PDC ENERGY

WELD COUNTY, COLORADO
NE SW SEC. 21 T4N R67W 6th P.M.
SHARON 21O-334

ORIGINAL WELLBORE
PROPOSAL #1

Anticollision Report

28 March, 2016

total

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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 100.0usft	**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** 28/03/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,797.6	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	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
NE SW SEC. 21 T4N R67W 6th P.M.						
ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1	11,797.6	6,800.0	2,285.5	2,148.9	16.730	CC, ES, SF
EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1	11,797.6	7,213.8	2,369.3	2,218.1	15.662	CC, ES, SF
EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1	11,797.6	7,257.2	2,926.2	2,779.8	19.994	CC, ES, SF
EXIST DD BROWN 20ND - Wellbore #1 - Wellbore #1	11,797.6	7,126.1	1,618.9	1,475.1	11.258	CC, ES, SF
EXIST DD BROWN 20OD - Wellbore #1 - Wellbore #1	11,797.6	7,296.6	689.3	543.6	4.730	CC, ES, SF
EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellb	9,175.4	7,318.2	793.6	719.2	10.663	CC
EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellb	9,200.0	7,317.7	794.0	718.9	10.576	ES
EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellb	9,400.0	7,313.5	824.7	744.4	10.260	SF
EXIST DD CENTENNIAL 21GDU - Wellbore #1 - Wellbo	9,783.9	7,411.7	240.4	149.0	2.630	CC, ES
EXIST DD CENTENNIAL 21GDU - Wellbore #1 - Wellbo	9,800.0	7,411.3	241.0	149.1	2.624	SF
EXIST DD CENTENNIAL 21KDU - Wellbore #1 - Wellbor	8,519.9	7,474.9	269.4	203.1	4.065	CC, ES, SF
EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellb	7,886.3	7,515.9	835.5	774.0	13.576	CC
EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellb	7,900.0	7,515.9	835.6	773.8	13.522	ES
EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellb	8,100.0	7,515.4	862.4	796.5	13.082	SF
EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1	8,516.2	7,378.5	1,496.0	1,430.1	22.713	CC, ES
EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1	9,400.0	7,350.0	1,737.2	1,648.4	19.574	SF
EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1	7,277.4	7,528.7	1,477.3	1,412.1	22.654	CC, ES
EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1	8,100.0	7,628.7	1,682.1	1,605.0	21.832	SF
EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1	11,145.1	7,422.0	1,520.8	1,377.5	10.612	CC
EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1	11,200.0	7,422.6	1,521.8	1,376.9	10.507	ES
EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1	11,600.0	7,426.8	1,587.3	1,431.4	10.181	SF
EXIST DD RYLAND 20SD - Wellbore #1 - Wellbore #1	11,108.5	7,600.5	147.1	4.1	1.029	Level 2, CC, ES, SF
EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1	9,963.9	7,218.3	1,522.0	1,427.8	16.154	CC
EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1	10,000.0	7,218.2	1,522.4	1,427.2	15.992	ES
EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1	10,600.0	7,217.1	1,649.6	1,537.9	14.777	SF
EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1	11,705.6	7,252.6	2,243.2	2,095.0	15.131	CC
EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1	11,797.6	7,252.1	2,245.1	2,094.3	14.887	ES, SF
EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1	11,729.6	7,315.7	877.9	728.3	5.869	CC, ES
EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1	11,797.6	7,319.3	880.5	729.1	5.813	SF
EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1	10,486.6	7,347.0	855.6	740.8	7.452	CC
EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1	10,500.0	7,347.0	855.7	740.5	7.429	ES
EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1	10,700.0	7,347.0	881.8	761.1	7.307	SF
EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1	11,797.6	7,131.5	3,275.3	3,005.0	12.118	CC, ES, SF
EXIST VERT BROWN 22-20 - Wellbore #1 - Design #1	11,797.6	7,119.5	1,453.0	1,182.9	5.379	CC, ES, SF
EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1	11,797.6	7,126.5	2,453.8	2,183.6	9.080	CC, ES, SF
SHARON 21N-234 - ORIGINAL WELLBORE - PROPOS	366.3	367.3	75.0	73.7	53.841	CC
SHARON 21N-234 - ORIGINAL WELLBORE - PROPOS	400.0	400.0	75.1	73.5	48.642	ES

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

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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)	Distance Between Ellipses (usft)	Separation Factor	Warning
NE SW SEC. 21 T4N R67W 6th P.M.						
SHARON 21N-234 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,782.4	1,134.3	877.3	4.413	SF
SHARON 21N-334 - ORIGINAL WELLBORE - PROPOS	266.0	268.0	90.0	89.0	95.216	CC
SHARON 21N-334 - ORIGINAL WELLBORE - PROPOS	300.0	301.9	90.0	88.9	81.969	ES
SHARON 21N-334 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,931.4	1,330.7	1,073.1	5.166	SF
SHARON 21O-204 - ORIGINAL WELLBORE - PROPOS	800.0	800.0	14.9	11.6	4.471	CC, ES
SHARON 21O-204 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,700.5	275.1	27.7	1.112	Level 2, SF
SHARON 21O-214 - ORIGINAL WELLBORE - PROPOS	566.3	567.3	44.8	42.5	19.542	CC
SHARON 21O-214 - ORIGINAL WELLBORE - PROPOS	600.0	601.0	44.8	42.4	18.333	ES
SHARON 21O-214 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,715.4	696.5	440.6	2.722	SF
SHARON 21O-234 - ORIGINAL WELLBORE - PROPOS	500.0	500.0	14.9	12.9	7.492	CC
SHARON 21O-234 - ORIGINAL WELLBORE - PROPOS	600.0	599.9	15.2	12.8	6.258	ES
SHARON 21O-234 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,692.6	283.1	35.4	1.143	Level 2, SF
SHARON 21O-304 - ORIGINAL WELLBORE - PROPOS	700.0	700.0	29.9	27.0	10.331	CC, ES
SHARON 21O-304 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,814.7	490.6	232.9	1.904	SF
SHARON 21O-314 - ORIGINAL WELLBORE - PROPOS	466.3	467.3	60.1	58.3	32.609	CC
SHARON 21O-314 - ORIGINAL WELLBORE - PROPOS	500.0	501.0	60.1	58.1	30.136	ES
SHARON 21O-314 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,856.1	930.6	673.1	3.614	SF
SE SW SEC. 21 T4N R67W 6th P.M.						
EXIST DD RYLAND 33-20D - Wellbore #1 - Wellbore #1	11,712.2	7,246.0	419.3	276.8	2.942	CC, ES, SF
EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1	10,447.5	7,351.6	419.8	301.5	3.549	CC, ES
EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1	10,500.0	7,351.9	423.1	303.4	3.534	SF
EXIST DD WALTERS #21ODU - Wellbore #1 - Wellbore	7,228.6	7,264.8	90.1	48.5	2.165	CC, ES, SF
EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore	7,715.7	7,274.5	358.2	317.7	8.836	CC, ES
EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore	7,800.0	7,273.8	368.0	326.1	8.778	SF
EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore	9,190.7	7,333.1	490.6	408.9	6.007	CC
EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore	9,200.0	7,333.1	490.7	408.8	5.990	ES
EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore	9,300.0	7,333.3	502.6	418.1	5.943	SF
EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1	8,246.8	7,184.0	701.3	665.1	19.384	CC, ES
EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1	8,600.0	7,181.8	785.2	740.5	17.568	SF
WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOS	6,806.3	6,827.3	760.3	721.7	19.685	CC
WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOS	11,797.6	11,802.2	760.3	502.4	2.948	ES, SF

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1

Survey Program: 100-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-79.66	1,132.3	-6,208.5	6,311.1				
100.0	100.0	48.0	48.0	0.1	0.0	-79.66	1,132.3	-6,208.5	6,310.9	6,310.8	0.10	N/A	
200.0	200.0	140.3	140.3	0.3	0.0	-79.67	1,131.9	-6,208.6	6,311.0	6,310.6	0.37	N/A	
300.0	300.0	244.3	244.3	0.5	0.2	-79.67	1,131.5	-6,208.9	6,311.2	6,310.4	0.75	8,377.202	
400.0	400.0	388.0	388.0	0.8	0.5	-79.68	1,130.5	-6,208.8	6,311.0	6,309.7	1.29	4,903.140	
500.0	500.0	499.4	499.4	1.0	0.8	-79.69	1,129.4	-6,208.2	6,310.2	6,308.5	1.75	3,608.333	
600.0	600.0	598.1	598.1	1.2	1.0	-79.70	1,128.6	-6,207.5	6,309.5	6,307.3	2.17	2,901.477	
700.0	700.0	710.3	710.2	1.4	1.2	-79.70	1,127.7	-6,206.7	6,308.6	6,306.0	2.63	2,394.470	
800.0	800.0	800.0	800.0	1.7	1.4	-79.71	1,126.8	-6,206.1	6,307.8	6,304.7	3.05	2,069.276	
900.0	900.0	864.9	864.9	1.9	1.5	-79.71	1,126.2	-6,205.9	6,307.3	6,303.9	3.40	1,852.368	
906.2	906.2	869.1	869.1	1.9	1.5	-154.40	1,126.1	-6,205.9	6,307.3	6,303.8	3.43	1,840.089	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	1.8	-154.41	1,124.9	-6,205.7	6,308.6	6,304.7	3.90	1,617.320	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-MWD — **Offset Well Error:** 0.0 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
1,100.0	1,099.8	1,064.7	1,064.6	2.3	1.9	-154.39	1,124.2	-6,205.5	6,312.8	6,308.6	4.24	1,488.079	
1,200.0	1,199.5	1,183.8	1,183.7	2.5	2.2	-154.37	1,123.3	-6,205.5	6,320.6	6,315.9	4.70	1,344.960	
1,300.0	1,298.7	1,279.3	1,279.3	2.8	2.4	-154.34	1,122.4	-6,205.1	6,331.0	6,325.9	5.11	1,238.655	
1,400.0	1,397.5	1,374.5	1,374.5	3.1	2.6	-154.28	1,121.5	-6,204.8	6,344.7	6,339.2	5.53	1,147.763	
1,500.0	1,495.6	1,451.2	1,451.1	3.4	2.7	-154.20	1,120.8	-6,204.7	6,361.7	6,355.7	5.91	1,075.774	
1,500.1	1,495.7	1,451.2	1,451.2	3.4	2.7	-154.20	1,120.8	-6,204.7	6,361.7	6,355.8	5.91	1,075.706	
1,600.0	1,593.4	1,539.9	1,539.8	3.8	2.9	-154.27	1,120.4	-6,204.9	6,380.6	6,374.2	6.35	1,004.942	
1,700.0	1,691.3	1,640.5	1,640.4	4.1	3.1	-154.36	1,119.5	-6,204.9	6,399.3	6,392.5	6.82	938.702	
1,800.0	1,789.1	1,721.6	1,721.6	4.5	3.3	-154.44	1,118.9	-6,205.2	6,418.3	6,411.1	7.25	885.044	
1,900.0	1,886.9	1,828.7	1,828.6	4.9	3.5	-154.53	1,118.1	-6,205.5	6,437.3	6,429.6	7.74	831.298	
2,000.0	1,984.7	1,908.5	1,908.4	5.3	3.7	-154.60	1,117.6	-6,205.8	6,456.4	6,448.2	8.18	788.892	
2,100.0	2,082.5	1,993.1	1,993.0	5.7	3.9	-154.67	1,117.2	-6,206.3	6,475.8	6,467.2	8.64	749.725	
2,200.0	2,180.3	2,063.6	2,063.5	6.2	4.0	-154.73	1,117.1	-6,206.9	6,495.5	6,486.4	9.07	716.447	
2,300.0	2,278.1	2,155.5	2,155.4	6.6	4.2	-154.80	1,117.3	-6,208.0	6,515.5	6,506.0	9.54	682.956	
2,400.0	2,375.9	2,294.9	2,294.8	7.0	4.5	-154.91	1,118.1	-6,209.1	6,535.3	6,525.2	10.11	646.502	
2,500.0	2,473.8	2,419.8	2,419.7	7.5	4.8	-155.00	1,118.5	-6,209.3	6,554.4	6,543.8	10.65	615.441	
2,600.0	2,571.6	2,513.1	2,513.0	7.9	5.0	-155.07	1,118.9	-6,209.4	6,573.4	6,562.3	11.13	590.580	
2,700.0	2,669.4	2,600.0	2,599.9	8.3	5.1	-155.14	1,119.2	-6,209.4	6,592.5	6,580.9	11.60	568.318	
2,800.0	2,767.2	2,683.3	2,683.2	8.8	5.3	-155.20	1,119.6	-6,209.5	6,611.7	6,599.6	12.06	548.077	
2,900.0	2,865.0	2,777.3	2,777.2	9.2	5.5	-155.27	1,120.2	-6,210.0	6,631.2	6,618.7	12.55	528.412	
3,000.0	2,962.8	2,889.7	2,889.6	9.7	5.7	-155.35	1,121.0	-6,210.4	6,650.7	6,637.6	13.07	508.761	
3,100.0	3,060.6	2,988.5	2,988.4	10.1	5.9	-155.42	1,121.6	-6,210.7	6,670.0	6,656.4	13.57	491.567	
3,200.0	3,158.5	3,086.7	3,086.6	10.6	6.2	-155.49	1,121.8	-6,211.0	6,689.3	6,675.2	14.07	475.586	
3,300.0	3,256.3	3,179.9	3,179.8	11.0	6.4	-155.56	1,121.5	-6,211.3	6,708.7	6,694.1	14.55	460.983	
3,400.0	3,354.1	3,286.8	3,286.6	11.5	6.6	-155.65	1,121.2	-6,211.8	6,728.0	6,713.0	15.07	446.538	
3,500.0	3,451.9	3,388.5	3,388.4	11.9	6.8	-155.72	1,121.0	-6,212.0	6,747.3	6,731.7	15.57	433.329	
3,600.0	3,549.7	3,517.9	3,517.8	12.4	7.1	-155.82	1,120.4	-6,212.1	6,766.3	6,750.2	16.13	419.442	
3,700.0	3,647.5	3,627.3	3,627.2	12.8	7.3	-155.91	1,119.6	-6,211.8	6,784.9	6,768.3	16.65	407.429	
3,800.0	3,745.3	3,713.9	3,713.8	13.3	7.5	-155.98	1,118.7	-6,211.6	6,803.7	6,786.5	17.13	397.213	
3,900.0	3,843.2	3,807.3	3,807.1	13.7	7.7	-156.06	1,117.7	-6,211.6	6,822.5	6,804.9	17.62	387.256	
4,000.0	3,941.0	3,900.0	3,899.9	14.2	7.9	-156.13	1,116.5	-6,211.6	6,841.4	6,823.3	18.11	377.856	
4,100.0	4,038.8	3,992.8	3,992.6	14.6	8.1	-156.21	1,115.2	-6,211.7	6,860.4	6,841.9	18.60	368.926	
4,200.0	4,136.6	4,075.8	4,075.7	15.1	8.2	-156.28	1,113.8	-6,211.9	6,879.6	6,860.5	19.07	360.840	
4,300.0	4,234.4	4,177.6	4,177.5	15.5	8.5	-156.37	1,112.2	-6,212.4	6,898.9	6,879.3	19.57	352.524	
4,325.2	4,259.1	4,200.0	4,199.8	15.6	8.5	-156.39	1,111.8	-6,212.4	6,903.7	6,884.0	19.69	350.617	
4,400.0	4,332.4	4,257.3	4,257.1	15.9	8.6	-156.54	1,111.0	-6,212.7	6,917.3	6,897.3	20.03	345.302	
4,500.0	4,431.0	4,343.5	4,343.3	16.2	8.8	-156.72	1,110.1	-6,213.2	6,933.0	6,912.6	20.46	338.786	
4,600.0	4,530.2	4,508.7	4,508.5	16.5	9.2	-156.91	1,108.1	-6,213.8	6,945.3	6,924.3	21.03	330.201	
4,700.0	4,629.7	4,619.6	4,619.4	16.7	9.4	-157.02	1,106.7	-6,213.4	6,953.6	6,932.2	21.46	324.043	
4,800.0	4,729.5	4,704.0	4,703.8	16.9	9.6	-157.08	1,105.9	-6,213.2	6,958.8	6,937.0	21.80	319.242	
4,900.0	4,829.5	4,800.0	4,799.8	17.0	9.8	-157.11	1,105.1	-6,212.9	6,960.9	6,938.7	22.13	314.507	
4,925.3	4,854.8	4,826.9	4,826.6	17.1	9.8	-82.43	1,104.8	-6,212.8	6,960.9	6,934.7	26.22	265.453	
5,000.0	4,929.5	4,884.7	4,884.5	17.2	9.9	-82.44	1,104.3	-6,212.8	6,960.7	6,934.3	26.44	263.261	
5,100.0	5,029.5	5,018.2	5,018.0	17.3	10.2	-82.45	1,102.9	-6,212.6	6,960.4	6,933.5	26.86	259.105	
5,200.0	5,129.5	5,100.0	5,099.8	17.4	10.4	-82.46	1,101.8	-6,212.4	6,960.0	6,932.9	27.18	256.078	
5,241.7	5,171.2	5,122.0	5,121.7	17.5	10.4	-82.46	1,101.5	-6,212.4	6,960.0	6,932.7	27.29	255.076	
5,300.0	5,229.5	5,160.2	5,159.9	17.6	10.5	-82.46	1,101.0	-6,212.5	6,960.1	6,932.6	27.45	253.550	
5,400.0	5,329.5	5,260.2	5,259.9	17.7	10.7	-82.48	1,099.8	-6,213.2	6,960.5	6,932.7	27.81	250.310	
5,500.0	5,429.5	5,376.9	5,376.6	17.9	11.0	-82.49	1,098.1	-6,213.5	6,960.6	6,932.4	28.20	246.820	
5,600.0	5,529.5	5,493.9	5,493.6	18.0	11.2	-82.50	1,096.8	-6,213.6	6,960.6	6,932.0	28.60	243.406	
5,630.6	5,560.1	5,500.0	5,499.7	18.0	11.2	-82.50	1,096.7	-6,213.6	6,960.5	6,931.9	28.66	242.902	
5,700.0	5,629.5	5,549.9	5,549.6	18.1	11.3	-82.51	1,096.1	-6,213.7	6,960.7	6,931.8	28.87	241.133	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-MWD — **Offset Well Error:** 0.0 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
5,800.0	5,729.5	5,606.3	5,606.0	18.3	11.5	-82.51	1,095.5	-6,214.3	6,961.4	6,932.3	29.14	238.910	
5,900.0	5,829.5	5,723.7	5,723.4	18.4	11.7	-82.52	1,094.9	-6,215.4	6,962.3	6,932.8	29.54	235.716	
6,000.0	5,929.5	5,800.0	5,799.7	18.6	11.9	-82.52	1,094.2	-6,216.2	6,963.2	6,933.4	29.85	233.249	
6,100.0	6,029.5	5,865.4	5,865.0	18.7	12.0	-82.54	1,093.0	-6,217.2	6,964.6	6,934.5	30.15	230.995	
6,200.0	6,129.5	6,034.6	6,034.2	18.9	12.4	-82.56	1,090.9	-6,219.6	6,965.8	6,935.2	30.67	227.156	
6,300.0	6,229.5	6,100.0	6,099.6	19.1	12.5	-82.56	1,090.7	-6,220.2	6,966.7	6,935.8	30.96	225.007	
6,400.0	6,329.5	6,161.7	6,161.3	19.2	12.6	-82.56	1,090.6	-6,221.0	6,968.1	6,936.9	31.25	222.953	
6,500.0	6,429.5	6,257.2	6,256.8	19.4	12.8	-82.56	1,090.5	-6,222.9	6,970.0	6,938.4	31.62	220.454	
6,550.3	6,479.8	6,400.0	6,399.6	19.5	13.1	-82.56	1,090.8	-6,224.5	6,970.6	6,938.7	32.00	217.859	
6,600.0	6,529.4	6,446.5	6,446.1	19.5	13.2	7.46	1,091.0	-6,224.7	6,969.2	6,940.6	28.57	243.917	
6,650.0	6,579.2	6,488.6	6,488.2	19.5	13.3	7.52	1,091.2	-6,224.9	6,964.3	6,935.8	28.49	244.436	
6,700.0	6,628.4	6,579.4	6,579.0	19.5	13.5	7.63	1,091.6	-6,225.1	6,955.9	6,927.5	28.40	244.893	
6,750.0	6,676.9	6,626.9	6,626.5	19.5	13.6	7.77	1,091.7	-6,225.1	6,943.9	6,915.7	28.12	246.934	
6,800.0	6,724.5	6,659.4	6,659.0	19.4	13.7	7.96	1,091.8	-6,225.1	6,928.6	6,900.9	27.71	250.075	
6,850.0	6,770.8	6,700.0	6,699.6	19.4	13.7	8.20	1,092.0	-6,225.3	6,910.2	6,883.0	27.22	253.905	
6,900.0	6,815.8	6,735.3	6,734.9	19.3	13.8	8.50	1,092.1	-6,225.4	6,888.7	6,862.1	26.63	258.673	
6,950.0	6,859.1	6,782.7	6,782.3	19.2	13.9	8.88	1,092.0	-6,225.6	6,864.2	6,838.2	26.00	264.015	
7,000.0	6,900.5	6,800.0	6,799.6	19.1	14.0	9.31	1,091.9	-6,225.7	6,836.7	6,811.4	25.25	270.786	
7,050.0	6,939.9	6,800.0	6,799.6	19.1	14.0	9.81	1,091.9	-6,225.7	6,806.6	6,782.2	24.42	278.717	
7,100.0	6,977.1	6,800.0	6,799.6	19.0	14.0	10.41	1,091.9	-6,225.7	6,774.1	6,750.5	23.58	287.316	
7,150.0	7,011.8	6,800.0	6,799.6	19.0	14.0	11.14	1,091.9	-6,225.7	6,739.2	6,716.5	22.74	296.334	
7,200.0	7,044.0	6,800.0	6,799.6	19.1	14.0	12.02	1,091.9	-6,225.7	6,702.2	6,680.2	21.95	305.341	
7,250.0	7,073.4	6,800.0	6,799.6	19.1	14.0	13.12	1,091.9	-6,225.7	6,663.0	6,641.8	21.24	313.652	
7,300.0	7,099.9	6,800.0	6,799.6	19.3	14.0	14.49	1,091.9	-6,225.7	6,622.0	6,601.3	20.68	320.240	
7,350.0	7,123.4	6,800.0	6,799.6	19.5	14.0	16.23	1,091.9	-6,225.7	6,579.3	6,559.0	20.33	323.666	
7,400.0	7,143.7	6,800.0	6,799.6	19.8	14.0	18.52	1,091.9	-6,225.7	6,535.0	6,514.7	20.29	322.089	
7,450.0	7,160.9	6,800.0	6,799.6	20.2	14.0	21.60	1,091.9	-6,225.7	6,489.3	6,468.6	20.70	313.419	
7,500.0	7,174.7	6,800.0	6,799.6	20.7	14.0	25.91	1,091.9	-6,225.7	6,442.5	6,420.7	21.78	295.731	
7,550.0	7,185.1	6,800.0	6,799.6	21.2	14.0	32.26	1,091.9	-6,225.7	6,394.7	6,370.8	23.86	268.054	
7,600.0	7,192.1	6,800.0	6,799.6	21.8	14.0	42.11	1,091.9	-6,225.7	6,346.1	6,318.8	27.37	231.892	
7,650.0	7,195.6	6,800.0	6,799.6	22.5	14.0	57.92	1,091.9	-6,225.7	6,297.0	6,264.6	32.46	194.008	
7,680.0	7,196.0	6,800.0	6,799.6	22.9	14.0	71.26	1,091.9	-6,225.7	6,267.4	6,231.9	35.55	176.311	
7,700.0	7,195.9	6,800.0	6,799.6	23.3	14.0	71.26	1,091.9	-6,225.7	6,247.7	6,211.8	35.84	174.344	
7,800.0	7,195.2	6,800.0	6,799.6	24.9	14.0	71.26	1,091.9	-6,225.7	6,148.9	6,111.4	37.40	164.401	
7,900.0	7,194.6	6,800.0	6,799.6	26.7	14.0	71.26	1,091.9	-6,225.7	6,050.1	6,010.9	39.15	154.534	
8,000.0	7,193.9	6,800.0	6,799.6	28.7	14.0	71.26	1,091.9	-6,225.7	5,951.4	5,910.3	41.05	144.988	
8,100.0	7,193.3	6,800.0	6,799.6	30.9	14.0	71.26	1,091.9	-6,225.7	5,852.7	5,809.6	43.06	135.907	
8,200.0	7,192.6	6,800.0	6,799.6	33.1	14.0	71.26	1,091.9	-6,225.7	5,754.0	5,708.9	45.18	127.366	
8,300.0	7,192.0	6,800.0	6,799.6	35.4	14.0	71.26	1,091.9	-6,225.7	5,655.4	5,608.1	47.37	119.391	
8,400.0	7,191.3	6,800.0	6,799.6	37.8	14.0	71.26	1,091.9	-6,225.7	5,556.9	5,507.3	49.63	111.976	
8,500.0	7,190.7	6,800.0	6,799.6	40.2	14.0	71.26	1,091.9	-6,225.7	5,458.4	5,406.5	51.94	105.100	
8,600.0	7,190.0	6,800.0	6,799.6	42.7	14.0	71.26	1,091.9	-6,225.7	5,360.0	5,305.7	54.29	98.730	
8,700.0	7,189.4	6,800.0	6,799.6	45.2	14.0	71.26	1,091.9	-6,225.7	5,261.6	5,204.9	56.68	92.830	
8,800.0	7,188.7	6,800.0	6,799.6	47.8	14.0	71.26	1,091.9	-6,225.7	5,163.3	5,104.2	59.10	87.362	
8,900.0	7,188.0	6,800.0	6,799.6	50.3	14.0	71.27	1,091.9	-6,225.7	5,065.1	5,003.5	61.55	82.291	
9,000.0	7,187.4	6,800.0	6,799.6	52.9	14.0	71.27	1,091.9	-6,225.7	4,966.9	4,902.9	64.02	77.581	
9,100.0	7,186.7	6,800.0	6,799.6	55.6	14.0	71.27	1,091.9	-6,225.7	4,868.8	4,802.3	66.51	73.201	
9,200.0	7,186.1	6,800.0	6,799.6	58.2	14.0	71.27	1,091.9	-6,225.7	4,770.8	4,701.7	69.02	69.121	
9,300.0	7,185.4	6,800.0	6,799.6	60.9	14.0	71.27	1,091.9	-6,225.7	4,672.8	4,601.3	71.54	65.316	
9,400.0	7,184.8	6,800.0	6,799.6	63.5	14.0	71.27	1,091.9	-6,225.7	4,575.0	4,500.9	74.08	61.759	
9,500.0	7,184.1	6,800.0	6,799.6	66.2	14.0	71.27	1,091.9	-6,225.7	4,477.2	4,400.6	76.62	58.431	
9,600.0	7,183.5	6,800.0	6,799.6	68.9	14.0	71.27	1,091.9	-6,225.7	4,379.6	4,300.4	79.18	55.312	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-MWD — **Offset Well Error:** 0.0 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
9,700.0	7,182.8	6,800.0	6,799.6	71.6	14.0	71.27	1,091.9	-6,225.7	4,282.0	4,200.3	81.75	52.383	
9,800.0	7,182.2	6,800.0	6,799.6	74.3	14.0	71.27	1,091.9	-6,225.7	4,184.6	4,100.3	84.32	49.629	
9,900.0	7,181.5	6,800.0	6,799.6	77.0	14.0	71.27	1,091.9	-6,225.7	4,087.3	4,000.4	86.90	47.035	
10,000.0	7,180.8	6,800.0	6,799.6	79.7	14.0	71.27	1,091.9	-6,225.7	3,990.1	3,900.6	89.49	44.590	
10,100.0	7,180.2	6,800.0	6,799.6	82.5	14.0	71.27	1,091.9	-6,225.7	3,893.1	3,801.0	92.08	42.281	
10,200.0	7,179.5	6,800.0	6,799.6	85.2	14.0	71.27	1,091.9	-6,225.7	3,796.2	3,701.6	94.67	40.098	
10,300.0	7,178.9	6,800.0	6,799.6	87.9	14.0	71.27	1,091.9	-6,225.7	3,699.5	3,602.2	97.28	38.031	
10,400.0	7,178.2	6,800.0	6,799.6	90.7	14.0	71.27	1,091.9	-6,225.7	3,603.0	3,503.1	99.88	36.072	
10,500.0	7,177.6	6,800.0	6,799.6	93.4	14.0	71.28	1,091.9	-6,225.7	3,506.7	3,404.2	102.49	34.213	
10,600.0	7,176.9	6,800.0	6,799.6	96.2	14.0	71.28	1,091.9	-6,225.7	3,410.5	3,305.4	105.11	32.448	
10,700.0	7,176.2	6,800.0	6,799.6	98.9	14.0	71.28	1,091.9	-6,225.7	3,314.7	3,206.9	107.73	30.770	
10,800.0	7,175.6	6,800.0	6,799.6	101.7	14.0	71.28	1,091.9	-6,225.7	3,219.0	3,108.7	110.35	29.172	
10,900.0	7,174.9	6,800.0	6,799.6	104.4	14.0	71.28	1,091.9	-6,225.7	3,123.7	3,010.7	112.97	27.651	
11,000.0	7,174.3	6,800.0	6,799.6	107.2	14.0	71.28	1,091.9	-6,225.7	3,028.6	2,913.0	115.59	26.200	
11,100.0	7,173.6	6,800.0	6,799.6	109.9	14.0	71.28	1,091.9	-6,225.7	2,933.8	2,815.6	118.22	24.816	
11,200.0	7,172.9	6,800.0	6,799.6	112.7	14.0	71.28	1,091.9	-6,225.7	2,839.5	2,718.6	120.85	23.495	
11,300.0	7,172.3	6,800.0	6,799.6	115.5	14.0	71.28	1,091.9	-6,225.7	2,745.5	2,622.0	123.48	22.233	
11,400.0	7,171.6	6,800.0	6,799.6	118.3	14.0	71.28	1,091.9	-6,225.7	2,651.9	2,525.8	126.12	21.027	
11,500.0	7,171.0	6,800.0	6,799.6	121.0	14.0	71.28	1,091.9	-6,225.7	2,558.9	2,430.1	128.75	19.874	
11,600.0	7,170.3	6,800.0	6,799.6	123.8	14.0	71.28	1,091.9	-6,225.7	2,466.4	2,335.0	131.39	18.771	
11,700.0	7,169.6	6,800.0	6,799.6	126.6	14.0	71.28	1,091.9	-6,225.7	2,374.5	2,240.5	134.03	17.716	
11,797.6	7,169.0	6,800.0	6,799.6	129.3	14.0	71.28	1,091.9	-6,225.7	2,285.5	2,148.9	136.61	16.730	CC, ES, SF

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 usft

Survey Program: 545-MWD

Offset Well Error: 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-72.02	1,622.4	-4,999.2	5,256.0				
100.0	100.0	61.9	61.9	0.1	0.1	-72.02	1,622.4	-4,999.2	5,255.9	5,255.7	0.15	N/A	
200.0	200.0	159.5	159.5	0.3	0.1	-72.02	1,622.2	-4,999.3	5,255.9	5,255.5	0.46	N/A	
300.0	300.0	257.1	257.1	0.5	0.2	-72.03	1,622.0	-4,999.5	5,256.0	5,255.2	0.78	6,777.854	
400.0	400.0	354.6	354.6	0.8	0.3	-72.03	1,621.6	-4,999.8	5,256.2	5,255.1	1.09	4,835.314	
500.0	500.0	452.2	452.2	1.0	0.4	-72.04	1,621.1	-5,000.1	5,256.4	5,255.0	1.40	3,758.292	
600.0	600.0	550.3	550.3	1.2	0.5	-72.05	1,620.4	-5,000.6	5,256.6	5,254.9	1.72	3,062.329	
700.0	700.0	655.0	655.0	1.4	0.7	-72.05	1,619.9	-5,000.9	5,256.8	5,254.6	2.15	2,444.563	
800.0	800.0	732.0	732.0	1.7	0.9	-72.06	1,619.5	-5,001.3	5,257.1	5,254.6	2.53	2,076.285	
900.0	900.0	807.8	807.8	1.9	1.0	-72.06	1,619.2	-5,002.0	5,257.9	5,254.9	2.92	1,802.749	
1,000.0	1,000.0	908.6	908.6	2.1	1.2	-146.73	1,619.2	-5,003.2	5,260.4	5,257.1	3.35	1,571.586	
1,100.0	1,099.8	961.1	961.1	2.3	1.3	-146.69	1,619.0	-5,004.0	5,266.3	5,262.6	3.67	1,434.539	
1,200.0	1,199.5	1,012.0	1,012.0	2.5	1.5	-146.61	1,619.0	-5,005.4	5,276.0	5,272.0	4.00	1,319.691	
1,300.0	1,298.7	1,049.5	1,049.4	2.8	1.5	-146.49	1,619.1	-5,006.7	5,289.6	5,285.3	4.31	1,228.328	
1,400.0	1,397.5	1,106.0	1,105.9	3.1	1.7	-146.35	1,619.5	-5,009.4	5,307.3	5,302.6	4.67	1,136.677	
1,500.0	1,495.6	1,106.0	1,105.9	3.4	1.7	-146.11	1,619.5	-5,009.4	5,328.9	5,324.0	4.92	1,082.503	
1,500.1	1,495.7	1,106.0	1,105.9	3.4	1.7	-146.11	1,619.5	-5,009.4	5,328.9	5,324.0	4.92	1,082.448	
1,600.0	1,593.4	1,159.6	1,159.3	3.8	1.8	-146.18	1,620.1	-5,012.9	5,352.9	5,347.6	5.31	1,007.629	
1,700.0	1,691.3	1,199.0	1,198.6	4.1	1.9	-146.24	1,620.7	-5,016.0	5,378.2	5,372.5	5.68	946.723	
1,800.0	1,789.1	1,231.7	1,231.1	4.5	2.0	-146.28	1,621.2	-5,019.0	5,404.6	5,398.6	6.04	894.393	
1,900.0	1,886.9	1,293.0	1,292.1	4.9	2.1	-146.37	1,622.2	-5,025.4	5,432.1	5,425.6	6.48	838.744	
2,000.0	1,984.7	1,293.0	1,292.1	5.3	2.1	-146.37	1,622.2	-5,025.4	5,460.5	5,453.7	6.78	805.884	
2,100.0	2,082.5	1,348.3	1,347.1	5.7	2.3	-146.45	1,623.2	-5,032.0	5,489.8	5,482.6	7.20	761.946	
2,200.0	2,180.3	1,386.0	1,384.4	6.2	2.4	-146.51	1,623.9	-5,037.0	5,520.2	5,512.6	7.60	726.580	
2,300.0	2,278.1	1,386.0	1,384.4	6.6	2.4	-146.51	1,623.9	-5,037.0	5,552.0	5,544.1	7.91	702.107	
2,400.0	2,375.9	1,441.9	1,439.6	7.0	2.5	-146.59	1,625.5	-5,045.3	5,584.4	5,576.0	8.35	668.933	
2,500.0	2,473.8	1,480.0	1,477.2	7.5	2.7	-146.64	1,626.9	-5,051.6	5,618.2	5,609.4	8.75	641.954	
2,600.0	2,571.6	1,480.0	1,477.2	7.9	2.7	-146.64	1,626.9	-5,051.6	5,653.1	5,644.1	9.07	623.421	
2,700.0	2,669.4	1,538.3	1,534.5	8.3	2.9	-146.72	1,629.5	-5,062.0	5,688.8	5,679.3	9.52	597.405	
2,800.0	2,767.2	1,573.0	1,568.5	8.8	3.0	-146.76	1,631.2	-5,068.7	5,725.6	5,715.7	9.92	577.134	
2,900.0	2,865.0	1,573.0	1,568.5	9.2	3.0	-146.76	1,631.2	-5,068.7	5,763.6	5,753.4	10.24	562.810	
3,000.0	2,962.8	1,630.1	1,624.3	9.7	3.2	-146.84	1,634.1	-5,080.6	5,802.2	5,791.5	10.70	542.417	
3,100.0	3,060.6	1,667.0	1,660.2	10.1	3.3	-146.89	1,636.1	-5,088.9	5,842.0	5,830.9	11.10	526.087	
3,200.0	3,158.5	1,710.4	1,702.3	10.6	3.5	-146.95	1,638.4	-5,099.0	5,882.7	5,871.1	11.53	510.303	
3,300.0	3,256.3	1,761.0	1,751.4	11.0	3.8	-147.02	1,641.0	-5,111.1	5,923.8	5,911.9	11.97	494.997	
3,400.0	3,354.1	1,831.7	1,819.9	11.5	4.1	-147.12	1,644.5	-5,128.3	5,965.4	5,953.0	12.45	479.114	
3,500.0	3,451.9	1,854.0	1,841.4	11.9	4.2	-147.15	1,645.5	-5,133.8	6,007.7	5,994.9	12.83	468.425	
3,600.0	3,549.7	1,897.3	1,883.3	12.4	4.4	-147.21	1,647.7	-5,145.0	6,050.8	6,037.5	13.25	456.623	
3,700.0	3,647.5	1,948.0	1,931.9	12.8	4.7	-147.29	1,650.3	-5,158.9	6,095.1	6,081.4	13.70	444.864	
3,800.0	3,745.3	2,052.4	2,032.1	13.3	5.2	-147.44	1,655.3	-5,187.8	6,139.7	6,125.5	14.26	430.650	
3,900.0	3,843.2	2,125.1	2,102.0	13.7	5.5	-147.55	1,658.5	-5,207.6	6,183.9	6,169.1	14.74	419.554	
4,000.0	3,941.0	2,207.8	2,181.4	14.2	6.0	-147.67	1,662.3	-5,230.2	6,228.2	6,213.0	15.25	408.375	
4,100.0	4,038.8	2,266.2	2,237.5	14.6	6.3	-147.75	1,665.3	-5,246.2	6,272.8	6,257.1	15.71	399.267	
4,200.0	4,136.6	2,322.0	2,291.0	15.1	6.6	-147.83	1,668.0	-5,261.9	6,317.9	6,301.7	16.16	390.848	
4,300.0	4,234.4	2,410.0	2,375.3	15.5	7.1	-147.95	1,672.1	-5,286.9	6,363.3	6,346.6	16.69	381.238	
4,325.2	4,259.1	2,415.0	2,380.1	15.6	7.1	-147.96	1,672.3	-5,288.3	6,374.8	6,358.0	16.78	379.805	
4,400.0	4,332.4	2,450.5	2,414.0	15.9	7.3	-148.40	1,674.1	-5,298.5	6,408.2	6,391.2	17.07	375.441	
4,500.0	4,431.0	2,509.0	2,469.8	16.2	7.6	-148.95	1,677.8	-5,315.6	6,451.4	6,434.0	17.43	370.137	
4,600.0	4,530.2	2,536.7	2,496.2	16.5	7.8	-149.43	1,679.8	-5,323.9	6,492.4	6,474.7	17.70	366.817	
4,700.0	4,629.7	2,602.0	2,558.3	16.7	8.2	-149.89	1,684.4	-5,343.6	6,531.2	6,513.1	18.04	361.979	
4,800.0	4,729.5	2,827.6	2,773.5	16.9	9.4	-150.35	1,698.8	-5,409.8	6,566.0	6,547.2	18.76	349.991	
4,900.0	4,829.5	3,015.2	2,953.1	17.0	10.5	-150.71	1,709.6	-5,462.8	6,597.2	6,577.8	19.38	340.475	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	3,048.5	2,985.1	17.1	10.6	-76.11	1,711.2	-5,471.9	6,604.3	6,577.7	26.63	247.989	
5,000.0	4,929.5	3,110.5	3,044.6	17.2	11.0	-76.12	1,714.3	-5,488.9	6,625.1	6,598.0	27.07	244.763	
5,100.0	5,029.5	3,191.2	3,122.0	17.3	11.4	-76.13	1,718.8	-5,511.1	6,653.1	6,625.5	27.65	240.578	
5,200.0	5,129.5	3,363.3	3,287.4	17.4	12.3	-76.15	1,727.9	-5,557.8	6,680.8	6,652.1	28.73	232.560	
5,300.0	5,229.5	3,446.7	3,367.7	17.6	12.8	-76.17	1,731.1	-5,580.3	6,707.9	6,678.6	29.33	228.721	
5,400.0	5,329.5	3,544.9	3,462.1	17.7	13.3	-76.19	1,735.2	-5,606.8	6,735.1	6,705.1	30.01	224.421	
5,500.0	5,429.5	5,409.0	5,294.8	17.9	19.5	-76.31	1,786.3	-5,871.3	6,751.2	6,714.9	36.35	185.726	
5,600.0	5,529.5	5,481.6	5,367.4	18.0	19.6	-76.32	1,785.5	-5,872.6	6,752.8	6,716.2	36.60	184.486	
5,700.0	5,629.5	5,596.2	5,482.0	18.1	19.8	-76.33	1,784.3	-5,875.1	6,754.7	6,717.8	36.92	182.961	
5,800.0	5,729.5	5,690.0	5,575.7	18.3	19.9	-76.34	1,783.8	-5,876.7	6,756.2	6,719.0	37.20	181.605	
5,900.0	5,829.5	5,783.0	5,668.7	18.4	20.0	-76.34	1,784.1	-5,878.3	6,758.0	6,720.5	37.49	180.252	
6,000.0	5,929.5	5,864.1	5,749.8	18.6	20.2	-76.34	1,784.4	-5,880.1	6,760.2	6,722.4	37.77	178.978	
6,100.0	6,029.5	5,948.1	5,833.7	18.7	20.3	-76.34	1,784.9	-5,881.9	6,762.4	6,724.3	38.06	177.690	
6,200.0	6,129.5	6,188.2	6,073.8	18.9	20.6	-76.35	1,784.3	-5,886.2	6,764.6	6,726.0	38.57	175.396	
6,300.0	6,229.5	6,260.9	6,146.5	19.1	20.7	-76.36	1,783.8	-5,886.7	6,765.1	6,726.3	38.82	174.246	
6,400.0	6,329.5	6,345.0	6,230.6	19.2	20.8	-76.36	1,783.8	-5,887.4	6,765.9	6,726.8	39.10	173.028	
6,500.0	6,429.5	6,412.1	6,297.7	19.4	20.9	-76.36	1,784.2	-5,888.2	6,767.1	6,727.7	39.36	171.909	
6,550.3	6,479.8	6,450.7	6,336.4	19.5	21.0	-76.36	1,784.3	-5,888.7	6,767.9	6,728.4	39.50	171.320	
6,600.0	6,529.4	6,497.8	6,383.4	19.5	21.1	13.66	1,784.4	-5,889.5	6,767.0	6,737.0	30.02	225.387	
6,650.0	6,579.2	6,532.0	6,417.6	19.5	21.1	13.75	1,784.4	-5,890.1	6,762.8	6,732.7	30.07	224.930	
6,700.0	6,628.4	6,580.3	6,465.9	19.5	21.2	13.91	1,784.3	-5,890.9	6,755.2	6,725.2	30.03	224.962	
6,750.0	6,676.9	6,626.0	6,511.6	19.5	21.2	14.14	1,784.4	-5,891.9	6,744.4	6,714.6	29.88	225.700	
6,800.0	6,724.5	6,667.1	6,552.7	19.4	21.3	14.46	1,784.4	-5,892.7	6,730.4	6,700.8	29.63	227.139	
6,850.0	6,770.8	6,719.4	6,605.0	19.4	21.4	14.87	1,784.3	-5,893.8	6,713.2	6,683.9	29.31	229.005	
6,900.0	6,815.8	6,786.8	6,672.4	19.3	21.5	15.41	1,784.0	-5,895.1	6,692.7	6,663.7	28.95	231.154	
6,950.0	6,859.1	6,834.2	6,719.8	19.2	21.6	16.05	1,783.8	-5,895.9	6,669.1	6,640.6	28.50	234.042	
7,000.0	6,900.5	6,868.3	6,753.9	19.1	21.6	16.80	1,783.6	-5,896.5	6,642.7	6,614.7	27.98	237.449	
7,050.0	6,939.9	6,907.0	6,792.5	19.1	21.7	17.73	1,783.5	-5,897.2	6,613.5	6,586.0	27.46	240.868	
7,100.0	6,977.1	6,935.1	6,820.6	19.0	21.7	18.83	1,783.5	-5,897.7	6,581.7	6,554.8	26.95	244.252	
7,150.0	7,011.8	6,968.0	6,853.5	19.0	21.8	20.18	1,783.4	-5,898.4	6,547.5	6,521.0	26.52	246.855	
7,200.0	7,044.0	7,000.0	6,885.5	19.1	21.8	21.82	1,783.2	-5,899.0	6,511.0	6,484.7	26.24	248.141	
7,250.0	7,073.4	7,024.0	6,909.5	19.1	21.9	23.81	1,783.1	-5,899.6	6,472.4	6,446.2	26.15	247.478	
7,300.0	7,099.9	7,047.0	6,932.5	19.3	21.9	26.27	1,783.0	-5,900.1	6,431.8	6,405.5	26.38	243.794	
7,350.0	7,123.4	7,067.6	6,953.1	19.5	21.9	29.36	1,782.8	-5,900.6	6,389.6	6,362.6	27.04	236.273	
7,400.0	7,143.7	7,093.0	6,978.5	19.8	22.0	33.35	1,782.5	-5,901.2	6,345.8	6,317.5	28.32	224.105	
7,450.0	7,160.9	7,093.0	6,978.5	20.2	22.0	38.22	1,782.5	-5,901.2	6,300.8	6,270.6	30.17	208.816	
7,500.0	7,174.7	7,111.3	6,996.8	20.7	22.0	44.84	1,782.3	-5,901.7	6,254.6	6,221.6	32.98	189.640	
7,550.0	7,185.1	7,120.0	7,005.5	21.2	22.0	53.37	1,782.2	-5,901.9	6,207.6	6,171.1	36.52	169.995	
7,600.0	7,192.1	7,126.2	7,011.7	21.8	22.0	64.28	1,782.1	-5,902.1	6,160.0	6,119.5	40.41	152.420	
7,650.0	7,195.6	7,129.8	7,015.3	22.5	22.0	77.53	1,782.1	-5,902.2	6,111.9	6,068.2	43.68	139.919	
7,680.0	7,196.0	7,130.7	7,016.2	22.9	22.0	86.23	1,782.1	-5,902.2	6,083.0	6,038.2	44.79	135.809	
7,700.0	7,195.9	7,131.1	7,016.5	23.3	22.0	86.24	1,782.1	-5,902.2	6,063.7	6,018.6	45.09	134.469	
7,800.0	7,195.2	7,132.6	7,018.1	24.9	22.0	86.29	1,782.1	-5,902.2	5,967.3	5,920.5	46.74	127.663	
7,900.0	7,194.6	7,134.2	7,019.7	26.7	22.0	86.35	1,782.1	-5,902.3	5,871.0	5,822.4	48.58	120.840	
8,000.0	7,193.9	7,135.8	7,021.2	28.7	22.0	86.41	1,782.0	-5,902.3	5,774.8	5,724.2	50.58	114.163	
8,100.0	7,193.3	7,137.4	7,022.8	30.9	22.1	86.47	1,782.0	-5,902.4	5,678.8	5,626.1	52.71	107.737	
8,200.0	7,192.6	7,139.0	7,024.4	33.1	22.1	86.52	1,782.0	-5,902.4	5,582.9	5,527.9	54.94	101.623	
8,300.0	7,192.0	7,140.6	7,026.1	35.4	22.1	86.58	1,782.0	-5,902.4	5,487.1	5,429.9	57.25	95.849	
8,400.0	7,191.3	7,142.2	7,027.7	37.8	22.1	86.64	1,782.0	-5,902.5	5,391.5	5,331.9	59.63	90.423	
8,500.0	7,190.7	7,143.9	7,029.3	40.2	22.1	86.70	1,782.0	-5,902.5	5,296.1	5,234.0	62.06	85.338	
8,600.0	7,190.0	7,145.5	7,031.0	42.7	22.1	86.76	1,781.9	-5,902.6	5,200.8	5,136.3	64.54	80.582	
8,700.0	7,189.4	7,147.2	7,032.7	45.2	22.1	86.82	1,781.9	-5,902.6	5,105.7	5,038.7	67.06	76.137	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,148.9	7,034.4	47.8	22.1	86.88	1,781.9	-5,902.7	5,010.9	4,941.2	69.61	71.983	
8,900.0	7,188.0	7,150.6	7,036.0	50.3	22.1	86.94	1,781.9	-5,902.7	4,916.2	4,844.0	72.19	68.099	
9,000.0	7,187.4	7,152.3	7,037.8	52.9	22.1	87.00	1,781.9	-5,902.8	4,821.7	4,746.9	74.79	64.465	
9,100.0	7,186.7	7,154.0	7,039.5	55.6	22.1	87.07	1,781.9	-5,902.8	4,727.4	4,650.0	77.42	61.063	
9,200.0	7,186.1	7,155.8	7,041.2	58.2	22.1	87.13	1,781.8	-5,902.9	4,633.4	4,553.4	80.06	57.874	
9,300.0	7,185.4	7,157.5	7,043.0	60.9	22.1	87.19	1,781.8	-5,902.9	4,539.7	4,457.0	82.72	54.882	
9,400.0	7,184.8	7,159.3	7,044.7	63.5	22.1	87.26	1,781.8	-5,903.0	4,446.2	4,360.8	85.39	52.071	
9,500.0	7,184.1	7,161.0	7,046.5	66.2	22.1	87.32	1,781.8	-5,903.0	4,353.0	4,264.9	88.07	49.426	
9,600.0	7,183.5	7,162.8	7,048.3	68.9	22.1	87.38	1,781.8	-5,903.1	4,260.1	4,169.3	90.76	46.937	
9,700.0	7,182.8	7,164.6	7,050.1	71.6	22.1	87.45	1,781.7	-5,903.1	4,167.6	4,074.1	93.47	44.589	
9,800.0	7,182.2	7,166.5	7,051.9	74.3	22.1	87.52	1,781.7	-5,903.2	4,075.3	3,979.2	96.18	42.374	
9,900.0	7,181.5	7,168.3	7,053.7	77.0	22.1	87.58	1,781.7	-5,903.2	3,983.5	3,884.6	98.89	40.280	
10,000.0	7,180.8	7,170.1	7,055.6	79.7	22.1	87.65	1,781.7	-5,903.3	3,892.1	3,790.5	101.62	38.301	
10,100.0	7,180.2	7,172.0	7,057.5	82.5	22.1	87.72	1,781.7	-5,903.3	3,801.1	3,696.7	104.35	36.426	
10,200.0	7,179.5	7,173.9	7,059.3	85.2	22.1	87.78	1,781.7	-5,903.4	3,710.5	3,603.5	107.09	34.650	
10,300.0	7,178.9	7,175.8	7,061.2	87.9	22.1	87.85	1,781.6	-5,903.5	3,620.5	3,510.7	109.83	32.965	
10,400.0	7,178.2	7,177.7	7,063.1	90.7	22.1	87.92	1,781.6	-5,903.5	3,531.0	3,418.4	112.57	31.366	
10,500.0	7,177.6	7,187.0	7,072.4	93.4	22.1	88.25	1,781.5	-5,903.8	3,442.1	3,326.7	115.35	29.841	
10,600.0	7,176.9	7,187.0	7,072.4	96.2	22.1	88.25	1,781.5	-5,903.8	3,353.8	3,235.7	118.10	28.399	
10,700.0	7,176.2	7,187.0	7,072.4	98.9	22.1	88.26	1,781.5	-5,903.8	3,266.1	3,145.3	120.85	27.027	
10,800.0	7,175.6	7,187.0	7,072.4	101.7	22.1	88.26	1,781.5	-5,903.8	3,179.2	3,055.6	123.60	25.722	
10,900.0	7,174.9	7,187.8	7,073.3	104.4	22.1	88.29	1,781.5	-5,903.8	3,093.1	2,966.7	126.36	24.478	
11,000.0	7,174.3	7,191.1	7,076.6	107.2	22.1	88.40	1,781.5	-5,903.9	3,007.8	2,878.7	129.13	23.293	
11,100.0	7,173.6	7,194.3	7,079.8	109.9	22.1	88.52	1,781.5	-5,904.0	2,923.5	2,791.6	131.90	22.164	
11,200.0	7,172.9	7,197.4	7,082.9	112.7	22.2	88.63	1,781.4	-5,904.1	2,840.2	2,705.5	134.68	21.089	
11,300.0	7,172.3	7,200.4	7,085.8	115.5	22.2	88.74	1,781.4	-5,904.2	2,758.0	2,620.5	137.45	20.065	
11,400.0	7,171.6	7,203.3	7,088.7	118.3	22.2	88.84	1,781.4	-5,904.3	2,677.0	2,536.8	140.23	19.090	
11,500.0	7,171.0	7,206.0	7,091.5	121.0	22.2	88.94	1,781.4	-5,904.3	2,597.3	2,454.3	143.01	18.162	
11,600.0	7,170.3	7,208.7	7,094.1	123.8	22.2	89.04	1,781.3	-5,904.4	2,519.1	2,373.3	145.79	17.279	
11,700.0	7,169.6	7,211.3	7,096.7	126.6	22.2	89.13	1,781.3	-5,904.5	2,442.4	2,293.9	148.57	16.440	
11,797.6	7,169.0	7,213.8	7,099.2	129.3	22.2	89.22	1,781.3	-5,904.5	2,369.3	2,218.1	151.28	15.662	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 usft

