Design	6,346.7	6,227.8	3,445.8	3,295.5	22.932	CC, ES, SF
EXIST VERT ERICKSON A #8-7 - Wellbore #1 - Design	6,346.7	6,226.8	3,105.0	2,954.6	20.651	CC, ES, SF
EXIST VERT ERICKSON A #8-8 - Wellbore #1 - Design	6,346.7	6,264.8	4,417.3	4,266.8	29.350	CC, ES, SF
EXIST VERT FRANCEN #23-8 - Wellbore #1 - Design #1	6,346.7	6,198.8	1,673.1	1,529.3	11.633	CC
EXIST VERT FRANCEN #23-8 - Wellbore #1 - Design #1	6,350.0	6,202.1	1,673.1	1,524.8	11.281	ES
EXIST VERT FRANCEN #23-8 - Wellbore #1 - Design #1	6,400.0	6,252.0	1,674.8	1,525.7	11.237	SF
EXIST VERT FRANCEN #24-8 - Wellbore #1 - Design #1	5,195.1	4,645.0	2,864.3	2,749.2	24.882	CC
EXIST VERT FRANCEN #24-8 - Wellbore #1 - Design #1	5,216.5	4,645.0	2,864.4	2,749.2	24.856	ES
EXIST VERT FRANCEN #24-8 - Wellbore #1 - Design #1	5,511.8	4,645.0	2,882.0	2,765.0	24.631	SF
EXIST VERT FRANCIS #11-8 - Wellbore #1 - Design #1	6,346.7	6,173.8	2,075.7	1,934.3	14.681	CC
EXIST VERT FRANCIS #11-8 - Wellbore #1 - Design #1	6,600.0	6,421.8	2,076.8	1,922.6	13.463	ES
EXIST VERT FRANCIS #11-8 - Wellbore #1 - Design #1	7,050.0	6,769.4	2,104.6	1,945.1	13.195	SF
EXIST VERT FRANCIS #21-8 - Wellbore #1 - Design #1	6,346.7	6,193.8	2,530.2	2,382.1	17.086	CC, ES, SF
EXIST VERT FRANCIS #22-8 - Wellbore #1 - Design #1	6,346.7	6,198.8	1,444.1	1,292.8	9.544	CC, ES, SF
EXIST VERT KREPS #1 - Wellbore #1 - Design #1	9,086.9	6,848.0	1,926.1	1,728.2	9.734	CC
EXIST VERT KREPS #1 - Wellbore #1 - Design #1	9,153.5	6,848.0	1,927.3	1,727.7	9.656	ES
EXIST VERT KREPS #1 - Wellbore #1 - Design #1	9,600.0	6,848.0	1,993.3	1,782.1	9.438	SF
EXIST VERT KREPS #11-7 - Wellbore #1 - Design #1	11,677.6	6,861.0	1,904.5	1,636.8	7.114	CC
EXIST VERT KREPS #11-7 - Wellbore #1 - Design #1	11,712.6	6,861.0	1,904.8	1,636.2	7.090	ES
EXIST VERT KREPS #11-7 - Wellbore #1 - Design #1	12,007.8	6,861.0	1,932.9	1,656.1	6.982	SF
EXIST VERT KREPS #21-7 - Wellbore #1 - Design #1	10,534.6	6,865.0	1,966.3	1,729.9	8.316	CC
EXIST VERT KREPS #21-7 - Wellbore #1 - Design #1	10,600.0	6,865.0	1,967.4	1,729.2	8.259	ES
EXIST VERT KREPS #21-7 - Wellbore #1 - Design #1	11,000.0	6,865.0	2,020.6	1,771.5	8.110	SF
EXIST VERT MHS #8-33 - Wellbore #1 - Design #1	3,920.7	3,833.0	1,766.7	1,674.6	19.188	CC
EXIST VERT MHS #8-33 - Wellbore #1 - Design #1	4,429.1	4,318.5	1,773.1	1,668.2	16.901	ES
EXIST VERT MHS #8-33 - Wellbore #1 - Design #1	6,850.0	6,639.7	1,882.6	1,724.4	11.897	SF
EXIST VERT MILE HIGH SHEEP #8-32 - Wellbore #1 - I	4,778.7	4,660.2	858.7	744.8	7.539	CC
EXIST VERT MILE HIGH SHEEP #8-32 - Wellbore #1 - I	5,019.7	4,890.3	861.7	741.7	7.182	ES
EXIST VERT MILE HIGH SHEEP #8-32 - Wellbore #1 - I	6,750.0	6,567.1	930.4	773.2	5.917	SF
EXIST VERT MILE HIGH SHEEP #8-35 - Wellbore #1 - I	6,346.7	6,194.8	1,523.7	1,384.5	10.945	CC
EXIST VERT MILE HIGH SHEEP #8-35 - Wellbore #1 - I	6,397.6	6,245.6	1,524.4	1,372.1	10.007	ES
EXIST VERT MILE HIGH SHEEP #8-35 - Wellbore #1 - I	6,500.0	6,346.9	1,530.5	1,376.7	9.951	SF
EXIST VERT ROY CARLSON #43-7 - Wellbore #1 - Des	1,263.8	1,251.7	269.3	242.2	9.943	CC
EXIST VERT ROY CARLSON #43-7 - Wellbore #1 - Des	1,600.0	1,586.3	271.2	236.6	7.840	ES
EXIST VERT ROY CARLSON #43-7 - Wellbore #1 - Des	7,874.0	6,870.0	749.7	579.4	4.402	SF
EXIST VERT UHRICH #33-8 - Wellbore #1 - Design #1	6,346.7	6,218.8	3,042.4	2,898.0	21.070	CC, ES, SF
EXIST VERT UHRICH #34-8 - Wellbore #1 - Design #1	6,346.7	6,188.8	3,694.9	3,554.0	26.228	CC
EXIST VERT UHRICH #34-8 - Wellbore #1 - Design #1	6,350.0	6,192.1	3,694.9	3,548.1	25.158	ES
EXIST VERT UHRICH #34-8 - Wellbore #1 - Design #1	6,450.0	6,291.7	3,700.8	3,552.8	25.013	SF
EXIST VERT UHRICH #43-8 - Wellbore #1 - Design #1	6,346.7	6,243.8	4,523.2	4,377.4	31.038	CC, ES, SF
EXIST VERT UHRICH #44-8 - Wellbore #1 - Design #1	6,346.7	6,216.8	4,785.6	4,643.5	33.663	CC
EXIST VERT UHRICH #44-8 - Wellbore #1 - Design #1	6,350.0	6,220.1	4,785.6	4,641.2	33.128	ES
EXIST VERT UHRICH #44-8 - Wellbore #1 - Design #1	6,450.0	6,319.7	4,792.2	4,646.9	32.980	SF