Survey Program: 545-MWD

Offset Well Error: 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-71.58	1,646.4	-4,942.8	5,210.0				
100.0	100.0	60.5	60.5	0.1	0.1	-71.58	1,646.4	-4,942.9	5,209.9	5,209.7	0.15	N/A	
200.0	200.0	155.8	155.8	0.3	0.1	-71.58	1,646.5	-4,942.9	5,210.0	5,209.5	0.46	N/A	
300.0	300.0	251.1	251.1	0.5	0.2	-71.58	1,646.6	-4,943.1	5,210.1	5,209.4	0.77	6,767.054	
400.0	400.0	346.3	346.3	0.8	0.3	-71.58	1,646.7	-4,943.4	5,210.4	5,209.4	1.08	4,827.182	
500.0	500.0	441.6	441.6	1.0	0.4	-71.58	1,646.8	-4,943.7	5,210.8	5,209.4	1.39	3,751.861	
600.0	600.0	545.0	545.0	1.2	0.5	-71.58	1,647.1	-4,944.1	5,211.3	5,209.6	1.71	3,055.492	
700.0	700.0	618.8	618.8	1.4	0.6	-71.57	1,647.4	-4,944.5	5,211.9	5,209.9	2.09	2,488.045	
800.0	800.0	711.0	711.0	1.7	0.8	-71.57	1,648.0	-4,945.3	5,212.9	5,210.4	2.52	2,071.232	
900.0	900.0	800.9	800.9	1.9	1.0	-71.56	1,648.9	-4,946.0	5,214.0	5,211.1	2.93	1,780.592	
1,000.0	1,000.0	875.9	875.9	2.1	1.2	-146.20	1,651.2	-4,946.3	5,216.9	5,213.5	3.30	1,579.491	
1,100.0	1,099.8	946.4	946.2	2.3	1.3	-146.10	1,655.4	-4,946.4	5,223.2	5,219.5	3.67	1,423.443	
1,200.0	1,199.5	1,013.0	1,012.6	2.5	1.5	-145.97	1,661.3	-4,946.2	5,232.9	5,228.9	4.04	1,295.770	
1,300.0	1,298.7	1,106.0	1,104.9	2.8	1.7	-145.77	1,672.5	-4,945.3	5,245.9	5,241.4	4.50	1,166.931	
1,400.0	1,397.5	1,165.0	1,163.3	3.1	1.9	-145.55	1,681.0	-4,944.5	5,262.3	5,257.4	4.90	1,074.991	
1,500.0	1,495.6	1,222.7	1,220.2	3.4	2.1	-145.29	1,690.1	-4,943.9	5,282.1	5,276.8	5.31	994.302	
1,500.1	1,495.7	1,222.7	1,220.3	3.4	2.1	-145.29	1,690.1	-4,943.9	5,282.2	5,276.9	5.31	994.224	
1,600.0	1,593.4	1,293.0	1,289.4	3.8	2.3	-145.25	1,702.3	-4,943.6	5,304.3	5,298.5	5.80	914.553	
1,700.0	1,691.3	1,428.4	1,421.7	4.1	2.8	-145.12	1,730.9	-4,941.1	5,326.6	5,320.1	6.56	811.764	
1,800.0	1,789.1	1,543.6	1,533.5	4.5	3.3	-144.96	1,758.6	-4,936.3	5,347.7	5,340.4	7.32	730.169	
1,900.0	1,886.9	1,601.7	1,589.4	4.9	3.6	-144.87	1,774.2	-4,933.6	5,369.2	5,361.3	7.89	680.451	
2,000.0	1,984.7	1,668.0	1,652.7	5.3	3.9	-144.74	1,793.5	-4,930.7	5,391.7	5,383.2	8.52	632.624	
2,100.0	2,082.5	1,730.0	1,711.7	5.7	4.3	-144.62	1,812.6	-4,928.1	5,414.8	5,405.6	9.16	591.019	
2,200.0	2,180.3	1,828.0	1,804.4	6.2	4.9	-144.40	1,843.7	-4,923.3	5,437.9	5,427.9	10.02	542.541	
2,300.0	2,278.1	1,855.0	1,829.9	6.6	5.0	-144.34	1,852.7	-4,921.9	5,461.6	5,451.1	10.49	520.493	
2,400.0	2,375.9	1,948.0	1,916.8	7.0	5.6	-144.11	1,885.4	-4,917.4	5,486.1	5,474.7	11.38	481.898	
2,500.0	2,473.8	1,986.5	1,952.6	7.5	5.9	-144.01	1,899.5	-4,915.9	5,511.4	5,499.5	11.94	461.662	
2,600.0	2,571.6	2,079.2	2,038.8	7.9	6.4	-143.77	1,933.3	-4,911.9	5,537.0	5,524.1	12.81	432.110	
2,700.0	2,669.4	2,243.8	2,191.8	8.3	7.5	-143.35	1,993.5	-4,904.6	5,562.9	5,548.8	14.14	393.518	
2,800.0	2,767.2	2,397.9	2,334.6	8.8	8.5	-142.94	2,050.8	-4,894.5	5,586.8	5,571.4	15.47	361.243	
2,900.0	2,865.0	2,452.7	2,384.6	9.2	8.9	-142.77	2,072.8	-4,890.2	5,610.9	5,594.7	16.19	346.583	
3,000.0	2,962.8	2,511.0	2,437.5	9.7	9.3	-142.59	2,096.8	-4,886.0	5,635.9	5,618.9	16.95	332.457	
3,100.0	3,060.6	2,544.3	2,467.7	10.1	9.6	-142.49	2,110.8	-4,883.7	5,661.8	5,644.2	17.53	322.901	
3,200.0	3,158.5	2,604.0	2,521.6	10.6	10.1	-142.30	2,136.1	-4,880.1	5,688.5	5,670.2	18.31	310.645	
3,300.0	3,256.3	2,688.3	2,598.3	11.0	10.6	-142.05	2,170.8	-4,875.6	5,715.7	5,696.5	19.22	297.371	
3,400.0	3,354.1	2,785.4	2,687.5	11.5	11.3	-141.79	2,209.0	-4,871.3	5,743.0	5,722.8	20.19	284.423	
3,500.0	3,451.9	2,913.7	2,805.0	11.9	12.2	-141.44	2,260.0	-4,864.9	5,770.2	5,748.7	21.43	269.254	
3,600.0	3,549.7	3,189.7	3,059.7	12.4	14.1	-140.73	2,364.6	-4,846.7	5,794.9	5,771.3	23.59	245.643	
3,700.0	3,647.5	3,260.0	3,125.0	12.8	14.6	-140.56	2,390.3	-4,841.8	5,819.3	5,794.9	24.39	238.583	
3,800.0	3,745.3	3,328.1	3,188.3	13.3	15.0	-140.40	2,415.0	-4,837.5	5,844.2	5,819.0	25.16	232.313	
3,900.0	3,843.2	3,389.0	3,245.0	13.7	15.4	-140.26	2,436.8	-4,833.9	5,869.4	5,843.5	25.88	226.834	
4,000.0	3,941.0	3,447.0	3,299.2	14.2	15.8	-140.13	2,457.4	-4,831.1	5,895.4	5,868.8	26.57	221.844	
4,100.0	4,038.8	3,519.3	3,366.7	14.6	16.2	-139.98	2,482.9	-4,828.0	5,921.9	5,894.6	27.36	216.437	
4,200.0	4,136.6	3,607.0	3,448.8	15.1	16.8	-139.80	2,513.7	-4,824.5	5,948.7	5,920.5	28.24	210.659	
4,300.0	4,234.4	3,727.0	3,560.7	15.5	17.6	-139.54	2,556.8	-4,818.9	5,975.2	5,945.9	29.34	203.637	
4,325.2	4,259.1	3,727.0	3,560.7	15.6	17.6	-139.54	2,556.8	-4,818.9	5,982.0	5,952.5	29.43	203.253	
4,400.0	4,332.4	3,779.8	3,609.2	15.9	18.0	-139.66	2,577.2	-4,815.7	6,001.3	5,971.2	30.10	199.373	
4,500.0	4,431.0	3,821.0	3,646.9	16.2	18.3	-139.87	2,593.8	-4,813.3	6,025.8	5,995.0	30.72	196.123	
4,600.0	4,530.2	3,870.4	3,691.8	16.5	18.7	-140.02	2,614.1	-4,810.7	6,048.5	6,017.2	31.38	192.762	
4,700.0	4,629.7	3,915.0	3,732.3	16.7	19.0	-140.15	2,632.8	-4,808.5	6,069.5	6,037.6	31.95	189.945	
4,800.0	4,729.5	3,972.5	3,784.3	16.9	19.4	-140.20	2,657.0	-4,806.0	6,088.7	6,056.1	32.58	186.901	
4,900.0	4,829.5	4,265.0	4,054.8	17.0	21.4	-139.44	2,767.6	-4,794.5	6,103.1	6,068.4	34.66	176.089	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,289.0	4,077.1	17.1	21.6	-64.72	2,776.2	-4,793.5	6,106.3	6,078.9	27.40	222.882	
5,000.0	4,929.5	4,330.5	4,115.9	17.2	21.9	-64.59	2,791.0	-4,791.9	6,115.6	6,087.9	27.66	221.118	
5,100.0	5,029.5	4,613.2	4,383.9	17.3	23.5	-63.80	2,880.4	-4,783.9	6,128.1	6,099.3	28.81	212.697	
5,200.0	5,129.5	4,815.6	4,579.2	17.4	24.5	-63.33	2,932.9	-4,776.7	6,136.2	6,106.6	29.61	207.260	
5,300.0	5,229.5	5,188.5	4,945.2	17.6	25.9	-62.72	3,002.2	-4,769.0	6,144.2	6,113.5	30.77	199.690	
5,400.0	5,329.5	5,292.4	5,048.6	17.7	26.2	-62.62	3,013.2	-4,767.9	6,148.1	6,117.0	31.15	197.379	
5,500.0	5,429.5	5,631.8	5,387.6	17.9	26.6	-62.55	3,022.4	-4,769.3	6,148.8	6,117.0	31.84	193.114	
5,600.0	5,529.5	5,718.2	5,473.9	18.0	26.7	-62.56	3,022.3	-4,769.6	6,149.1	6,117.0	32.12	191.450	
5,700.0	5,629.5	5,819.1	5,574.9	18.1	26.8	-62.56	3,021.9	-4,770.2	6,149.4	6,116.9	32.42	189.684	
5,800.0	5,729.5	5,909.4	5,665.2	18.3	26.8	-62.56	3,021.9	-4,770.5	6,149.7	6,117.0	32.71	188.010	
5,900.0	5,829.5	5,995.8	5,751.6	18.4	26.9	-62.56	3,022.2	-4,770.9	6,150.3	6,117.3	33.00	186.367	
6,000.0	5,929.5	6,109.5	5,865.3	18.6	27.0	-62.56	3,022.8	-4,771.5	6,150.9	6,117.6	33.34	184.514	
6,100.0	6,029.5	6,218.5	5,974.3	18.7	27.1	-62.56	3,023.3	-4,771.5	6,151.2	6,117.5	33.66	182.723	
6,200.0	6,129.5	6,313.1	6,068.9	18.9	27.2	-62.55	3,024.1	-4,771.5	6,151.6	6,117.6	33.98	181.054	
6,300.0	6,229.5	6,410.1	6,165.9	19.1	27.3	-62.54	3,025.1	-4,771.4	6,152.0	6,117.7	34.30	179.374	
6,400.0	6,329.5	6,487.9	6,243.7	19.2	27.4	-62.53	3,026.0	-4,771.5	6,152.6	6,118.0	34.59	177.861	
6,500.0	6,429.5	6,578.3	6,334.0	19.4	27.5	-62.52	3,027.3	-4,771.8	6,153.6	6,118.6	34.91	176.264	
6,550.3	6,479.8	6,639.6	6,395.3	19.5	27.6	-62.52	3,028.3	-4,771.9	6,154.0	6,118.9	35.10	175.334	
6,600.0	6,529.4	6,685.4	6,441.2	19.5	27.7	27.54	3,029.1	-4,771.8	6,152.9	6,109.4	43.43	141.674	
6,650.0	6,579.2	6,730.7	6,486.4	19.5	27.7	27.72	3,030.0	-4,771.8	6,148.7	6,105.4	43.31	141.970	
6,700.0	6,628.4	6,773.4	6,529.1	19.5	27.8	28.03	3,030.9	-4,771.9	6,141.5	6,098.4	43.03	142.732	
6,750.0	6,676.9	6,815.6	6,571.4	19.5	27.8	28.48	3,031.8	-4,771.9	6,131.3	6,088.7	42.60	143.943	
6,800.0	6,724.5	6,875.7	6,631.4	19.4	27.9	29.11	3,033.1	-4,771.9	6,118.1	6,076.1	42.05	145.500	
6,850.0	6,770.8	6,923.4	6,679.1	19.4	28.0	29.87	3,034.1	-4,771.8	6,102.0	6,060.6	41.37	147.510	
6,900.0	6,815.8	6,956.9	6,712.6	19.3	28.0	30.78	3,034.9	-4,771.8	6,083.1	6,042.5	40.57	149.955	
6,950.0	6,859.1	6,989.2	6,744.9	19.2	28.1	31.87	3,035.7	-4,771.8	6,061.5	6,021.8	39.69	152.720	
7,000.0	6,900.5	7,002.0	6,757.7	19.1	28.1	33.09	3,036.0	-4,771.8	6,037.5	5,998.7	38.74	155.832	
7,050.0	6,939.9	7,038.9	6,794.5	19.1	28.1	34.63	3,037.1	-4,771.9	6,011.0	5,973.2	37.83	158.888	
7,100.0	6,977.1	7,060.4	6,816.1	19.0	28.2	36.36	3,037.7	-4,772.1	5,982.3	5,945.4	36.94	161.967	
7,150.0	7,011.8	7,095.0	6,850.6	19.0	28.2	38.46	3,038.9	-4,772.3	5,951.6	5,915.4	36.16	164.600	
7,200.0	7,044.0	7,104.4	6,860.0	19.1	28.2	40.74	3,039.2	-4,772.4	5,918.8	5,883.3	35.48	166.829	
7,250.0	7,073.4	7,140.0	6,895.6	19.1	28.3	43.59	3,040.5	-4,772.7	5,884.1	5,849.0	35.07	167.779	
7,300.0	7,099.9	7,172.1	6,927.7	19.3	28.3	46.89	3,041.7	-4,772.9	5,847.7	5,812.8	34.93	167.426	
7,350.0	7,123.4	7,201.4	6,957.0	19.5	28.4	50.70	3,042.8	-4,773.0	5,809.8	5,774.7	35.09	165.566	
7,400.0	7,143.7	7,228.1	6,983.6	19.8	28.4	55.06	3,043.9	-4,773.1	5,770.5	5,734.9	35.57	162.226	
7,450.0	7,160.9	7,250.3	7,005.8	20.2	28.5	59.99	3,044.8	-4,773.1	5,730.1	5,693.8	36.33	157.738	
7,500.0	7,174.7	7,268.0	7,023.5	20.7	28.5	65.48	3,045.5	-4,773.1	5,688.8	5,651.5	37.27	152.626	
7,550.0	7,185.1	7,281.2	7,036.7	21.2	28.5	71.47	3,046.1	-4,773.1	5,646.8	5,608.5	38.28	147.523	
7,600.0	7,192.1	7,290.7	7,046.2	21.8	28.5	77.86	3,046.5	-4,773.0	5,604.3	5,565.1	39.19	143.001	
7,650.0	7,195.6	7,295.4	7,050.9	22.5	28.5	84.47	3,046.7	-4,773.0	5,561.6	5,521.7	39.87	139.488	
7,680.0	7,196.0	7,295.9	7,051.3	22.9	28.5	88.45	3,046.8	-4,773.0	5,535.9	5,495.7	40.13	137.937	
7,700.0	7,195.9	7,295.6	7,051.0	23.3	28.5	88.44	3,046.7	-4,773.0	5,518.8	5,478.3	40.44	136.483	
7,800.0	7,195.2	7,294.1	7,049.5	24.9	28.5	88.41	3,046.7	-4,773.0	5,433.5	5,391.4	42.08	129.117	
7,900.0	7,194.6	7,292.6	7,048.1	26.7	28.5	88.39	3,046.6	-4,773.0	5,348.7	5,304.8	43.92	121.778	
8,000.0	7,193.9	7,291.2	7,046.7	28.7	28.5	88.36	3,046.5	-4,773.0	5,264.5	5,218.5	45.92	114.648	
8,100.0	7,193.3	7,289.9	7,045.4	30.9	28.5	88.33	3,046.5	-4,773.1	5,180.8	5,132.7	48.04	107.839	
8,200.0	7,192.6	7,288.6	7,044.1	33.1	28.5	88.31	3,046.4	-4,773.1	5,097.7	5,047.4	50.27	101.413	
8,300.0	7,192.0	7,287.3	7,042.8	35.4	28.5	88.28	3,046.4	-4,773.1	5,015.2	4,962.6	52.57	95.393	
8,400.0	7,191.3	7,286.1	7,041.6	37.8	28.5	88.26	3,046.3	-4,773.1	4,933.4	4,878.4	54.95	89.780	
8,500.0	7,190.7	7,285.0	7,040.4	40.2	28.5	88.23	3,046.3	-4,773.1	4,852.2	4,794.9	57.38	84.562	
8,600.0	7,190.0	7,283.8	7,039.3	42.7	28.5	88.21	3,046.2	-4,773.1	4,771.8	4,712.0	59.86	79.719	
8,700.0	7,189.4	7,282.8	7,038.2	45.2	28.5	88.19	3,046.2	-4,773.1	4,692.1	4,629.8	62.37	75.227	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,281.7	7,037.2	47.8	28.5	88.17	3,046.1	-4,773.1	4,613.3	4,548.3	64.92	71.059	
8,900.0	7,188.0	7,280.7	7,036.2	50.3	28.5	88.15	3,046.1	-4,773.1	4,535.2	4,467.7	67.50	67.191	
9,000.0	7,187.4	7,279.7	7,035.2	52.9	28.5	88.13	3,046.0	-4,773.1	4,458.0	4,387.9	70.10	63.599	
9,100.0	7,186.7	7,278.7	7,034.2	55.6	28.5	88.11	3,046.0	-4,773.1	4,381.8	4,309.1	72.71	60.260	
9,200.0	7,186.1	7,277.7	7,033.2	58.2	28.5	88.09	3,045.9	-4,773.1	4,306.5	4,231.1	75.35	57.152	
9,300.0	7,185.4	7,276.8	7,032.2	60.9	28.5	88.07	3,045.9	-4,773.1	4,232.2	4,154.2	78.00	54.257	
9,400.0	7,184.8	7,275.8	7,031.3	63.5	28.5	88.05	3,045.9	-4,773.1	4,159.0	4,078.4	80.67	51.558	
9,500.0	7,184.1	7,274.9	7,030.4	66.2	28.5	88.03	3,045.8	-4,773.1	4,087.0	4,003.7	83.34	49.037	
9,600.0	7,183.5	7,274.0	7,029.5	68.9	28.5	88.02	3,045.8	-4,773.1	4,016.2	3,930.1	86.03	46.683	
9,700.0	7,182.8	7,273.1	7,028.6	71.6	28.5	88.00	3,045.8	-4,773.1	3,946.6	3,857.8	88.73	44.480	
9,800.0	7,182.2	7,272.2	7,027.7	74.3	28.5	87.98	3,045.7	-4,773.1	3,878.3	3,786.9	91.43	42.418	
9,900.0	7,181.5	7,271.3	7,026.8	77.0	28.5	87.96	3,045.7	-4,773.1	3,811.5	3,717.3	94.14	40.486	
10,000.0	7,180.8	7,270.5	7,026.0	79.7	28.5	87.95	3,045.6	-4,773.1	3,746.1	3,649.2	96.86	38.675	
10,100.0	7,180.2	7,269.7	7,025.1	82.5	28.5	87.93	3,045.6	-4,773.1	3,682.3	3,582.7	99.58	36.977	
10,200.0	7,179.5	7,268.8	7,024.3	85.2	28.5	87.91	3,045.6	-4,773.1	3,620.1	3,517.8	102.31	35.382	
10,300.0	7,178.9	7,268.0	7,023.5	87.9	28.5	87.90	3,045.5	-4,773.1	3,559.6	3,454.6	105.05	33.886	
10,400.0	7,178.2	7,267.2	7,022.7	90.7	28.5	87.88	3,045.5	-4,773.1	3,501.0	3,393.2	107.78	32.481	
10,500.0	7,177.6	7,266.4	7,021.9	93.4	28.5	87.87	3,045.5	-4,773.1	3,444.2	3,333.7	110.53	31.162	
10,600.0	7,176.9	7,265.7	7,021.1	96.2	28.5	87.85	3,045.4	-4,773.1	3,389.5	3,276.2	113.27	29.923	
10,700.0	7,176.2	7,264.9	7,020.4	98.9	28.5	87.83	3,045.4	-4,773.1	3,336.8	3,220.8	116.02	28.761	
10,800.0	7,175.6	7,264.1	7,019.6	101.7	28.5	87.82	3,045.4	-4,773.1	3,286.4	3,167.6	118.77	27.669	
10,900.0	7,174.9	7,263.4	7,018.9	104.4	28.5	87.80	3,045.3	-4,773.1	3,238.3	3,116.7	121.53	26.646	
11,000.0	7,174.3	7,262.7	7,018.2	107.2	28.5	87.79	3,045.3	-4,773.1	3,192.5	3,068.2	124.29	25.687	
11,100.0	7,173.6	7,261.9	7,017.4	109.9	28.5	87.78	3,045.3	-4,773.1	3,149.3	3,022.3	127.05	24.789	
11,200.0	7,172.9	7,261.2	7,016.7	112.7	28.5	87.76	3,045.2	-4,773.1	3,108.7	2,978.9	129.81	23.948	
11,300.0	7,172.3	7,260.5	7,016.0	115.5	28.5	87.75	3,045.2	-4,773.1	3,070.8	2,938.2	132.57	23.163	
11,400.0	7,171.6	7,259.8	7,015.3	118.3	28.5	87.73	3,045.2	-4,773.1	3,035.8	2,900.4	135.34	22.431	
11,500.0	7,171.0	7,259.2	7,014.7	121.0	28.5	87.72	3,045.2	-4,773.1	3,003.6	2,865.5	138.11	21.749	
11,600.0	7,170.3	7,258.5	7,014.0	123.8	28.5	87.71	3,045.1	-4,773.1	2,974.5	2,833.6	140.88	21.114	
11,700.0	7,169.6	7,257.8	7,013.3	126.6	28.5	87.69	3,045.1	-4,773.1	2,948.5	2,804.8	143.65	20.526	
11,797.6	7,169.0	7,257.2	7,012.7	129.3	28.5	87.68	3,045.1	-4,773.1	2,926.2	2,779.8	146.35	19.994	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20ND - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-71.43	1,654.1	-4,923.6	5,194.1				
100.0	100.0	59.9	59.9	0.1	0.1	-71.43	1,654.1	-4,923.6	5,194.0	5,193.9	0.15	N/A	
200.0	200.0	154.2	154.2	0.3	0.1	-71.43	1,654.1	-4,923.7	5,194.2	5,193.7	0.46	N/A	
300.0	300.0	248.6	248.6	0.5	0.2	-71.43	1,654.0	-4,924.0	5,194.4	5,193.6	0.77	6,765.335	
400.0	400.0	342.9	342.9	0.8	0.3	-71.43	1,654.0	-4,924.3	5,194.7	5,193.7	1.08	4,825.797	
500.0	500.0	437.2	437.2	1.0	0.4	-71.44	1,653.9	-4,924.8	5,195.2	5,193.8	1.39	3,750.750	
600.0	600.0	545.0	545.0	1.2	0.5	-71.44	1,653.8	-4,925.5	5,195.8	5,194.1	1.71	3,046.095	
700.0	700.0	614.0	614.0	1.4	0.6	-71.44	1,653.8	-4,926.1	5,196.5	5,194.4	2.09	2,491.490	
800.0	800.0	709.8	709.8	1.7	0.8	-71.45	1,653.5	-4,927.2	5,197.5	5,195.0	2.52	2,065.518	
900.0	900.0	806.7	806.7	1.9	1.1	-71.46	1,653.2	-4,928.4	5,198.6	5,195.6	2.95	1,763.819	
1,000.0	1,000.0	908.1	908.1	2.1	1.3	-146.13	1,652.7	-4,929.7	5,201.1	5,197.8	3.38	1,537.908	
1,100.0	1,099.8	1,011.5	1,011.5	2.3	1.5	-146.11	1,652.2	-4,931.0	5,206.5	5,202.7	3.79	1,372.091	
1,200.0	1,199.5	1,095.8	1,095.8	2.5	1.6	-146.07	1,652.1	-4,932.1	5,214.9	5,210.7	4.17	1,249.478	
1,300.0	1,298.7	1,335.6	1,335.5	2.8	2.1	-146.15	1,650.9	-4,932.6	5,225.3	5,220.4	4.87	1,072.591	
1,400.0	1,397.5	1,444.1	1,444.0	3.1	2.3	-146.10	1,652.6	-4,930.1	5,236.5	5,231.2	5.31	985.525	
1,500.0	1,495.6	1,516.9	1,516.7	3.4	2.5	-146.00	1,653.8	-4,928.6	5,251.1	5,245.4	5.71	920.246	
1,500.1	1,495.7	1,517.0	1,516.8	3.4	2.5	-146.00	1,653.8	-4,928.6	5,251.1	5,245.4	5.71	920.181	
1,600.0	1,593.4	1,592.6	1,592.4	3.8	2.7	-146.08	1,655.2	-4,927.5	5,267.6	5,261.5	6.14	858.525	
1,700.0	1,691.3	1,677.0	1,676.8	4.1	2.8	-146.17	1,656.6	-4,926.6	5,284.5	5,277.9	6.59	801.387	
1,800.0	1,789.1	1,870.6	1,870.4	4.5	3.3	-146.36	1,660.5	-4,923.5	5,301.4	5,294.1	7.27	728.739	
1,900.0	1,886.9	2,635.1	2,629.9	4.9	5.0	-146.89	1,677.5	-4,849.3	5,309.7	5,300.5	9.20	577.418	
2,000.0	1,984.7	2,697.0	2,691.0	5.3	5.2	-146.92	1,679.5	-4,839.6	5,313.1	5,303.5	9.64	551.196	
2,100.0	2,082.5	2,829.6	2,821.9	5.7	5.6	-146.97	1,683.4	-4,818.7	5,316.6	5,306.3	10.26	518.288	
2,200.0	2,180.3	2,914.7	2,905.7	6.2	5.8	-147.00	1,686.4	-4,804.8	5,319.5	5,308.8	10.77	493.901	
2,300.0	2,278.1	2,977.0	2,967.3	6.6	6.0	-147.02	1,688.3	-4,795.0	5,323.0	5,311.8	11.23	473.946	
2,400.0	2,375.9	3,036.5	3,026.1	7.0	6.2	-147.05	1,689.6	-4,786.2	5,327.2	5,315.5	11.68	455.946	
2,500.0	2,473.8	3,091.8	3,080.9	7.5	6.4	-147.09	1,690.4	-4,778.7	5,332.3	5,320.1	12.13	439.690	
2,600.0	2,571.6	3,165.0	3,153.5	7.9	6.6	-147.14	1,691.2	-4,769.6	5,338.2	5,325.6	12.61	423.251	
2,700.0	2,669.4	3,201.0	3,189.3	8.3	6.7	-147.17	1,691.6	-4,765.4	5,344.8	5,331.8	13.01	410.769	
2,800.0	2,767.2	3,258.0	3,245.9	8.8	6.8	-147.21	1,692.5	-4,759.2	5,352.5	5,339.1	13.46	397.636	
2,900.0	2,865.0	3,258.0	3,245.9	9.2	6.8	-147.21	1,692.5	-4,759.2	5,361.4	5,347.6	13.78	389.087	
3,000.0	2,962.8	3,352.0	3,339.5	9.7	7.1	-147.28	1,694.3	-4,751.1	5,371.3	5,357.0	14.31	375.265	
3,100.0	3,060.6	3,352.0	3,339.5	10.1	7.1	-147.28	1,694.3	-4,751.1	5,382.2	5,367.6	14.63	367.791	
3,200.0	3,158.5	3,397.6	3,385.0	10.6	7.2	-147.31	1,695.2	-4,748.2	5,394.4	5,379.3	15.06	358.300	
3,300.0	3,256.3	3,446.0	3,433.4	11.0	7.3	-147.36	1,696.0	-4,745.8	5,407.7	5,392.2	15.48	349.247	
3,400.0	3,354.1	3,446.0	3,433.4	11.5	7.3	-147.36	1,696.0	-4,745.8	5,422.3	5,406.5	15.81	343.049	
3,500.0	3,451.9	3,504.7	3,492.0	11.9	7.4	-147.41	1,696.6	-4,744.1	5,437.8	5,421.5	16.25	334.640	
3,600.0	3,549.7	3,540.0	3,527.3	12.4	7.5	-147.46	1,696.5	-4,743.8	5,454.6	5,438.0	16.64	327.706	
3,700.0	3,647.5	3,614.2	3,601.6	12.8	7.6	-147.55	1,696.0	-4,744.0	5,472.3	5,455.2	17.11	319.807	
3,800.0	3,745.3	3,705.4	3,692.7	13.3	7.8	-147.66	1,695.6	-4,744.4	5,490.2	5,472.6	17.61	311.820	
3,900.0	3,843.2	3,792.1	3,779.4	13.7	8.0	-147.77	1,695.4	-4,744.8	5,508.3	5,490.2	18.09	304.449	
4,000.0	3,941.0	3,904.1	3,891.4	14.2	8.2	-147.91	1,694.6	-4,745.5	5,526.4	5,507.8	18.62	296.761	
4,100.0	4,038.8	3,988.4	3,975.7	14.6	8.3	-148.02	1,694.1	-4,745.9	5,544.5	5,525.4	19.10	290.268	
4,200.0	4,136.6	4,101.0	4,088.3	15.1	8.5	-148.16	1,692.5	-4,746.7	5,562.5	5,542.9	19.63	283.360	
4,300.0	4,234.4	4,176.5	4,163.8	15.5	8.7	-148.26	1,691.1	-4,747.3	5,580.5	5,560.5	20.09	277.755	
4,325.2	4,259.1	4,194.0	4,181.3	15.6	8.7	-148.29	1,690.8	-4,747.5	5,585.2	5,565.0	20.21	276.426	
4,400.0	4,332.4	4,247.0	4,234.3	15.9	8.8	-148.50	1,689.9	-4,748.3	5,598.4	5,577.9	20.53	272.698	
4,500.0	4,431.0	4,389.1	4,376.3	16.2	9.1	-148.81	1,687.3	-4,750.4	5,613.6	5,592.5	21.04	266.768	
4,600.0	4,530.2	4,490.5	4,477.7	16.5	9.3	-149.02	1,685.8	-4,751.1	5,625.0	5,603.6	21.45	262.228	
4,700.0	4,629.7	4,569.0	4,556.2	16.7	9.4	-149.15	1,685.3	-4,751.6	5,633.8	5,612.0	21.79	258.519	
4,800.0	4,729.5	4,680.0	4,667.2	16.9	9.6	-149.25	1,685.4	-4,752.2	5,639.6	5,617.4	22.17	254.358	
4,900.0	4,829.5	4,756.0	4,743.2	17.0	9.8	-149.29	1,685.8	-4,752.7	5,642.6	5,620.1	22.45	251.302	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20ND - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,765.2	4,752.5	17.1	9.8	-74.61	1,685.8	-4,752.8	5,643.0	5,617.4	25.60	220.387	
5,000.0	4,929.5	4,846.5	4,833.7	17.2	10.0	-74.61	1,686.2	-4,753.7	5,643.8	5,617.9	25.86	218.218	
5,100.0	5,029.5	4,942.0	4,929.2	17.3	10.1	-74.61	1,686.4	-4,754.7	5,644.9	5,618.7	26.20	215.485	
5,200.0	5,129.5	5,036.8	5,024.0	17.4	10.3	-74.61	1,686.6	-4,755.9	5,646.1	5,619.6	26.53	212.817	
5,300.0	5,229.5	5,139.5	5,126.6	17.6	10.5	-74.61	1,686.7	-4,757.1	5,647.3	5,620.4	26.88	210.091	
5,400.0	5,329.5	5,228.9	5,216.1	17.7	10.7	-74.61	1,686.8	-4,758.3	5,648.6	5,621.4	27.21	207.604	
5,500.0	5,429.5	5,334.3	5,321.4	17.9	10.9	-74.62	1,686.6	-4,759.7	5,649.9	5,622.3	27.57	204.933	
5,600.0	5,529.5	5,426.6	5,413.7	18.0	11.1	-74.62	1,686.6	-4,761.0	5,651.2	5,623.3	27.91	202.513	
5,700.0	5,629.5	5,513.7	5,500.8	18.1	11.3	-74.63	1,686.3	-4,762.5	5,652.7	5,624.5	28.23	200.208	
5,800.0	5,729.5	5,724.7	5,711.8	18.3	11.7	-74.66	1,684.1	-4,765.4	5,654.3	5,625.4	28.82	196.222	
5,900.0	5,829.5	5,841.9	5,829.0	18.4	11.9	-74.66	1,683.8	-4,764.6	5,653.5	5,624.2	29.21	193.523	
6,000.0	5,929.5	5,930.1	5,917.2	18.6	12.1	-74.66	1,683.8	-4,764.1	5,653.0	5,623.4	29.56	191.261	
6,100.0	6,029.5	6,025.1	6,012.2	18.7	12.3	-74.66	1,683.3	-4,763.9	5,652.6	5,622.7	29.92	188.949	
6,200.0	6,129.5	6,123.0	6,110.1	18.9	12.5	-74.67	1,682.6	-4,763.8	5,652.3	5,622.0	30.28	186.651	
6,300.0	6,229.5	6,211.0	6,198.1	19.1	12.7	-74.68	1,681.8	-4,763.8	5,652.0	5,621.4	30.63	184.532	
6,324.1	6,253.5	6,230.0	6,217.0	19.1	12.7	-74.68	1,681.6	-4,763.8	5,652.0	5,621.3	30.71	184.057	
6,400.0	6,329.5	6,305.7	6,292.8	19.2	12.9	-74.68	1,681.3	-4,763.9	5,652.1	5,621.1	30.99	182.393	
6,474.3	6,403.8	6,379.9	6,367.0	19.3	13.0	-74.68	1,681.2	-4,763.9	5,652.1	5,620.8	31.26	180.787	
6,500.0	6,429.5	6,402.5	6,389.5	19.4	13.1	-74.69	1,681.1	-4,764.0	5,652.1	5,620.7	31.35	180.273	
6,550.3	6,479.8	6,440.0	6,427.1	19.5	13.1	-74.69	1,681.1	-4,764.0	5,652.1	5,620.6	31.51	179.353	
6,600.0	6,529.4	6,488.4	6,475.5	19.5	13.2	15.35	1,681.1	-4,764.1	5,650.6	5,621.7	28.89	195.594	
6,650.0	6,579.2	6,533.0	6,520.1	19.5	13.3	15.47	1,681.0	-4,764.3	5,645.7	5,616.9	28.82	195.884	
6,700.0	6,628.4	6,590.9	6,578.0	19.5	13.4	15.67	1,681.0	-4,764.5	5,637.6	5,608.9	28.68	196.550	
6,750.0	6,676.9	6,655.1	6,642.1	19.5	13.6	15.97	1,680.9	-4,764.6	5,626.0	5,597.5	28.46	197.655	
6,800.0	6,724.5	6,720.0	6,707.1	19.4	13.7	16.39	1,681.2	-4,764.4	5,611.0	5,582.9	28.16	199.240	
6,850.0	6,770.8	6,756.6	6,743.7	19.4	13.8	16.88	1,681.5	-4,764.2	5,592.9	5,565.1	27.73	201.695	
6,900.0	6,815.8	6,790.7	6,777.8	19.3	13.9	17.48	1,681.8	-4,764.1	5,571.7	5,544.5	27.23	204.615	
6,950.0	6,859.1	6,814.0	6,801.1	19.2	13.9	18.20	1,682.1	-4,764.1	5,547.7	5,521.1	26.66	208.062	
7,000.0	6,900.5	6,851.6	6,838.7	19.1	14.0	19.10	1,682.6	-4,764.0	5,521.0	5,494.9	26.11	211.461	
7,050.0	6,939.9	6,879.2	6,866.3	19.1	14.0	20.15	1,683.0	-4,764.1	5,491.6	5,466.1	25.54	215.055	
7,100.0	6,977.1	6,908.0	6,895.1	19.0	14.1	21.42	1,683.4	-4,764.2	5,459.7	5,434.7	25.01	218.336	
7,150.0	7,011.8	6,936.6	6,923.7	19.0	14.2	22.96	1,683.7	-4,764.4	5,425.5	5,400.9	24.56	220.899	
7,200.0	7,044.0	6,966.5	6,953.6	19.1	14.2	24.84	1,684.1	-4,764.6	5,389.0	5,364.8	24.26	222.133	
7,250.0	7,073.4	6,993.9	6,981.0	19.1	14.3	27.12	1,684.4	-4,764.8	5,350.5	5,326.3	24.16	221.440	
7,300.0	7,099.9	7,026.3	7,013.3	19.3	14.3	29.99	1,684.8	-4,765.0	5,310.1	5,285.7	24.38	217.829	
7,350.0	7,123.4	7,057.5	7,044.6	19.5	14.4	33.59	1,685.2	-4,765.2	5,268.0	5,243.0	24.99	210.839	
7,400.0	7,143.7	7,084.5	7,071.6	19.8	14.5	38.09	1,685.5	-4,765.3	5,224.4	5,198.3	26.07	200.376	
7,450.0	7,160.9	7,105.2	7,092.3	20.2	14.5	43.74	1,685.7	-4,765.4	5,179.5	5,151.8	27.70	186.993	
7,500.0	7,174.7	7,120.7	7,107.8	20.7	14.5	50.84	1,685.9	-4,765.4	5,133.6	5,103.7	29.87	171.860	
7,550.0	7,185.1	7,132.5	7,119.5	21.2	14.6	59.71	1,686.1	-4,765.4	5,086.9	5,054.5	32.45	156.782	
7,600.0	7,192.1	7,140.4	7,127.4	21.8	14.6	70.40	1,686.2	-4,765.5	5,039.7	5,004.7	35.01	143.933	
7,650.0	7,195.6	7,144.4	7,131.4	22.5	14.6	82.54	1,686.2	-4,765.5	4,992.1	4,955.2	36.93	135.190	
7,680.0	7,196.0	7,144.9	7,132.0	22.9	14.6	90.12	1,686.2	-4,765.5	4,963.5	4,926.0	37.51	132.332	
7,700.0	7,195.9	7,144.8	7,131.9	23.3	14.6	90.12	1,686.2	-4,765.5	4,944.4	4,906.6	37.81	130.770	
7,800.0	7,195.2	7,144.3	7,131.4	24.9	14.6	90.10	1,686.2	-4,765.5	4,849.2	4,809.8	39.46	122.899	
7,900.0	7,194.6	7,143.8	7,130.9	26.7	14.6	90.08	1,686.2	-4,765.5	4,754.2	4,712.9	41.30	115.119	
8,000.0	7,193.9	7,143.3	7,130.4	28.7	14.6	90.07	1,686.2	-4,765.5	4,659.4	4,616.1	43.30	107.617	
8,100.0	7,193.3	7,142.9	7,129.9	30.9	14.6	90.05	1,686.2	-4,765.5	4,564.8	4,519.4	45.42	100.501	
8,200.0	7,192.6	7,142.4	7,129.4	33.1	14.6	90.03	1,686.2	-4,765.5	4,470.5	4,422.9	47.65	93.825	
8,300.0	7,192.0	7,141.9	7,128.9	35.4	14.6	90.01	1,686.2	-4,765.5	4,376.4	4,326.5	49.96	87.604	
8,400.0	7,191.3	7,141.4	7,128.5	37.8	14.6	89.99	1,686.2	-4,765.5	4,282.6	4,230.3	52.33	81.832	
8,500.0	7,190.7	7,140.9	7,128.0	40.2	14.6	89.97	1,686.2	-4,765.5	4,189.0	4,134.3	54.77	76.490	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20ND - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 545-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	7,140.4	7,127.5	42.7	14.6	89.96	1,686.2	-4,765.5	4,095.8	4,038.6	57.24	71.549	
8,700.0	7,189.4	7,140.0	7,127.0	45.2	14.6	89.94	1,686.2	-4,765.5	4,002.9	3,943.1	59.76	66.981	
8,800.0	7,188.7	7,139.5	7,126.5	47.8	14.6	89.92	1,686.2	-4,765.5	3,910.4	3,848.0	62.31	62.755	
8,900.0	7,188.0	7,139.0	7,126.1	50.3	14.6	89.90	1,686.1	-4,765.5	3,818.2	3,753.3	64.89	58.842	
9,000.0	7,187.4	7,138.5	7,125.6	52.9	14.6	89.89	1,686.1	-4,765.5	3,726.4	3,658.9	67.49	55.214	
9,100.0	7,186.7	7,138.1	7,125.1	55.6	14.6	89.87	1,686.1	-4,765.5	3,635.1	3,564.9	70.11	51.848	
9,200.0	7,186.1	7,137.6	7,124.7	58.2	14.6	89.85	1,686.1	-4,765.5	3,544.2	3,471.4	72.75	48.718	
9,300.0	7,185.4	7,137.1	7,124.2	60.9	14.6	89.83	1,686.1	-4,765.5	3,453.8	3,378.4	75.40	45.805	
9,400.0	7,184.8	7,136.7	7,123.7	63.5	14.6	89.82	1,686.1	-4,765.5	3,364.0	3,285.9	78.07	43.090	
9,500.0	7,184.1	7,136.2	7,123.3	66.2	14.6	89.80	1,686.1	-4,765.5	3,274.7	3,194.0	80.75	40.556	
9,600.0	7,183.5	7,135.7	7,122.8	68.9	14.6	89.78	1,686.1	-4,765.5	3,186.1	3,102.7	83.44	38.187	
9,700.0	7,182.8	7,135.3	7,122.3	71.6	14.6	89.76	1,686.1	-4,765.5	3,098.2	3,012.1	86.13	35.970	
9,800.0	7,182.2	7,134.8	7,121.9	74.3	14.6	89.75	1,686.1	-4,765.5	3,011.1	2,922.2	88.84	33.894	
9,900.0	7,181.5	7,134.4	7,121.4	77.0	14.6	89.73	1,686.1	-4,765.5	2,924.8	2,833.2	91.55	31.946	
10,000.0	7,180.8	7,133.9	7,121.0	79.7	14.6	89.71	1,686.1	-4,765.5	2,839.3	2,745.1	94.27	30.118	
10,100.0	7,180.2	7,133.5	7,120.5	82.5	14.6	89.70	1,686.1	-4,765.4	2,754.9	2,657.9	97.00	28.401	
10,200.0	7,179.5	7,133.0	7,120.1	85.2	14.6	89.68	1,686.1	-4,765.4	2,671.5	2,571.8	99.73	26.788	
10,300.0	7,178.9	7,132.6	7,119.6	87.9	14.6	89.66	1,686.1	-4,765.4	2,589.3	2,486.8	102.46	25.270	
10,400.0	7,178.2	7,132.1	7,119.2	90.7	14.6	89.64	1,686.1	-4,765.4	2,508.4	2,403.2	105.20	23.843	
10,500.0	7,177.6	7,131.7	7,118.7	93.4	14.6	89.63	1,686.1	-4,765.4	2,428.9	2,321.0	107.95	22.501	
10,600.0	7,176.9	7,131.2	7,118.3	96.2	14.6	89.61	1,686.1	-4,765.4	2,351.0	2,240.3	110.70	21.238	
10,700.0	7,176.2	7,130.8	7,117.9	98.9	14.6	89.59	1,686.1	-4,765.4	2,274.8	2,161.4	113.45	20.052	
10,800.0	7,175.6	7,130.4	7,117.4	101.7	14.5	89.58	1,686.0	-4,765.4	2,200.5	2,084.3	116.20	18.937	
10,900.0	7,174.9	7,129.9	7,117.0	104.4	14.5	89.56	1,686.0	-4,765.4	2,128.4	2,009.4	118.96	17.891	
11,000.0	7,174.3	7,129.5	7,116.5	107.2	14.5	89.54	1,686.0	-4,765.4	2,058.5	1,936.8	121.72	16.912	
11,100.0	7,173.6	7,129.1	7,116.1	109.9	14.5	89.53	1,686.0	-4,765.4	1,991.2	1,866.8	124.48	15.996	
11,200.0	7,172.9	7,128.6	7,115.7	112.7	14.5	89.51	1,686.0	-4,765.4	1,926.8	1,799.6	127.25	15.142	
11,300.0	7,172.3	7,128.2	7,115.3	115.5	14.5	89.50	1,686.0	-4,765.4	1,865.5	1,735.5	130.01	14.349	
11,400.0	7,171.6	7,127.8	7,114.8	118.3	14.5	89.48	1,686.0	-4,765.4	1,807.7	1,674.9	132.78	13.614	
11,500.0	7,171.0	7,127.3	7,114.4	121.0	14.5	89.46	1,686.0	-4,765.4	1,753.6	1,618.1	135.55	12.937	
11,600.0	7,170.3	7,126.9	7,114.0	123.8	14.5	89.45	1,686.0	-4,765.4	1,703.8	1,565.4	138.32	12.317	
11,700.0	7,169.6	7,126.5	7,113.5	126.6	14.5	89.43	1,686.0	-4,765.4	1,658.4	1,517.3	141.10	11.754	
11,797.6	7,169.0	7,126.1	7,113.1	129.3	14.5	89.41	1,686.0	-4,765.4	1,618.9	1,475.1	143.80	11.258	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20OD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 575-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-71.89	1,629.3	-4,981.1	5,240.9				
100.0	100.0	64.7	64.7	0.1	0.1	-71.89	1,629.3	-4,981.1	5,240.8	5,240.6	0.16	N/A	
200.0	200.0	166.7	166.7	0.3	0.2	-71.89	1,629.1	-4,981.1	5,240.7	5,240.2	0.47	N/A	
300.0	300.0	268.7	268.7	0.5	0.2	-71.89	1,628.8	-4,981.1	5,240.6	5,239.8	0.79	6,639.499	
400.0	400.0	370.6	370.6	0.8	0.3	-71.90	1,628.3	-4,981.1	5,240.5	5,239.4	1.11	4,737.695	
500.0	500.0	472.6	472.6	1.0	0.4	-71.90	1,627.6	-4,981.2	5,240.4	5,238.9	1.42	3,682.742	
600.0	600.0	574.5	574.5	1.2	0.5	-71.91	1,626.8	-4,981.2	5,240.2	5,238.4	1.74	3,011.994	
658.6	658.6	622.1	622.1	1.4	0.6	-71.92	1,626.4	-4,981.3	5,240.1	5,238.1	1.97	2,662.497	
700.0	700.0	655.7	655.7	1.4	0.7	-71.92	1,626.2	-4,981.4	5,240.1	5,238.0	2.13	2,460.698	
800.0	800.0	802.8	802.7	1.7	1.0	-71.94	1,623.9	-4,981.4	5,239.6	5,236.9	2.66	1,969.091	
900.0	900.0	969.8	969.7	1.9	1.4	-71.99	1,619.4	-4,981.0	5,238.7	5,235.5	3.24	1,614.829	
1,000.0	1,000.0	1,371.2	1,369.1	2.1	2.4	-147.10	1,582.8	-4,972.4	5,235.5	5,231.0	4.49	1,165.935	
1,100.0	1,099.8	1,491.3	1,487.8	2.3	2.8	-147.35	1,564.7	-4,968.3	5,231.9	5,226.9	5.06	1,033.922	
1,200.0	1,199.5	1,967.6	1,949.7	2.5	5.0	-148.72	1,453.6	-4,942.1	5,224.4	5,217.2	7.23	722.175	
1,300.0	1,298.7	2,243.2	2,210.2	2.8	6.5	-149.83	1,365.9	-4,922.1	5,218.9	5,210.0	8.82	591.968	
1,400.0	1,397.5	2,331.9	2,293.6	3.1	7.0	-150.23	1,337.0	-4,914.0	5,214.2	5,204.7	9.52	547.623	
1,475.4	1,471.5	2,375.9	2,334.8	3.3	7.3	-150.43	1,322.1	-4,910.3	5,213.2	5,203.2	9.92	525.540	
1,500.0	1,495.6	2,387.5	2,345.7	3.4	7.3	-150.48	1,318.2	-4,909.4	5,213.3	5,203.3	10.03	519.739	
1,500.1	1,495.7	2,387.5	2,345.8	3.4	7.3	-150.48	1,318.2	-4,909.4	5,213.3	5,203.3	10.03	519.715	
1,600.0	1,593.4	2,447.0	2,401.8	3.8	7.7	-150.74	1,298.7	-4,904.8	5,215.0	5,204.4	10.60	491.816	
1,700.0	1,691.3	2,502.9	2,454.4	4.1	8.0	-150.98	1,280.3	-4,900.9	5,217.6	5,206.4	11.17	466.918	
1,800.0	1,789.1	2,634.0	2,577.0	4.5	8.9	-151.59	1,234.6	-4,892.3	5,220.3	5,208.1	12.25	426.293	
1,900.0	1,886.9	2,704.2	2,642.3	4.9	9.3	-151.91	1,209.3	-4,887.5	5,223.0	5,210.1	12.95	403.357	
2,000.0	1,984.7	2,775.2	2,708.6	5.3	9.7	-152.24	1,184.3	-4,883.1	5,226.7	5,213.1	13.63	383.441	
2,100.0	2,082.5	2,859.3	2,787.4	5.7	10.2	-152.62	1,155.5	-4,877.8	5,230.8	5,216.4	14.39	363.475	
2,200.0	2,180.3	2,957.4	2,879.1	6.2	10.8	-153.07	1,121.1	-4,871.9	5,235.4	5,220.1	15.26	343.100	
2,300.0	2,278.1	3,154.0	3,064.7	6.6	12.0	-153.90	1,058.2	-4,855.6	5,238.6	5,222.0	16.63	315.006	
2,400.0	2,375.9	3,215.3	3,122.6	7.0	12.4	-154.16	1,039.0	-4,850.2	5,242.1	5,224.8	17.26	303.753	
2,500.0	2,473.8	3,289.0	3,192.4	7.5	12.8	-154.46	1,016.1	-4,844.1	5,246.4	5,228.4	17.95	292.218	
2,600.0	2,571.6	3,383.0	3,281.6	7.9	13.3	-154.84	987.6	-4,835.8	5,250.6	5,231.8	18.74	280.126	
2,700.0	2,669.4	3,447.4	3,342.6	8.3	13.7	-155.09	968.1	-4,830.2	5,255.2	5,235.8	19.39	271.051	
2,800.0	2,767.2	3,476.0	3,369.8	8.8	13.9	-155.21	959.3	-4,828.0	5,261.3	5,241.5	19.84	265.201	
2,900.0	2,865.0	3,534.2	3,425.0	9.2	14.2	-155.45	941.2	-4,824.3	5,268.5	5,248.0	20.47	257.416	
3,000.0	2,962.8	3,592.9	3,480.5	9.7	14.6	-155.70	922.5	-4,821.2	5,276.7	5,255.6	21.10	250.080	
3,100.0	3,060.6	3,685.6	3,568.2	10.1	15.1	-156.09	892.8	-4,816.5	5,285.3	5,263.4	21.94	240.936	
3,200.0	3,158.5	3,803.1	3,679.0	10.6	15.9	-156.60	854.1	-4,810.8	5,294.4	5,271.4	22.95	230.704	
3,300.0	3,256.3	3,958.3	3,823.8	11.0	16.9	-157.30	799.1	-4,801.9	5,302.3	5,278.1	24.26	218.560	
3,400.0	3,354.1	4,038.0	3,898.0	11.5	17.5	-157.67	770.3	-4,797.2	5,310.6	5,285.5	25.07	211.842	
3,500.0	3,451.9	4,122.2	3,976.9	11.9	18.0	-158.05	741.2	-4,792.3	5,319.3	5,293.5	25.86	205.725	
3,600.0	3,549.7	4,188.3	4,039.4	12.4	18.4	-158.32	720.2	-4,788.2	5,328.5	5,302.0	26.51	201.025	
3,700.0	3,647.5	4,260.6	4,108.5	12.8	18.8	-158.60	699.0	-4,783.8	5,338.4	5,311.2	27.18	196.382	
3,800.0	3,745.3	4,344.4	4,188.5	13.3	19.2	-158.92	674.8	-4,778.9	5,348.8	5,320.9	27.91	191.615	
3,900.0	3,843.2	4,412.0	4,253.5	13.7	19.6	-159.16	656.9	-4,774.9	5,359.5	5,331.0	28.55	187.751	
4,000.0	3,941.0	4,505.0	4,343.7	14.2	20.0	-159.46	634.7	-4,769.5	5,370.9	5,341.6	29.24	183.669	
4,100.0	4,038.8	4,549.3	4,386.8	14.6	20.2	-159.59	624.9	-4,767.1	5,382.9	5,353.2	29.71	181.169	
4,200.0	4,136.6	4,598.0	4,434.4	15.1	20.4	-159.74	614.7	-4,764.7	5,395.8	5,365.6	30.20	178.672	
4,300.0	4,234.4	4,675.4	4,510.2	15.5	20.7	-159.95	599.8	-4,761.3	5,409.4	5,378.6	30.77	175.780	
4,325.2	4,259.1	4,692.0	4,526.6	15.6	20.8	-160.00	596.9	-4,760.6	5,412.9	5,382.0	30.91	175.131	
4,400.0	4,332.4	4,731.0	4,565.0	15.9	20.9	-160.16	590.3	-4,759.0	5,422.7	5,391.4	31.32	173.147	
4,500.0	4,431.0	4,785.0	4,618.3	16.2	21.1	-160.35	581.9	-4,757.3	5,433.8	5,402.0	31.81	170.795	
4,600.0	4,530.2	4,839.7	4,672.5	16.5	21.2	-160.52	574.0	-4,755.9	5,442.4	5,410.2	32.25	168.745	
4,700.0	4,629.7	4,904.9	4,737.0	16.7	21.4	-160.67	565.3	-4,754.6	5,448.6	5,415.9	32.67	166.773	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20OD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 575-MWD — **Offset Well Error:** 0.0 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
4,800.0	4,729.5	4,991.6	4,823.1	16.9	21.7	-160.82	554.6	-4,753.2	5,451.9	5,418.8	33.09	164.764	
4,900.0	4,829.5	5,089.5	4,920.4	17.0	21.9	-160.93	545.1	-4,751.5	5,451.9	5,418.5	33.46	162.963	
4,925.3	4,854.8	5,107.2	4,938.2	17.1	22.0	-86.26	543.6	-4,751.1	5,451.5	5,421.7	29.79	183.024	
5,000.0	4,929.5	5,161.0	4,991.7	17.2	22.1	-86.30	539.6	-4,750.3	5,450.0	5,420.0	29.98	181.782	
5,100.0	5,029.5	5,243.0	5,073.6	17.3	22.2	-86.36	534.3	-4,749.3	5,448.3	5,418.1	30.27	180.001	
5,200.0	5,129.5	5,318.9	5,149.4	17.4	22.3	-86.40	530.4	-4,748.6	5,447.1	5,416.5	30.54	178.351	
5,300.0	5,229.5	5,385.3	5,215.7	17.6	22.4	-86.42	528.2	-4,748.3	5,446.3	5,415.5	30.79	176.860	
5,358.4	5,287.9	5,421.0	5,251.4	17.7	22.5	-86.43	527.4	-4,748.2	5,446.2	5,415.3	30.94	176.044	
5,400.0	5,329.5	5,449.2	5,279.6	17.7	22.5	-86.43	527.0	-4,748.3	5,446.3	5,415.2	31.04	175.449	
5,500.0	5,429.5	5,535.0	5,365.4	17.9	22.6	-86.44	526.1	-4,748.6	5,446.6	5,415.2	31.32	173.896	
5,600.0	5,529.5	5,628.0	5,458.4	18.0	22.7	-86.45	525.3	-4,749.1	5,447.1	5,415.5	31.61	172.307	
5,700.0	5,629.5	5,707.5	5,537.9	18.1	22.8	-86.46	524.7	-4,749.8	5,447.9	5,416.0	31.89	170.860	
5,800.0	5,729.5	5,798.4	5,628.8	18.3	22.9	-86.47	523.9	-4,750.9	5,449.0	5,416.9	32.18	169.341	
5,900.0	5,829.5	5,947.1	5,777.5	18.4	23.1	-86.48	522.8	-4,752.1	5,449.8	5,417.2	32.56	167.353	
6,000.0	5,929.5	6,054.2	5,884.5	18.6	23.2	-86.49	521.7	-4,752.3	5,449.9	5,417.0	32.89	165.690	
6,100.0	6,029.5	6,189.7	6,020.0	18.7	23.4	-86.50	520.6	-4,752.3	5,449.9	5,416.6	33.27	163.807	
6,200.0	6,129.5	6,299.9	6,130.3	18.9	23.5	-86.51	519.6	-4,751.8	5,449.4	5,415.8	33.61	162.114	
6,300.0	6,229.5	6,432.3	6,262.6	19.1	23.7	-86.53	518.2	-4,750.3	5,448.2	5,414.2	34.00	160.223	
6,400.0	6,329.5	6,564.0	6,394.3	19.2	23.8	-86.54	516.7	-4,748.5	5,446.7	5,412.3	34.40	158.341	
6,500.0	6,429.5	6,603.2	6,433.5	19.4	23.9	-86.55	516.2	-4,748.0	5,445.4	5,410.8	34.63	157.254	
6,550.3	6,479.8	6,622.5	6,452.8	19.5	23.9	-86.55	516.0	-4,747.9	5,445.2	5,410.5	34.74	156.725	
6,600.0	6,529.4	6,657.0	6,487.3	19.5	24.0	3.46	515.7	-4,748.1	5,443.6	5,405.1	38.51	141.372	
6,650.0	6,579.2	6,657.0	6,487.3	19.5	24.0	3.48	515.7	-4,748.1	5,438.7	5,400.5	38.21	142.327	
6,700.0	6,628.4	6,696.9	6,527.2	19.5	24.0	3.52	515.4	-4,748.5	5,430.5	5,392.7	37.80	143.650	
6,750.0	6,676.9	6,729.8	6,560.1	19.5	24.0	3.58	515.1	-4,748.9	5,419.1	5,381.9	37.22	145.586	
6,800.0	6,724.5	6,767.6	6,597.9	19.4	24.1	3.66	514.8	-4,749.6	5,404.5	5,368.0	36.49	148.112	
6,850.0	6,770.8	6,814.5	6,644.8	19.4	24.1	3.77	514.7	-4,750.4	5,386.6	5,351.0	35.61	151.247	
6,900.0	6,815.8	6,858.1	6,688.4	19.3	24.2	3.92	514.9	-4,751.1	5,365.5	5,330.9	34.59	155.098	
6,950.0	6,859.1	6,896.7	6,727.0	19.2	24.2	4.09	515.1	-4,751.7	5,341.3	5,307.9	33.44	159.741	
7,000.0	6,900.5	6,938.0	6,768.3	19.1	24.3	4.30	515.3	-4,752.5	5,314.2	5,282.1	32.17	165.202	
7,050.0	6,939.9	6,975.9	6,806.2	19.1	24.3	4.56	515.4	-4,753.2	5,284.3	5,253.5	30.80	171.572	
7,100.0	6,977.1	7,016.7	6,846.9	19.0	24.4	4.87	515.3	-4,753.9	5,251.6	5,222.2	29.35	178.908	
7,150.0	7,011.8	7,063.5	6,893.8	19.0	24.4	5.27	515.0	-4,754.8	5,216.3	5,188.4	27.86	187.238	
7,200.0	7,044.0	7,111.6	6,941.9	19.1	24.5	5.76	514.8	-4,755.4	5,178.6	5,152.2	26.34	196.615	
7,250.0	7,073.4	7,140.9	6,971.1	19.1	24.5	6.37	514.8	-4,755.8	5,138.6	5,113.8	24.80	207.210	
7,300.0	7,099.9	7,161.6	6,991.8	19.3	24.5	7.14	514.8	-4,756.1	5,096.6	5,073.3	23.30	218.782	
7,350.0	7,123.4	7,180.0	7,010.3	19.5	24.6	8.14	514.7	-4,756.4	5,053.0	5,031.1	21.89	230.825	
7,400.0	7,143.7	7,196.2	7,026.4	19.8	24.6	9.51	514.8	-4,756.6	5,007.7	4,987.1	20.66	242.406	
7,450.0	7,160.9	7,218.0	7,048.2	20.2	24.6	11.50	514.8	-4,757.0	4,961.1	4,941.4	19.73	251.475	
7,500.0	7,174.7	7,225.2	7,055.5	20.7	24.6	14.43	514.8	-4,757.1	4,913.4	4,894.2	19.26	255.055	
7,550.0	7,185.1	7,244.5	7,074.7	21.2	24.6	19.58	514.8	-4,757.4	4,864.8	4,845.0	19.84	245.195	
7,600.0	7,192.1	7,257.6	7,087.9	21.8	24.6	29.73	514.8	-4,757.6	4,815.6	4,792.7	22.88	210.469	
7,650.0	7,195.6	7,264.7	7,095.0	22.5	24.7	54.57	514.8	-4,757.7	4,765.9	4,733.6	32.22	147.926	
7,680.0	7,196.0	7,266.2	7,096.4	22.9	24.7	84.34	514.8	-4,757.7	4,735.9	4,696.9	39.04	121.297	
7,700.0	7,195.9	7,266.4	7,096.6	23.3	24.7	84.38	514.8	-4,757.7	4,716.0	4,676.6	39.35	119.850	
7,800.0	7,195.2	7,267.5	7,097.8	24.9	24.7	84.58	514.8	-4,757.7	4,616.2	4,575.2	41.01	112.566	
7,900.0	7,194.6	7,268.7	7,098.9	26.7	24.7	84.77	514.8	-4,757.8	4,516.5	4,473.6	42.86	105.372	
8,000.0	7,193.9	7,269.7	7,100.0	28.7	24.7	84.96	514.8	-4,757.8	4,416.8	4,371.9	44.87	98.430	
8,100.0	7,193.3	7,270.8	7,101.0	30.9	24.7	85.15	514.8	-4,757.8	4,317.0	4,270.0	47.01	91.837	
8,200.0	7,192.6	7,271.8	7,102.1	33.1	24.7	85.33	514.8	-4,757.8	4,217.3	4,168.1	49.24	85.640	
8,300.0	7,192.0	7,272.8	7,103.1	35.4	24.7	85.51	514.8	-4,757.8	4,117.6	4,066.1	51.57	79.853	
8,400.0	7,191.3	7,273.8	7,104.0	37.8	24.7	85.68	514.8	-4,757.8	4,018.0	3,964.0	53.95	74.471	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD BROWN 20OD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 575-MWD — **Offset Well Error:** 0.0 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
8,500.0	7,190.7	7,274.8	7,105.0	40.2	24.7	85.85	514.8	-4,757.8	3,918.3	3,861.9	56.40	69.477	
8,600.0	7,190.0	7,275.7	7,105.9	42.7	24.7	86.01	514.8	-4,757.8	3,818.7	3,759.8	58.89	64.847	
8,700.0	7,189.4	7,276.6	7,106.8	45.2	24.7	86.17	514.8	-4,757.9	3,719.0	3,657.6	61.42	60.555	
8,800.0	7,188.7	7,277.5	7,107.7	47.8	24.7	86.33	514.8	-4,757.9	3,619.4	3,555.5	63.98	56.574	
8,900.0	7,188.0	7,278.3	7,108.6	50.3	24.7	86.48	514.8	-4,757.9	3,519.9	3,453.3	66.57	52.878	
9,000.0	7,187.4	7,279.2	7,109.4	52.9	24.7	86.63	514.8	-4,757.9	3,420.3	3,351.1	69.18	49.442	
9,100.0	7,186.7	7,280.0	7,110.2	55.6	24.7	86.77	514.8	-4,757.9	3,320.8	3,249.0	71.81	46.244	
9,200.0	7,186.1	7,280.8	7,111.0	58.2	24.7	86.92	514.8	-4,757.9	3,221.3	3,146.8	74.46	43.262	
9,300.0	7,185.4	7,281.6	7,111.8	60.9	24.7	87.05	514.8	-4,757.9	3,121.8	3,044.7	77.13	40.477	
9,400.0	7,184.8	7,282.4	7,112.6	63.5	24.7	87.19	514.8	-4,757.9	3,022.4	2,942.6	79.80	37.873	
9,500.0	7,184.1	7,283.1	7,113.3	66.2	24.7	87.32	514.8	-4,757.9	2,923.0	2,840.5	82.49	35.433	
9,600.0	7,183.5	7,283.8	7,114.1	68.9	24.7	87.45	514.7	-4,757.9	2,823.6	2,738.4	85.19	33.144	
9,700.0	7,182.8	7,284.6	7,114.8	71.6	24.7	87.58	514.7	-4,758.0	2,724.3	2,636.4	87.90	30.993	
9,800.0	7,182.2	7,285.3	7,115.5	74.3	24.7	87.70	514.7	-4,758.0	2,625.1	2,534.5	90.62	28.968	
9,900.0	7,181.5	7,285.9	7,116.2	77.0	24.7	87.82	514.7	-4,758.0	2,525.9	2,432.6	93.34	27.060	
10,000.0	7,180.8	7,286.6	7,116.8	79.7	24.7	87.94	514.7	-4,758.0	2,426.8	2,330.7	96.07	25.260	
10,100.0	7,180.2	7,287.3	7,117.5	82.5	24.7	88.06	514.7	-4,758.0	2,327.7	2,228.9	98.81	23.558	
10,200.0	7,179.5	7,287.9	7,118.1	85.2	24.7	88.17	514.7	-4,758.0	2,228.8	2,127.2	101.55	21.947	
10,300.0	7,178.9	7,288.5	7,118.8	87.9	24.7	88.29	514.7	-4,758.0	2,129.9	2,025.6	104.30	20.421	
10,400.0	7,178.2	7,289.2	7,119.4	90.7	24.7	88.39	514.7	-4,758.0	2,031.1	1,924.1	107.05	18.974	
10,500.0	7,177.6	7,289.8	7,120.0	93.4	24.7	88.50	514.7	-4,758.0	1,932.5	1,822.7	109.80	17.600	
10,600.0	7,176.9	7,290.4	7,120.6	96.2	24.7	88.61	514.7	-4,758.0	1,834.0	1,721.4	112.56	16.294	
10,700.0	7,176.2	7,290.9	7,121.2	98.9	24.7	88.71	514.7	-4,758.0	1,735.7	1,620.4	115.32	15.052	
10,800.0	7,175.6	7,291.5	7,121.7	101.7	24.7	88.81	514.7	-4,758.0	1,637.6	1,519.5	118.08	13.869	
10,900.0	7,174.9	7,292.1	7,122.3	104.4	24.7	88.91	514.7	-4,758.0	1,539.7	1,418.9	120.84	12.741	
11,000.0	7,174.3	7,292.6	7,122.8	107.2	24.7	89.00	514.7	-4,758.0	1,442.1	1,318.5	123.61	11.667	
11,100.0	7,173.6	7,293.1	7,123.4	109.9	24.7	89.10	514.7	-4,758.1	1,344.9	1,218.6	126.38	10.642	
11,200.0	7,172.9	7,293.7	7,123.9	112.7	24.7	89.19	514.7	-4,758.1	1,248.2	1,119.0	129.15	9.664	
11,300.0	7,172.3	7,294.2	7,124.4	115.5	24.7	89.28	514.7	-4,758.1	1,151.9	1,020.0	131.93	8.732	
11,400.0	7,171.6	7,294.7	7,124.9	118.3	24.7	89.37	514.7	-4,758.1	1,056.4	921.7	134.70	7.843	
11,500.0	7,171.0	7,295.2	7,125.4	121.0	24.7	89.46	514.7	-4,758.1	961.8	824.3	137.48	6.996	
11,600.0	7,170.3	7,295.7	7,125.9	123.8	24.7	89.55	514.7	-4,758.1	868.4	728.1	140.26	6.191	
11,700.0	7,169.6	7,296.2	7,126.4	126.6	24.7	89.63	514.7	-4,758.1	776.6	633.6	143.04	5.430	
11,797.6	7,169.0	7,296.6	7,126.8	129.3	24.7	89.71	514.7	-4,758.1	689.3	543.6	145.75	4.730	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 704-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-45.60	1,871.1	-1,910.6	2,674.3				
100.0	100.0	87.4	87.4	0.1	0.1	-45.60	1,871.1	-1,910.6	2,674.2	2,674.1	0.18	N/A	
200.0	200.0	189.7	189.7	0.3	0.2	-45.60	1,871.0	-1,910.6	2,674.1	2,673.6	0.49	5,407.041	
300.0	300.0	292.0	292.0	0.5	0.3	-45.60	1,870.7	-1,910.5	2,673.9	2,673.1	0.81	3,291.520	
400.0	400.0	394.3	394.3	0.8	0.4	-45.61	1,870.4	-1,910.5	2,673.6	2,672.5	1.13	2,365.693	
500.0	500.0	496.6	496.6	1.0	0.5	-45.61	1,870.0	-1,910.4	2,673.3	2,671.8	1.45	1,846.212	
600.0	600.0	598.8	598.8	1.2	0.5	-45.62	1,869.4	-1,910.2	2,672.8	2,671.0	1.77	1,513.675	
700.0	700.0	701.1	701.1	1.4	0.6	-45.63	1,868.8	-1,910.1	2,672.3	2,670.2	2.08	1,282.540	
800.0	800.0	800.4	800.4	1.7	0.8	-45.63	1,868.1	-1,910.0	2,671.7	2,669.2	2.51	1,062.369	
900.0	900.0	896.7	896.7	1.9	1.0	-45.65	1,867.4	-1,910.0	2,671.2	2,668.3	2.94	909.992	
922.4	922.4	919.4	919.4	1.9	1.1	-120.33	1,867.3	-1,910.0	2,671.1	2,668.1	3.03	882.331	
1,000.0	1,000.0	1,014.6	1,014.6	2.1	1.3	-120.37	1,866.6	-1,909.8	2,671.6	2,668.2	3.39	789.127	
1,100.0	1,099.8	1,252.1	1,251.7	2.3	1.8	-120.77	1,855.6	-1,908.9	2,670.9	2,666.7	4.13	647.451	
1,200.0	1,199.5	1,503.6	1,501.7	2.5	2.5	-121.62	1,827.9	-1,904.8	2,667.0	2,662.0	4.97	536.845	
1,300.0	1,298.7	1,769.0	1,762.9	2.8	3.4	-122.90	1,782.6	-1,892.8	2,658.2	2,652.3	5.94	447.391	
1,400.0	1,397.5	2,047.4	2,033.5	3.1	4.6	-124.52	1,722.4	-1,868.3	2,645.6	2,638.6	7.02	377.007	
1,500.0	1,495.6	2,139.6	2,122.5	3.4	5.0	-125.26	1,701.3	-1,856.9	2,631.7	2,624.1	7.55	348.418	
1,500.1	1,495.7	2,139.7	2,122.6	3.4	5.0	-125.26	1,701.3	-1,856.9	2,631.7	2,624.1	7.55	348.390	
1,600.0	1,593.4	2,233.4	2,213.1	3.8	5.4	-125.79	1,680.2	-1,845.2	2,619.1	2,611.0	8.13	322.310	
1,700.0	1,691.3	2,330.9	2,307.2	4.1	5.8	-126.38	1,657.5	-1,833.7	2,606.8	2,598.1	8.75	297.940	
1,800.0	1,789.1	2,445.0	2,417.2	4.5	6.4	-127.10	1,629.7	-1,820.9	2,594.5	2,585.0	9.47	273.906	
1,900.0	1,886.9	2,619.6	2,584.3	4.9	7.3	-128.25	1,583.8	-1,799.7	2,580.6	2,570.2	10.47	246.537	
2,000.0	1,984.7	2,718.7	2,678.5	5.3	7.9	-128.94	1,555.9	-1,786.9	2,565.3	2,554.1	11.20	229.134	
2,100.0	2,082.5	2,791.6	2,747.9	5.7	8.3	-129.45	1,535.6	-1,777.8	2,550.8	2,539.0	11.81	215.923	
2,200.0	2,180.3	2,857.3	2,810.7	6.2	8.6	-129.92	1,517.4	-1,770.3	2,537.6	2,525.2	12.40	204.609	
2,300.0	2,278.1	2,957.0	2,905.8	6.6	9.2	-130.64	1,489.7	-1,759.5	2,525.3	2,512.1	13.15	191.999	
2,400.0	2,375.9	3,056.6	3,000.8	7.0	9.7	-131.37	1,462.2	-1,748.4	2,513.0	2,499.1	13.91	180.635	
2,500.0	2,473.8	3,137.0	3,077.8	7.5	10.1	-131.94	1,440.8	-1,739.1	2,501.6	2,487.0	14.57	171.645	
2,600.0	2,571.6	3,226.0	3,163.2	7.9	10.6	-132.56	1,418.1	-1,728.6	2,490.8	2,475.6	15.26	163.226	
2,700.0	2,669.4	3,294.5	3,229.1	8.3	10.9	-133.03	1,401.0	-1,720.5	2,480.9	2,465.1	15.87	156.323	
2,800.0	2,767.2	3,367.4	3,299.3	8.8	11.3	-133.53	1,383.5	-1,712.5	2,472.4	2,455.9	16.49	149.919	
2,900.0	2,865.0	3,441.3	3,370.9	9.2	11.6	-134.02	1,366.5	-1,704.4	2,464.9	2,447.8	17.11	144.048	
3,000.0	2,962.8	3,510.0	3,437.4	9.7	11.9	-134.48	1,351.2	-1,697.4	2,458.7	2,441.0	17.71	138.817	
3,100.0	3,060.6	3,577.5	3,503.1	10.1	12.2	-134.93	1,336.6	-1,691.2	2,454.0	2,435.7	18.31	134.031	
3,200.0	3,158.5	3,675.7	3,598.6	10.6	12.7	-135.58	1,315.9	-1,682.7	2,450.3	2,431.3	19.01	128.874	
3,300.0	3,256.3	3,863.6	3,780.5	11.0	13.6	-136.87	1,272.6	-1,663.3	2,444.4	2,424.3	20.10	121.586	
3,400.0	3,354.1	3,978.0	3,890.2	11.5	14.2	-137.72	1,243.1	-1,650.4	2,436.9	2,415.9	20.96	116.290	
3,500.0	3,451.9	4,071.0	3,979.4	11.9	14.7	-138.41	1,218.8	-1,640.0	2,429.7	2,408.0	21.71	111.940	
3,600.0	3,549.7	4,126.3	4,032.7	12.4	15.0	-138.82	1,205.1	-1,634.1	2,423.9	2,401.6	22.28	108.817	
3,700.0	3,647.5	4,207.1	4,110.8	12.8	15.4	-139.39	1,186.3	-1,625.8	2,419.5	2,396.6	22.95	105.448	
3,800.0	3,745.3	4,321.8	4,221.5	13.3	16.0	-140.21	1,159.0	-1,614.0	2,415.4	2,391.7	23.77	101.627	
3,900.0	3,843.2	4,404.0	4,300.8	13.7	16.4	-140.81	1,139.1	-1,605.3	2,411.2	2,386.8	24.46	98.585	
4,000.0	3,941.0	4,480.4	4,374.8	14.2	16.8	-141.35	1,121.4	-1,597.6	2,408.3	2,383.2	25.11	95.909	
4,100.0	4,038.8	4,539.0	4,431.5	14.6	17.1	-141.76	1,108.1	-1,591.8	2,406.4	2,380.7	25.68	93.699	
4,200.0	4,136.6	4,633.0	4,523.1	15.1	17.5	-142.40	1,088.5	-1,583.3	2,406.0	2,379.6	26.37	91.232	
4,204.7	4,141.2	4,633.0	4,523.1	15.1	17.5	-142.40	1,088.5	-1,583.3	2,406.0	2,379.6	26.39	91.176	
4,300.0	4,234.4	4,680.8	4,569.8	15.5	17.7	-142.70	1,079.6	-1,579.4	2,407.3	2,380.4	26.88	89.566	
4,325.2	4,259.1	4,699.2	4,587.9	15.6	17.7	-142.81	1,076.3	-1,577.9	2,407.8	2,380.8	27.03	89.094	
4,400.0	4,332.4	4,751.2	4,638.9	15.9	17.9	-143.14	1,067.3	-1,573.8	2,409.2	2,381.7	27.47	87.711	
4,500.0	4,431.0	4,820.0	4,706.7	16.2	18.2	-143.50	1,056.4	-1,568.9	2,409.8	2,381.8	27.98	86.121	
4,600.0	4,530.2	4,913.0	4,798.5	16.5	18.5	-143.89	1,043.0	-1,562.2	2,408.3	2,379.8	28.51	84.469	
4,700.0	4,629.7	4,971.0	4,855.9	16.7	18.7	-144.06	1,035.7	-1,558.2	2,405.0	2,376.2	28.87	83.301	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 704-MWD — **Offset Well Error:** 0.0 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
4,800.0	4,729.5	5,032.4	4,916.8	16.9	18.9	-144.18	1,029.4	-1,554.6	2,400.9	2,371.7	29.19	82.257	
4,900.0	4,829.5	5,101.0	4,985.1	17.0	19.1	-144.25	1,023.0	-1,551.1	2,395.1	2,365.6	29.46	81.289	
4,925.3	4,854.8	5,127.5	5,011.4	17.1	19.1	-69.59	1,020.8	-1,549.9	2,393.3	2,362.2	31.06	77.044	
5,000.0	4,929.5	5,178.2	5,061.9	17.2	19.2	-69.65	1,017.3	-1,547.6	2,388.3	2,357.0	31.28	76.363	
5,100.0	5,029.5	5,246.3	5,129.9	17.3	19.4	-69.71	1,013.8	-1,544.9	2,382.8	2,351.3	31.56	75.499	
5,200.0	5,129.5	5,288.0	5,171.6	17.4	19.4	-69.74	1,012.0	-1,543.6	2,378.9	2,347.1	31.79	74.826	
5,300.0	5,229.5	5,355.5	5,239.1	17.6	19.5	-69.76	1,010.3	-1,542.4	2,376.6	2,344.6	32.05	74.156	
5,350.6	5,280.0	5,382.0	5,265.5	17.6	19.6	-69.77	1,010.2	-1,542.3	2,376.4	2,344.2	32.17	73.874	
5,400.0	5,329.5	5,423.8	5,307.3	17.7	19.6	-69.77	1,010.2	-1,542.4	2,376.5	2,344.2	32.30	73.582	
5,500.0	5,429.5	5,519.2	5,402.8	17.9	19.7	-69.77	1,010.4	-1,542.9	2,377.0	2,344.4	32.57	72.970	
5,600.0	5,529.5	5,618.7	5,502.2	18.0	19.8	-69.77	1,010.6	-1,543.3	2,377.5	2,344.6	32.86	72.355	
5,700.0	5,629.5	5,724.5	5,608.1	18.1	19.9	-69.77	1,010.4	-1,543.9	2,378.0	2,344.8	33.16	71.721	
5,800.0	5,729.5	5,837.8	5,721.3	18.3	20.1	-69.79	1,009.9	-1,544.1	2,378.0	2,344.5	33.47	71.044	
5,900.0	5,829.5	5,943.9	5,827.5	18.4	20.2	-69.81	1,008.9	-1,544.0	2,377.6	2,343.8	33.79	70.367	
6,000.0	5,929.5	6,048.1	5,931.6	18.6	20.4	-69.83	1,007.8	-1,543.8	2,377.0	2,342.8	34.11	69.691	
6,100.0	6,029.5	6,149.7	6,033.2	18.7	20.5	-69.86	1,006.6	-1,543.4	2,376.2	2,341.8	34.43	69.023	
6,200.0	6,129.5	6,253.0	6,136.5	18.9	20.7	-69.88	1,005.2	-1,543.0	2,375.4	2,340.6	34.75	68.351	
6,300.0	6,229.5	6,355.2	6,238.7	19.1	20.8	-69.91	1,003.9	-1,542.4	2,374.4	2,339.4	35.08	67.684	
6,400.0	6,329.5	6,458.2	6,341.7	19.2	20.9	-69.94	1,002.5	-1,541.8	2,373.4	2,338.0	35.41	67.017	
6,500.0	6,429.5	6,560.6	6,444.0	19.4	21.1	-69.96	1,001.0	-1,541.1	2,372.2	2,336.4	35.75	66.353	
6,550.3	6,479.8	6,612.4	6,495.9	19.5	21.2	-69.98	1,000.2	-1,540.7	2,371.6	2,335.6	35.92	66.020	
6,600.0	6,529.4	6,665.0	6,548.5	19.5	21.3	20.08	999.4	-1,540.2	2,369.3	2,334.7	34.58	68.509	
6,650.0	6,579.2	6,719.0	6,602.4	19.5	21.3	20.27	998.5	-1,539.7	2,363.6	2,329.3	34.40	68.718	
6,700.0	6,628.4	6,773.5	6,656.9	19.5	21.4	20.59	997.5	-1,539.0	2,354.7	2,320.6	34.07	69.111	
6,750.0	6,676.9	6,826.9	6,710.3	19.5	21.5	21.05	996.5	-1,538.3	2,342.4	2,308.8	33.61	69.692	
6,800.0	6,724.5	6,879.1	6,762.5	19.4	21.6	21.65	995.3	-1,537.5	2,326.9	2,293.9	33.03	70.456	
6,850.0	6,770.8	6,931.8	6,815.1	19.4	21.7	22.43	994.0	-1,536.7	2,308.3	2,275.9	32.34	71.385	
6,900.0	6,815.8	6,983.4	6,866.7	19.3	21.8	23.40	992.5	-1,535.7	2,286.6	2,255.0	31.55	72.466	
6,950.0	6,859.1	7,035.7	6,919.0	19.2	21.9	24.59	990.8	-1,534.7	2,261.9	2,231.2	30.71	73.653	
7,000.0	6,900.5	7,080.4	6,963.6	19.1	22.0	26.01	989.2	-1,533.6	2,234.4	2,204.5	29.82	74.925	
7,050.0	6,939.9	7,115.2	6,998.5	19.1	22.0	27.65	988.1	-1,532.8	2,204.4	2,175.4	28.93	76.208	
7,100.0	6,977.1	7,148.1	7,031.3	19.0	22.1	29.62	987.0	-1,532.1	2,172.0	2,143.9	28.10	77.303	
7,150.0	7,011.8	7,179.5	7,062.7	19.0	22.2	31.97	986.1	-1,531.4	2,137.6	2,110.2	27.42	77.964	
7,200.0	7,044.0	7,209.1	7,092.3	19.1	22.2	34.77	985.1	-1,530.8	2,101.2	2,074.2	26.98	77.870	
7,250.0	7,073.4	7,236.1	7,119.3	19.1	22.3	38.12	984.3	-1,530.3	2,063.0	2,036.1	26.91	76.666	
7,300.0	7,099.9	7,260.5	7,143.6	19.3	22.3	42.10	983.4	-1,529.9	2,023.2	1,995.9	27.31	74.075	
7,350.0	7,123.4	7,281.9	7,165.0	19.5	22.3	46.80	982.7	-1,529.6	1,982.0	1,953.8	28.28	70.076	
7,400.0	7,143.7	7,300.4	7,183.5	19.8	22.4	52.31	982.0	-1,529.3	1,939.7	1,909.9	29.84	65.011	
7,450.0	7,160.9	7,315.9	7,199.0	20.2	22.4	58.67	981.4	-1,529.1	1,896.5	1,864.7	31.87	59.511	
7,500.0	7,174.7	7,328.4	7,211.4	20.7	22.4	65.82	981.0	-1,528.9	1,852.6	1,818.5	34.15	54.249	
7,550.0	7,185.1	7,337.6	7,220.7	21.2	22.4	73.58	980.6	-1,528.8	1,808.3	1,771.9	36.37	49.725	
7,600.0	7,192.1	7,343.7	7,226.8	21.8	22.5	81.64	980.4	-1,528.7	1,763.7	1,725.5	38.20	46.175	
7,650.0	7,195.6	7,346.0	7,229.1	22.5	22.5	89.57	980.3	-1,528.7	1,719.3	1,679.8	39.43	43.602	
7,680.0	7,196.0	7,346.0	7,229.1	22.9	22.5	94.14	980.3	-1,528.7	1,692.7	1,652.8	39.87	42.459	
7,700.0	7,195.9	7,346.0	7,229.1	23.3	22.5	94.14	980.3	-1,528.7	1,675.1	1,634.9	40.17	41.701	
7,800.0	7,195.2	7,346.0	7,229.1	24.9	22.5	94.14	980.3	-1,528.7	1,587.7	1,545.9	41.81	37.973	
7,900.0	7,194.6	7,342.7	7,225.7	26.7	22.5	93.90	980.4	-1,528.7	1,501.9	1,458.3	43.65	34.410	
8,000.0	7,193.9	7,340.9	7,223.9	28.7	22.4	93.77	980.5	-1,528.8	1,418.0	1,372.4	45.64	31.068	
8,100.0	7,193.3	7,339.0	7,222.1	30.9	22.4	93.64	980.6	-1,528.8	1,336.4	1,288.6	47.76	27.978	
8,200.0	7,192.6	7,337.2	7,220.3	33.1	22.4	93.50	980.6	-1,528.8	1,257.3	1,207.3	49.99	25.152	
8,300.0	7,192.0	7,335.3	7,218.4	35.4	22.4	93.37	980.7	-1,528.8	1,181.5	1,129.2	52.29	22.592	
8,400.0	7,191.3	7,333.5	7,216.5	37.8	22.4	93.23	980.8	-1,528.8	1,109.4	1,054.8	54.67	20.293	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 704-MWD — **Offset Well Error:** 0.0 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
8,500.0	7,190.7	7,331.6	7,214.6	40.2	22.4	93.10	980.8	-1,528.9	1,042.0	984.9	57.10	18.249	
8,600.0	7,190.0	7,329.6	7,212.7	42.7	22.4	92.96	980.9	-1,528.9	980.2	920.6	59.58	16.453	
8,700.0	7,189.4	7,327.7	7,210.8	45.2	22.4	92.82	981.0	-1,528.9	925.0	863.0	62.09	14.898	
8,800.0	7,188.7	7,325.7	7,208.8	47.8	22.4	92.68	981.1	-1,528.9	877.9	813.2	64.64	13.581	
8,900.0	7,188.0	7,323.8	7,206.8	50.3	22.4	92.53	981.1	-1,529.0	840.0	772.8	67.21	12.497	
9,000.0	7,187.4	7,321.8	7,204.8	52.9	22.4	92.39	981.2	-1,529.0	812.7	742.9	69.81	11.642	
9,100.0	7,186.7	7,319.7	7,202.8	55.6	22.4	92.24	981.3	-1,529.0	797.2	724.7	72.43	11.006	
9,175.4	7,186.2	7,318.2	7,201.3	57.6	22.4	92.13	981.3	-1,529.0	793.6	719.2	74.42	10.663	CC
9,200.0	7,186.1	7,317.7	7,200.8	58.2	22.4	92.10	981.4	-1,529.1	794.0	718.9	75.07	10.576	ES
9,300.0	7,185.4	7,315.6	7,198.7	60.9	22.4	91.95	981.4	-1,529.1	803.3	725.6	77.72	10.336	
9,400.0	7,184.8	7,313.5	7,196.6	63.5	22.4	91.80	981.5	-1,529.1	824.7	744.4	80.39	10.260	SF
9,500.0	7,184.1	7,311.4	7,194.5	66.2	22.4	91.64	981.6	-1,529.1	857.4	774.3	83.06	10.322	
9,600.0	7,183.5	7,309.3	7,192.4	68.9	22.4	91.49	981.7	-1,529.2	900.0	814.2	85.75	10.495	
9,700.0	7,182.8	7,307.1	7,190.2	71.6	22.4	91.33	981.8	-1,529.2	951.2	862.8	88.45	10.755	
9,800.0	7,182.2	7,304.9	7,188.0	74.3	22.4	91.17	981.8	-1,529.2	1,009.8	918.7	91.15	11.078	
9,900.0	7,181.5	7,302.7	7,185.8	77.0	22.4	91.01	981.9	-1,529.3	1,074.5	980.6	93.86	11.448	
10,000.0	7,180.8	7,300.4	7,183.5	79.7	22.4	90.85	982.0	-1,529.3	1,144.3	1,047.7	96.58	11.848	
10,100.0	7,180.2	7,298.2	7,181.3	82.5	22.4	90.69	982.1	-1,529.3	1,218.3	1,119.0	99.30	12.269	
10,200.0	7,179.5	7,295.9	7,179.0	85.2	22.4	90.52	982.2	-1,529.4	1,295.8	1,193.8	102.03	12.700	
10,300.0	7,178.9	7,293.6	7,176.7	87.9	22.4	90.35	982.2	-1,529.4	1,376.2	1,271.4	104.76	13.137	
10,400.0	7,178.2	7,291.2	7,174.3	90.7	22.4	90.19	982.3	-1,529.4	1,459.0	1,351.5	107.49	13.573	
10,500.0	7,177.6	7,288.8	7,172.0	93.4	22.4	90.01	982.4	-1,529.5	1,543.9	1,433.6	110.23	14.006	
10,600.0	7,176.9	7,286.4	7,169.6	96.2	22.3	89.84	982.5	-1,529.5	1,630.4	1,517.5	112.97	14.432	
10,700.0	7,176.2	7,284.0	7,167.1	98.9	22.3	89.66	982.6	-1,529.5	1,718.5	1,602.7	115.71	14.851	
10,800.0	7,175.6	7,281.5	7,164.7	101.7	22.3	89.49	982.7	-1,529.6	1,807.7	1,689.3	118.46	15.260	
10,900.0	7,174.9	7,279.1	7,162.2	104.4	22.3	89.31	982.8	-1,529.6	1,898.1	1,776.8	121.21	15.660	
11,000.0	7,174.3	7,276.5	7,159.7	107.2	22.3	89.13	982.9	-1,529.6	1,989.3	1,865.4	123.95	16.049	
11,100.0	7,173.6	7,274.0	7,157.1	109.9	22.3	88.94	982.9	-1,529.7	2,081.4	1,954.7	126.70	16.427	
11,200.0	7,172.9	7,271.4	7,154.5	112.7	22.3	88.75	983.0	-1,529.7	2,174.1	2,044.7	129.45	16.795	
11,300.0	7,172.3	7,268.8	7,151.9	115.5	22.3	88.57	983.1	-1,529.8	2,267.5	2,135.3	132.20	17.152	
11,400.0	7,171.6	7,266.1	7,149.3	118.3	22.3	88.38	983.2	-1,529.8	2,361.4	2,226.5	134.95	17.498	
11,500.0	7,171.0	7,263.4	7,146.6	121.0	22.3	88.18	983.3	-1,529.9	2,455.8	2,318.1	137.70	17.835	
11,600.0	7,170.3	7,260.7	7,143.9	123.8	22.3	87.99	983.4	-1,529.9	2,550.6	2,410.2	140.45	18.161	
11,700.0	7,169.6	7,258.0	7,141.1	126.6	22.3	87.79	983.5	-1,529.9	2,645.8	2,502.6	143.20	18.477	
11,797.6	7,169.0	7,255.3	7,138.4	129.3	22.3	87.59	983.6	-1,530.0	2,739.0	2,593.1	145.87	18.776	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 21GDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 703-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-45.98	1,868.2	-1,933.2	2,688.5				
100.0	100.0	84.9	84.9	0.1	0.1	-45.98	1,868.3	-1,933.1	2,688.4	2,688.3	0.17	N/A	
200.0	200.0	184.1	184.1	0.3	0.2	-45.97	1,868.7	-1,932.8	2,688.5	2,688.0	0.49	5,487.588	
300.0	300.0	283.4	283.4	0.5	0.3	-45.95	1,869.3	-1,932.3	2,688.5	2,687.7	0.81	3,338.909	
400.0	400.0	382.6	382.6	0.8	0.4	-45.93	1,870.2	-1,931.6	2,688.6	2,687.5	1.12	2,399.484	
500.0	500.0	481.8	481.8	1.0	0.4	-45.89	1,871.3	-1,930.7	2,688.8	2,687.3	1.44	1,872.671	
600.0	600.0	581.1	581.0	1.2	0.5	-45.85	1,872.8	-1,929.5	2,688.9	2,687.2	1.75	1,535.590	
700.0	700.0	680.3	680.2	1.4	0.6	-45.81	1,874.4	-1,928.1	2,689.1	2,687.0	2.07	1,301.392	
800.0	800.0	778.6	778.5	1.7	0.8	-45.76	1,876.2	-1,926.7	2,689.3	2,686.8	2.46	1,092.175	
900.0	900.0	872.3	872.2	1.9	1.0	-45.74	1,877.0	-1,926.4	2,689.7	2,686.8	2.86	938.967	
1,000.0	1,000.0	1,023.5	1,023.4	2.1	1.3	-120.56	1,873.5	-1,929.2	2,690.4	2,687.0	3.38	795.246	
1,100.0	1,099.8	1,296.7	1,294.8	2.3	1.9	-121.43	1,846.0	-1,939.7	2,689.5	2,685.2	4.23	635.846	
1,200.0	1,199.5	1,425.1	1,421.1	2.5	2.3	-122.12	1,824.0	-1,945.5	2,685.4	2,680.6	4.83	555.675	
1,300.0	1,298.7	1,713.0	1,699.6	2.8	3.6	-124.19	1,753.6	-1,962.6	2,679.6	2,673.3	6.23	430.129	
1,400.0	1,397.5	1,877.2	1,855.6	3.1	4.5	-125.69	1,703.2	-1,970.8	2,671.4	2,664.1	7.29	366.696	
1,500.0	1,495.6	2,023.1	1,994.0	3.4	5.3	-127.10	1,656.9	-1,975.4	2,664.3	2,656.0	8.26	322.471	
1,500.1	1,495.7	2,023.2	1,994.1	3.4	5.3	-127.10	1,656.9	-1,975.4	2,664.2	2,656.0	8.26	322.441	
1,600.0	1,593.4	2,106.0	2,072.4	3.8	5.7	-127.86	1,630.2	-1,977.3	2,657.8	2,648.8	8.99	295.656	
1,700.0	1,691.3	2,162.8	2,126.2	4.1	6.0	-128.38	1,612.2	-1,978.9	2,652.8	2,643.2	9.58	276.899	
1,800.0	1,789.1	2,228.7	2,188.9	4.5	6.4	-128.98	1,591.9	-1,981.3	2,649.5	2,639.3	10.23	258.961	
1,900.0	1,886.9	2,328.3	2,283.6	4.9	6.9	-129.90	1,561.2	-1,985.5	2,647.3	2,636.2	11.07	239.061	
2,000.0	1,984.7	2,453.6	2,402.6	5.3	7.6	-131.05	1,522.3	-1,989.1	2,644.6	2,632.5	12.07	219.150	
2,100.0	2,082.5	2,565.6	2,508.8	5.7	8.3	-132.07	1,486.8	-1,991.6	2,641.8	2,628.8	13.02	202.910	
2,200.0	2,180.3	2,680.6	2,617.2	6.2	9.0	-133.16	1,448.6	-1,994.3	2,638.9	2,624.9	14.04	187.929	
2,300.0	2,278.1	2,787.5	2,717.8	6.6	9.7	-134.18	1,412.2	-1,995.9	2,635.8	2,620.8	15.01	175.637	
2,400.0	2,375.9	2,855.0	2,781.5	7.0	10.1	-134.82	1,389.9	-1,996.8	2,633.7	2,618.0	15.72	167.577	
2,500.0	2,473.8	2,939.1	2,860.9	7.5	10.6	-135.61	1,362.2	-1,998.4	2,632.8	2,616.3	16.52	159.360	
2,520.2	2,493.5	2,948.0	2,869.2	7.6	10.6	-135.70	1,359.2	-1,998.6	2,632.8	2,616.2	16.64	158.219	
2,600.0	2,571.6	2,999.2	2,917.4	7.9	10.9	-136.19	1,341.9	-2,000.3	2,633.3	2,616.1	17.21	152.974	
2,700.0	2,669.4	3,042.0	2,957.7	8.3	11.2	-136.61	1,327.6	-2,002.1	2,635.6	2,617.8	17.81	147.988	
2,800.0	2,767.2	3,108.8	3,020.9	8.8	11.5	-137.25	1,306.2	-2,005.4	2,639.8	2,621.3	18.51	142.601	
2,900.0	2,865.0	3,184.3	3,092.7	9.2	12.0	-137.95	1,283.2	-2,009.6	2,645.8	2,626.5	19.27	137.316	
3,000.0	2,962.8	3,261.5	3,165.8	9.7	12.4	-138.68	1,258.9	-2,014.4	2,652.6	2,632.5	20.04	132.342	
3,100.0	3,060.6	3,325.2	3,226.1	10.1	12.8	-139.29	1,239.0	-2,019.0	2,661.0	2,640.2	20.75	128.238	
3,200.0	3,158.5	3,509.0	3,400.4	10.6	13.9	-141.00	1,181.5	-2,029.2	2,668.6	2,646.5	22.10	120.742	
3,300.0	3,256.3	3,548.8	3,438.1	11.0	14.1	-141.37	1,169.0	-2,031.2	2,676.5	2,653.8	22.66	118.108	
3,400.0	3,354.1	3,603.0	3,489.6	11.5	14.4	-141.87	1,152.5	-2,034.9	2,686.8	2,663.5	23.30	115.328	
3,500.0	3,451.9	3,635.4	3,520.4	11.9	14.6	-142.16	1,142.8	-2,037.7	2,699.2	2,675.4	23.81	113.362	
3,600.0	3,549.7	3,697.0	3,578.9	12.4	14.9	-142.73	1,124.5	-2,043.7	2,713.7	2,689.2	24.48	110.861	
3,700.0	3,647.5	3,862.0	3,734.3	12.8	16.0	-144.31	1,071.1	-2,059.6	2,728.0	2,702.2	25.80	105.738	
3,800.0	3,745.3	4,016.5	3,877.8	13.3	17.1	-145.87	1,015.3	-2,072.2	2,740.5	2,713.4	27.12	101.047	
3,900.0	3,843.2	4,134.7	3,987.3	13.7	17.9	-147.04	971.9	-2,079.7	2,752.3	2,724.2	28.17	97.710	
4,000.0	3,941.0	4,204.2	4,052.0	14.2	18.3	-147.72	946.7	-2,083.8	2,764.7	2,735.8	28.89	95.686	
4,100.0	4,038.8	4,263.5	4,107.5	14.6	18.7	-148.28	926.1	-2,087.7	2,778.7	2,749.2	29.55	94.032	
4,200.0	4,136.6	4,388.1	4,223.6	15.1	19.5	-149.47	881.8	-2,095.8	2,793.2	2,762.5	30.62	91.227	
4,300.0	4,234.4	4,492.9	4,321.0	15.5	20.3	-150.48	843.3	-2,102.1	2,807.8	2,776.2	31.60	88.848	
4,325.2	4,259.1	4,522.3	4,348.1	15.6	20.5	-150.76	832.3	-2,103.8	2,811.4	2,779.6	31.87	88.221	
4,400.0	4,332.4	4,585.5	4,406.6	15.9	20.9	-151.47	808.5	-2,107.3	2,821.7	2,789.1	32.56	86.660	
4,500.0	4,431.0	4,661.4	4,476.5	16.2	21.5	-152.29	779.2	-2,111.9	2,833.7	2,800.3	33.36	84.938	
4,600.0	4,530.2	4,752.6	4,561.0	16.5	22.1	-153.18	745.6	-2,117.6	2,843.7	2,809.5	34.19	83.171	
4,700.0	4,629.7	4,868.8	4,669.1	16.7	22.9	-154.19	703.2	-2,123.5	2,850.2	2,815.1	35.11	81.168	
4,800.0	4,729.5	4,950.2	4,745.1	16.9	23.4	-154.85	674.5	-2,127.5	2,854.2	2,818.5	35.78	79.774	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 21GDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 703-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	5,043.6	4,832.6	17.0	24.0	-155.54	642.0	-2,132.3	2,855.9	2,819.5	36.45	78.360	
4,925.3	4,854.8	5,074.8	4,862.0	17.1	24.1	-81.06	631.9	-2,133.7	2,855.9	2,826.9	28.94	98.677	
5,000.0	4,929.5	5,148.2	4,932.1	17.2	24.5	-81.50	610.2	-2,136.5	2,855.3	2,826.0	29.27	97.556	
5,100.0	5,029.5	5,253.3	5,034.0	17.3	25.0	-82.02	584.7	-2,139.7	2,854.8	2,825.1	29.71	96.076	
5,200.0	5,129.5	5,361.0	5,139.6	17.4	25.4	-82.44	563.6	-2,141.7	2,854.0	2,823.8	30.14	94.677	
5,300.0	5,229.5	5,450.2	5,227.5	17.6	25.7	-82.75	548.6	-2,143.0	2,853.3	2,822.8	30.51	93.511	
5,394.9	5,324.4	5,533.4	5,309.9	17.7	26.0	-82.98	536.9	-2,144.3	2,853.1	2,822.2	30.85	92.486	
5,400.0	5,329.5	5,537.9	5,314.4	17.7	26.0	-82.99	536.4	-2,144.4	2,853.1	2,822.2	30.87	92.433	
5,500.0	5,429.5	5,613.4	5,389.3	17.9	26.2	-83.18	527.4	-2,145.7	2,853.5	2,822.3	31.19	91.499	
5,600.0	5,529.5	5,716.6	5,491.9	18.0	26.4	-83.40	516.2	-2,148.3	2,854.7	2,823.1	31.56	90.440	
5,700.0	5,629.5	5,846.6	5,621.2	18.1	26.7	-83.65	504.0	-2,149.9	2,854.8	2,822.8	31.99	89.233	
5,800.0	5,729.5	5,951.5	5,725.9	18.3	27.0	-83.81	495.9	-2,150.5	2,854.5	2,822.2	32.36	88.218	
5,900.0	5,829.5	6,052.0	5,826.1	18.4	27.1	-83.94	489.5	-2,150.8	2,854.2	2,821.5	32.71	87.267	
6,000.0	5,929.5	6,169.8	5,943.8	18.6	27.3	-84.06	483.4	-2,150.5	2,853.4	2,820.3	33.08	86.249	
6,100.0	6,029.5	6,274.8	6,048.7	18.7	27.5	-84.15	479.2	-2,149.9	2,852.3	2,818.9	33.43	85.327	
6,200.0	6,129.5	6,377.7	6,151.6	18.9	27.6	-84.20	476.6	-2,148.8	2,851.0	2,817.3	33.76	84.441	
6,300.0	6,229.5	6,470.3	6,244.1	19.1	27.7	-84.24	474.2	-2,147.9	2,849.9	2,815.8	34.08	83.617	
6,400.0	6,329.5	6,567.1	6,340.9	19.2	27.9	-84.30	471.4	-2,147.3	2,848.9	2,814.5	34.41	82.785	
6,500.0	6,429.5	6,669.4	6,443.1	19.4	28.0	-84.37	467.9	-2,146.7	2,848.0	2,813.2	34.76	81.932	
6,550.3	6,479.8	6,719.9	6,493.5	19.5	28.1	-84.40	466.0	-2,146.4	2,847.5	2,812.6	34.94	81.507	
6,600.0	6,529.4	6,768.7	6,542.4	19.5	28.2	5.58	464.0	-2,146.1	2,845.3	2,801.9	43.37	65.610	
6,650.0	6,579.2	6,831.1	6,604.7	19.5	28.3	5.58	461.3	-2,145.6	2,839.6	2,796.4	43.19	65.753	
6,700.0	6,628.4	6,893.3	6,666.8	19.5	28.4	5.63	458.7	-2,144.8	2,830.1	2,787.3	42.82	66.096	
6,750.0	6,676.9	6,943.2	6,716.7	19.5	28.5	5.71	456.5	-2,144.1	2,817.2	2,774.9	42.25	66.679	
6,800.0	6,724.5	6,991.9	6,765.3	19.4	28.6	5.84	454.2	-2,143.4	2,800.9	2,759.4	41.50	67.485	
6,850.0	6,770.8	7,038.9	6,812.3	19.4	28.6	6.00	451.7	-2,142.7	2,781.3	2,740.8	40.59	68.526	
6,900.0	6,815.8	7,082.2	6,855.5	19.3	28.7	6.21	449.3	-2,142.0	2,758.6	2,719.1	39.51	69.829	
6,950.0	6,859.1	7,121.3	6,894.5	19.2	28.8	6.47	447.1	-2,141.5	2,733.0	2,694.7	38.27	71.415	
7,000.0	6,900.5	7,158.8	6,931.9	19.1	28.9	6.80	444.8	-2,141.0	2,704.4	2,667.5	36.89	73.302	
7,050.0	6,939.9	7,200.2	6,973.3	19.1	28.9	7.21	442.2	-2,140.6	2,673.1	2,637.7	35.41	75.486	
7,100.0	6,977.1	7,239.2	7,012.2	19.0	29.0	7.71	439.7	-2,140.1	2,639.2	2,605.3	33.83	78.014	
7,150.0	7,011.8	7,276.7	7,049.6	19.0	29.1	8.35	437.3	-2,139.6	2,602.7	2,570.6	32.18	80.888	
7,200.0	7,044.0	7,311.8	7,084.6	19.1	29.2	9.17	434.9	-2,139.1	2,564.0	2,533.5	30.49	84.105	
7,250.0	7,073.4	7,343.6	7,116.3	19.1	29.2	10.21	432.8	-2,138.6	2,523.1	2,494.3	28.80	87.616	
7,300.0	7,099.9	7,371.6	7,144.2	19.3	29.3	11.58	430.9	-2,138.1	2,480.3	2,453.1	27.17	91.289	
7,350.0	7,123.4	7,396.1	7,168.7	19.5	29.3	13.42	429.2	-2,137.7	2,435.8	2,410.1	25.69	94.825	
7,400.0	7,143.7	7,417.2	7,189.7	19.8	29.4	16.00	427.8	-2,137.3	2,389.9	2,365.4	24.48	97.620	
7,450.0	7,160.9	7,434.7	7,207.2	20.2	29.4	19.76	426.6	-2,137.0	2,342.8	2,319.0	23.79	98.493	
7,500.0	7,174.7	7,447.9	7,220.4	20.7	29.4	25.64	425.7	-2,136.7	2,294.6	2,270.5	24.08	95.310	
7,550.0	7,185.1	7,457.5	7,229.9	21.2	29.5	35.63	425.0	-2,136.5	2,245.7	2,219.3	26.41	85.019	
7,600.0	7,192.1	7,463.6	7,236.0	21.8	29.5	54.10	424.6	-2,136.4	2,196.3	2,163.8	32.53	67.516	
7,650.0	7,195.6	7,466.2	7,238.6	22.5	29.5	85.65	424.4	-2,136.4	2,146.7	2,106.8	39.86	53.853	
7,680.0	7,196.0	7,466.0	7,238.4	22.9	29.5	106.65	424.4	-2,136.4	2,116.9	2,076.9	40.02	52.900	
7,700.0	7,195.9	7,465.5	7,237.9	23.3	29.5	106.53	424.5	-2,136.4	2,097.0	2,056.7	40.32	52.010	
7,800.0	7,195.2	7,462.9	7,235.3	24.9	29.5	105.94	424.6	-2,136.4	1,997.8	1,955.8	41.97	47.600	
7,900.0	7,194.6	7,460.3	7,232.7	26.7	29.5	105.34	424.8	-2,136.5	1,898.6	1,854.7	43.81	43.333	
8,000.0	7,193.9	7,457.7	7,230.1	28.7	29.5	104.74	425.0	-2,136.5	1,799.4	1,753.6	45.82	39.276	
8,100.0	7,193.3	7,455.1	7,227.5	30.9	29.5	104.14	425.2	-2,136.6	1,700.4	1,652.5	47.95	35.465	
8,200.0	7,192.6	7,452.5	7,224.9	33.1	29.5	103.55	425.4	-2,136.6	1,601.5	1,551.3	50.18	31.913	
8,300.0	7,192.0	7,449.9	7,222.3	35.4	29.5	102.95	425.5	-2,136.7	1,502.8	1,450.2	52.51	28.620	
8,400.0	7,191.3	7,447.3	7,219.7	37.8	29.4	102.34	425.7	-2,136.7	1,404.2	1,349.3	54.90	25.576	
8,500.0	7,190.7	7,444.7	7,217.2	40.2	29.4	101.74	425.9	-2,136.8	1,305.8	1,248.4	57.36	22.766	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 21GDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 703-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	7,442.1	7,214.6	42.7	29.4	101.14	426.1	-2,136.8	1,207.7	1,147.8	59.86	20.174	
8,700.0	7,189.4	7,439.6	7,212.0	45.2	29.4	100.54	426.2	-2,136.9	1,109.9	1,047.5	62.41	17.784	
8,800.0	7,188.7	7,437.0	7,209.4	47.8	29.4	99.93	426.4	-2,136.9	1,012.5	947.5	64.99	15.579	
8,900.0	7,188.0	7,434.3	7,206.8	50.3	29.4	99.31	426.6	-2,137.0	915.7	848.1	67.60	13.545	
9,000.0	7,187.4	7,431.7	7,204.2	52.9	29.4	98.69	426.8	-2,137.0	819.7	749.4	70.24	11.669	
9,100.0	7,186.7	7,429.1	7,201.6	55.6	29.4	98.07	427.0	-2,137.1	724.7	651.8	72.90	9.941	
9,200.0	7,186.1	7,426.5	7,199.0	58.2	29.4	97.46	427.1	-2,137.1	631.3	555.7	75.57	8.353	
9,300.0	7,185.4	7,423.9	7,196.5	60.9	29.4	96.85	427.3	-2,137.2	540.2	461.9	78.26	6.902	
9,400.0	7,184.8	7,421.4	7,193.9	63.5	29.4	96.24	427.5	-2,137.2	452.8	371.9	80.96	5.593	
9,500.0	7,184.1	7,418.8	7,191.4	66.2	29.4	95.63	427.7	-2,137.3	371.9	288.3	83.67	4.445	
9,600.0	7,183.5	7,416.3	7,188.9	68.9	29.4	95.03	427.8	-2,137.3	302.6	216.2	86.39	3.503	
9,700.0	7,182.8	7,413.8	7,186.3	71.6	29.4	94.43	428.0	-2,137.4	254.6	165.5	89.11	2.857	
9,783.9	7,182.3	7,411.7	7,184.3	73.9	29.4	93.93	428.2	-2,137.4	240.4	149.0	91.40	2.630	CC, ES
9,800.0	7,182.2	7,411.3	7,183.9	74.3	29.4	93.84	428.2	-2,137.4	241.0	149.1	91.84	2.624	SF
9,900.0	7,181.5	7,408.8	7,181.4	77.0	29.4	93.25	428.4	-2,137.5	267.0	172.4	94.57	2.823	
10,000.0	7,180.8	7,406.4	7,178.9	79.7	29.4	92.66	428.5	-2,137.5	323.2	225.9	97.30	3.322	
10,100.0	7,180.2	7,403.9	7,176.5	82.5	29.4	92.08	428.7	-2,137.6	397.1	297.1	100.02	3.970	
10,200.0	7,179.5	7,401.5	7,174.0	85.2	29.4	91.50	428.9	-2,137.6	480.5	377.7	102.75	4.676	
10,300.0	7,178.9	7,399.0	7,171.6	87.9	29.3	90.92	429.0	-2,137.6	569.2	463.8	105.47	5.397	
10,400.0	7,178.2	7,396.6	7,169.2	90.7	29.3	90.35	429.2	-2,137.7	661.2	553.0	108.19	6.111	
10,500.0	7,177.6	7,394.2	7,166.8	93.4	29.3	89.78	429.4	-2,137.7	755.2	644.3	110.90	6.809	
10,600.0	7,176.9	7,391.9	7,164.5	96.2	29.3	89.21	429.5	-2,137.8	850.6	736.9	113.61	7.487	
10,700.0	7,176.2	7,389.5	7,162.1	98.9	29.3	88.65	429.7	-2,137.8	946.9	830.6	116.31	8.141	
10,800.0	7,175.6	7,387.1	7,159.7	101.7	29.3	88.10	429.8	-2,137.9	1,043.9	924.9	119.01	8.772	
10,900.0	7,174.9	7,384.8	7,157.4	104.4	29.3	87.55	430.0	-2,137.9	1,141.4	1,019.7	121.69	9.379	
11,000.0	7,174.3	7,382.5	7,155.1	107.2	29.3	87.00	430.2	-2,137.9	1,239.3	1,114.9	124.37	9.965	
11,100.0	7,173.6	7,380.2	7,152.8	109.9	29.3	86.45	430.3	-2,138.0	1,337.5	1,210.5	127.03	10.529	
11,200.0	7,172.9	7,377.9	7,150.5	112.7	29.3	85.92	430.5	-2,138.0	1,436.0	1,306.3	129.69	11.072	
11,300.0	7,172.3	7,375.6	7,148.2	115.5	29.3	85.38	430.6	-2,138.1	1,534.6	1,402.3	132.34	11.596	
11,400.0	7,171.6	7,373.3	7,145.9	118.3	29.3	84.85	430.8	-2,138.1	1,633.4	1,498.5	134.97	12.102	
11,500.0	7,171.0	7,371.0	7,143.7	121.0	29.3	84.33	430.9	-2,138.1	1,732.4	1,594.8	137.60	12.590	
11,600.0	7,170.3	7,368.8	7,141.4	123.8	29.3	83.80	431.1	-2,138.2	1,831.4	1,691.2	140.21	13.062	
11,700.0	7,169.6	7,366.6	7,139.2	126.6	29.3	83.29	431.2	-2,138.2	1,930.6	1,787.8	142.81	13.519	
11,797.6	7,169.0	7,364.4	7,137.0	129.3	29.3	82.79	431.4	-2,138.2	2,027.4	1,882.1	145.33	13.950	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 21KDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-45.24	1,873.7	-1,889.7	2,661.2				
100.0	100.0	93.6	93.6	0.1	0.0	-45.24	1,873.7	-1,889.5	2,661.0	2,660.9	0.11	N/A	
200.0	200.0	204.4	204.4	0.3	0.1	-45.23	1,873.6	-1,888.8	2,660.5	2,660.1	0.45	5,890.458	
300.0	300.0	627.9	626.3	0.5	1.2	-45.50	1,844.5	-1,877.2	2,653.7	2,652.0	1.78	1,489.508	
400.0	400.0	1,358.1	1,332.4	0.8	4.8	-46.37	1,696.4	-1,779.4	2,634.5	2,628.9	5.60	470.070	
500.0	500.0	1,517.7	1,480.3	1.0	6.0	-46.52	1,650.7	-1,740.9	2,597.1	2,590.1	7.01	370.496	
600.0	600.0	1,617.4	1,572.1	1.2	6.8	-46.64	1,620.4	-1,716.3	2,558.3	2,550.3	7.97	321.025	
700.0	700.0	1,688.4	1,637.7	1.4	7.2	-46.73	1,599.4	-1,699.0	2,520.2	2,511.5	8.68	290.392	
800.0	800.0	1,787.3	1,729.0	1.7	7.9	-46.87	1,569.5	-1,675.6	2,482.2	2,472.6	9.57	259.433	
900.0	900.0	1,857.0	1,793.4	1.9	8.4	-46.99	1,548.2	-1,659.5	2,444.4	2,434.2	10.27	237.914	
1,000.0	1,000.0	1,939.7	1,870.0	2.1	8.9	-122.50	1,523.3	-1,640.9	2,408.2	2,401.0	7.19	334.922	
1,100.0	1,099.8	2,043.6	1,966.3	2.3	9.6	-123.42	1,492.0	-1,617.8	2,374.0	2,366.2	7.79	304.818	
1,200.0	1,199.5	2,128.7	2,045.2	2.5	10.2	-124.33	1,466.2	-1,598.9	2,341.5	2,333.2	8.35	280.466	
1,300.0	1,298.7	2,203.5	2,114.7	2.8	10.7	-125.18	1,444.1	-1,582.3	2,311.6	2,302.7	8.88	260.384	
1,400.0	1,397.5	2,299.8	2,204.3	3.1	11.4	-126.17	1,416.1	-1,561.2	2,284.2	2,274.7	9.52	239.980	
1,500.0	1,495.6	2,379.4	2,278.5	3.4	11.9	-127.10	1,392.2	-1,544.3	2,259.0	2,248.9	10.14	222.805	
1,500.1	1,495.7	2,379.5	2,278.5	3.4	11.9	-127.10	1,392.2	-1,544.3	2,259.0	2,248.9	10.14	222.788	
1,600.0	1,593.4	2,454.4	2,348.4	3.8	12.4	-127.63	1,370.1	-1,529.0	2,236.0	2,225.2	10.75	208.056	
1,700.0	1,691.3	2,574.7	2,460.9	4.1	13.2	-128.48	1,335.0	-1,504.5	2,213.7	2,202.1	11.56	191.433	
1,800.0	1,789.1	2,688.1	2,566.0	4.5	14.1	-129.33	1,300.0	-1,480.6	2,189.7	2,177.3	12.41	176.484	
1,900.0	1,886.9	2,819.5	2,687.0	4.9	15.1	-130.37	1,257.3	-1,452.1	2,164.7	2,151.3	13.38	161.800	
2,000.0	1,984.7	2,886.0	2,748.4	5.3	15.6	-130.90	1,236.1	-1,437.6	2,140.4	2,126.4	14.04	152.430	
2,100.0	2,082.5	3,006.5	2,859.6	5.7	16.5	-131.85	1,198.4	-1,410.8	2,116.5	2,101.5	14.97	141.402	
2,200.0	2,180.3	3,108.4	2,953.2	6.2	17.2	-132.67	1,166.0	-1,386.9	2,091.7	2,075.9	15.83	132.139	
2,300.0	2,278.1	3,180.5	3,019.7	6.6	17.8	-133.24	1,144.0	-1,369.8	2,067.8	2,051.3	16.53	125.075	
2,400.0	2,375.9	3,261.0	3,094.3	7.0	18.3	-133.88	1,120.1	-1,351.4	2,045.4	2,028.1	17.27	118.454	
2,500.0	2,473.8	3,342.5	3,170.1	7.5	18.9	-134.55	1,095.9	-1,333.3	2,023.9	2,005.9	18.03	112.283	
2,600.0	2,571.6	3,427.9	3,249.5	7.9	19.5	-135.24	1,071.1	-1,314.0	2,002.9	1,984.1	18.80	106.537	
2,700.0	2,669.4	3,506.3	3,322.5	8.3	20.1	-135.87	1,049.0	-1,296.4	1,982.9	1,963.3	19.54	101.489	
2,800.0	2,767.2	3,594.6	3,405.0	8.8	20.7	-136.62	1,023.7	-1,277.6	1,963.9	1,943.6	20.34	96.572	
2,900.0	2,865.0	3,677.0	3,482.1	9.2	21.2	-137.32	1,000.3	-1,259.9	1,945.4	1,924.3	21.11	92.153	
3,000.0	2,962.8	3,750.3	3,550.8	9.7	21.7	-137.96	979.7	-1,245.0	1,928.4	1,906.5	21.84	88.288	
3,100.0	3,060.6	3,846.2	3,641.0	10.1	22.3	-138.81	953.2	-1,226.2	1,912.6	1,889.9	22.70	84.260	
3,200.0	3,158.5	3,987.3	3,772.4	10.6	23.3	-140.14	911.0	-1,196.6	1,894.8	1,870.9	23.87	79.391	
3,300.0	3,256.3	4,081.5	3,859.7	11.0	24.0	-141.09	881.6	-1,177.0	1,877.2	1,852.4	24.80	75.704	
3,400.0	3,354.1	4,155.9	3,928.7	11.5	24.5	-141.85	858.3	-1,161.8	1,860.5	1,834.9	25.61	72.658	
3,500.0	3,451.9	4,242.2	4,009.2	11.9	25.1	-142.72	832.3	-1,144.7	1,845.3	1,818.8	26.47	69.702	
3,600.0	3,549.7	4,331.8	4,093.0	12.4	25.7	-143.57	807.1	-1,125.8	1,830.5	1,803.1	27.34	66.952	
3,700.0	3,647.5	4,408.7	4,165.2	12.8	26.2	-144.31	785.8	-1,110.2	1,817.0	1,788.9	28.13	64.588	
3,800.0	3,745.3	4,490.1	4,241.8	13.3	26.8	-145.13	762.8	-1,094.4	1,804.7	1,775.8	28.97	62.304	
3,900.0	3,843.2	4,570.0	4,317.0	13.7	27.3	-145.95	740.0	-1,080.0	1,794.0	1,764.2	29.81	60.188	
4,000.0	3,941.0	4,711.8	4,449.9	14.2	28.2	-147.43	699.1	-1,052.6	1,782.5	1,751.5	31.05	57.399	
4,100.0	4,038.8	4,805.1	4,537.3	14.6	28.9	-148.37	673.1	-1,032.9	1,770.4	1,738.4	31.98	55.363	
4,200.0	4,136.6	4,881.8	4,609.3	15.1	29.4	-149.16	651.8	-1,017.1	1,759.4	1,726.6	32.79	53.658	
4,300.0	4,234.4	4,955.3	4,678.8	15.5	29.8	-149.88	632.8	-1,002.5	1,750.2	1,716.6	33.57	52.139	
4,325.2	4,259.1	4,982.0	4,704.1	15.6	30.0	-150.13	626.1	-997.2	1,748.1	1,714.3	33.81	51.698	
4,400.0	4,332.4	5,052.6	4,770.8	15.9	30.4	-150.75	607.9	-983.3	1,740.9	1,706.4	34.52	50.431	
4,500.0	4,431.0	5,131.0	4,845.3	16.2	30.9	-151.36	588.2	-968.5	1,730.0	1,694.7	35.29	49.017	
4,600.0	4,530.2	5,190.1	4,901.8	16.5	31.3	-151.73	574.3	-958.0	1,717.9	1,682.0	35.86	47.901	
4,700.0	4,629.7	5,252.3	4,961.6	16.7	31.6	-152.07	560.8	-947.7	1,704.7	1,668.3	36.37	46.867	
4,800.0	4,729.5	5,318.0	5,025.3	16.9	31.9	-152.36	547.9	-938.1	1,691.1	1,654.2	36.82	45.929	
4,900.0	4,829.5	5,372.0	5,078.0	17.0	32.1	-152.51	538.3	-931.1	1,676.6	1,639.5	37.12	45.171	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 21KDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	5,388.8	5,094.4	17.1	32.2	-77.88	535.5	-929.1	1,672.8	1,630.8	42.02	39.806	
5,000.0	4,929.5	5,440.5	5,145.1	17.2	32.4	-78.12	527.3	-923.3	1,662.0	1,619.7	42.24	39.343	
5,100.0	5,029.5	5,506.0	5,209.6	17.3	32.7	-78.39	517.7	-916.6	1,649.0	1,606.4	42.53	38.769	
5,200.0	5,129.5	5,579.8	5,282.5	17.4	32.9	-78.67	508.3	-910.1	1,637.8	1,595.0	42.82	38.248	
5,300.0	5,229.5	5,652.6	5,354.7	17.6	33.1	-78.91	500.3	-904.7	1,628.4	1,585.3	43.09	37.789	
5,400.0	5,329.5	5,731.9	5,433.5	17.7	33.3	-79.14	492.9	-899.8	1,620.5	1,577.2	43.37	37.368	
5,500.0	5,429.5	5,818.0	5,519.1	17.9	33.5	-79.34	486.2	-895.1	1,613.7	1,570.0	43.65	36.972	
5,600.0	5,529.5	5,906.5	5,607.4	18.0	33.7	-79.48	481.3	-890.5	1,607.6	1,563.6	43.93	36.592	
5,700.0	5,629.5	5,994.6	5,695.4	18.1	33.8	-79.59	477.4	-886.5	1,602.2	1,558.0	44.21	36.238	
5,800.0	5,729.5	6,086.7	5,787.3	18.3	34.0	-79.70	473.7	-882.6	1,597.4	1,552.9	44.50	35.898	
5,900.0	5,829.5	6,170.1	5,870.5	18.4	34.1	-79.79	470.5	-879.8	1,593.4	1,548.6	44.76	35.595	
6,000.0	5,929.5	6,256.0	5,956.4	18.6	34.2	-79.85	468.5	-877.5	1,590.4	1,545.4	45.03	35.319	
6,100.0	6,029.5	6,339.6	6,040.0	18.7	34.3	-79.87	467.5	-876.0	1,588.3	1,543.0	45.29	35.074	
6,200.0	6,129.5	6,437.3	6,137.7	18.9	34.4	-79.91	466.2	-874.8	1,586.9	1,541.3	45.55	34.836	
6,300.0	6,229.5	6,538.7	6,239.1	19.1	34.5	-79.96	464.6	-873.5	1,585.4	1,539.6	45.82	34.598	
6,400.0	6,329.5	6,635.0	6,335.4	19.2	34.6	-80.02	462.8	-872.5	1,584.0	1,537.9	46.09	34.368	
6,500.0	6,429.5	6,730.3	6,430.6	19.4	34.7	-80.08	461.0	-871.7	1,582.8	1,536.5	46.35	34.149	
6,550.3	6,479.8	6,777.3	6,477.6	19.5	34.8	-80.10	460.3	-871.4	1,582.4	1,535.9	46.48	34.044	
6,600.0	6,529.4	6,823.5	6,523.8	19.5	34.8	9.92	459.7	-871.2	1,580.4	1,537.6	42.80	36.921	
6,650.0	6,579.2	6,869.6	6,569.9	19.5	34.9	10.00	459.1	-871.1	1,575.0	1,532.6	42.39	37.156	
6,700.0	6,628.4	6,910.0	6,610.3	19.5	34.9	10.15	458.7	-871.1	1,566.4	1,524.6	41.76	37.508	
6,750.0	6,676.9	6,958.3	6,658.6	19.5	35.0	10.38	458.2	-871.2	1,554.5	1,513.6	40.94	37.976	
6,800.0	6,724.5	7,003.0	6,703.3	19.4	35.0	10.70	457.8	-871.4	1,539.5	1,499.6	39.91	38.579	
6,850.0	6,770.8	7,045.0	6,745.3	19.4	35.0	11.10	457.6	-871.7	1,521.4	1,482.7	38.68	39.331	
6,900.0	6,815.8	7,088.1	6,788.4	19.3	35.1	11.62	457.5	-872.1	1,500.2	1,463.0	37.28	40.242	
6,950.0	6,859.1	7,133.1	6,833.4	19.2	35.1	12.27	457.3	-872.5	1,476.0	1,440.3	35.71	41.332	
7,000.0	6,900.5	7,176.9	6,877.2	19.1	35.1	13.08	457.1	-872.9	1,448.9	1,414.9	33.99	42.622	
7,050.0	6,939.9	7,216.6	6,916.9	19.1	35.2	14.06	457.0	-873.1	1,418.9	1,386.7	32.15	44.133	
7,100.0	6,977.1	7,253.3	6,953.6	19.0	35.2	15.26	457.0	-873.4	1,386.3	1,356.1	30.22	45.877	
7,150.0	7,011.8	7,288.2	6,988.5	19.0	35.2	16.75	457.1	-873.6	1,351.3	1,323.0	28.25	47.835	
7,200.0	7,044.0	7,325.2	7,025.5	19.1	35.3	18.67	457.1	-873.8	1,314.0	1,287.6	26.33	49.905	
7,250.0	7,073.4	7,358.8	7,059.0	19.1	35.3	21.10	457.3	-873.8	1,274.4	1,249.8	24.62	51.775	
7,300.0	7,099.9	7,387.9	7,088.2	19.3	35.3	24.17	457.4	-873.7	1,233.0	1,209.6	23.38	52.732	
7,350.0	7,123.4	7,412.3	7,112.6	19.5	35.3	28.05	457.5	-873.6	1,189.9	1,166.8	23.10	51.522	
7,400.0	7,143.7	7,433.3	7,133.6	19.8	35.3	33.07	457.6	-873.5	1,145.4	1,121.1	24.37	46.998	
7,450.0	7,160.9	7,450.9	7,151.2	20.2	35.4	39.62	457.6	-873.4	1,099.8	1,072.2	27.60	39.852	
7,500.0	7,174.7	7,465.0	7,165.3	20.7	35.4	48.09	457.7	-873.4	1,053.2	1,020.6	32.57	32.334	
7,550.0	7,185.1	7,475.8	7,176.0	21.2	35.4	58.77	457.7	-873.3	1,005.9	967.4	38.53	26.109	
7,600.0	7,192.1	7,483.0	7,183.3	21.8	35.4	71.37	457.7	-873.2	958.3	914.2	44.09	21.737	
7,650.0	7,195.6	7,486.5	7,186.8	22.5	35.4	84.68	457.7	-873.2	910.5	862.9	47.69	19.094	
7,680.0	7,196.0	7,486.7	7,187.0	22.9	35.4	92.33	457.7	-873.2	881.9	833.3	48.59	18.149	
7,700.0	7,195.9	7,486.4	7,186.7	23.3	35.4	92.26	457.7	-873.2	862.9	814.0	48.89	17.648	
7,800.0	7,195.2	7,484.9	7,185.2	24.9	35.4	91.94	457.7	-873.2	768.6	718.0	50.54	15.208	
7,900.0	7,194.6	7,483.4	7,183.7	26.7	35.4	91.63	457.7	-873.2	675.8	623.4	52.37	12.904	
8,000.0	7,193.9	7,482.0	7,182.3	28.7	35.4	91.33	457.7	-873.3	585.5	531.1	54.36	10.769	
8,100.0	7,193.3	7,480.6	7,180.9	30.9	35.4	91.03	457.7	-873.3	498.8	442.3	56.48	8.831	
8,200.0	7,192.6	7,479.2	7,179.5	33.1	35.4	90.73	457.7	-873.3	418.2	359.5	58.70	7.124	
8,300.0	7,192.0	7,477.8	7,178.1	35.4	35.4	90.44	457.7	-873.3	347.7	286.7	61.00	5.700	
8,400.0	7,191.3	7,476.5	7,176.7	37.8	35.4	90.15	457.7	-873.3	294.9	231.5	63.37	4.653	
8,500.0	7,190.7	7,475.1	7,175.4	40.2	35.4	89.87	457.7	-873.3	270.1	204.3	65.79	4.106	
8,519.9	7,190.5	7,474.9	7,175.2	40.7	35.4	89.82	457.7	-873.3	269.4	203.1	66.28	4.065	CC, ES, SF
8,600.0	7,190.0	7,473.8	7,174.1	42.7	35.4	89.59	457.7	-873.3	281.1	212.8	68.26	4.118	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 21KDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,472.6	7,172.8	45.2	35.4	89.32	457.7	-873.3	324.1	253.3	70.76	4.580	
8,800.0	7,188.7	7,471.0	7,171.3	47.8	35.4	88.99	457.7	-873.3	388.7	315.4	73.29	5.303	
8,900.0	7,188.0	7,470.0	7,170.3	50.3	35.4	88.79	457.7	-873.3	465.9	390.1	75.86	6.142	
9,000.0	7,187.4	7,468.8	7,169.1	52.9	35.4	88.52	457.7	-873.3	550.5	472.1	78.44	7.018	
9,100.0	7,186.7	7,467.6	7,167.8	55.6	35.4	88.26	457.7	-873.3	639.6	558.6	81.04	7.892	
9,200.0	7,186.1	7,466.3	7,166.6	58.2	35.4	88.00	457.7	-873.4	731.5	647.9	83.66	8.744	
9,300.0	7,185.4	7,465.1	7,165.4	60.9	35.4	87.74	457.7	-873.4	825.3	739.0	86.29	9.565	
9,400.0	7,184.8	7,463.9	7,164.2	63.5	35.4	87.48	457.7	-873.4	920.4	831.5	88.93	10.350	
9,500.0	7,184.1	7,462.7	7,163.0	66.2	35.4	87.22	457.7	-873.4	1,016.4	924.8	91.58	11.099	
9,600.0	7,183.5	7,461.5	7,161.8	68.9	35.4	86.97	457.7	-873.4	1,113.2	1,018.9	94.23	11.813	
9,700.0	7,182.8	7,460.3	7,160.6	71.6	35.4	86.71	457.7	-873.4	1,210.4	1,113.5	96.90	12.492	
9,800.0	7,182.2	7,459.1	7,159.4	74.3	35.4	86.46	457.7	-873.4	1,308.1	1,208.5	99.57	13.138	
9,900.0	7,181.5	7,457.9	7,158.2	77.0	35.4	86.21	457.7	-873.4	1,406.1	1,303.9	102.24	13.753	
10,000.0	7,180.8	7,456.8	7,157.1	79.7	35.4	85.97	457.7	-873.4	1,504.4	1,399.4	104.92	14.339	
10,100.0	7,180.2	7,455.6	7,155.9	82.5	35.4	85.72	457.6	-873.4	1,602.8	1,495.2	107.60	14.897	
10,200.0	7,179.5	7,454.5	7,154.7	85.2	35.4	85.47	457.6	-873.4	1,701.5	1,591.2	110.28	15.429	
10,300.0	7,178.9	7,453.3	7,153.6	87.9	35.4	85.23	457.6	-873.4	1,800.3	1,687.3	112.96	15.937	
10,400.0	7,178.2	7,452.2	7,152.5	90.7	35.4	84.99	457.6	-873.4	1,899.2	1,783.6	115.65	16.423	
10,500.0	7,177.6	7,451.0	7,151.3	93.4	35.4	84.75	457.6	-873.4	1,998.2	1,879.9	118.33	16.887	
10,600.0	7,176.9	7,449.9	7,150.2	96.2	35.4	84.51	457.6	-873.4	2,097.4	1,976.3	121.02	17.331	
10,700.0	7,176.2	7,448.8	7,149.1	98.9	35.4	84.27	457.6	-873.5	2,196.6	2,072.9	123.70	17.757	
10,800.0	7,175.6	7,447.7	7,148.0	101.7	35.4	84.04	457.6	-873.5	2,295.8	2,169.4	126.39	18.165	
10,900.0	7,174.9	7,446.6	7,146.9	104.4	35.4	83.81	457.6	-873.5	2,395.2	2,266.1	129.07	18.557	
11,000.0	7,174.3	7,445.5	7,145.8	107.2	35.4	83.57	457.6	-873.5	2,494.5	2,362.8	131.76	18.933	
11,100.0	7,173.6	7,444.4	7,144.7	109.9	35.4	83.34	457.6	-873.5	2,594.0	2,459.5	134.44	19.295	
11,200.0	7,172.9	7,443.3	7,143.6	112.7	35.3	83.11	457.6	-873.5	2,693.5	2,556.3	137.12	19.643	
11,300.0	7,172.3	7,442.2	7,142.5	115.5	35.3	82.89	457.6	-873.5	2,793.0	2,653.2	139.80	19.979	
11,400.0	7,171.6	7,441.2	7,141.5	118.3	35.3	82.66	457.6	-873.5	2,892.5	2,750.0	142.47	20.302	
11,500.0	7,171.0	7,440.1	7,140.4	121.0	35.3	82.44	457.6	-873.5	2,992.1	2,846.9	145.15	20.614	
11,600.0	7,170.3	7,439.1	7,139.3	123.8	35.3	82.21	457.6	-873.5	3,091.7	2,943.9	147.82	20.916	
11,700.0	7,169.6	7,438.0	7,138.3	126.6	35.3	81.99	457.6	-873.5	3,191.3	3,040.8	150.49	21.207	
11,797.6	7,169.0	7,437.0	7,137.3	129.3	35.3	81.78	457.6	-873.5	3,288.5	3,135.4	153.09	21.481	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 147-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-44.90	1,875.5	-1,868.8	2,647.7				
100.0	100.0	119.9	119.8	0.1	0.0	-44.89	1,875.3	-1,867.9	2,647.1	2,646.9	0.13	N/A	
200.0	200.0	232.8	232.7	0.3	0.2	-44.86	1,874.8	-1,865.8	2,645.4	2,644.9	0.52	5,041.596	
300.0	300.0	511.6	511.2	0.5	0.9	-44.82	1,866.0	-1,854.2	2,640.3	2,638.9	1.42	1,863.509	
400.0	400.0	665.9	664.7	0.8	1.3	-44.82	1,855.4	-1,844.0	2,630.7	2,628.7	2.07	1,270.385	
500.0	500.0	1,127.0	1,118.2	1.0	3.0	-44.66	1,804.0	-1,782.5	2,613.8	2,609.9	3.97	658.291	
600.0	600.0	1,198.0	1,187.0	1.2	3.3	-44.53	1,795.9	-1,766.8	2,590.2	2,585.7	4.48	577.971	
700.0	700.0	1,478.9	1,455.9	1.4	4.9	-43.83	1,762.9	-1,692.6	2,562.5	2,556.5	6.04	423.961	
800.0	800.0	1,639.4	1,606.7	1.7	6.0	-43.35	1,740.4	-1,642.9	2,530.3	2,523.1	7.17	353.072	
900.0	900.0	1,858.7	1,810.6	1.9	7.6	-42.60	1,706.6	-1,569.6	2,496.4	2,487.7	8.70	287.011	
1,000.0	1,000.0	1,954.0	1,898.3	2.1	8.3	-117.68	1,689.9	-1,536.1	2,460.1	2,452.9	7.22	340.736	
1,100.0	1,099.8	2,097.0	2,028.8	2.3	9.5	-118.01	1,663.8	-1,483.9	2,423.7	2,415.7	7.99	303.441	
1,200.0	1,199.5	2,172.6	2,097.6	2.5	10.1	-118.52	1,650.3	-1,455.7	2,388.7	2,380.2	8.49	281.371	
1,300.0	1,298.7	2,243.7	2,162.6	2.8	10.6	-119.03	1,638.3	-1,429.4	2,356.3	2,347.4	8.99	262.217	
1,400.0	1,397.5	2,330.2	2,241.8	3.1	11.3	-119.54	1,624.3	-1,397.6	2,326.2	2,316.6	9.57	243.099	
1,500.0	1,495.6	2,434.9	2,337.7	3.4	12.1	-120.09	1,607.1	-1,359.3	2,297.6	2,287.4	10.26	223.973	
1,500.1	1,495.7	2,435.0	2,337.8	3.4	12.1	-120.09	1,607.1	-1,359.3	2,297.6	2,287.3	10.26	223.955	
1,600.0	1,593.4	2,534.4	2,428.9	3.8	12.9	-120.19	1,590.3	-1,323.1	2,269.7	2,258.8	10.97	206.885	
1,700.0	1,691.3	2,646.1	2,531.0	4.1	13.8	-120.29	1,571.1	-1,282.1	2,241.4	2,229.6	11.76	190.666	
1,800.0	1,789.1	2,760.2	2,635.1	4.5	14.7	-120.43	1,550.3	-1,240.3	2,212.3	2,199.8	12.56	176.159	
1,900.0	1,886.9	2,838.2	2,706.2	4.9	15.4	-120.52	1,535.8	-1,211.6	2,183.0	2,169.8	13.22	165.108	
2,000.0	1,984.7	2,919.9	2,781.0	5.3	16.0	-120.63	1,521.3	-1,182.4	2,154.9	2,141.0	13.90	155.009	
2,100.0	2,082.5	3,024.3	2,876.6	5.7	16.9	-120.77	1,502.6	-1,144.8	2,126.5	2,111.9	14.67	144.916	
2,200.0	2,180.3	3,129.7	2,973.1	6.2	17.7	-120.93	1,483.2	-1,106.9	2,098.0	2,082.5	15.45	135.760	
2,300.0	2,278.1	3,213.9	3,050.0	6.6	18.4	-121.07	1,467.4	-1,076.7	2,069.2	2,053.0	16.15	128.147	
2,400.0	2,375.9	3,290.5	3,120.5	7.0	19.0	-121.22	1,453.0	-1,050.3	2,041.3	2,024.5	16.80	121.477	
2,500.0	2,473.8	3,369.9	3,193.6	7.5	19.6	-121.34	1,439.3	-1,022.5	2,014.3	1,996.8	17.48	115.256	
2,600.0	2,571.6	3,444.0	3,262.1	7.9	20.2	-121.45	1,427.4	-996.7	1,988.3	1,970.1	18.14	109.616	
2,700.0	2,669.4	3,538.0	3,349.1	8.3	20.9	-121.59	1,412.6	-964.3	1,962.8	1,943.9	18.87	103.995	
2,800.0	2,767.2	3,619.4	3,424.5	8.8	21.5	-121.71	1,400.0	-936.5	1,937.6	1,918.1	19.56	99.055	
2,900.0	2,865.0	3,718.6	3,516.8	9.2	22.2	-121.89	1,384.2	-903.7	1,913.0	1,892.7	20.29	94.275	
3,000.0	2,962.8	3,807.9	3,600.0	9.7	22.8	-122.11	1,368.9	-875.2	1,888.5	1,867.5	20.97	90.069	
3,100.0	3,060.6	3,961.0	3,741.7	10.1	24.0	-122.42	1,343.0	-823.2	1,862.4	1,840.5	21.89	85.089	
3,200.0	3,158.5	4,064.1	3,836.4	10.6	24.9	-122.62	1,324.8	-786.8	1,835.0	1,812.3	22.65	81.028	
3,300.0	3,256.3	4,146.5	3,912.2	11.0	25.5	-122.81	1,309.8	-758.2	1,807.6	1,784.3	23.31	77.531	
3,400.0	3,354.1	4,234.6	3,993.6	11.5	26.2	-123.02	1,294.3	-728.3	1,781.3	1,757.3	24.00	74.233	
3,500.0	3,451.9	4,327.5	4,079.3	11.9	26.9	-123.23	1,278.2	-696.3	1,754.8	1,730.1	24.69	71.067	
3,600.0	3,549.7	4,425.9	4,170.6	12.4	27.6	-123.53	1,260.0	-664.3	1,729.0	1,703.6	25.37	68.146	
3,700.0	3,647.5	4,514.2	4,252.2	12.8	28.3	-123.85	1,242.4	-635.9	1,702.5	1,676.5	26.00	65.471	
3,800.0	3,745.3	4,584.0	4,317.2	13.3	28.8	-124.03	1,230.9	-612.9	1,677.7	1,651.1	26.61	63.053	
3,900.0	3,843.2	4,697.9	4,422.8	13.7	29.7	-124.29	1,213.1	-574.2	1,652.8	1,625.5	27.37	60.385	
4,000.0	3,941.0	4,792.6	4,510.6	14.2	30.4	-124.52	1,197.7	-542.2	1,627.7	1,599.7	28.06	58.006	
4,100.0	4,038.8	4,883.5	4,594.9	14.6	31.1	-124.77	1,182.9	-511.7	1,602.9	1,574.1	28.72	55.801	
4,200.0	4,136.6	4,974.0	4,679.2	15.1	31.7	-125.06	1,167.6	-482.4	1,578.5	1,549.1	29.36	53.754	
4,300.0	4,234.4	5,066.4	4,765.3	15.5	32.4	-125.38	1,151.8	-452.9	1,554.3	1,524.3	30.00	51.811	
4,325.2	4,259.1	5,087.6	4,785.0	15.6	32.5	-125.45	1,148.3	-446.1	1,548.3	1,518.2	30.15	51.345	
4,400.0	4,332.4	5,150.7	4,844.0	15.9	33.0	-125.32	1,138.3	-425.8	1,530.3	1,499.7	30.60	50.004	
4,500.0	4,431.0	5,222.0	4,910.7	16.2	33.5	-125.05	1,126.9	-403.5	1,505.2	1,474.1	31.11	48.379	
4,600.0	4,530.2	5,277.8	4,963.4	16.5	33.8	-124.72	1,118.1	-387.4	1,480.4	1,448.8	31.53	46.950	
4,700.0	4,629.7	5,334.1	5,017.3	16.7	34.2	-124.39	1,109.7	-373.4	1,456.8	1,424.9	31.92	45.646	
4,800.0	4,729.5	5,409.0	5,089.3	16.9	34.6	-124.01	1,098.8	-356.0	1,433.1	1,400.7	32.32	44.340	
4,900.0	4,829.5	5,484.0	5,161.8	17.0	34.9	-123.54	1,088.6	-339.5	1,408.9	1,376.2	32.72	43.061	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 147-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	5,502.0	5,179.2	17.1	35.0	-48.72	1,086.3	-335.6	1,402.8	1,355.1	47.75	29.376	
5,000.0	4,929.5	5,547.9	5,223.8	17.2	35.2	-48.64	1,080.8	-326.3	1,385.5	1,337.4	48.05	28.833	
5,100.0	5,029.5	5,596.0	5,270.8	17.3	35.4	-48.55	1,075.6	-317.2	1,364.6	1,316.1	48.41	28.187	
5,200.0	5,129.5	5,689.0	5,362.1	17.4	35.8	-48.39	1,067.0	-301.9	1,346.0	1,297.1	48.89	27.530	
5,300.0	5,229.5	5,744.7	5,417.0	17.6	36.0	-48.30	1,062.5	-294.0	1,329.7	1,280.5	49.22	27.015	
5,400.0	5,329.5	5,816.3	5,487.9	17.7	36.2	-48.19	1,057.6	-284.7	1,315.5	1,266.0	49.58	26.532	
5,500.0	5,429.5	5,877.0	5,548.1	17.9	36.4	-48.11	1,054.2	-277.9	1,303.5	1,253.6	49.90	26.121	
5,600.0	5,529.5	5,970.0	5,640.6	18.0	36.6	-47.99	1,049.9	-269.2	1,293.5	1,243.2	50.27	25.733	
5,700.0	5,629.5	6,039.7	5,710.0	18.1	36.7	-47.92	1,047.3	-263.9	1,285.2	1,234.7	50.56	25.419	
5,800.0	5,729.5	6,121.0	5,791.1	18.3	36.9	-47.85	1,044.8	-258.8	1,278.6	1,227.7	50.86	25.137	
5,900.0	5,829.5	6,207.7	5,877.7	18.4	37.0	-47.79	1,042.7	-254.5	1,273.2	1,222.0	51.16	24.885	
6,000.0	5,929.5	6,298.3	5,968.2	18.6	37.1	-47.74	1,040.8	-250.7	1,268.7	1,217.2	51.46	24.653	
6,100.0	6,029.5	6,390.5	6,060.3	18.7	37.2	-47.69	1,039.1	-247.3	1,264.8	1,213.0	51.75	24.439	
6,200.0	6,129.5	6,485.0	6,154.8	18.9	37.4	-47.64	1,037.8	-244.3	1,261.5	1,209.4	52.04	24.239	
6,300.0	6,229.5	6,585.7	6,255.4	19.1	37.5	-47.60	1,036.4	-241.4	1,258.4	1,206.0	52.34	24.042	
6,400.0	6,329.5	6,685.8	6,355.4	19.2	37.6	-47.56	1,034.9	-238.3	1,255.1	1,202.4	52.64	23.842	
6,500.0	6,429.5	6,780.0	6,449.6	19.4	37.7	-47.51	1,033.7	-235.5	1,252.0	1,199.1	52.93	23.654	
6,550.3	6,479.8	6,825.6	6,495.1	19.5	37.8	-47.49	1,033.2	-234.3	1,250.7	1,197.7	53.07	23.567	
6,600.0	6,529.4	6,868.3	6,537.8	19.5	37.8	42.69	1,032.8	-233.5	1,248.4	1,210.4	38.05	32.807	
6,650.0	6,579.2	6,911.5	6,581.0	19.5	37.9	43.09	1,032.3	-233.0	1,243.8	1,205.8	37.97	32.757	
6,700.0	6,628.4	6,956.7	6,626.3	19.5	37.9	43.71	1,031.8	-232.8	1,236.9	1,199.0	37.93	32.609	
6,750.0	6,676.9	7,001.5	6,671.1	19.5	37.9	44.57	1,031.2	-232.8	1,227.7	1,189.7	37.96	32.338	
6,800.0	6,724.5	7,046.8	6,716.4	19.4	38.0	45.68	1,030.5	-233.1	1,216.2	1,178.1	38.11	31.917	
6,850.0	6,770.8	7,092.0	6,761.5	19.4	38.0	47.07	1,029.8	-233.5	1,202.6	1,164.2	38.40	31.316	
6,900.0	6,815.8	7,136.3	6,805.8	19.3	38.0	48.72	1,028.9	-234.2	1,186.9	1,148.0	38.88	30.528	
6,950.0	6,859.1	7,180.1	6,849.5	19.2	38.1	50.67	1,027.7	-235.1	1,169.2	1,129.6	39.58	29.543	
7,000.0	6,900.5	7,218.5	6,887.9	19.1	38.1	52.83	1,026.7	-236.0	1,149.8	1,109.3	40.47	28.413	
7,050.0	6,939.9	7,254.4	6,923.8	19.1	38.1	55.26	1,026.0	-236.7	1,128.9	1,087.3	41.58	27.151	
7,100.0	6,977.1	7,289.4	6,958.9	19.0	38.1	57.98	1,025.6	-237.4	1,106.9	1,064.0	42.92	25.788	
7,150.0	7,011.8	7,325.2	6,994.7	19.0	38.2	61.05	1,025.2	-238.0	1,083.8	1,039.3	44.50	24.358	
7,200.0	7,044.0	7,358.3	7,027.7	19.1	38.2	64.32	1,024.9	-238.5	1,060.0	1,013.8	46.18	22.951	
7,250.0	7,073.4	7,388.7	7,058.1	19.1	38.2	67.73	1,024.6	-238.9	1,035.6	987.7	47.92	21.614	
7,300.0	7,099.9	7,416.1	7,085.6	19.3	38.2	71.21	1,024.4	-239.2	1,011.2	961.6	49.61	20.382	
7,350.0	7,123.4	7,440.4	7,109.8	19.5	38.2	74.65	1,024.3	-239.4	987.1	935.9	51.21	19.276	
7,400.0	7,143.7	7,461.3	7,130.7	19.8	38.3	77.95	1,024.1	-239.5	963.5	910.9	52.65	18.302	
7,450.0	7,160.9	7,479.2	7,148.6	20.2	38.3	81.04	1,024.0	-239.7	941.0	887.1	53.91	17.454	
7,500.0	7,174.7	7,493.7	7,163.1	20.7	38.3	83.83	1,024.0	-239.7	919.9	864.9	55.01	16.722	
7,550.0	7,185.1	7,504.6	7,174.1	21.2	38.3	86.23	1,023.9	-239.8	900.5	844.5	55.96	16.092	
7,600.0	7,192.1	7,512.0	7,181.5	21.8	38.3	88.21	1,023.8	-239.8	883.2	826.4	56.79	15.551	
7,650.0	7,195.6	7,515.8	7,185.3	22.5	38.3	89.71	1,023.8	-239.9	868.3	810.8	57.56	15.085	
7,680.0	7,196.0	7,516.4	7,185.8	22.9	38.3	90.39	1,023.8	-239.9	860.6	802.6	58.01	14.837	
7,700.0	7,195.9	7,516.4	7,185.8	23.3	38.3	90.39	1,023.8	-239.9	856.1	797.8	58.31	14.681	
7,800.0	7,195.2	7,516.1	7,185.5	24.9	38.3	90.37	1,023.8	-239.9	840.0	780.0	59.96	14.010	
7,886.3	7,194.7	7,515.9	7,185.3	26.5	38.3	90.36	1,023.8	-239.9	835.5	774.0	61.55	13.576	CC
7,900.0	7,194.6	7,515.9	7,185.3	26.7	38.3	90.35	1,023.8	-239.9	835.6	773.8	61.80	13.522	ES
8,000.0	7,193.9	7,515.7	7,185.1	28.7	38.3	90.34	1,023.8	-239.9	843.2	779.4	63.80	13.217	
8,100.0	7,193.3	7,515.4	7,184.8	30.9	38.3	90.32	1,023.8	-239.9	862.4	796.5	65.92	13.082	SF
8,200.0	7,192.6	7,515.2	7,184.6	33.1	38.3	90.31	1,023.8	-239.8	892.5	824.3	68.15	13.096	
8,300.0	7,192.0	7,515.0	7,184.4	35.4	38.3	90.29	1,023.8	-239.8	932.3	861.9	70.46	13.232	
8,400.0	7,191.3	7,514.7	7,184.2	37.8	38.3	90.27	1,023.8	-239.8	980.8	908.0	72.84	13.466	
8,500.0	7,190.7	7,514.5	7,183.9	40.2	38.3	90.26	1,023.8	-239.8	1,036.7	961.4	75.27	13.773	
8,600.0	7,190.0	7,514.3	7,183.7	42.7	38.3	90.24	1,023.8	-239.8	1,098.8	1,021.1	77.75	14.133	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 147-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,514.1	7,183.5	45.2	38.3	90.23	1,023.8	-239.8	1,166.2	1,086.0	80.27	14.530	
8,800.0	7,188.7	7,513.9	7,183.3	47.8	38.3	90.21	1,023.8	-239.8	1,238.1	1,155.3	82.82	14.950	
8,900.0	7,188.0	7,513.6	7,183.1	50.3	38.3	90.20	1,023.8	-239.8	1,313.6	1,228.2	85.39	15.383	
9,000.0	7,187.4	7,513.4	7,182.8	52.9	38.3	90.18	1,023.8	-239.8	1,392.2	1,304.2	88.00	15.822	
9,100.0	7,186.7	7,513.2	7,182.6	55.6	38.3	90.17	1,023.8	-239.8	1,473.4	1,382.8	90.62	16.260	
9,200.0	7,186.1	7,513.0	7,182.4	58.2	38.3	90.15	1,023.8	-239.8	1,556.8	1,463.6	93.26	16.694	
9,300.0	7,185.4	7,512.8	7,182.2	60.9	38.3	90.14	1,023.8	-239.8	1,642.1	1,546.2	95.91	17.121	
9,400.0	7,184.8	7,512.6	7,182.0	63.5	38.3	90.12	1,023.8	-239.8	1,728.9	1,630.4	98.58	17.539	
9,500.0	7,184.1	7,512.4	7,181.8	66.2	38.3	90.11	1,023.8	-239.8	1,817.1	1,715.9	101.26	17.946	
9,600.0	7,183.5	7,512.2	7,181.6	68.9	38.3	90.10	1,023.8	-239.8	1,906.5	1,802.5	103.94	18.341	
9,700.0	7,182.8	7,512.0	7,181.4	71.6	38.3	90.08	1,023.8	-239.8	1,996.8	1,890.2	106.64	18.725	
9,800.0	7,182.2	7,511.8	7,181.2	74.3	38.3	90.07	1,023.8	-239.8	2,088.1	1,978.7	109.35	19.096	
9,900.0	7,181.5	7,511.6	7,181.0	77.0	38.3	90.05	1,023.8	-239.8	2,180.1	2,068.0	112.06	19.454	
10,000.0	7,180.8	7,511.4	7,180.8	79.7	38.3	90.04	1,023.8	-239.8	2,272.8	2,158.0	114.78	19.801	
10,100.0	7,180.2	7,511.2	7,180.6	82.5	38.3	90.03	1,023.8	-239.8	2,366.1	2,248.6	117.51	20.135	
10,200.0	7,179.5	7,511.0	7,180.4	85.2	38.3	90.01	1,023.8	-239.8	2,459.9	2,339.6	120.24	20.458	
10,300.0	7,178.9	7,510.8	7,180.2	87.9	38.3	90.00	1,023.9	-239.8	2,554.2	2,431.2	122.98	20.769	
10,400.0	7,178.2	7,510.6	7,180.0	90.7	38.3	89.98	1,023.9	-239.8	2,648.9	2,523.1	125.72	21.070	
10,500.0	7,177.6	7,510.4	7,179.8	93.4	38.3	89.97	1,023.9	-239.8	2,743.9	2,615.5	128.46	21.360	
10,600.0	7,176.9	7,510.2	7,179.6	96.2	38.3	89.96	1,023.9	-239.8	2,839.4	2,708.1	131.21	21.640	
10,700.0	7,176.2	7,510.0	7,179.5	98.9	38.3	89.94	1,023.9	-239.8	2,935.1	2,801.1	133.96	21.910	
10,800.0	7,175.6	7,509.8	7,179.3	101.7	38.3	89.93	1,023.9	-239.8	3,031.1	2,894.4	136.72	22.170	
10,900.0	7,174.9	7,509.7	7,179.1	104.4	38.3	89.92	1,023.9	-239.8	3,127.3	2,987.8	139.48	22.422	
11,000.0	7,174.3	7,509.5	7,178.9	107.2	38.3	89.91	1,023.9	-239.8	3,223.8	3,081.6	142.24	22.665	
11,100.0	7,173.6	7,509.3	7,178.7	109.9	38.3	89.89	1,023.9	-239.8	3,320.5	3,175.5	145.00	22.900	
11,200.0	7,172.9	7,509.1	7,178.5	112.7	38.3	89.88	1,023.9	-239.8	3,417.4	3,269.6	147.76	23.127	
11,300.0	7,172.3	7,508.9	7,178.4	115.5	38.3	89.87	1,023.9	-239.8	3,514.4	3,363.9	150.53	23.347	
11,400.0	7,171.6	7,508.8	7,178.2	118.3	38.3	89.85	1,023.9	-239.8	3,611.6	3,458.3	153.30	23.559	
11,500.0	7,171.0	7,508.6	7,178.0	121.0	38.3	89.84	1,023.9	-239.8	3,709.0	3,552.9	156.07	23.765	
11,600.0	7,170.3	7,508.4	7,177.8	123.8	38.3	89.83	1,023.9	-239.8	3,806.5	3,647.6	158.84	23.964	
11,700.0	7,169.6	7,508.2	7,177.7	126.6	38.3	89.82	1,023.9	-239.8	3,904.1	3,742.5	161.62	24.156	
11,797.6	7,169.0	7,508.1	7,177.5	129.3	38.3	89.80	1,023.9	-239.8	3,999.4	3,835.1	164.33	24.339	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 706-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-44.79	1,998.3	-1,983.4	2,815.5				
100.0	100.0	84.2	84.2	0.1	0.1	-44.79	1,998.3	-1,983.4	2,815.5	2,815.4	0.17	N/A	
200.0	200.0	182.8	182.8	0.3	0.2	-44.78	1,998.5	-1,983.3	2,815.6	2,815.1	0.49	5,771.303	
300.0	300.0	281.3	281.3	0.5	0.3	-44.78	1,998.8	-1,983.2	2,815.7	2,814.9	0.80	3,510.643	
400.0	400.0	379.8	379.8	0.8	0.3	-44.77	1,999.1	-1,983.1	2,815.9	2,814.8	1.12	2,522.655	
500.0	500.0	478.4	478.4	1.0	0.4	-44.76	1,999.6	-1,982.9	2,816.1	2,814.7	1.43	1,968.722	
600.0	600.0	576.9	576.9	1.2	0.5	-44.75	2,000.2	-1,982.7	2,816.4	2,814.7	1.74	1,614.336	
700.0	700.0	675.4	675.4	1.4	0.6	-44.73	2,000.9	-1,982.5	2,816.7	2,814.7	2.06	1,368.139	
800.0	800.0	772.9	772.9	1.7	0.8	-44.72	2,001.7	-1,982.2	2,817.1	2,814.7	2.45	1,148.695	
900.0	900.0	881.9	881.8	1.9	1.0	-44.71	2,002.5	-1,982.0	2,817.5	2,814.6	2.89	974.442	
1,000.0	1,000.0	1,176.5	1,176.3	2.1	1.6	-119.41	1,999.8	-1,971.7	2,815.7	2,811.9	3.72	756.345	
1,100.0	1,099.8	1,580.2	1,575.9	2.3	2.8	-119.41	1,984.0	-1,918.8	2,806.7	2,801.7	4.92	570.542	
1,200.0	1,199.5	1,788.9	1,779.3	2.5	3.6	-119.56	1,969.7	-1,874.7	2,790.7	2,785.0	5.73	487.186	
1,300.0	1,298.7	1,880.5	1,868.2	2.8	4.0	-119.81	1,963.4	-1,853.3	2,775.3	2,769.1	6.23	445.182	
1,400.0	1,397.5	2,039.5	2,021.8	3.1	4.8	-120.05	1,954.4	-1,813.3	2,761.3	2,754.3	7.00	394.496	
1,500.0	1,495.6	2,166.7	2,144.0	3.4	5.5	-120.35	1,945.9	-1,778.8	2,746.7	2,739.0	7.72	355.777	
1,500.1	1,495.7	2,166.9	2,144.1	3.4	5.5	-120.35	1,945.9	-1,778.8	2,746.7	2,739.0	7.72	355.743	
1,600.0	1,593.4	2,276.1	2,248.9	3.8	6.1	-120.43	1,938.3	-1,748.7	2,732.5	2,724.1	8.42	324.517	
1,700.0	1,691.3	2,424.0	2,390.2	4.1	6.9	-120.52	1,927.7	-1,706.4	2,717.4	2,708.1	9.31	292.031	
1,800.0	1,789.1	2,599.8	2,557.0	4.5	8.1	-120.62	1,912.1	-1,652.9	2,699.7	2,689.4	10.33	261.401	
1,900.0	1,886.9	2,716.2	2,666.7	4.9	8.8	-120.69	1,900.4	-1,616.0	2,680.2	2,669.0	11.14	240.692	
2,000.0	1,984.7	2,791.0	2,737.3	5.3	9.3	-120.74	1,892.6	-1,592.6	2,660.8	2,649.0	11.77	225.997	
2,100.0	2,082.5	2,857.0	2,800.0	5.7	9.6	-120.80	1,886.1	-1,573.0	2,642.8	2,630.4	12.37	213.597	
2,200.0	2,180.3	2,951.0	2,889.5	6.2	10.2	-120.89	1,877.0	-1,545.7	2,625.6	2,612.5	13.08	200.757	
2,300.0	2,278.1	3,044.0	2,978.0	6.6	10.7	-120.98	1,867.9	-1,518.7	2,608.3	2,594.5	13.79	189.137	
2,400.0	2,375.9	3,095.0	3,026.7	7.0	11.0	-121.03	1,863.4	-1,504.1	2,592.0	2,577.6	14.35	180.596	
2,500.0	2,473.8	3,163.2	3,092.0	7.5	11.4	-121.08	1,858.5	-1,485.3	2,577.4	2,562.4	14.98	172.070	
2,600.0	2,571.6	3,277.4	3,201.4	7.9	12.0	-121.18	1,849.9	-1,453.6	2,562.6	2,546.9	15.77	162.451	
2,700.0	2,669.4	3,369.2	3,289.3	8.3	12.5	-121.26	1,843.1	-1,428.1	2,548.0	2,531.5	16.49	154.473	
2,800.0	2,767.2	3,466.4	3,382.4	8.8	13.1	-121.34	1,836.3	-1,400.9	2,533.5	2,516.3	17.24	146.948	
2,900.0	2,865.0	3,548.5	3,461.0	9.2	13.6	-121.38	1,831.1	-1,377.6	2,519.2	2,501.2	17.94	140.390	
3,000.0	2,962.8	3,619.8	3,529.2	9.7	14.0	-121.41	1,827.7	-1,357.5	2,506.0	2,487.4	18.61	134.659	
3,100.0	3,060.6	3,760.8	3,664.9	10.1	14.7	-121.55	1,818.2	-1,320.1	2,492.9	2,473.4	19.49	127.889	
3,200.0	3,158.5	3,914.8	3,812.4	10.6	15.6	-121.76	1,803.6	-1,278.5	2,477.3	2,456.9	20.40	121.417	
3,300.0	3,256.3	4,025.1	3,917.6	11.0	16.3	-121.91	1,791.9	-1,247.4	2,460.1	2,438.9	21.17	116.194	
3,400.0	3,354.1	4,094.2	3,983.6	11.5	16.7	-122.01	1,784.9	-1,228.2	2,443.6	2,421.8	21.80	112.113	
3,500.0	3,451.9	4,169.0	4,055.4	11.9	17.1	-122.13	1,777.9	-1,208.5	2,428.6	2,406.2	22.42	108.305	
3,600.0	3,549.7	4,227.0	4,111.3	12.4	17.4	-122.22	1,772.7	-1,194.0	2,414.9	2,391.9	22.99	105.028	
3,700.0	3,647.5	4,320.2	4,201.3	12.8	17.8	-122.38	1,764.9	-1,171.2	2,402.1	2,378.4	23.67	101.488	
3,800.0	3,745.3	4,404.1	4,282.4	13.3	18.3	-122.51	1,758.3	-1,150.2	2,389.3	2,365.0	24.33	98.216	
3,900.0	3,843.2	4,512.6	4,387.1	13.7	18.9	-122.66	1,751.0	-1,123.1	2,377.3	2,352.3	25.07	94.823	
4,000.0	3,941.0	4,651.5	4,520.6	14.2	19.6	-122.82	1,740.8	-1,086.2	2,363.7	2,337.7	25.94	91.131	
4,100.0	4,038.8	4,749.0	4,614.1	14.6	20.2	-122.93	1,733.5	-1,059.5	2,349.4	2,322.7	26.67	88.105	
4,200.0	4,136.6	4,842.6	4,704.0	15.1	20.7	-123.04	1,726.5	-1,034.1	2,335.3	2,308.0	27.37	85.310	
4,300.0	4,234.4	4,935.0	4,792.6	15.5	21.2	-123.15	1,719.7	-1,009.0	2,321.3	2,293.2	28.08	82.659	
4,325.2	4,259.1	4,950.9	4,808.0	15.6	21.3	-123.17	1,718.5	-1,004.8	2,317.9	2,289.7	28.24	82.092	
4,400.0	4,332.4	5,011.0	4,865.8	15.9	21.6	-123.05	1,714.5	-989.2	2,307.9	2,279.2	28.71	80.392	
4,500.0	4,431.0	5,052.2	4,905.7	16.2	21.8	-122.84	1,712.0	-979.1	2,294.2	2,265.1	29.14	78.739	
4,600.0	4,530.2	5,104.0	4,956.1	16.5	22.1	-122.61	1,709.3	-967.4	2,280.8	2,251.2	29.57	77.133	
4,700.0	4,629.7	5,164.0	5,014.7	16.7	22.3	-122.34	1,706.4	-955.1	2,267.4	2,237.4	29.99	75.615	
4,800.0	4,729.5	5,224.5	5,074.1	16.9	22.6	-122.04	1,703.7	-943.7	2,253.8	2,223.4	30.37	74.207	
4,900.0	4,829.5	5,291.0	5,139.6	17.0	22.8	-121.69	1,701.3	-932.4	2,240.1	2,209.3	30.75	72.855	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 706-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	5,291.0	5,139.6	17.1	22.8	-46.95	1,701.3	-932.4	2,236.6	2,202.2	34.47	64.885	
5,000.0	4,929.5	5,352.9	5,200.7	17.2	23.0	-46.82	1,699.3	-922.9	2,226.6	2,191.9	34.74	64.086	
5,100.0	5,029.5	5,423.0	5,270.1	17.3	23.2	-46.70	1,697.0	-913.4	2,214.5	2,179.4	35.08	63.118	
5,200.0	5,129.5	5,495.8	5,342.3	17.4	23.4	-46.57	1,695.0	-904.4	2,203.5	2,168.1	35.42	62.209	
5,300.0	5,229.5	5,573.0	5,419.0	17.6	23.6	-46.45	1,693.3	-895.7	2,193.8	2,158.0	35.76	61.348	
5,400.0	5,329.5	5,627.3	5,473.0	17.7	23.8	-46.37	1,692.5	-890.3	2,185.5	2,149.5	36.03	60.655	
5,500.0	5,429.5	5,666.0	5,511.6	17.9	23.8	-46.31	1,692.2	-887.1	2,179.4	2,143.2	36.28	60.074	
5,600.0	5,529.5	5,760.0	5,605.4	18.0	24.0	-46.20	1,692.5	-881.2	2,175.1	2,138.5	36.59	59.448	
5,700.0	5,629.5	5,806.8	5,652.2	18.1	24.1	-46.16	1,693.0	-879.2	2,172.5	2,135.7	36.82	59.008	
5,800.0	5,729.5	5,881.6	5,726.9	18.3	24.2	-46.11	1,693.7	-877.6	2,171.5	2,134.4	37.08	58.565	
5,900.0	5,829.5	5,978.0	5,823.3	18.4	24.3	-46.08	1,694.3	-876.4	2,171.1	2,133.7	37.36	58.114	
6,000.0	5,929.5	6,076.8	5,922.2	18.6	24.4	-46.06	1,694.6	-875.6	2,170.7	2,133.0	37.65	57.661	
6,100.0	6,029.5	6,174.4	6,019.8	18.7	24.5	-46.04	1,694.8	-875.1	2,170.5	2,132.5	37.93	57.218	
6,200.0	6,129.5	6,273.0	6,118.4	18.9	24.6	-46.04	1,694.8	-874.7	2,170.2	2,132.0	38.23	56.775	
6,262.5	6,192.0	6,332.2	6,177.5	19.0	24.7	-46.04	1,694.9	-874.6	2,170.2	2,131.8	38.41	56.506	
6,300.0	6,229.5	6,368.1	6,213.4	19.1	24.7	-46.03	1,694.9	-874.6	2,170.2	2,131.7	38.51	56.348	
6,400.0	6,329.5	6,467.7	6,313.0	19.2	24.8	-46.03	1,695.1	-874.6	2,170.3	2,131.5	38.81	55.921	
6,500.0	6,429.5	6,563.5	6,408.8	19.4	24.9	-46.02	1,695.4	-874.5	2,170.4	2,131.3	39.10	55.506	
6,550.3	6,479.8	6,610.0	6,455.4	19.5	24.9	-46.02	1,695.7	-874.4	2,170.6	2,131.4	39.25	55.306	
6,600.0	6,529.4	6,660.0	6,505.3	19.5	25.0	44.08	1,696.0	-874.4	2,169.6	2,133.7	35.90	60.434	
6,650.0	6,579.2	6,709.7	6,555.1	19.5	25.1	44.38	1,696.4	-874.4	2,166.1	2,130.2	35.90	60.335	
6,700.0	6,628.4	6,758.4	6,603.7	19.5	25.1	44.88	1,696.7	-874.4	2,160.1	2,124.2	35.90	60.178	
6,750.0	6,676.9	6,808.5	6,653.9	19.5	25.2	45.60	1,696.9	-874.5	2,151.7	2,115.8	35.90	59.928	
6,800.0	6,724.5	6,861.6	6,707.0	19.4	25.2	46.56	1,696.9	-874.7	2,140.9	2,104.9	35.95	59.548	
6,850.0	6,770.8	6,918.7	6,764.1	19.4	25.3	47.79	1,696.6	-875.0	2,127.6	2,091.5	36.07	58.991	
6,900.0	6,815.8	6,977.2	6,822.5	19.3	25.3	49.31	1,695.8	-875.1	2,111.9	2,075.6	36.27	58.229	
6,950.0	6,859.1	7,027.1	6,872.4	19.2	25.4	51.03	1,695.0	-875.2	2,094.0	2,057.4	36.54	57.308	
7,000.0	6,900.5	7,075.8	6,921.1	19.1	25.4	53.03	1,693.9	-875.2	2,074.1	2,037.1	36.93	56.168	
7,050.0	6,939.9	7,128.7	6,974.0	19.1	25.5	55.39	1,692.5	-875.2	2,052.2	2,014.8	37.48	54.754	
7,100.0	6,977.1	7,181.3	7,026.6	19.0	25.6	58.10	1,690.9	-874.9	2,028.6	1,990.5	38.19	53.116	
7,150.0	7,011.8	7,235.8	7,081.0	19.0	25.7	61.21	1,688.8	-874.1	2,003.4	1,964.3	39.08	51.261	
7,200.0	7,044.0	7,276.0	7,121.2	19.1	25.7	64.35	1,687.2	-873.3	1,976.9	1,936.9	40.01	49.413	
7,250.0	7,073.4	7,306.0	7,151.1	19.1	25.8	67.51	1,686.0	-872.5	1,949.4	1,908.5	40.95	47.600	
7,300.0	7,099.9	7,332.4	7,177.5	19.3	25.8	70.80	1,685.1	-871.6	1,921.4	1,879.5	41.94	45.809	
7,350.0	7,123.4	7,355.6	7,200.7	19.5	25.9	74.14	1,684.3	-870.8	1,893.0	1,850.1	42.94	44.084	
7,400.0	7,143.7	7,376.0	7,221.1	19.8	25.9	77.52	1,683.6	-870.0	1,864.5	1,820.5	43.92	42.452	
7,450.0	7,160.9	7,392.6	7,237.6	20.2	25.9	80.81	1,683.1	-869.4	1,836.0	1,791.2	44.84	40.945	
7,500.0	7,174.7	7,405.2	7,250.3	20.7	26.0	83.95	1,682.7	-868.8	1,808.0	1,762.3	45.69	39.567	
7,550.0	7,185.1	7,414.0	7,259.0	21.2	26.0	86.91	1,682.5	-868.4	1,780.5	1,734.1	46.47	38.313	
7,600.0	7,192.1	7,419.0	7,264.0	21.8	26.0	89.61	1,682.3	-868.2	1,753.9	1,706.7	47.19	37.169	
7,650.0	7,195.6	7,420.3	7,265.3	22.5	26.0	92.05	1,682.3	-868.1	1,728.2	1,680.4	47.85	36.120	
7,680.0	7,196.0	7,419.3	7,264.3	22.9	26.0	93.38	1,682.3	-868.2	1,713.4	1,665.2	48.22	35.530	
7,700.0	7,195.9	7,418.2	7,263.2	23.3	26.0	93.34	1,682.4	-868.2	1,703.7	1,655.2	48.53	35.110	
7,800.0	7,195.2	7,412.7	7,257.7	24.9	26.0	93.13	1,682.5	-868.5	1,658.3	1,608.1	50.17	33.053	
7,900.0	7,194.6	7,407.5	7,252.5	26.7	26.0	92.93	1,682.7	-868.7	1,617.7	1,565.7	52.01	31.104	
8,000.0	7,193.9	7,402.4	7,247.4	28.7	26.0	92.73	1,682.8	-868.9	1,582.4	1,528.4	54.01	29.300	
8,100.0	7,193.3	7,397.5	7,242.5	30.9	25.9	92.55	1,683.0	-869.2	1,552.7	1,496.6	56.13	27.664	
8,200.0	7,192.6	7,392.7	7,237.7	33.1	25.9	92.36	1,683.1	-869.4	1,529.0	1,470.6	58.35	26.202	
8,300.0	7,192.0	7,388.0	7,233.1	35.4	25.9	92.18	1,683.3	-869.6	1,511.5	1,450.9	60.66	24.918	
8,400.0	7,191.3	7,383.5	7,228.6	37.8	25.9	92.01	1,683.4	-869.7	1,500.5	1,437.5	63.04	23.804	
8,500.0	7,190.7	7,379.2	7,224.2	40.2	25.9	91.84	1,683.5	-869.9	1,496.1	1,430.6	65.47	22.853	
8,516.2	7,190.6	7,378.5	7,223.5	40.6	25.9	91.82	1,683.6	-870.0	1,496.0	1,430.1	65.87	22.713	CC, ES

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 706-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	7,374.9	7,219.9	42.7	25.9	91.68	1,683.7	-870.1	1,498.4	1,430.4	67.94	22.053	
8,700.0	7,189.4	7,370.8	7,215.8	45.2	25.9	91.52	1,683.8	-870.3	1,507.2	1,436.8	70.46	21.392	
8,800.0	7,188.7	7,366.7	7,211.8	47.8	25.9	91.37	1,683.9	-870.4	1,522.6	1,449.6	73.01	20.857	
8,900.0	7,188.0	7,362.8	7,207.9	50.3	25.9	91.22	1,684.1	-870.6	1,544.4	1,468.8	75.58	20.434	
9,000.0	7,187.4	7,359.0	7,204.1	52.9	25.9	91.07	1,684.2	-870.7	1,572.2	1,494.0	78.18	20.110	
9,100.0	7,186.7	7,350.0	7,195.1	55.6	25.9	90.73	1,684.5	-871.0	1,605.7	1,524.9	80.79	19.875	
9,200.0	7,186.1	7,350.0	7,195.1	58.2	25.9	90.73	1,684.5	-871.0	1,644.6	1,561.2	83.43	19.713	
9,300.0	7,185.4	7,350.0	7,195.1	60.9	25.9	90.73	1,684.5	-871.0	1,688.6	1,602.5	86.08	19.615	
9,400.0	7,184.8	7,350.0	7,195.1	63.5	25.9	90.73	1,684.5	-871.0	1,737.2	1,648.4	88.75	19.574	SF
9,500.0	7,184.1	7,350.0	7,195.1	66.2	25.9	90.73	1,684.5	-871.0	1,790.1	1,698.6	91.43	19.578	
9,600.0	7,183.5	7,338.6	7,183.6	68.9	25.8	90.29	1,684.9	-871.4	1,846.8	1,752.7	94.11	19.624	
9,700.0	7,182.8	7,335.5	7,180.6	71.6	25.8	90.17	1,685.0	-871.5	1,907.1	1,810.3	96.80	19.701	
9,800.0	7,182.2	7,332.5	7,177.6	74.3	25.8	90.06	1,685.1	-871.6	1,970.6	1,871.1	99.51	19.804	
9,900.0	7,181.5	7,329.5	7,174.6	77.0	25.8	89.95	1,685.2	-871.7	2,037.1	1,934.9	102.22	19.929	
10,000.0	7,180.8	7,326.7	7,171.8	79.7	25.8	89.84	1,685.3	-871.8	2,106.2	2,001.3	104.93	20.072	
10,100.0	7,180.2	7,323.8	7,169.0	82.5	25.8	89.73	1,685.4	-871.9	2,177.7	2,070.1	107.65	20.229	
10,200.0	7,179.5	7,321.1	7,166.2	85.2	25.8	89.62	1,685.5	-872.0	2,251.4	2,141.0	110.38	20.396	
10,300.0	7,178.9	7,318.4	7,163.5	87.9	25.8	89.52	1,685.6	-872.1	2,327.0	2,213.9	113.11	20.572	
10,400.0	7,178.2	7,315.8	7,160.9	90.7	25.8	89.42	1,685.7	-872.2	2,404.4	2,288.6	115.85	20.755	
10,500.0	7,177.6	7,313.2	7,158.3	93.4	25.8	89.32	1,685.8	-872.2	2,483.4	2,364.8	118.59	20.942	
10,600.0	7,176.9	7,310.7	7,155.8	96.2	25.8	89.22	1,685.9	-872.3	2,563.9	2,442.6	121.33	21.132	
10,700.0	7,176.2	7,308.2	7,153.3	98.9	25.8	89.13	1,686.0	-872.4	2,645.7	2,521.6	124.08	21.323	
10,800.0	7,175.6	7,305.8	7,150.9	101.7	25.8	89.04	1,686.1	-872.5	2,728.7	2,601.9	126.82	21.516	
10,900.0	7,174.9	7,303.4	7,148.5	104.4	25.8	88.95	1,686.1	-872.5	2,812.9	2,683.3	129.58	21.708	
11,000.0	7,174.3	7,301.1	7,146.2	107.2	25.8	88.86	1,686.2	-872.6	2,898.0	2,765.7	132.33	21.900	
11,100.0	7,173.6	7,298.8	7,143.9	109.9	25.8	88.77	1,686.3	-872.7	2,984.0	2,848.9	135.08	22.090	
11,200.0	7,172.9	7,296.5	7,141.7	112.7	25.8	88.68	1,686.4	-872.7	3,070.9	2,933.1	137.84	22.278	
11,300.0	7,172.3	7,294.4	7,139.5	115.5	25.8	88.60	1,686.5	-872.8	3,158.6	3,018.0	140.60	22.465	
11,400.0	7,171.6	7,292.2	7,137.4	118.3	25.8	88.52	1,686.6	-872.8	3,246.9	3,103.6	143.36	22.649	
11,500.0	7,171.0	7,290.1	7,135.2	121.0	25.8	88.44	1,686.6	-872.9	3,336.0	3,189.9	146.12	22.830	
11,600.0	7,170.3	7,288.0	7,133.2	123.8	25.7	88.36	1,686.7	-873.0	3,425.6	3,276.7	148.89	23.008	
11,700.0	7,169.6	7,286.0	7,131.1	126.6	25.7	88.28	1,686.8	-873.0	3,515.8	3,364.1	151.65	23.183	
11,797.6	7,169.0	7,284.0	7,129.2	129.3	25.7	88.21	1,686.9	-873.1	3,604.3	3,449.9	154.35	23.351	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 147-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-44.55	1,877.3	-1,848.1	2,634.4				
100.0	100.0	104.8	104.8	0.1	0.0	-44.55	1,877.1	-1,847.8	2,634.1	2,634.0	0.11	N/A	
200.0	200.0	360.4	360.2	0.3	0.5	-44.49	1,873.2	-1,840.0	2,631.5	2,630.7	0.84	3,117.480	
300.0	300.0	610.4	608.7	0.5	1.2	-44.27	1,862.8	-1,815.7	2,621.3	2,619.6	1.76	1,490.120	
400.0	400.0	702.5	700.0	0.8	1.5	-44.14	1,858.7	-1,803.6	2,609.0	2,606.8	2.24	1,165.177	
500.0	500.0	798.5	795.1	1.0	1.8	-43.99	1,855.1	-1,791.1	2,597.1	2,594.4	2.71	959.498	
600.0	600.0	1,092.5	1,082.7	1.2	3.0	-43.13	1,848.7	-1,731.8	2,581.5	2,577.6	3.90	662.296	
700.0	700.0	1,341.4	1,319.7	1.4	4.6	-41.94	1,843.2	-1,656.2	2,557.9	2,552.8	5.11	500.605	
800.0	800.0	1,606.0	1,565.7	1.7	6.5	-40.36	1,834.5	-1,559.4	2,531.0	2,524.5	6.51	388.914	
900.0	900.0	1,735.7	1,683.1	1.9	7.7	-39.41	1,830.6	-1,504.2	2,500.0	2,492.7	7.34	340.728	
1,000.0	1,000.0	1,853.0	1,788.2	2.1	8.7	-113.83	1,826.3	-1,452.4	2,468.3	2,459.3	8.95	275.665	
1,100.0	1,099.8	1,925.0	1,852.7	2.3	9.4	-113.92	1,823.7	-1,420.5	2,438.3	2,428.6	9.65	252.766	
1,200.0	1,199.5	2,006.2	1,925.5	2.5	10.1	-113.95	1,821.4	-1,384.7	2,410.5	2,400.1	10.40	231.854	
1,300.0	1,298.7	2,102.4	2,012.1	2.8	10.9	-113.93	1,818.5	-1,342.9	2,384.6	2,373.3	11.26	211.822	
1,400.0	1,397.5	2,202.0	2,101.9	3.1	11.7	-113.96	1,814.6	-1,300.0	2,359.9	2,347.7	12.17	193.932	
1,500.0	1,495.6	2,270.0	2,163.4	3.4	12.3	-114.14	1,812.0	-1,271.0	2,337.0	2,324.1	12.90	181.163	
1,500.1	1,495.7	2,270.1	2,163.4	3.4	12.3	-114.14	1,812.0	-1,270.9	2,337.0	2,324.1	12.90	181.151	
1,600.0	1,593.4	2,342.1	2,228.7	3.8	12.9	-113.91	1,810.5	-1,240.7	2,316.5	2,302.8	13.72	168.784	
1,700.0	1,691.3	2,484.6	2,358.2	4.1	14.1	-113.47	1,805.1	-1,181.3	2,295.0	2,279.9	15.07	152.328	
1,800.0	1,789.1	2,653.2	2,510.0	4.5	15.6	-112.94	1,795.6	-1,108.6	2,271.2	2,254.5	16.67	136.282	
1,900.0	1,886.9	2,749.7	2,596.3	4.9	16.5	-112.62	1,789.2	-1,065.8	2,246.0	2,228.2	17.76	126.457	
2,000.0	1,984.7	2,825.4	2,664.1	5.3	17.2	-112.36	1,784.5	-1,032.5	2,221.3	2,202.6	18.70	118.796	
2,100.0	2,082.5	2,883.0	2,715.9	5.7	17.7	-112.16	1,781.3	-1,007.6	2,197.9	2,178.4	19.50	112.688	
2,200.0	2,180.3	2,957.1	2,782.9	6.2	18.3	-111.91	1,777.9	-976.1	2,175.9	2,155.4	20.44	106.457	
2,300.0	2,278.1	3,052.0	2,868.9	6.6	19.2	-111.56	1,774.8	-936.1	2,154.9	2,133.3	21.55	99.983	
2,400.0	2,375.9	3,164.0	2,969.9	7.0	20.2	-111.14	1,770.6	-887.9	2,133.1	2,110.3	22.84	93.377	
2,500.0	2,473.8	3,225.7	3,025.5	7.5	20.7	-110.89	1,768.7	-861.2	2,112.0	2,088.3	23.75	88.936	
2,600.0	2,571.6	3,321.4	3,112.3	7.9	21.6	-110.49	1,767.3	-820.8	2,092.7	2,067.8	24.93	83.936	
2,700.0	2,669.4	3,443.3	3,222.3	8.3	22.7	-109.98	1,764.2	-768.5	2,072.2	2,045.9	26.35	78.649	
2,800.0	2,767.2	3,533.9	3,304.3	8.8	23.4	-109.61	1,761.1	-730.1	2,051.5	2,024.0	27.48	74.648	
2,900.0	2,865.0	3,621.9	3,384.1	9.2	24.2	-109.25	1,758.3	-693.0	2,031.2	2,002.6	28.60	71.012	
3,000.0	2,962.8	3,700.2	3,455.0	9.7	24.9	-108.92	1,756.5	-660.0	2,011.7	1,982.1	29.67	67.812	
3,100.0	3,060.6	3,823.7	3,567.1	10.1	25.9	-108.39	1,753.6	-608.2	1,992.5	1,961.4	31.10	64.058	
3,200.0	3,158.5	3,933.0	3,666.3	10.6	26.9	-107.94	1,749.3	-562.5	1,972.2	1,939.8	32.42	60.833	
3,300.0	3,256.3	4,052.3	3,774.4	11.0	27.9	-107.45	1,743.2	-512.5	1,950.8	1,917.0	33.82	57.680	
3,400.0	3,354.1	4,175.8	3,886.1	11.5	29.0	-106.94	1,736.0	-460.2	1,928.7	1,893.5	35.28	54.668	
3,500.0	3,451.9	4,268.8	3,969.7	11.9	29.9	-106.52	1,730.1	-419.9	1,905.8	1,869.3	36.50	52.207	
3,600.0	3,549.7	4,338.1	4,032.4	12.4	30.5	-106.22	1,725.9	-390.6	1,883.8	1,846.3	37.51	50.218	
3,700.0	3,647.5	4,414.3	4,101.7	12.8	31.1	-105.89	1,722.2	-359.2	1,863.4	1,824.8	38.58	48.304	
3,800.0	3,745.3	4,521.9	4,199.3	13.3	32.1	-105.39	1,717.7	-314.1	1,843.3	1,803.4	39.95	46.146	
3,900.0	3,843.2	4,611.0	4,279.2	13.7	32.9	-104.90	1,714.5	-274.9	1,822.8	1,781.5	41.23	44.213	
4,000.0	3,941.0	4,696.8	4,355.7	14.2	33.7	-104.35	1,713.5	-235.9	1,803.6	1,761.0	42.54	42.395	
4,100.0	4,038.8	4,818.3	4,463.6	14.6	34.9	-103.54	1,711.3	-180.0	1,783.7	1,739.5	44.25	40.310	
4,200.0	4,136.6	4,924.2	4,558.2	15.1	35.9	-102.90	1,707.3	-132.8	1,763.2	1,717.5	45.74	38.550	
4,300.0	4,234.4	5,042.9	4,664.8	15.5	37.0	-102.22	1,701.1	-80.9	1,742.1	1,694.8	47.33	36.809	
4,325.2	4,259.1	5,072.0	4,690.7	15.6	37.2	-102.04	1,699.4	-67.9	1,736.6	1,688.9	47.73	36.381	
4,400.0	4,332.4	5,153.5	4,763.3	15.9	38.0	-101.15	1,694.8	-30.9	1,719.8	1,670.8	48.96	35.126	
4,500.0	4,431.0	5,241.9	4,841.7	16.2	38.9	-99.97	1,689.6	9.6	1,696.8	1,646.4	50.35	33.696	
4,600.0	4,530.2	5,316.0	4,907.9	16.5	39.6	-98.84	1,685.8	42.4	1,674.7	1,623.1	51.56	32.482	
4,700.0	4,629.7	5,378.6	4,964.6	16.7	40.1	-97.80	1,682.9	68.8	1,653.8	1,601.3	52.55	31.472	
4,800.0	4,729.5	5,450.0	5,030.2	16.9	40.7	-96.66	1,679.7	97.1	1,634.4	1,580.8	53.57	30.507	
4,900.0	4,829.5	5,522.2	5,097.1	17.0	41.2	-95.51	1,676.6	123.8	1,616.3	1,561.7	54.54	29.636	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 147-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	5,540.6	5,114.3	17.1	41.4	-20.52	1,675.9	130.5	1,611.9	1,576.6	35.32	45.640	
5,000.0	4,929.5	5,596.0	5,166.0	17.2	41.8	-19.88	1,674.0	150.1	1,599.7	1,564.3	35.39	45.197	
5,100.0	5,029.5	5,665.3	5,231.2	17.3	42.2	-19.09	1,672.2	173.7	1,585.1	1,549.6	35.50	44.652	
5,200.0	5,129.5	5,741.3	5,303.2	17.4	42.7	-18.27	1,670.6	198.0	1,572.3	1,536.7	35.60	44.170	
5,300.0	5,229.5	5,815.0	5,373.6	17.6	43.1	-17.52	1,669.4	219.8	1,561.2	1,525.5	35.70	43.726	
5,400.0	5,329.5	5,877.0	5,433.2	17.7	43.5	-16.93	1,668.9	236.7	1,552.1	1,516.3	35.83	43.317	
5,500.0	5,429.5	5,971.0	5,524.4	17.9	43.9	-16.13	1,668.6	259.4	1,544.8	1,508.8	35.94	42.987	
5,600.0	5,529.5	6,053.3	5,604.9	18.0	44.3	-15.51	1,668.2	276.8	1,538.5	1,502.4	36.07	42.649	
5,700.0	5,629.5	6,136.5	5,686.7	18.1	44.5	-14.96	1,667.9	292.0	1,533.2	1,497.0	36.23	42.318	
5,800.0	5,729.5	6,222.8	5,771.9	18.3	44.8	-14.50	1,667.6	304.9	1,529.0	1,492.6	36.41	41.991	
5,900.0	5,829.5	6,306.7	5,855.3	18.4	45.0	-14.13	1,667.4	315.0	1,525.8	1,489.2	36.62	41.670	
6,000.0	5,929.5	6,394.5	5,942.7	18.6	45.2	-13.82	1,667.6	323.5	1,523.7	1,486.8	36.84	41.364	
6,100.0	6,029.5	6,486.9	6,034.7	18.7	45.4	-13.54	1,668.0	331.0	1,522.1	1,485.0	37.07	41.063	
6,200.0	6,129.5	6,580.5	6,128.2	18.9	45.5	-13.35	1,668.2	336.3	1,521.1	1,483.7	37.32	40.755	
6,300.0	6,229.5	6,679.2	6,226.8	19.1	45.6	-13.22	1,668.3	339.8	1,520.3	1,482.7	37.60	40.431	
6,400.0	6,329.5	6,778.2	6,325.8	19.2	45.7	-13.11	1,668.2	342.8	1,519.5	1,481.6	37.89	40.103	
6,500.0	6,429.5	6,874.9	6,422.5	19.4	45.8	-13.04	1,668.0	344.8	1,518.9	1,480.7	38.18	39.778	
6,550.3	6,479.8	6,925.1	6,472.6	19.5	45.8	-13.00	1,668.0	345.7	1,518.7	1,480.3	38.34	39.614	
6,600.0	6,529.4	6,977.6	6,525.2	19.5	45.9	77.15	1,667.9	346.6	1,518.0	1,454.5	63.45	23.923	
6,650.0	6,579.2	7,027.9	6,575.4	19.5	45.9	77.49	1,667.7	347.4	1,516.5	1,452.9	63.58	23.853	
6,700.0	6,628.4	7,076.0	6,623.5	19.5	46.0	77.99	1,667.5	348.1	1,514.3	1,450.6	63.70	23.772	
6,750.0	6,676.9	7,123.3	6,670.8	19.5	46.0	78.66	1,667.4	348.7	1,511.5	1,447.6	63.82	23.681	
6,800.0	6,724.5	7,169.6	6,717.1	19.4	46.0	79.47	1,667.2	349.1	1,508.1	1,444.2	63.95	23.582	
6,850.0	6,770.8	7,215.3	6,762.8	19.4	46.1	80.41	1,667.0	349.3	1,504.4	1,440.3	64.08	23.477	
6,900.0	6,815.8	7,259.8	6,807.4	19.3	46.1	81.47	1,666.9	349.5	1,500.3	1,436.1	64.20	23.368	
6,950.0	6,859.1	7,304.3	6,851.8	19.2	46.1	82.66	1,666.7	349.6	1,496.1	1,431.8	64.33	23.256	
7,000.0	6,900.5	7,348.1	6,895.7	19.1	46.2	83.94	1,666.5	349.8	1,491.8	1,427.4	64.46	23.143	
7,050.0	6,939.9	7,388.4	6,936.0	19.1	46.2	85.22	1,666.2	350.0	1,487.7	1,423.1	64.58	23.037	
7,100.0	6,977.1	7,424.2	6,971.7	19.0	46.2	86.44	1,666.0	350.2	1,484.0	1,419.3	64.69	22.941	
7,150.0	7,011.8	7,457.6	7,005.2	19.0	46.3	87.62	1,665.8	350.3	1,481.0	1,416.2	64.81	22.853	
7,200.0	7,044.0	7,487.8	7,035.3	19.1	46.3	88.70	1,665.7	350.4	1,478.7	1,413.8	64.94	22.772	
7,250.0	7,073.4	7,515.0	7,062.5	19.1	46.3	89.65	1,665.6	350.4	1,477.5	1,412.4	65.10	22.697	
7,277.4	7,088.3	7,528.7	7,076.2	19.2	46.3	90.11	1,665.6	350.5	1,477.3	1,412.1	65.21	22.654	CC, ES
7,300.0	7,099.9	7,539.4	7,086.9	19.3	46.3	90.46	1,665.6	350.5	1,477.4	1,412.1	65.30	22.625	
7,350.0	7,123.4	7,562.0	7,109.5	19.5	46.3	91.13	1,665.6	350.6	1,478.7	1,413.1	65.56	22.555	
7,400.0	7,143.7	7,581.2	7,128.7	19.8	46.3	91.59	1,665.6	350.7	1,481.4	1,415.5	65.89	22.483	
7,450.0	7,160.9	7,598.3	7,145.9	20.2	46.4	91.88	1,665.6	350.8	1,485.7	1,419.4	66.29	22.410	
7,500.0	7,174.7	7,612.1	7,159.7	20.7	46.4	91.92	1,665.6	350.9	1,491.6	1,424.8	66.78	22.335	
7,550.0	7,185.1	7,622.5	7,170.0	21.2	46.4	91.70	1,665.6	350.9	1,499.1	1,431.8	67.35	22.259	
7,600.0	7,192.1	7,629.4	7,176.9	21.8	46.4	91.22	1,665.6	351.0	1,508.3	1,440.3	67.99	22.185	
7,650.0	7,195.6	7,632.8	7,180.3	22.5	46.4	90.46	1,665.6	351.0	1,519.2	1,450.5	68.69	22.116	
7,680.0	7,196.0	7,633.1	7,180.6	22.9	46.4	89.87	1,665.6	351.0	1,526.5	1,457.3	69.13	22.080	
7,700.0	7,195.9	7,632.9	7,180.4	23.3	46.4	89.86	1,665.6	351.0	1,531.6	1,462.2	69.44	22.058	
7,800.0	7,195.2	7,631.9	7,179.4	24.9	46.4	89.82	1,665.6	351.0	1,561.0	1,489.9	71.08	21.960	
7,900.0	7,194.6	7,630.8	7,178.3	26.7	46.4	89.78	1,665.6	351.0	1,596.1	1,523.2	72.92	21.887	
8,000.0	7,193.9	7,629.7	7,177.2	28.7	46.4	89.74	1,665.6	351.0	1,636.6	1,561.7	74.92	21.844	
8,100.0	7,193.3	7,628.7	7,176.2	30.9	46.4	89.70	1,665.6	350.9	1,682.1	1,605.0	77.05	21.832	SF
8,200.0	7,192.6	7,627.6	7,175.1	33.1	46.4	89.65	1,665.6	350.9	1,732.1	1,652.8	79.27	21.850	
8,300.0	7,192.0	7,626.5	7,174.0	35.4	46.4	89.61	1,665.6	350.9	1,786.4	1,704.8	81.58	21.896	
8,400.0	7,191.3	7,625.4	7,172.9	37.8	46.4	89.57	1,665.6	350.9	1,844.4	1,760.5	83.96	21.968	
8,500.0	7,190.7	7,624.3	7,171.8	40.2	46.4	89.53	1,665.6	350.9	1,906.0	1,819.6	86.39	22.062	
8,600.0	7,190.0	7,623.2	7,170.7	42.7	46.4	89.48	1,665.6	350.9	1,970.7	1,881.8	88.87	22.175	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 147-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,622.1	7,169.6	45.2	46.4	89.44	1,665.6	350.9	2,038.3	1,946.9	91.39	22.304	
8,800.0	7,188.7	7,621.0	7,168.5	47.8	46.4	89.40	1,665.6	350.9	2,108.4	2,014.5	93.94	22.445	
8,900.0	7,188.0	7,619.9	7,167.4	50.3	46.4	89.36	1,665.6	350.9	2,180.9	2,084.4	96.51	22.597	
9,000.0	7,187.4	7,618.8	7,166.3	52.9	46.4	89.31	1,665.6	350.9	2,255.5	2,156.4	99.11	22.757	
9,100.0	7,186.7	7,617.7	7,165.2	55.6	46.4	89.27	1,665.6	350.9	2,332.0	2,230.2	101.73	22.922	
9,200.0	7,186.1	7,616.5	7,164.1	58.2	46.4	89.22	1,665.6	350.9	2,410.2	2,305.8	104.37	23.092	
9,300.0	7,185.4	7,615.4	7,162.9	60.9	46.4	89.18	1,665.6	350.9	2,489.9	2,382.9	107.02	23.265	
9,400.0	7,184.8	7,614.3	7,161.8	63.5	46.4	89.14	1,665.6	350.9	2,571.1	2,461.4	109.69	23.440	
9,500.0	7,184.1	7,613.1	7,160.7	66.2	46.4	89.09	1,665.6	350.9	2,653.6	2,541.2	112.37	23.615	
9,600.0	7,183.5	7,612.0	7,159.5	68.9	46.4	89.05	1,665.6	350.9	2,737.2	2,622.1	115.05	23.791	
9,700.0	7,182.8	7,610.8	7,158.4	71.6	46.4	89.00	1,665.6	350.9	2,821.9	2,704.1	117.75	23.965	
9,800.0	7,182.2	7,609.7	7,157.2	74.3	46.4	88.96	1,665.6	350.9	2,907.6	2,787.1	120.45	24.138	
9,900.0	7,181.5	7,608.5	7,156.0	77.0	46.4	88.91	1,665.6	350.9	2,994.1	2,870.9	123.17	24.310	
10,000.0	7,180.8	7,607.4	7,154.9	79.7	46.4	88.87	1,665.6	350.9	3,081.5	2,955.6	125.88	24.479	
10,100.0	7,180.2	7,606.2	7,153.7	82.5	46.4	88.82	1,665.6	350.9	3,169.6	3,041.0	128.61	24.646	
10,200.0	7,179.5	7,605.0	7,152.5	85.2	46.4	88.78	1,665.6	350.8	3,258.4	3,127.1	131.34	24.810	
10,300.0	7,178.9	7,603.8	7,151.4	87.9	46.4	88.73	1,665.6	350.8	3,347.8	3,213.8	134.07	24.971	
10,400.0	7,178.2	7,602.7	7,150.2	90.7	46.4	88.68	1,665.6	350.8	3,437.9	3,301.0	136.81	25.129	
10,500.0	7,177.6	7,601.5	7,149.0	93.4	46.4	88.64	1,665.6	350.8	3,528.4	3,388.9	139.55	25.285	
10,600.0	7,176.9	7,600.3	7,147.8	96.2	46.4	88.59	1,665.6	350.8	3,619.5	3,477.2	142.29	25.437	
10,700.0	7,176.2	7,599.1	7,146.6	98.9	46.4	88.54	1,665.6	350.8	3,711.0	3,565.9	145.04	25.586	
10,800.0	7,175.6	7,597.9	7,145.4	101.7	46.4	88.50	1,665.6	350.8	3,802.9	3,655.1	147.79	25.731	
10,900.0	7,174.9	7,596.7	7,144.2	104.4	46.3	88.45	1,665.6	350.8	3,895.2	3,744.7	150.55	25.874	
11,000.0	7,174.3	7,595.4	7,142.9	107.2	46.3	88.40	1,665.6	350.8	3,987.9	3,834.6	153.30	26.014	
11,100.0	7,173.6	7,594.2	7,141.7	109.9	46.3	88.35	1,665.6	350.8	4,081.0	3,924.9	156.06	26.150	
11,200.0	7,172.9	7,593.0	7,140.5	112.7	46.3	88.31	1,665.6	350.8	4,174.4	4,015.5	158.82	26.283	
11,300.0	7,172.3	7,591.8	7,139.3	115.5	46.3	88.26	1,665.6	350.8	4,268.0	4,106.4	161.58	26.414	
11,400.0	7,171.6	7,590.5	7,138.0	118.3	46.3	88.21	1,665.6	350.8	4,362.0	4,197.6	164.35	26.541	
11,500.0	7,171.0	7,589.3	7,136.8	121.0	46.3	88.16	1,665.6	350.8	4,456.2	4,289.1	167.11	26.666	
11,600.0	7,170.3	7,588.0	7,135.5	123.8	46.3	88.11	1,665.6	350.8	4,550.6	4,380.8	169.88	26.788	
11,700.0	7,169.6	7,586.8	7,134.3	126.6	46.3	88.06	1,665.6	350.8	4,645.3	4,472.7	172.65	26.907	
11,797.6	7,169.0	7,585.5	7,133.0	129.3	46.3	88.01	1,665.6	350.8	4,737.9	4,562.6	175.35	27.020	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-44.50	2,019.4	-1,984.2	2,831.2				
100.0	100.0	56.1	56.1	0.1	0.0	-44.50	2,019.5	-1,984.5	2,831.6	2,831.5	0.12	N/A	
200.0	200.0	121.7	121.7	0.3	0.1	-44.51	2,020.0	-1,985.6	2,833.2	2,832.9	0.36	7,829.394	
300.0	300.0	195.2	195.1	0.5	0.1	-44.53	2,020.8	-1,987.8	2,836.0	2,835.3	0.68	4,155.041	
400.0	400.0	267.9	267.8	0.8	0.3	-44.56	2,021.5	-1,990.7	2,839.6	2,838.5	1.06	2,674.188	
500.0	500.0	333.0	332.8	1.0	0.4	-44.60	2,022.3	-1,994.5	2,844.5	2,843.0	1.44	1,972.304	
600.0	600.0	397.3	396.8	1.2	0.6	-44.66	2,023.1	-1,999.4	2,850.6	2,848.7	1.83	1,560.587	
700.0	700.0	476.2	475.4	1.4	0.8	-44.75	2,023.8	-2,006.5	2,857.6	2,855.4	2.25	1,270.819	
800.0	800.0	558.7	557.5	1.7	1.1	-44.86	2,024.5	-2,014.7	2,865.3	2,862.6	2.68	1,069.108	
900.0	900.0	651.4	649.7	1.9	1.4	-44.99	2,025.2	-2,024.8	2,873.4	2,870.3	3.14	916.206	
1,000.0	1,000.0	733.8	731.5	2.1	1.6	-119.67	2,025.4	-2,034.2	2,882.6	2,879.0	3.59	802.121	
1,100.0	1,099.8	796.0	793.2	2.3	1.8	-119.62	2,025.7	-2,042.1	2,894.7	2,890.7	3.98	728.022	
1,200.0	1,199.5	860.7	857.2	2.5	2.0	-119.58	2,025.9	-2,051.6	2,909.7	2,905.3	4.40	661.882	
1,300.0	1,298.7	933.2	928.6	2.8	2.3	-119.60	2,025.3	-2,064.1	2,927.5	2,922.7	4.87	600.887	
1,400.0	1,397.5	1,004.3	998.3	3.1	2.6	-119.65	2,023.4	-2,078.1	2,947.9	2,942.5	5.38	547.443	
1,500.0	1,495.6	1,076.0	1,068.2	3.4	2.9	-119.73	2,020.6	-2,094.0	2,971.2	2,965.2	5.95	498.961	
1,500.1	1,495.7	1,076.0	1,068.2	3.4	2.9	-119.73	2,020.6	-2,094.0	2,971.2	2,965.3	5.96	498.938	
1,600.0	1,593.4	1,163.8	1,153.2	3.8	3.4	-120.39	2,015.5	-2,115.4	2,996.1	2,989.4	6.64	451.152	
1,700.0	1,691.3	1,220.8	1,208.1	4.1	3.7	-120.84	2,011.3	-2,130.1	3,021.7	3,014.5	7.23	417.893	
1,800.0	1,789.1	1,278.8	1,263.8	4.5	4.0	-121.30	2,007.3	-2,145.9	3,048.8	3,041.0	7.84	388.672	
1,900.0	1,886.9	1,357.0	1,338.6	4.9	4.4	-121.92	2,001.7	-2,167.8	3,076.9	3,068.4	8.57	358.892	
2,000.0	1,984.7	1,447.5	1,425.1	5.3	5.0	-122.64	1,994.6	-2,193.7	3,105.7	3,096.3	9.37	331.402	
2,100.0	2,082.5	1,501.3	1,476.3	5.7	5.3	-123.07	1,990.5	-2,209.4	3,135.3	3,125.3	9.99	313.828	
2,200.0	2,180.3	1,544.0	1,517.0	6.2	5.5	-123.41	1,987.5	-2,222.1	3,166.4	3,155.8	10.56	299.830	
2,300.0	2,278.1	1,606.1	1,575.9	6.6	5.9	-123.89	1,983.3	-2,241.3	3,198.8	3,187.6	11.24	284.656	
2,400.0	2,375.9	1,638.0	1,606.0	7.0	6.1	-124.14	1,981.2	-2,251.5	3,232.8	3,221.0	11.77	274.692	
2,500.0	2,473.8	1,698.1	1,662.6	7.5	6.5	-124.62	1,977.4	-2,271.5	3,268.1	3,255.7	12.46	262.365	
2,600.0	2,571.6	1,747.5	1,708.8	7.9	6.9	-125.01	1,974.6	-2,288.6	3,305.0	3,292.0	13.09	252.486	
2,700.0	2,669.4	1,825.0	1,781.2	8.3	7.5	-125.61	1,970.2	-2,315.9	3,343.0	3,329.1	13.87	241.017	
2,800.0	2,767.2	1,933.8	1,882.8	8.8	8.2	-126.46	1,963.1	-2,354.3	3,381.0	3,366.2	14.77	228.881	
2,900.0	2,865.0	1,996.0	1,940.8	9.2	8.7	-126.94	1,958.9	-2,376.5	3,419.5	3,404.0	15.45	221.392	
3,000.0	2,962.8	2,052.2	1,993.1	9.7	9.1	-127.37	1,955.2	-2,396.7	3,459.0	3,442.9	16.11	214.768	
3,100.0	3,060.6	2,106.0	2,042.9	10.1	9.5	-127.77	1,951.7	-2,416.6	3,499.6	3,482.8	16.76	208.844	
3,200.0	3,158.5	2,253.9	2,180.4	10.6	10.5	-128.87	1,941.8	-2,470.4	3,539.9	3,522.1	17.77	199.207	
3,300.0	3,256.3	2,332.7	2,253.8	11.0	11.0	-129.43	1,936.5	-2,498.4	3,580.1	3,561.6	18.47	193.826	
3,400.0	3,354.1	2,402.7	2,319.0	11.5	11.5	-129.92	1,931.9	-2,523.5	3,621.1	3,601.9	19.15	189.084	
3,500.0	3,451.9	2,479.0	2,390.0	11.9	12.1	-130.45	1,926.7	-2,551.0	3,662.4	3,642.5	19.87	184.355	
3,600.0	3,549.7	2,530.3	2,437.6	12.4	12.5	-130.80	1,923.2	-2,569.7	3,704.6	3,684.1	20.47	180.980	
3,700.0	3,647.5	2,573.0	2,477.1	12.8	12.8	-131.09	1,920.6	-2,585.8	3,748.0	3,727.0	21.03	178.206	
3,800.0	3,745.3	2,666.0	2,562.9	13.3	13.5	-131.72	1,914.6	-2,621.2	3,792.2	3,770.4	21.83	173.749	
3,900.0	3,843.2	2,740.0	2,631.0	13.7	14.1	-132.22	1,909.4	-2,649.5	3,836.6	3,814.1	22.52	170.396	
4,000.0	3,941.0	2,957.2	2,832.8	14.2	15.6	-133.62	1,893.2	-2,728.0	3,878.7	3,855.0	23.70	163.640	
4,100.0	4,038.8	3,038.7	2,909.1	14.6	16.1	-134.11	1,887.4	-2,756.5	3,921.0	3,896.6	24.36	160.949	
4,200.0	4,136.6	3,136.0	3,000.1	15.1	16.8	-134.68	1,881.0	-2,790.0	3,963.5	3,938.4	25.06	158.146	
4,300.0	4,234.4	3,259.4	3,116.3	15.5	17.6	-135.37	1,873.6	-2,831.0	4,005.3	3,979.5	25.83	155.060	
4,325.2	4,259.1	3,274.2	3,130.2	15.6	17.7	-135.45	1,872.8	-2,835.9	4,015.9	3,989.9	25.97	154.619	
4,400.0	4,332.4	3,322.0	3,175.1	15.9	18.0	-136.18	1,869.8	-2,852.0	4,047.0	4,020.7	26.29	153.964	
4,500.0	4,431.0	3,477.1	3,321.2	16.2	19.0	-137.51	1,859.5	-2,903.0	4,085.9	4,058.9	26.96	151.543	
4,600.0	4,530.2	3,642.8	3,478.2	16.5	20.1	-138.72	1,847.4	-2,954.7	4,120.8	4,093.1	27.64	149.093	
4,700.0	4,629.7	3,718.9	3,550.5	16.7	20.5	-139.44	1,842.5	-2,977.9	4,153.3	4,125.3	28.01	148.278	
4,800.0	4,729.5	3,831.6	3,657.7	16.9	21.2	-140.21	1,835.1	-3,012.0	4,183.1	4,154.6	28.49	146.808	
4,900.0	4,829.5	3,922.0	3,743.5	17.0	21.8	-140.85	1,828.2	-3,039.7	4,210.5	4,181.6	28.90	145.693	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	3,948.8	3,768.9	17.1	22.0	-66.32	1,826.1	-3,047.9	4,217.0	4,182.7	34.28	123.001	
5,000.0	4,929.5	4,006.4	3,823.5	17.2	22.3	-66.48	1,821.5	-3,065.7	4,236.1	4,201.3	34.74	121.951	
5,100.0	5,029.5	4,070.0	3,883.7	17.3	22.7	-66.66	1,816.6	-3,085.6	4,262.2	4,227.0	35.27	120.835	
5,200.0	5,129.5	4,254.8	4,058.7	17.4	23.9	-67.16	1,801.1	-3,142.8	4,288.1	4,251.5	36.53	117.377	
5,300.0	5,229.5	4,350.0	4,149.6	17.6	24.5	-67.40	1,794.0	-3,170.4	4,312.3	4,275.1	37.22	115.873	
5,400.0	5,329.5	4,413.9	4,210.6	17.7	24.8	-67.55	1,790.2	-3,188.8	4,337.1	4,299.4	37.74	114.932	
5,500.0	5,429.5	4,495.9	4,288.8	17.9	25.3	-67.73	1,786.0	-3,213.2	4,363.0	4,324.6	38.37	113.711	
5,600.0	5,529.5	4,599.0	4,387.1	18.0	25.9	-67.95	1,780.3	-3,243.7	4,388.6	4,349.5	39.13	112.142	
5,700.0	5,629.5	4,670.8	4,455.4	18.1	26.4	-68.12	1,775.9	-3,265.2	4,414.5	4,374.8	39.72	111.129	
5,800.0	5,729.5	5,926.2	5,687.0	18.3	30.8	-69.63	1,731.3	-3,467.6	4,432.3	4,388.1	44.26	100.132	
5,900.0	5,829.5	6,027.6	5,788.5	18.4	30.9	-69.64	1,730.3	-3,468.6	4,433.0	4,388.4	44.53	99.546	
6,000.0	5,929.5	6,132.7	5,893.6	18.6	31.0	-69.67	1,728.9	-3,469.7	4,433.5	4,388.7	44.81	98.950	
6,100.0	6,029.5	6,224.0	5,984.8	18.7	31.1	-69.68	1,727.8	-3,470.7	4,434.1	4,389.0	45.07	98.387	
6,200.0	6,129.5	6,329.3	6,090.1	18.9	31.2	-69.71	1,726.3	-3,472.0	4,434.7	4,389.3	45.35	97.789	
6,300.0	6,229.5	6,425.1	6,185.9	19.1	31.3	-69.73	1,724.8	-3,473.2	4,435.3	4,389.7	45.62	97.214	
6,400.0	6,329.5	6,517.3	6,278.1	19.2	31.4	-69.75	1,723.4	-3,474.4	4,436.0	4,390.1	45.90	96.650	
6,500.0	6,429.5	6,606.1	6,366.8	19.4	31.5	-69.77	1,722.2	-3,475.7	4,437.0	4,390.8	46.17	96.096	
6,550.3	6,479.8	6,647.0	6,407.8	19.5	31.6	-69.78	1,721.6	-3,476.4	4,437.6	4,391.3	46.31	95.825	
6,600.0	6,529.4	6,689.0	6,449.7	19.5	31.6	20.24	1,721.1	-3,477.3	4,436.7	4,398.3	38.36	115.667	
6,650.0	6,579.2	6,736.0	6,496.7	19.5	31.7	20.36	1,720.5	-3,478.3	4,432.5	4,394.1	38.47	115.222	
6,700.0	6,628.4	6,782.0	6,542.7	19.5	31.7	20.59	1,719.7	-3,479.3	4,425.2	4,386.7	38.49	114.966	
6,750.0	6,676.9	6,823.7	6,584.4	19.5	31.8	20.93	1,719.1	-3,480.3	4,414.6	4,376.2	38.42	114.897	
6,800.0	6,724.5	6,862.7	6,623.4	19.4	31.8	21.39	1,718.4	-3,481.3	4,401.1	4,362.8	38.27	114.995	
6,850.0	6,770.8	6,898.1	6,658.8	19.4	31.9	21.96	1,717.8	-3,482.3	4,384.5	4,346.5	38.05	115.235	
6,900.0	6,815.8	6,931.2	6,691.8	19.3	31.9	22.67	1,717.3	-3,483.3	4,365.1	4,327.3	37.77	115.568	
6,950.0	6,859.1	6,969.0	6,729.6	19.2	32.0	23.55	1,716.8	-3,484.6	4,342.8	4,305.4	37.48	115.880	
7,000.0	6,900.5	7,003.7	6,764.3	19.1	32.0	24.60	1,716.4	-3,485.8	4,317.9	4,280.7	37.18	116.135	
7,050.0	6,939.9	7,044.7	6,805.3	19.1	32.1	25.88	1,715.7	-3,487.3	4,290.2	4,253.3	36.94	116.139	
7,100.0	6,977.1	7,084.3	6,844.8	19.0	32.1	27.42	1,715.1	-3,488.7	4,260.1	4,223.3	36.79	115.801	
7,150.0	7,011.8	7,122.0	6,882.5	19.0	32.2	29.26	1,714.4	-3,490.1	4,227.5	4,190.7	36.78	114.944	
7,200.0	7,044.0	7,157.6	6,918.0	19.1	32.3	31.47	1,713.8	-3,491.4	4,192.7	4,155.7	36.98	113.376	
7,250.0	7,073.4	7,200.4	6,960.8	19.1	32.3	34.19	1,713.0	-3,492.8	4,155.8	4,118.3	37.52	110.749	
7,300.0	7,099.9	7,238.9	6,999.3	19.3	32.4	37.47	1,712.3	-3,494.0	4,117.0	4,078.6	38.45	107.066	
7,350.0	7,123.4	7,270.4	7,030.8	19.5	32.4	41.38	1,711.7	-3,494.9	4,076.5	4,036.7	39.82	102.369	
7,400.0	7,143.7	7,296.8	7,057.2	19.8	32.5	46.06	1,711.2	-3,495.7	4,034.6	3,992.9	41.69	96.778	
7,450.0	7,160.9	7,319.1	7,079.5	20.2	32.5	51.63	1,710.7	-3,496.3	3,991.5	3,947.4	44.06	90.598	
7,500.0	7,174.7	7,337.3	7,097.7	20.7	32.5	58.21	1,710.4	-3,496.7	3,947.3	3,900.5	46.81	84.318	
7,550.0	7,185.1	7,351.8	7,112.2	21.2	32.5	65.83	1,710.1	-3,497.1	3,902.4	3,852.7	49.72	78.495	
7,600.0	7,192.1	7,362.3	7,122.6	21.8	32.5	74.33	1,709.9	-3,497.3	3,857.0	3,804.6	52.36	73.658	
7,650.0	7,195.6	7,368.2	7,128.5	22.5	32.6	83.40	1,709.8	-3,497.5	3,811.3	3,757.0	54.32	70.169	
7,680.0	7,196.0	7,369.6	7,129.9	22.9	32.6	88.91	1,709.8	-3,497.5	3,783.8	3,728.8	55.01	68.779	
7,700.0	7,195.9	7,370.0	7,130.4	23.3	32.6	88.92	1,709.8	-3,497.5	3,765.5	3,710.2	55.32	68.071	
7,800.0	7,195.2	7,372.0	7,132.4	24.9	32.6	89.00	1,709.7	-3,497.6	3,674.2	3,617.3	56.97	64.497	
7,900.0	7,194.6	7,374.0	7,134.4	26.7	32.6	89.07	1,709.7	-3,497.6	3,583.5	3,524.6	58.81	60.930	
8,000.0	7,193.9	7,376.0	7,136.3	28.7	32.6	89.15	1,709.7	-3,497.6	3,493.2	3,432.4	60.81	57.440	
8,100.0	7,193.3	7,377.9	7,138.2	30.9	32.6	89.22	1,709.6	-3,497.7	3,403.4	3,340.5	62.94	54.072	
8,200.0	7,192.6	7,379.7	7,140.1	33.1	32.6	89.29	1,709.6	-3,497.7	3,314.3	3,249.1	65.17	50.854	
8,300.0	7,192.0	7,381.6	7,141.9	35.4	32.6	89.36	1,709.6	-3,497.8	3,225.8	3,158.3	67.49	47.800	
8,400.0	7,191.3	7,383.4	7,143.7	37.8	32.6	89.43	1,709.5	-3,497.8	3,138.0	3,068.1	69.87	44.914	
8,500.0	7,190.7	7,385.1	7,145.5	40.2	32.6	89.49	1,709.5	-3,497.8	3,050.9	2,978.6	72.30	42.197	
8,600.0	7,190.0	7,386.9	7,147.2	42.7	32.6	89.56	1,709.5	-3,497.9	2,964.6	2,889.8	74.78	39.643	
8,700.0	7,189.4	7,388.6	7,148.9	45.2	32.6	89.62	1,709.5	-3,497.9	2,879.2	2,801.9	77.30	37.246	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,390.2	7,150.6	47.8	32.6	89.69	1,709.4	-3,498.0	2,794.8	2,715.0	79.86	34.998	
8,900.0	7,188.0	7,391.9	7,152.2	50.3	32.6	89.75	1,709.4	-3,498.0	2,711.5	2,629.1	82.44	32.892	
9,000.0	7,187.4	7,393.5	7,153.8	52.9	32.6	89.81	1,709.4	-3,498.0	2,629.3	2,544.3	85.04	30.919	
9,100.0	7,186.7	7,395.0	7,155.4	55.6	32.6	89.87	1,709.3	-3,498.1	2,548.4	2,460.7	87.66	29.070	
9,200.0	7,186.1	7,396.6	7,156.9	58.2	32.6	89.93	1,709.3	-3,498.1	2,468.9	2,378.6	90.30	27.340	
9,300.0	7,185.4	7,398.1	7,158.4	60.9	32.6	89.98	1,709.3	-3,498.1	2,390.9	2,297.9	92.96	25.720	
9,400.0	7,184.8	7,399.6	7,159.9	63.5	32.6	90.04	1,709.3	-3,498.2	2,314.6	2,219.0	95.63	24.204	
9,500.0	7,184.1	7,401.1	7,161.4	66.2	32.6	90.10	1,709.2	-3,498.2	2,240.2	2,141.9	98.31	22.787	
9,600.0	7,183.5	7,402.5	7,162.8	68.9	32.6	90.15	1,709.2	-3,498.2	2,167.8	2,066.8	101.00	21.464	
9,700.0	7,182.8	7,403.9	7,164.2	71.6	32.6	90.20	1,709.2	-3,498.2	2,097.8	1,994.1	103.70	20.229	
9,800.0	7,182.2	7,405.3	7,165.6	74.3	32.6	90.26	1,709.2	-3,498.3	2,030.2	1,923.8	106.41	19.079	
9,900.0	7,181.5	7,406.7	7,167.0	77.0	32.6	90.31	1,709.2	-3,498.3	1,965.4	1,856.2	109.12	18.011	
10,000.0	7,180.8	7,408.0	7,168.4	79.7	32.6	90.36	1,709.1	-3,498.3	1,903.6	1,791.8	111.84	17.020	
10,100.0	7,180.2	7,409.3	7,169.7	82.5	32.6	90.41	1,709.1	-3,498.3	1,845.2	1,730.6	114.57	16.105	
10,200.0	7,179.5	7,410.7	7,171.0	85.2	32.6	90.46	1,709.1	-3,498.4	1,790.5	1,673.2	117.30	15.263	
10,300.0	7,178.9	7,411.9	7,172.3	87.9	32.6	90.51	1,709.1	-3,498.4	1,739.8	1,619.7	120.04	14.493	
10,400.0	7,178.2	7,413.2	7,173.5	90.7	32.6	90.55	1,709.1	-3,498.4	1,693.4	1,570.7	122.78	13.792	
10,500.0	7,177.6	7,414.4	7,174.7	93.4	32.6	90.60	1,709.0	-3,498.4	1,651.9	1,526.4	125.53	13.160	
10,600.0	7,176.9	7,415.6	7,176.0	96.2	32.6	90.65	1,709.0	-3,498.5	1,615.5	1,487.2	128.28	12.594	
10,700.0	7,176.2	7,416.8	7,177.2	98.9	32.6	90.69	1,709.0	-3,498.5	1,584.5	1,453.5	131.03	12.093	
10,800.0	7,175.6	7,418.0	7,178.3	101.7	32.6	90.74	1,709.0	-3,498.5	1,559.4	1,425.6	133.78	11.656	
10,900.0	7,174.9	7,419.2	7,179.5	104.4	32.6	90.78	1,709.0	-3,498.5	1,540.4	1,403.8	136.54	11.281	
11,000.0	7,174.3	7,420.3	7,180.7	107.2	32.6	90.82	1,708.9	-3,498.6	1,527.7	1,388.4	139.30	10.967	
11,100.0	7,173.6	7,421.5	7,181.8	109.9	32.6	90.87	1,708.9	-3,498.6	1,521.4	1,379.4	142.07	10.709	
11,145.1	7,173.3	7,422.0	7,182.3	111.2	32.6	90.88	1,708.9	-3,498.6	1,520.8	1,377.5	143.31	10.612	CC
11,200.0	7,172.9	7,422.6	7,182.9	112.7	32.6	90.91	1,708.9	-3,498.6	1,521.8	1,376.9	144.83	10.507	ES
11,300.0	7,172.3	7,423.7	7,184.0	115.5	32.6	90.95	1,708.9	-3,498.6	1,528.6	1,381.0	147.60	10.357	
11,400.0	7,171.6	7,424.7	7,185.1	118.3	32.6	90.99	1,708.9	-3,498.6	1,542.0	1,391.6	150.36	10.255	
11,500.0	7,171.0	7,425.8	7,186.1	121.0	32.6	91.03	1,708.9	-3,498.7	1,561.6	1,408.5	153.13	10.198	
11,600.0	7,170.3	7,426.8	7,187.2	123.8	32.6	91.07	1,708.8	-3,498.7	1,587.3	1,431.4	155.91	10.181	SF
11,700.0	7,169.6	7,427.9	7,188.2	126.6	32.6	91.11	1,708.8	-3,498.7	1,618.8	1,460.2	158.68	10.202	
11,797.6	7,169.0	7,428.8	7,189.2	129.3	32.6	91.14	1,708.8	-3,498.7	1,654.8	1,493.4	161.39	10.254	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20SD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-46.33	1,865.7	-1,954.4	2,702.0				
100.0	100.0	133.0	133.0	0.1	0.0	-46.33	1,865.1	-1,953.4	2,701.2	2,701.1	0.12	N/A	
200.0	200.0	214.3	214.3	0.3	0.2	-46.32	1,864.3	-1,952.3	2,699.6	2,699.1	0.47	5,689.607	
287.4	287.4	272.9	272.9	0.5	0.3	-46.33	1,863.8	-1,952.3	2,699.1	2,698.3	0.79	3,409.891	
300.0	300.0	281.1	281.1	0.5	0.3	-46.33	1,863.7	-1,952.4	2,699.1	2,698.3	0.84	3,220.664	
400.0	400.0	336.0	336.0	0.8	0.4	-46.37	1,862.8	-1,953.8	2,700.0	2,698.8	1.19	2,278.079	
500.0	500.0	405.2	405.1	1.0	0.6	-46.44	1,861.2	-1,957.3	2,702.2	2,700.6	1.58	1,714.576	
600.0	600.0	472.3	471.9	1.2	0.8	-46.55	1,859.3	-1,962.5	2,705.8	2,703.8	1.96	1,377.866	
700.0	700.0	554.2	553.3	1.4	1.0	-46.71	1,856.2	-1,970.7	2,710.5	2,708.1	2.39	1,136.282	
800.0	800.0	651.9	650.2	1.7	1.3	-46.96	1,851.0	-1,982.1	2,715.4	2,712.5	2.84	955.025	
900.0	900.0	737.1	734.6	1.9	1.6	-47.19	1,845.9	-1,992.8	2,720.5	2,717.3	3.27	831.760	
1,000.0	1,000.0	827.5	823.8	2.1	1.9	-122.07	1,839.6	-2,005.9	2,727.4	2,723.4	3.97	686.921	
1,100.0	1,099.8	955.2	948.9	2.3	2.4	-122.57	1,825.6	-2,027.6	2,735.5	2,730.8	4.70	582.524	
1,200.0	1,199.5	1,062.4	1,052.7	2.5	2.9	-123.11	1,809.6	-2,048.6	2,745.1	2,739.7	5.42	506.283	
1,300.0	1,298.7	1,216.4	1,200.0	2.8	3.8	-124.17	1,779.4	-2,081.7	2,755.7	2,749.2	6.50	423.918	
1,400.0	1,397.5	1,339.9	1,316.8	3.1	4.6	-125.13	1,750.5	-2,109.9	2,767.5	2,760.0	7.49	369.626	
1,500.0	1,495.6	1,421.0	1,393.1	3.4	5.1	-125.71	1,730.4	-2,128.4	2,781.4	2,773.1	8.26	336.674	
1,500.1	1,495.7	1,421.1	1,393.2	3.4	5.1	-125.71	1,730.4	-2,128.4	2,781.4	2,773.1	8.26	336.645	
1,600.0	1,593.4	1,491.3	1,458.9	3.8	5.6	-126.44	1,712.4	-2,145.4	2,797.5	2,788.5	9.03	309.710	
1,700.0	1,691.3	1,564.9	1,527.2	4.1	6.1	-127.23	1,692.6	-2,164.4	2,815.0	2,805.2	9.87	285.207	
1,800.0	1,789.1	1,651.6	1,607.1	4.5	6.7	-128.19	1,668.1	-2,187.5	2,833.5	2,822.7	10.83	261.535	
1,900.0	1,886.9	1,718.4	1,668.3	4.9	7.3	-128.93	1,648.7	-2,205.9	2,853.2	2,841.5	11.67	244.460	
2,000.0	1,984.7	1,787.6	1,731.4	5.3	7.8	-129.71	1,628.2	-2,225.7	2,874.2	2,861.7	12.55	229.009	
2,100.0	2,082.5	1,869.5	1,805.3	5.7	8.5	-130.64	1,602.8	-2,250.0	2,896.6	2,883.1	13.51	214.443	
2,200.0	2,180.3	2,014.0	1,935.8	6.2	9.6	-132.28	1,556.8	-2,291.9	2,919.2	2,904.3	14.84	196.663	
2,300.0	2,278.1	2,067.3	1,983.8	6.6	10.0	-132.88	1,539.3	-2,307.0	2,942.0	2,926.4	15.57	188.917	
2,400.0	2,375.9	2,121.6	2,032.6	7.0	10.4	-133.49	1,521.8	-2,323.1	2,966.7	2,950.4	16.30	181.982	
2,500.0	2,473.8	2,208.4	2,110.8	7.5	11.1	-134.44	1,494.0	-2,348.7	2,992.5	2,975.3	17.22	173.761	
2,600.0	2,571.6	2,278.4	2,174.0	7.9	11.6	-135.20	1,472.2	-2,369.2	3,019.4	3,001.4	18.00	167.786	
2,700.0	2,669.4	2,364.9	2,252.3	8.3	12.3	-136.11	1,445.6	-2,394.5	3,047.3	3,028.4	18.90	161.201	
2,800.0	2,767.2	2,444.7	2,324.4	8.8	12.9	-136.95	1,420.4	-2,418.0	3,075.9	3,056.1	19.81	155.246	
2,900.0	2,865.0	2,551.6	2,420.4	9.2	13.8	-138.08	1,385.8	-2,449.5	3,105.3	3,084.4	20.92	148.472	
3,000.0	2,962.8	2,641.7	2,501.1	9.7	14.6	-139.03	1,355.5	-2,475.7	3,134.8	3,112.9	21.90	143.166	
3,100.0	3,060.6	2,750.1	2,597.5	10.1	15.5	-140.18	1,317.3	-2,507.4	3,164.9	3,141.9	23.01	137.567	
3,200.0	3,158.5	2,856.0	2,692.0	10.6	16.4	-141.28	1,279.7	-2,537.1	3,194.9	3,170.9	24.03	132.976	
3,300.0	3,256.3	2,923.9	2,752.9	11.0	16.9	-141.97	1,256.2	-2,555.9	3,225.6	3,200.8	24.76	130.262	
3,400.0	3,354.1	2,974.3	2,798.1	11.5	17.3	-142.47	1,239.2	-2,570.0	3,257.7	3,232.3	25.40	128.245	
3,500.0	3,451.9	3,017.6	2,836.9	11.9	17.7	-142.89	1,224.6	-2,582.7	3,291.4	3,265.4	26.00	126.573	
3,600.0	3,549.7	3,066.1	2,880.1	12.4	18.1	-143.37	1,208.3	-2,597.4	3,326.8	3,300.1	26.65	124.829	
3,700.0	3,647.5	3,122.1	2,929.7	12.8	18.6	-143.92	1,189.2	-2,614.8	3,363.5	3,336.1	27.36	122.935	
3,800.0	3,745.3	3,208.4	3,006.0	13.3	19.3	-144.76	1,159.4	-2,642.1	3,401.2	3,372.9	28.24	120.440	
3,900.0	3,843.2	3,318.4	3,103.6	13.7	20.3	-145.82	1,121.4	-2,676.1	3,439.0	3,409.8	29.24	117.633	
4,000.0	3,941.0	3,363.2	3,143.1	14.2	20.7	-146.24	1,105.8	-2,689.9	3,477.6	3,447.7	29.83	116.562	
4,100.0	4,038.8	3,417.0	3,190.7	14.6	21.1	-146.74	1,087.5	-2,707.2	3,517.6	3,487.1	30.49	115.389	
4,200.0	4,136.6	3,511.0	3,274.0	15.1	22.0	-147.59	1,055.9	-2,737.2	3,558.4	3,527.1	31.35	113.509	
4,300.0	4,234.4	3,559.8	3,317.4	15.5	22.4	-148.02	1,039.7	-2,752.6	3,599.7	3,567.8	31.94	112.714	
4,325.2	4,259.1	3,570.6	3,327.0	15.6	22.5	-148.12	1,036.3	-2,756.1	3,610.4	3,578.3	32.08	112.554	
4,400.0	4,332.4	3,604.0	3,356.8	15.9	22.7	-148.75	1,025.9	-2,767.0	3,641.6	3,609.2	32.47	112.171	
4,500.0	4,431.0	3,707.9	3,450.1	16.2	23.6	-149.99	995.0	-2,800.7	3,681.6	3,648.4	33.22	110.828	
4,600.0	4,530.2	3,844.4	3,573.0	16.5	24.7	-151.34	953.8	-2,843.7	3,718.2	3,684.1	34.13	108.937	
4,700.0	4,629.7	4,002.4	3,716.6	16.7	25.9	-152.67	907.8	-2,890.5	3,750.9	3,715.8	35.12	106.815	
4,800.0	4,729.5	4,072.8	3,780.5	16.9	26.5	-153.38	886.2	-2,911.1	3,780.5	3,744.8	35.64	106.059	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20SD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,196.5	3,892.0	17.0	27.5	-154.36	846.6	-2,947.2	3,807.2	3,770.8	36.46	104.413	
4,925.3	4,854.8	4,228.5	3,920.8	17.1	27.8	-79.92	836.1	-2,956.4	3,813.5	3,778.6	34.84	109.470	
5,000.0	4,929.5	4,285.2	3,971.9	17.2	28.3	-80.24	817.9	-2,972.5	3,831.5	3,796.2	35.33	108.456	
5,100.0	5,029.5	4,353.0	4,033.6	17.3	28.8	-80.60	797.7	-2,992.3	3,856.8	3,820.9	35.93	107.328	
5,200.0	5,129.5	4,446.0	4,118.7	17.4	29.5	-81.05	772.1	-3,019.6	3,882.7	3,846.0	36.71	105.757	
5,300.0	5,229.5	4,532.7	4,197.7	17.6	30.1	-81.49	747.0	-3,044.8	3,908.5	3,871.0	37.47	104.302	
5,400.0	5,329.5	4,623.1	4,279.6	17.7	30.9	-81.96	719.4	-3,071.3	3,934.7	3,896.4	38.27	102.806	
5,500.0	5,429.5	4,681.8	4,333.0	17.9	31.3	-82.26	701.8	-3,088.6	3,961.4	3,922.6	38.85	101.963	
5,600.0	5,529.5	4,751.1	4,395.3	18.0	31.9	-82.61	680.5	-3,109.8	3,989.3	3,949.8	39.52	100.943	
5,700.0	5,629.5	4,886.1	4,517.0	18.1	33.0	-83.31	638.2	-3,150.3	4,016.9	3,976.2	40.69	98.721	
5,800.0	5,729.5	5,001.2	4,621.8	18.3	33.9	-83.87	604.3	-3,183.8	4,044.1	4,002.4	41.68	97.021	
5,900.0	5,829.5	5,068.6	4,683.2	18.4	34.5	-84.18	584.6	-3,203.5	4,071.5	4,029.1	42.33	96.177	
6,000.0	5,929.5	5,127.5	4,736.9	18.6	34.9	-84.45	568.0	-3,221.0	4,099.7	4,056.8	42.93	95.508	
6,100.0	6,029.5	6,267.3	5,831.3	18.7	40.5	-87.56	363.4	-3,422.6	4,117.9	4,069.3	48.55	84.819	
6,200.0	6,129.5	6,428.0	5,991.7	18.9	40.7	-87.65	356.9	-3,429.0	4,121.7	4,072.7	48.98	84.152	
6,300.0	6,229.5	6,540.0	6,103.6	19.1	40.9	-87.70	353.7	-3,432.3	4,124.5	4,075.2	49.30	83.659	
6,400.0	6,329.5	6,648.9	6,212.5	19.2	41.0	-87.74	351.1	-3,435.2	4,127.1	4,077.5	49.61	83.185	
6,500.0	6,429.5	6,756.0	6,319.6	19.4	41.1	-87.77	348.9	-3,437.8	4,129.5	4,079.6	49.92	82.721	
6,550.3	6,479.8	6,807.7	6,371.2	19.5	41.2	-87.79	347.9	-3,439.1	4,130.6	4,080.6	50.07	82.494	
6,600.0	6,529.4	6,859.4	6,422.9	19.5	41.2	2.20	346.8	-3,440.3	4,130.0	4,081.6	48.40	85.329	
6,650.0	6,579.2	6,905.1	6,468.5	19.5	41.3	2.20	346.0	-3,441.3	4,125.9	4,077.6	48.31	85.400	
6,700.0	6,628.4	6,946.5	6,510.0	19.5	41.3	2.22	345.2	-3,442.4	4,118.5	4,070.5	48.01	85.775	
6,750.0	6,676.9	6,990.7	6,554.1	19.5	41.4	2.25	344.4	-3,443.6	4,107.7	4,060.2	47.52	86.447	
6,800.0	6,724.5	7,039.3	6,602.7	19.4	41.4	2.29	343.5	-3,444.9	4,093.5	4,046.7	46.83	87.419	
6,850.0	6,770.8	7,088.3	6,651.6	19.4	41.5	2.35	342.7	-3,446.2	4,076.1	4,030.1	45.95	88.713	
6,900.0	6,815.8	7,137.6	6,701.0	19.3	41.6	2.43	341.9	-3,447.5	4,055.3	4,010.4	44.89	90.347	
6,950.0	6,859.1	7,180.8	6,744.1	19.2	41.6	2.52	341.2	-3,448.5	4,031.4	3,987.8	43.65	92.361	
7,000.0	6,900.5	7,218.7	6,782.1	19.1	41.7	2.64	340.6	-3,449.5	4,004.6	3,962.3	42.25	94.785	
7,050.0	6,939.9	7,253.0	6,816.3	19.1	41.7	2.79	340.1	-3,450.5	3,974.9	3,934.2	40.71	97.650	
7,100.0	6,977.1	7,285.3	6,848.6	19.0	41.7	2.97	339.6	-3,451.4	3,942.5	3,903.5	39.04	100.989	
7,150.0	7,011.8	7,314.0	6,877.3	19.0	41.8	3.20	339.2	-3,452.2	3,907.7	3,870.4	37.27	104.839	
7,200.0	7,044.0	7,347.0	6,910.2	19.1	41.8	3.48	338.8	-3,453.3	3,870.5	3,835.0	35.44	109.199	
7,250.0	7,073.4	7,369.4	6,932.6	19.1	41.8	3.83	338.6	-3,454.1	3,831.0	3,797.5	33.57	114.135	
7,300.0	7,099.9	7,396.5	6,959.7	19.3	41.9	4.28	338.3	-3,455.0	3,789.6	3,757.9	31.70	119.554	
7,350.0	7,123.4	7,420.7	6,983.9	19.5	41.9	4.88	338.1	-3,455.8	3,746.3	3,716.4	29.88	125.390	
7,400.0	7,143.7	7,442.0	7,005.2	19.8	41.9	5.69	337.9	-3,456.5	3,701.4	3,673.2	28.16	131.431	
7,450.0	7,160.9	7,462.9	7,026.0	20.2	41.9	6.85	337.7	-3,457.2	3,655.1	3,628.4	26.64	137.213	
7,500.0	7,174.7	7,480.1	7,043.3	20.7	42.0	8.60	337.6	-3,457.8	3,607.5	3,582.1	25.43	141.872	
7,550.0	7,185.1	7,493.6	7,056.8	21.2	42.0	11.53	337.4	-3,458.2	3,559.0	3,534.2	24.83	143.356	
7,600.0	7,192.1	7,503.2	7,066.4	21.8	42.0	17.29	337.3	-3,458.5	3,509.8	3,484.0	25.82	135.913	
7,650.0	7,195.6	7,508.9	7,072.1	22.5	42.0	32.79	337.2	-3,458.7	3,460.2	3,426.8	33.35	103.738	
7,680.0	7,196.0	7,510.5	7,073.6	22.9	42.0	60.11	337.2	-3,458.8	3,430.2	3,382.1	48.13	71.270	
7,700.0	7,195.9	7,511.1	7,074.2	23.3	42.0	60.27	337.2	-3,458.8	3,410.2	3,361.8	48.47	70.359	
7,800.0	7,195.2	7,513.9	7,077.0	24.9	42.0	61.10	337.2	-3,458.9	3,310.4	3,260.1	50.29	65.821	
7,900.0	7,194.6	7,516.7	7,079.9	26.7	42.0	61.93	337.1	-3,459.0	3,210.5	3,158.2	52.30	61.381	
8,000.0	7,193.9	7,519.5	7,082.7	28.7	42.0	62.78	337.1	-3,459.0	3,110.6	3,056.2	54.47	57.104	
8,100.0	7,193.3	7,522.3	7,085.4	30.9	42.0	63.63	337.0	-3,459.1	3,010.8	2,954.0	56.77	53.031	
8,200.0	7,192.6	7,525.1	7,088.2	33.1	42.0	64.49	337.0	-3,459.2	2,910.9	2,851.8	59.19	49.181	
8,300.0	7,192.0	7,527.8	7,091.0	35.4	42.0	65.35	337.0	-3,459.3	2,811.1	2,749.4	61.70	45.562	
8,400.0	7,191.3	7,530.6	7,093.7	37.8	42.0	66.23	336.9	-3,459.4	2,711.3	2,647.0	64.29	42.173	
8,500.0	7,190.7	7,533.3	7,096.4	40.2	42.0	67.11	336.9	-3,459.5	2,611.5	2,544.5	66.95	39.005	
8,600.0	7,190.0	7,535.0	7,098.1	42.7	42.0	67.67	336.8	-3,459.5	2,511.7	2,442.2	69.52	36.130	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20SD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 155-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,535.0	7,098.1	45.2	42.0	67.67	336.8	-3,459.5	2,411.9	2,340.0	71.86	33.565	
8,800.0	7,188.7	7,535.0	7,098.1	47.8	42.0	67.67	336.8	-3,459.5	2,312.1	2,237.9	74.23	31.149	
8,900.0	7,188.0	7,535.0	7,098.1	50.3	42.0	67.67	336.8	-3,459.5	2,212.4	2,135.7	76.62	28.873	
9,000.0	7,187.4	7,535.0	7,098.1	52.9	42.0	67.67	336.8	-3,459.5	2,112.6	2,033.6	79.04	26.728	
9,100.0	7,186.7	7,545.4	7,108.5	55.6	42.0	71.18	336.7	-3,459.9	2,012.9	1,929.6	83.32	24.160	
9,200.0	7,186.1	7,547.5	7,110.6	58.2	42.1	71.90	336.6	-3,459.9	1,913.2	1,827.1	86.18	22.201	
9,300.0	7,185.4	7,549.7	7,112.8	60.9	42.1	72.65	336.6	-3,460.0	1,813.6	1,724.5	89.07	20.360	
9,400.0	7,184.8	7,551.9	7,115.0	63.5	42.1	73.42	336.6	-3,460.1	1,714.0	1,622.0	92.00	18.630	
9,500.0	7,184.1	7,554.1	7,117.2	66.2	42.1	74.23	336.5	-3,460.2	1,614.4	1,519.4	94.96	17.001	
9,600.0	7,183.5	7,556.4	7,119.5	68.9	42.1	75.05	336.5	-3,460.2	1,514.9	1,416.9	97.94	15.468	
9,700.0	7,182.8	7,558.8	7,121.9	71.6	42.1	75.91	336.4	-3,460.3	1,415.4	1,314.5	100.94	14.022	
9,800.0	7,182.2	7,561.3	7,124.4	74.3	42.1	76.80	336.4	-3,460.4	1,316.1	1,212.1	103.96	12.659	
9,900.0	7,181.5	7,563.8	7,126.9	77.0	42.1	77.72	336.3	-3,460.5	1,216.8	1,109.8	107.00	11.372	
10,000.0	7,180.8	7,566.3	7,129.4	79.7	42.1	78.67	336.3	-3,460.6	1,117.6	1,007.6	110.05	10.155	
10,100.0	7,180.2	7,569.0	7,132.1	82.5	42.1	79.66	336.2	-3,460.7	1,018.6	905.5	113.11	9.006	
10,200.0	7,179.5	7,571.7	7,134.8	85.2	42.1	80.68	336.1	-3,460.8	919.8	803.7	116.17	7.918	
10,300.0	7,178.9	7,574.5	7,137.6	87.9	42.1	81.73	336.1	-3,460.9	821.3	702.1	119.23	6.889	
10,400.0	7,178.2	7,577.4	7,140.5	90.7	42.1	82.83	336.0	-3,461.0	723.2	600.9	122.28	5.915	
10,500.0	7,177.6	7,580.4	7,143.4	93.4	42.1	83.96	335.9	-3,461.1	625.7	500.4	125.31	4.993	
10,600.0	7,176.9	7,583.4	7,146.5	96.2	42.1	85.13	335.8	-3,461.2	529.1	400.7	128.33	4.123	
10,700.0	7,176.2	7,586.6	7,149.6	98.9	42.1	86.35	335.7	-3,461.4	433.9	302.6	131.31	3.305	
10,800.0	7,175.6	7,589.8	7,152.9	101.7	42.1	87.60	335.7	-3,461.5	341.6	207.3	134.26	2.544	
10,900.0	7,174.9	7,593.2	7,156.2	104.4	42.1	88.90	335.6	-3,461.6	255.1	117.9	137.16	1.860	
11,000.0	7,174.3	7,596.6	7,159.7	107.2	42.1	90.24	335.5	-3,461.8	182.7	42.7	140.00	1.305	Level 3
11,100.0	7,173.6	7,600.2	7,163.2	109.9	42.1	91.63	335.4	-3,461.9	147.3	4.6	142.77	1.032	Level 2
11,108.5	7,173.5	7,600.5	7,163.5	110.2	42.1	91.75	335.3	-3,461.9	147.1	4.1	143.00	1.029	Level 2, CC, ES, SF
11,200.0	7,172.9	7,603.9	7,166.9	112.7	42.1	93.07	335.2	-3,462.1	173.2	27.7	145.46	1.191	Level 2
11,300.0	7,172.3	7,607.7	7,170.7	115.5	42.1	94.55	335.1	-3,462.2	241.4	93.3	148.05	1.630	
11,400.0	7,171.6	7,611.6	7,174.7	118.3	42.1	96.07	335.0	-3,462.4	326.3	175.8	150.54	2.168	
11,500.0	7,171.0	7,615.7	7,178.7	121.0	42.2	97.65	334.9	-3,462.6	418.0	265.1	152.90	2.734	
11,600.0	7,170.3	7,619.9	7,182.9	123.8	42.2	99.27	334.7	-3,462.8	512.7	357.6	155.12	3.305	
11,700.0	7,169.6	7,624.3	7,187.3	126.6	42.2	100.93	334.6	-3,463.0	609.1	451.9	157.19	3.875	
11,797.6	7,169.0	7,628.7	7,191.7	129.3	42.2	102.60	334.4	-3,463.2	704.1	545.1	159.04	4.427	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 672-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-45.10	1,976.8	-1,984.0	2,800.7				
100.0	100.0	83.5	83.5	0.1	0.1	-45.11	1,976.8	-1,984.0	2,800.7	2,800.6	0.17	N/A	
200.0	200.0	181.1	181.1	0.3	0.2	-45.11	1,976.7	-1,984.3	2,800.8	2,800.4	0.48	5,779.679	
300.0	300.0	278.7	278.7	0.5	0.3	-45.12	1,976.5	-1,984.7	2,801.0	2,800.2	0.80	3,514.332	
400.0	400.0	376.3	376.3	0.8	0.3	-45.13	1,976.3	-1,985.4	2,801.3	2,800.2	1.11	2,524.937	
500.0	500.0	473.9	473.9	1.0	0.4	-45.15	1,976.0	-1,986.2	2,801.7	2,800.3	1.42	1,970.403	
600.0	600.0	571.5	571.5	1.2	0.5	-45.17	1,975.6	-1,987.2	2,802.2	2,800.4	1.73	1,615.713	
700.0	700.0	672.0	672.0	1.4	0.6	-45.19	1,975.2	-1,988.4	2,802.7	2,800.6	2.05	1,367.622	
800.0	800.0	773.4	773.3	1.7	0.8	-45.22	1,974.5	-1,989.7	2,803.2	2,800.7	2.49	1,123.650	
900.0	900.0	875.8	875.8	1.9	1.0	-45.25	1,973.8	-1,990.9	2,803.5	2,800.6	2.92	959.568	
1,000.0	1,000.0	960.2	960.1	2.1	1.2	-119.95	1,973.3	-1,992.2	2,805.1	2,801.7	3.32	845.940	
1,100.0	1,099.8	1,061.0	1,060.9	2.3	1.4	-120.02	1,972.7	-1,994.1	2,808.6	2,804.8	3.74	750.130	
1,200.0	1,199.5	1,159.7	1,159.6	2.5	1.6	-120.12	1,972.1	-1,995.9	2,813.8	2,809.6	4.18	673.765	
1,300.0	1,298.7	1,268.0	1,267.9	2.8	1.9	-120.27	1,971.3	-1,998.0	2,820.9	2,816.3	4.64	607.353	
1,400.0	1,397.5	1,394.4	1,394.3	3.1	2.1	-120.51	1,970.1	-1,999.0	2,828.8	2,823.6	5.16	548.523	
1,500.0	1,495.6	1,491.1	1,491.0	3.4	2.3	-120.69	1,969.2	-1,999.3	2,838.2	2,832.6	5.64	503.666	
1,500.1	1,495.7	1,491.2	1,491.1	3.4	2.3	-120.69	1,969.2	-1,999.4	2,838.2	2,832.6	5.64	503.623	
1,600.0	1,593.4	1,588.5	1,588.4	3.8	2.5	-121.06	1,968.4	-1,999.7	2,848.7	2,842.6	6.15	463.272	
1,700.0	1,691.3	1,683.8	1,683.7	4.1	2.7	-121.41	1,967.7	-2,000.0	2,859.4	2,852.7	6.68	428.287	
1,800.0	1,789.1	1,773.5	1,773.3	4.5	2.9	-121.74	1,967.1	-2,000.3	2,870.3	2,863.1	7.20	398.397	
1,900.0	1,886.9	1,862.3	1,862.2	4.9	3.1	-122.07	1,966.8	-2,000.8	2,881.7	2,873.9	7.74	372.199	
2,000.0	1,984.7	1,954.2	1,954.0	5.3	3.3	-122.40	1,966.7	-2,001.5	2,893.4	2,885.1	8.30	348.804	
2,100.0	2,082.5	2,036.1	2,035.9	5.7	3.4	-122.71	1,966.1	-2,002.8	2,905.6	2,896.7	8.84	328.786	
2,200.0	2,180.3	2,127.3	2,127.0	6.2	3.7	-123.10	1,964.1	-2,006.2	2,918.4	2,909.0	9.41	310.239	
2,300.0	2,278.1	2,212.0	2,211.5	6.6	3.9	-123.51	1,960.2	-2,011.2	2,931.4	2,921.5	9.97	293.987	
2,400.0	2,375.9	2,307.5	2,306.6	7.0	4.1	-124.01	1,954.6	-2,018.5	2,945.3	2,934.7	10.57	278.677	
2,500.0	2,473.8	2,403.3	2,401.6	7.5	4.3	-124.56	1,946.4	-2,027.2	2,958.8	2,947.6	11.18	264.640	
2,600.0	2,571.6	2,468.5	2,466.1	7.9	4.5	-124.97	1,939.8	-2,034.7	2,973.3	2,961.6	11.73	253.448	
2,700.0	2,669.4	2,543.0	2,539.1	8.3	4.7	-125.48	1,930.4	-2,045.7	2,989.2	2,976.9	12.32	242.548	
2,800.0	2,767.2	2,594.3	2,589.1	8.8	4.9	-125.86	1,923.2	-2,054.5	3,006.4	2,993.6	12.87	233.667	
2,900.0	2,865.0	2,688.9	2,681.3	9.2	5.2	-126.55	1,910.1	-2,071.3	3,024.7	3,011.1	13.53	223.537	
3,000.0	2,962.8	2,777.3	2,767.7	9.7	5.5	-127.17	1,898.5	-2,085.8	3,042.9	3,028.7	14.16	214.887	
3,100.0	3,060.6	2,846.9	2,835.9	10.1	5.8	-127.64	1,890.2	-2,097.3	3,062.1	3,047.4	14.74	207.735	
3,200.0	3,158.5	2,931.0	2,918.0	10.6	6.1	-128.21	1,879.8	-2,112.0	3,082.3	3,066.9	15.38	200.372	
3,300.0	3,256.3	3,087.4	3,070.7	11.0	6.6	-129.28	1,858.8	-2,138.1	3,101.6	3,085.3	16.24	190.993	
3,400.0	3,354.1	3,165.6	3,147.5	11.5	6.9	-129.79	1,849.1	-2,150.0	3,120.7	3,103.9	16.84	185.292	
3,500.0	3,451.9	3,237.7	3,218.3	11.9	7.1	-130.23	1,841.2	-2,160.8	3,140.8	3,123.4	17.43	180.196	
3,600.0	3,549.7	3,308.4	3,287.8	12.4	7.4	-130.66	1,833.7	-2,171.8	3,161.9	3,143.8	18.02	175.479	
3,700.0	3,647.5	3,386.0	3,363.9	12.8	7.7	-131.13	1,825.7	-2,184.5	3,184.0	3,165.3	18.64	170.860	
3,800.0	3,745.3	3,479.0	3,455.0	13.3	8.0	-131.70	1,815.4	-2,200.2	3,206.5	3,187.2	19.30	166.148	
3,900.0	3,843.2	3,560.0	3,534.3	13.7	8.4	-132.20	1,806.2	-2,213.9	3,229.3	3,209.4	19.92	162.139	
4,000.0	3,941.0	3,748.3	3,718.7	14.2	9.1	-133.35	1,782.7	-2,243.3	3,250.4	3,229.5	20.86	155.848	
4,100.0	4,038.8	3,840.6	3,808.9	14.6	9.4	-133.93	1,768.9	-2,258.0	3,271.3	3,249.8	21.52	152.006	
4,200.0	4,136.6	3,995.5	3,960.9	15.1	10.0	-134.84	1,748.3	-2,279.3	3,291.6	3,269.3	22.33	147.392	
4,300.0	4,234.4	4,160.6	4,124.1	15.5	10.5	-135.67	1,731.1	-2,296.2	3,310.7	3,287.6	23.11	143.248	
4,325.2	4,259.1	4,204.8	4,168.0	15.6	10.7	-135.87	1,727.1	-2,299.6	3,315.1	3,291.8	23.30	142.260	
4,400.0	4,332.4	4,314.0	4,276.8	15.9	10.9	-136.45	1,719.8	-2,305.6	3,327.0	3,303.3	23.77	139.958	
4,500.0	4,431.0	4,449.8	4,412.5	16.2	11.2	-136.98	1,715.8	-2,308.6	3,339.7	3,315.4	24.27	137.610	
4,600.0	4,530.2	4,594.6	4,557.3	16.5	11.5	-137.35	1,714.0	-2,309.0	3,349.0	3,324.3	24.74	135.394	
4,700.0	4,629.7	4,700.2	4,662.8	16.7	11.6	-137.57	1,712.3	-2,308.2	3,354.7	3,329.6	25.11	133.582	
4,800.0	4,729.5	4,794.5	4,757.2	16.9	11.8	-137.69	1,711.1	-2,307.4	3,357.9	3,332.5	25.45	131.956	
4,900.0	4,829.5	4,892.0	4,854.6	17.0	11.9	-137.74	1,710.0	-2,306.6	3,358.6	3,332.9	25.76	130.391	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 672-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,914.1	4,876.8	17.1	12.0	-63.06	1,709.7	-2,306.4	3,358.4	3,333.4	25.08	133.883	
5,000.0	4,929.5	4,976.0	4,938.6	17.2	12.1	-63.07	1,709.1	-2,306.1	3,357.7	3,332.4	25.31	132.678	
5,100.0	5,029.5	5,069.9	5,032.6	17.3	12.2	-63.08	1,708.3	-2,305.8	3,357.1	3,331.4	25.64	130.918	
5,200.0	5,129.5	5,171.0	5,133.6	17.4	12.4	-63.08	1,707.7	-2,305.5	3,356.5	3,330.5	25.99	129.130	
5,300.0	5,229.5	5,265.7	5,228.3	17.6	12.6	-63.09	1,707.2	-2,305.2	3,356.0	3,329.7	26.33	127.440	
5,400.0	5,329.5	5,361.4	5,324.1	17.7	12.7	-63.09	1,706.8	-2,305.0	3,355.7	3,329.0	26.68	125.770	
5,500.0	5,429.5	5,457.4	5,420.1	17.9	12.9	-63.09	1,706.8	-2,304.9	3,355.5	3,328.5	27.03	124.137	
5,600.0	5,529.5	5,558.3	5,521.0	18.0	13.1	-63.09	1,707.1	-2,304.5	3,355.3	3,327.9	27.39	122.502	
5,672.2	5,601.7	5,624.5	5,587.1	18.1	13.2	-63.08	1,707.5	-2,304.2	3,355.3	3,327.6	27.64	121.404	
5,700.0	5,629.5	5,647.4	5,610.1	18.1	13.2	-63.08	1,707.6	-2,304.2	3,355.3	3,327.5	27.73	121.007	
5,800.0	5,729.5	5,725.0	5,687.6	18.3	13.4	-63.07	1,708.1	-2,304.3	3,355.7	3,327.7	28.05	119.647	
5,900.0	5,829.5	5,819.0	5,781.6	18.4	13.5	-63.06	1,709.0	-2,304.9	3,356.6	3,328.2	28.40	118.179	
6,000.0	5,929.5	5,901.3	5,863.9	18.6	13.7	-63.05	1,710.0	-2,305.5	3,357.9	3,329.2	28.74	116.843	
6,100.0	6,029.5	5,996.5	5,959.1	18.7	13.8	-63.03	1,711.6	-2,306.4	3,359.6	3,330.5	29.10	115.445	
6,200.0	6,129.5	6,112.8	6,075.3	18.9	14.0	-63.02	1,713.0	-2,307.5	3,361.0	3,331.5	29.50	113.920	
6,300.0	6,229.5	6,207.8	6,170.4	19.1	14.2	-63.01	1,713.9	-2,308.5	3,362.2	3,332.4	29.87	112.580	
6,400.0	6,329.5	6,310.6	6,273.2	19.2	14.4	-63.01	1,714.7	-2,309.5	3,363.5	3,333.2	30.25	111.206	
6,500.0	6,429.5	6,410.0	6,372.5	19.4	14.6	-63.00	1,715.5	-2,310.5	3,364.8	3,334.2	30.62	109.886	
6,550.3	6,479.8	6,467.9	6,430.5	19.5	14.7	-63.01	1,715.8	-2,311.2	3,365.4	3,334.5	30.83	109.171	
6,600.0	6,529.4	6,523.5	6,486.1	19.5	14.8	27.04	1,715.8	-2,311.7	3,364.3	3,332.9	31.40	107.157	
6,650.0	6,579.2	6,577.3	6,539.9	19.5	14.9	27.24	1,715.8	-2,312.2	3,360.1	3,328.7	31.40	106.995	
6,700.0	6,628.4	6,624.7	6,587.2	19.5	15.0	27.57	1,715.7	-2,312.7	3,352.7	3,321.4	31.32	107.054	
6,750.0	6,676.9	6,673.5	6,636.0	19.5	15.1	28.06	1,715.5	-2,313.2	3,342.4	3,311.2	31.16	107.269	
6,800.0	6,724.5	6,728.4	6,691.0	19.4	15.2	28.72	1,715.2	-2,313.8	3,329.0	3,298.0	30.95	107.566	
6,850.0	6,770.8	6,779.1	6,741.7	19.4	15.3	29.55	1,714.8	-2,314.3	3,312.6	3,281.9	30.68	107.983	
6,900.0	6,815.8	6,825.8	6,788.3	19.3	15.4	30.57	1,714.4	-2,314.7	3,293.4	3,263.0	30.36	108.470	
6,950.0	6,859.1	6,872.1	6,834.7	19.2	15.4	31.81	1,713.9	-2,315.1	3,271.4	3,241.4	30.03	108.922	
7,000.0	6,900.5	6,917.8	6,880.3	19.1	15.5	33.29	1,713.4	-2,315.5	3,246.8	3,217.1	29.72	109.241	
7,050.0	6,939.9	6,959.5	6,922.0	19.1	15.6	35.02	1,712.9	-2,315.8	3,219.8	3,190.3	29.45	109.339	
7,100.0	6,977.1	6,996.9	6,959.4	19.0	15.7	37.05	1,712.5	-2,316.1	3,190.4	3,161.1	29.25	109.078	
7,150.0	7,011.8	7,032.0	6,994.5	19.0	15.7	39.41	1,712.1	-2,316.4	3,158.9	3,129.7	29.17	108.282	
7,200.0	7,044.0	7,065.4	7,027.9	19.1	15.8	42.16	1,711.7	-2,316.6	3,125.4	3,096.2	29.27	106.784	
7,250.0	7,073.4	7,095.9	7,058.5	19.1	15.9	45.34	1,711.4	-2,316.8	3,090.2	3,060.6	29.58	104.487	
7,300.0	7,099.9	7,123.5	7,086.0	19.3	15.9	49.00	1,711.1	-2,317.0	3,053.4	3,023.3	30.12	101.363	
7,350.0	7,123.4	7,147.5	7,110.0	19.5	16.0	53.15	1,710.9	-2,317.1	3,015.2	2,984.3	30.92	97.506	
7,400.0	7,143.7	7,168.3	7,130.8	19.8	16.0	57.83	1,710.7	-2,317.2	2,975.9	2,943.9	31.96	93.108	
7,450.0	7,160.9	7,185.9	7,148.4	20.2	16.0	63.02	1,710.5	-2,317.3	2,935.6	2,902.4	33.19	88.458	
7,500.0	7,174.7	7,200.0	7,162.5	20.7	16.1	68.67	1,710.4	-2,317.4	2,894.6	2,860.1	34.51	83.876	
7,550.0	7,185.1	7,210.8	7,173.3	21.2	16.1	74.66	1,710.3	-2,317.4	2,853.2	2,817.3	35.82	79.648	
7,600.0	7,192.1	7,218.1	7,180.6	21.8	16.1	80.85	1,710.2	-2,317.4	2,811.4	2,774.4	37.01	75.973	
7,650.0	7,195.6	7,221.9	7,184.4	22.5	16.1	87.04	1,710.2	-2,317.5	2,769.6	2,731.6	37.97	72.939	
7,680.0	7,196.0	7,222.4	7,184.9	22.9	16.1	90.69	1,710.2	-2,317.5	2,744.6	2,706.2	38.43	71.423	
7,700.0	7,195.9	7,222.4	7,184.9	23.3	16.1	90.69	1,710.2	-2,317.5	2,728.0	2,689.2	38.73	70.436	
7,800.0	7,195.2	7,222.2	7,184.7	24.9	16.1	90.68	1,710.2	-2,317.5	2,645.6	2,605.2	40.38	65.522	
7,900.0	7,194.6	7,222.0	7,184.5	26.7	16.1	90.67	1,710.2	-2,317.5	2,564.4	2,522.2	42.22	60.742	
8,000.0	7,193.9	7,221.9	7,184.4	28.7	16.1	90.67	1,710.2	-2,317.5	2,484.6	2,440.4	44.22	56.192	
8,100.0	7,193.3	7,221.7	7,184.2	30.9	16.1	90.66	1,710.2	-2,317.5	2,406.4	2,360.0	46.34	51.927	
8,200.0	7,192.6	7,221.5	7,184.0	33.1	16.1	90.65	1,710.2	-2,317.5	2,329.8	2,281.2	48.57	47.969	
8,300.0	7,192.0	7,221.3	7,183.8	35.4	16.1	90.65	1,710.2	-2,317.5	2,255.0	2,204.1	50.88	44.322	
8,400.0	7,191.3	7,221.1	7,183.6	37.8	16.1	90.64	1,710.2	-2,317.5	2,182.3	2,129.0	53.26	40.977	
8,500.0	7,190.7	7,221.0	7,183.5	40.2	16.1	90.63	1,710.2	-2,317.5	2,111.8	2,056.1	55.69	37.921	
8,600.0	7,190.0	7,220.8	7,183.3	42.7	16.1	90.63	1,710.2	-2,317.4	2,043.7	1,985.5	58.17	35.135	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 672-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,220.6	7,183.1	45.2	16.1	90.62	1,710.2	-2,317.4	1,978.4	1,917.7	60.69	32.601	
8,800.0	7,188.7	7,220.4	7,182.9	47.8	16.1	90.61	1,710.2	-2,317.4	1,916.0	1,852.8	63.24	30.300	
8,900.0	7,188.0	7,220.2	7,182.7	50.3	16.1	90.61	1,710.2	-2,317.4	1,857.0	1,791.2	65.81	28.216	
9,000.0	7,187.4	7,220.1	7,182.6	52.9	16.1	90.60	1,710.2	-2,317.4	1,801.6	1,733.2	68.41	26.333	
9,100.0	7,186.7	7,219.9	7,182.4	55.6	16.1	90.59	1,710.2	-2,317.4	1,750.1	1,679.1	71.03	24.637	
9,200.0	7,186.1	7,219.7	7,182.2	58.2	16.1	90.59	1,710.2	-2,317.4	1,703.0	1,629.3	73.67	23.115	
9,300.0	7,185.4	7,219.5	7,182.0	60.9	16.1	90.58	1,710.2	-2,317.4	1,660.5	1,584.2	76.33	21.755	
9,400.0	7,184.8	7,219.3	7,181.8	63.5	16.1	90.57	1,710.2	-2,317.4	1,623.1	1,544.1	78.99	20.547	
9,500.0	7,184.1	7,219.1	7,181.6	66.2	16.1	90.57	1,710.2	-2,317.4	1,591.1	1,509.5	81.67	19.482	
9,600.0	7,183.5	7,219.0	7,181.5	68.9	16.1	90.56	1,710.2	-2,317.4	1,564.9	1,480.5	84.36	18.550	
9,700.0	7,182.8	7,218.8	7,181.3	71.6	16.1	90.55	1,710.2	-2,317.4	1,544.7	1,457.6	87.06	17.743	
9,800.0	7,182.2	7,218.6	7,181.1	74.3	16.1	90.55	1,710.2	-2,317.4	1,530.8	1,441.0	89.77	17.053	
9,900.0	7,181.5	7,218.4	7,180.9	77.0	16.1	90.54	1,710.2	-2,317.4	1,523.3	1,430.9	92.48	16.472	
9,963.9	7,181.1	7,218.3	7,180.8	78.8	16.1	90.54	1,710.2	-2,317.4	1,522.0	1,427.8	94.22	16.154	CC
10,000.0	7,180.8	7,218.2	7,180.7	79.7	16.1	90.53	1,710.2	-2,317.4	1,522.4	1,427.2	95.20	15.992	ES
10,100.0	7,180.2	7,218.0	7,180.5	82.5	16.1	90.53	1,710.2	-2,317.4	1,528.1	1,430.1	97.93	15.604	
10,200.0	7,179.5	7,217.9	7,180.4	85.2	16.1	90.52	1,710.2	-2,317.4	1,540.2	1,439.5	100.66	15.301	
10,300.0	7,178.9	7,217.7	7,180.2	87.9	16.1	90.51	1,710.2	-2,317.4	1,558.7	1,455.3	103.39	15.075	
10,400.0	7,178.2	7,217.5	7,180.0	90.7	16.1	90.50	1,710.2	-2,317.4	1,583.2	1,477.1	106.14	14.917	
10,500.0	7,177.6	7,217.3	7,179.8	93.4	16.1	90.50	1,710.2	-2,317.4	1,613.6	1,504.8	108.88	14.820	
10,600.0	7,176.9	7,217.1	7,179.6	96.2	16.1	90.49	1,710.3	-2,317.4	1,649.6	1,537.9	111.63	14.777	SF
10,700.0	7,176.2	7,216.9	7,179.4	98.9	16.1	90.48	1,710.3	-2,317.4	1,690.6	1,576.3	114.38	14.781	
10,800.0	7,175.6	7,216.8	7,179.3	101.7	16.1	90.48	1,710.3	-2,317.4	1,736.5	1,619.4	117.13	14.825	
10,900.0	7,174.9	7,216.6	7,179.1	104.4	16.1	90.47	1,710.3	-2,317.4	1,786.8	1,666.9	119.89	14.903	
11,000.0	7,174.3	7,216.4	7,178.9	107.2	16.1	90.46	1,710.3	-2,317.4	1,841.2	1,718.5	122.65	15.011	
11,100.0	7,173.6	7,216.2	7,178.7	109.9	16.1	90.46	1,710.3	-2,317.4	1,899.2	1,773.8	125.42	15.144	
11,200.0	7,172.9	7,216.0	7,178.5	112.7	16.1	90.45	1,710.3	-2,317.4	1,960.7	1,832.5	128.18	15.296	
11,300.0	7,172.3	7,215.8	7,178.3	115.5	16.1	90.44	1,710.3	-2,317.4	2,025.2	1,894.3	130.95	15.466	
11,400.0	7,171.6	7,215.6	7,178.1	118.3	16.1	90.43	1,710.3	-2,317.4	2,092.5	1,958.8	133.72	15.649	
11,500.0	7,171.0	7,215.5	7,178.0	121.0	16.1	90.43	1,710.3	-2,317.4	2,162.4	2,025.9	136.49	15.843	
11,600.0	7,170.3	7,215.3	7,177.8	123.8	16.1	90.42	1,710.3	-2,317.4	2,234.5	2,095.3	139.26	16.046	
11,700.0	7,169.6	7,215.1	7,177.6	126.6	16.1	90.41	1,710.3	-2,317.4	2,308.8	2,166.7	142.03	16.255	
11,797.6	7,169.0	7,214.9	7,177.4	129.3	16.1	90.41	1,710.3	-2,317.4	2,383.0	2,238.2	144.74	16.464	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 546-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-71.27	1,662.8	-4,904.3	5,178.7				
100.0	100.0	63.6	63.6	0.1	0.1	-71.27	1,662.8	-4,904.3	5,178.6	5,178.4	0.15	N/A	
200.0	200.0	163.9	163.9	0.3	0.1	-71.27	1,662.7	-4,904.4	5,178.6	5,178.1	0.47	N/A	
300.0	300.0	264.1	264.1	0.5	0.2	-71.27	1,662.6	-4,904.4	5,178.5	5,177.8	0.78	6,624.933	
400.0	400.0	364.3	364.3	0.8	0.3	-71.28	1,662.4	-4,904.5	5,178.5	5,177.4	1.10	4,726.667	
500.0	500.0	464.6	464.6	1.0	0.4	-71.28	1,662.1	-4,904.5	5,178.5	5,177.1	1.41	3,673.948	
578.3	578.3	543.1	543.1	1.2	0.5	-71.28	1,661.9	-4,904.6	5,178.5	5,176.8	1.66	3,128.193	
600.0	600.0	560.0	560.0	1.2	0.5	-71.28	1,661.8	-4,904.6	5,178.5	5,176.8	1.74	2,982.615	
700.0	700.0	841.7	841.5	1.4	1.1	-71.21	1,666.5	-4,899.3	5,178.0	5,175.5	2.54	2,041.601	
800.0	800.0	1,122.5	1,120.1	1.7	1.8	-70.88	1,690.0	-4,875.3	5,172.2	5,168.8	3.40	1,520.917	
900.0	900.0	1,209.4	1,205.7	1.9	2.1	-70.72	1,701.5	-4,865.2	5,165.5	5,161.7	3.84	1,346.863	
1,000.0	1,000.0	1,762.0	1,741.2	2.1	4.7	-144.22	1,795.5	-4,768.9	5,156.2	5,149.6	6.55	787.289	
1,100.0	1,099.8	1,856.0	1,830.8	2.3	5.2	-144.10	1,814.0	-4,747.4	5,145.4	5,138.2	7.21	713.492	
1,200.0	1,199.5	1,987.2	1,955.9	2.5	5.9	-143.89	1,838.9	-4,717.1	5,137.0	5,129.0	8.08	636.148	
1,300.0	1,298.7	2,043.0	2,009.0	2.8	6.2	-143.83	1,850.2	-4,703.9	5,131.7	5,123.1	8.58	597.783	
1,396.4	1,393.9	2,107.5	2,070.4	3.1	6.6	-143.71	1,863.5	-4,689.1	5,129.9	5,120.8	9.13	562.108	
1,400.0	1,397.5	2,109.4	2,072.1	3.1	6.6	-143.71	1,863.9	-4,688.7	5,129.9	5,120.8	9.14	561.041	
1,500.0	1,495.6	2,187.6	2,146.8	3.4	7.0	-143.55	1,879.8	-4,671.5	5,131.8	5,122.0	9.77	525.510	
1,500.1	1,495.7	2,187.7	2,146.9	3.4	7.0	-143.55	1,879.8	-4,671.5	5,131.8	5,122.0	9.77	525.467	
1,600.0	1,593.4	2,310.0	2,263.6	3.8	7.7	-143.35	1,904.5	-4,644.6	5,135.0	5,124.4	10.67	481.348	
1,700.0	1,691.3	2,439.6	2,387.2	4.1	8.4	-143.14	1,930.4	-4,615.5	5,137.8	5,126.2	11.64	441.435	
1,800.0	1,789.1	2,559.2	2,500.9	4.5	9.1	-142.94	1,954.5	-4,587.4	5,139.7	5,127.1	12.59	408.305	
1,900.0	1,886.9	2,604.0	2,543.4	4.9	9.4	-142.86	1,964.0	-4,576.9	5,142.2	5,129.1	13.14	391.197	
2,000.0	1,984.7	2,675.4	2,611.1	5.3	9.8	-142.72	1,979.7	-4,560.5	5,145.4	5,131.6	13.86	371.355	
2,100.0	2,082.5	2,758.3	2,689.9	5.7	10.3	-142.57	1,998.0	-4,542.2	5,149.5	5,134.8	14.62	352.223	
2,200.0	2,180.3	2,996.7	2,917.4	6.2	11.6	-142.20	2,044.0	-4,488.1	5,151.7	5,135.5	16.20	317.937	
2,300.0	2,278.1	3,072.0	2,989.4	6.6	12.1	-142.09	2,057.8	-4,470.6	5,153.5	5,136.5	16.91	304.685	
2,400.0	2,375.9	3,154.1	3,068.0	7.0	12.5	-141.97	2,072.6	-4,452.0	5,155.6	5,138.0	17.65	292.037	
2,500.0	2,473.8	3,375.1	3,279.1	7.5	13.8	-141.66	2,112.3	-4,400.5	5,157.7	5,138.6	19.16	269.233	
2,563.6	2,536.0	3,441.5	3,342.4	7.7	14.2	-141.55	2,124.2	-4,383.8	5,157.7	5,138.0	19.74	261.331	
2,600.0	2,571.6	3,447.0	3,347.6	7.9	14.2	-141.55	2,125.2	-4,382.4	5,157.8	5,137.9	19.89	259.349	
2,700.0	2,669.4	3,495.5	3,393.8	8.3	14.5	-141.47	2,133.9	-4,370.6	5,158.7	5,138.2	20.48	251.877	
2,800.0	2,767.2	3,540.0	3,436.3	8.8	14.7	-141.41	2,142.1	-4,360.5	5,160.9	5,139.8	21.05	245.118	
2,900.0	2,865.0	3,613.8	3,507.1	9.2	15.1	-141.30	2,155.7	-4,344.2	5,163.9	5,142.1	21.77	237.152	
3,000.0	2,962.8	3,705.8	3,595.2	9.7	15.6	-141.17	2,172.5	-4,324.1	5,167.1	5,144.6	22.59	228.753	
3,100.0	3,060.6	3,773.6	3,660.2	10.1	16.0	-141.08	2,184.9	-4,309.5	5,170.7	5,147.4	23.28	222.099	
3,200.0	3,158.5	3,836.5	3,720.5	10.6	16.4	-140.99	2,197.0	-4,296.2	5,175.1	5,151.1	23.96	216.018	
3,300.0	3,256.3	3,915.0	3,795.6	11.0	16.8	-140.87	2,212.9	-4,279.8	5,180.0	5,155.3	24.73	209.431	
3,400.0	3,354.1	3,975.0	3,853.0	11.5	17.1	-140.77	2,225.5	-4,267.5	5,185.5	5,160.1	25.41	204.051	
3,500.0	3,451.9	4,054.6	3,929.2	11.9	17.6	-140.64	2,242.2	-4,251.6	5,191.7	5,165.5	26.19	198.216	
3,600.0	3,549.7	4,295.4	4,161.2	12.4	18.8	-140.34	2,285.8	-4,204.1	5,197.5	5,169.8	27.75	187.278	
3,700.0	3,647.5	4,420.3	4,281.0	12.8	19.5	-140.17	2,308.1	-4,176.7	5,200.7	5,171.9	28.76	180.811	
3,800.0	3,745.3	4,476.0	4,334.4	13.3	19.8	-140.09	2,318.0	-4,164.5	5,204.1	5,174.7	29.41	176.966	
3,900.0	3,843.2	4,547.2	4,402.9	13.7	20.2	-140.00	2,330.5	-4,149.6	5,208.2	5,178.1	30.12	172.941	
4,000.0	3,941.0	4,570.0	4,424.8	14.2	20.3	-139.98	2,334.5	-4,145.0	5,213.4	5,182.8	30.58	170.487	
4,100.0	4,038.8	4,663.0	4,515.1	14.6	20.8	-139.89	2,349.4	-4,128.2	5,219.5	5,188.2	31.36	166.448	
4,200.0	4,136.6	4,663.0	4,515.1	15.1	20.8	-139.89	2,349.4	-4,128.2	5,226.7	5,194.9	31.71	164.836	
4,300.0	4,234.4	4,720.7	4,571.5	15.5	21.0	-139.85	2,357.8	-4,119.4	5,234.9	5,202.6	32.29	162.105	
4,325.2	4,259.1	4,757.0	4,607.1	15.6	21.1	-139.83	2,362.9	-4,114.4	5,237.4	5,204.8	32.53	161.007	
4,400.0	4,332.4	4,757.0	4,607.1	15.9	21.1	-139.91	2,362.9	-4,114.4	5,243.6	5,210.9	32.78	159.966	
4,500.0	4,431.0	4,817.2	4,666.2	16.2	21.4	-139.95	2,371.1	-4,106.9	5,250.7	5,217.4	33.28	157.768	
4,600.0	4,530.2	4,880.4	4,728.5	16.5	21.6	-139.96	2,379.5	-4,099.8	5,256.0	5,222.2	33.75	155.715	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 546-MWD — **Offset Well Error:** 0.0 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
4,700.0	4,629.7	4,970.4	4,817.3	16.7	21.9	-139.91	2,390.6	-4,090.5	5,259.0	5,224.8	34.27	153.454	
4,800.0	4,729.5	5,067.9	4,914.0	16.9	22.2	-139.83	2,399.2	-4,081.8	5,259.4	5,224.6	34.73	151.433	
4,900.0	4,829.5	5,131.0	4,976.8	17.0	22.3	-139.76	2,403.5	-4,077.2	5,257.5	5,222.5	35.03	150.096	
4,925.3	4,854.8	5,149.2	4,994.9	17.1	22.4	-65.05	2,404.5	-4,076.0	5,256.7	5,227.2	29.54	177.966	
5,000.0	4,929.5	5,195.0	5,040.6	17.2	22.5	-65.01	2,407.1	-4,073.3	5,254.4	5,224.7	29.72	176.789	
5,100.0	5,029.5	5,263.8	5,109.2	17.3	22.6	-64.96	2,410.4	-4,069.8	5,251.9	5,221.9	29.99	175.118	
5,200.0	5,129.5	5,319.0	5,164.3	17.4	22.7	-64.93	2,412.8	-4,067.5	5,250.0	5,219.8	30.24	173.628	
5,300.0	5,229.5	5,374.2	5,219.4	17.6	22.8	-64.90	2,414.8	-4,065.8	5,248.9	5,218.4	30.48	172.232	
5,353.3	5,282.8	5,412.0	5,257.2	17.6	22.9	-64.89	2,415.6	-4,065.4	5,248.8	5,218.2	30.62	171.428	
5,400.0	5,329.5	5,412.0	5,257.2	17.7	22.9	-64.89	2,415.6	-4,065.4	5,249.0	5,218.3	30.69	171.021	
5,500.0	5,429.5	5,506.0	5,351.2	17.9	23.0	-64.88	2,417.1	-4,065.5	5,249.7	5,218.7	30.98	169.449	
5,600.0	5,529.5	5,581.0	5,426.2	18.0	23.0	-64.87	2,418.1	-4,066.0	5,250.8	5,219.6	31.24	168.062	
5,700.0	5,629.5	5,684.1	5,529.3	18.1	23.2	-64.86	2,419.5	-4,066.8	5,252.1	5,220.6	31.55	166.495	
5,800.0	5,729.5	5,818.3	5,663.5	18.3	23.3	-64.85	2,420.7	-4,067.5	5,252.9	5,221.0	31.90	164.689	
5,900.0	5,829.5	5,927.5	5,772.7	18.4	23.4	-64.85	2,421.2	-4,067.8	5,253.4	5,221.2	32.22	163.049	
6,000.0	5,929.5	6,041.1	5,886.3	18.6	23.5	-64.85	2,421.2	-4,068.2	5,253.7	5,221.1	32.56	161.378	
6,100.0	6,029.5	6,148.6	5,993.8	18.7	23.6	-64.85	2,421.1	-4,068.2	5,253.7	5,220.8	32.88	159.762	
6,200.0	6,129.5	6,278.6	6,123.8	18.9	23.8	-64.85	2,421.3	-4,067.7	5,253.4	5,220.1	33.26	157.968	
6,300.0	6,229.5	6,376.2	6,221.4	19.1	23.9	-64.84	2,421.5	-4,066.9	5,252.8	5,219.2	33.58	156.418	
6,400.0	6,329.5	6,468.9	6,314.1	19.2	24.0	-64.83	2,421.9	-4,066.3	5,252.4	5,218.5	33.90	154.929	
6,500.0	6,429.5	6,564.2	6,409.4	19.4	24.1	-64.82	2,422.6	-4,065.5	5,251.9	5,217.7	34.23	153.442	
6,550.3	6,479.8	6,601.2	6,446.4	19.5	24.2	-64.82	2,422.9	-4,065.3	5,251.8	5,217.5	34.37	152.784	
6,600.0	6,529.4	6,660.0	6,505.1	19.5	24.2	25.26	2,423.6	-4,065.0	5,250.3	5,210.5	39.76	132.039	
6,650.0	6,579.2	6,747.5	6,592.6	19.5	24.4	25.48	2,424.4	-4,063.9	5,245.2	5,205.5	39.71	132.100	
6,700.0	6,628.4	6,795.8	6,641.0	19.5	24.4	25.82	2,424.9	-4,063.2	5,236.9	5,197.4	39.49	132.606	
6,750.0	6,676.9	6,847.3	6,692.5	19.5	24.5	26.30	2,425.3	-4,062.4	5,225.5	5,186.3	39.19	133.331	
6,800.0	6,724.5	6,900.6	6,745.7	19.4	24.6	26.94	2,425.8	-4,061.6	5,211.1	5,172.3	38.82	134.243	
6,850.0	6,770.8	6,939.1	6,784.2	19.4	24.6	27.70	2,426.1	-4,061.0	5,193.7	5,155.3	38.36	135.400	
6,900.0	6,815.8	6,973.8	6,819.0	19.3	24.7	28.63	2,426.4	-4,060.5	5,173.6	5,135.7	37.85	136.686	
6,950.0	6,859.1	7,003.0	6,848.1	19.2	24.7	29.72	2,426.8	-4,060.1	5,150.8	5,113.5	37.31	138.038	
7,000.0	6,900.5	7,035.4	6,880.5	19.1	24.8	31.03	2,427.3	-4,059.7	5,125.4	5,088.6	36.80	139.279	
7,050.0	6,939.9	7,062.5	6,907.6	19.1	24.8	32.56	2,427.7	-4,059.4	5,097.7	5,061.4	36.32	140.346	
7,100.0	6,977.1	7,096.0	6,941.1	19.0	24.8	34.40	2,428.3	-4,059.2	5,067.7	5,031.8	35.95	140.948	
7,150.0	7,011.8	7,114.7	6,959.8	19.0	24.9	36.47	2,428.6	-4,059.1	5,035.6	4,999.9	35.68	141.132	
7,200.0	7,044.0	7,140.4	6,985.5	19.1	24.9	38.95	2,429.1	-4,058.9	5,001.4	4,965.8	35.61	140.440	
7,250.0	7,073.4	7,163.9	7,009.0	19.1	24.9	41.85	2,429.6	-4,058.8	4,965.5	4,929.7	35.77	138.806	
7,300.0	7,099.9	7,190.0	7,035.1	19.3	25.0	45.27	2,430.1	-4,058.7	4,927.9	4,891.6	36.22	136.046	
7,350.0	7,123.4	7,205.1	7,050.2	19.5	25.0	49.14	2,430.4	-4,058.7	4,888.8	4,851.9	36.92	132.420	
7,400.0	7,143.7	7,222.8	7,067.9	19.8	25.0	53.68	2,430.8	-4,058.7	4,848.4	4,810.5	37.92	127.850	
7,450.0	7,160.9	7,237.8	7,082.8	20.2	25.0	58.86	2,431.0	-4,058.7	4,807.0	4,767.8	39.16	122.743	
7,500.0	7,174.7	7,249.9	7,095.0	20.7	25.1	64.69	2,431.2	-4,058.7	4,764.6	4,724.1	40.55	117.510	
7,550.0	7,185.1	7,259.2	7,104.3	21.2	25.1	71.12	2,431.4	-4,058.7	4,721.7	4,679.7	41.94	112.591	
7,600.0	7,192.1	7,265.5	7,110.6	21.8	25.1	78.02	2,431.5	-4,058.7	4,678.2	4,635.1	43.17	108.361	
7,650.0	7,195.6	7,268.7	7,113.8	22.5	25.1	85.19	2,431.5	-4,058.8	4,634.6	4,590.5	44.11	105.060	
7,680.0	7,196.0	7,269.2	7,114.3	22.9	25.1	89.51	2,431.5	-4,058.8	4,608.4	4,563.9	44.50	103.556	
7,700.0	7,195.9	7,269.1	7,114.2	23.3	25.1	89.51	2,431.5	-4,058.8	4,590.9	4,546.1	44.80	102.467	
7,800.0	7,195.2	7,268.8	7,113.9	24.9	25.1	89.50	2,431.5	-4,058.8	4,503.9	4,457.5	46.45	96.960	
7,900.0	7,194.6	7,268.5	7,113.6	26.7	25.1	89.50	2,431.5	-4,058.7	4,417.5	4,369.2	48.29	91.473	
8,000.0	7,193.9	7,268.2	7,113.3	28.7	25.1	89.49	2,431.5	-4,058.7	4,331.6	4,281.3	50.29	86.131	
8,100.0	7,193.3	7,267.9	7,113.0	30.9	25.1	89.48	2,431.5	-4,058.7	4,246.4	4,194.0	52.42	81.014	
8,200.0	7,192.6	7,267.6	7,112.7	33.1	25.1	89.47	2,431.5	-4,058.7	4,161.8	4,107.2	54.64	76.164	
8,300.0	7,192.0	7,267.3	7,112.3	35.4	25.1	89.47	2,431.5	-4,058.7	4,078.0	4,021.0	56.95	71.603	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 546-MWD — **Offset Well Error:** 0.0 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
8,400.0	7,191.3	7,266.9	7,112.0	37.8	25.1	89.46	2,431.5	-4,058.7	3,994.8	3,935.5	59.33	67.333	
8,500.0	7,190.7	7,266.6	7,111.7	40.2	25.1	89.45	2,431.5	-4,058.7	3,912.5	3,850.7	61.76	63.347	
8,600.0	7,190.0	7,266.3	7,111.4	42.7	25.1	89.44	2,431.5	-4,058.7	3,831.0	3,766.7	64.24	59.634	
8,700.0	7,189.4	7,265.9	7,111.0	45.2	25.1	89.43	2,431.5	-4,058.7	3,750.4	3,683.6	66.76	56.178	
8,800.0	7,188.7	7,265.6	7,110.7	47.8	25.1	89.42	2,431.5	-4,058.7	3,670.7	3,601.4	69.31	52.962	
8,900.0	7,188.0	7,265.2	7,110.3	50.3	25.1	89.42	2,431.5	-4,058.7	3,592.1	3,520.2	71.89	49.969	
9,000.0	7,187.4	7,264.9	7,110.0	52.9	25.1	89.41	2,431.5	-4,058.7	3,514.5	3,440.1	74.49	47.183	
9,100.0	7,186.7	7,264.5	7,109.6	55.6	25.1	89.40	2,431.5	-4,058.7	3,438.2	3,361.1	77.11	44.589	
9,200.0	7,186.1	7,264.2	7,109.2	58.2	25.1	89.39	2,431.4	-4,058.7	3,363.0	3,283.3	79.75	42.171	
9,300.0	7,185.4	7,263.8	7,108.9	60.9	25.1	89.38	2,431.4	-4,058.7	3,289.2	3,206.8	82.40	39.917	
9,400.0	7,184.8	7,263.4	7,108.5	63.5	25.1	89.37	2,431.4	-4,058.7	3,216.8	3,131.7	85.07	37.814	
9,500.0	7,184.1	7,263.0	7,108.1	66.2	25.1	89.36	2,431.4	-4,058.7	3,145.9	3,058.1	87.75	35.852	
9,600.0	7,183.5	7,262.6	7,107.7	68.9	25.1	89.35	2,431.4	-4,058.7	3,076.6	2,986.2	90.44	34.020	
9,700.0	7,182.8	7,262.2	7,107.3	71.6	25.1	89.34	2,431.4	-4,058.7	3,009.0	2,915.9	93.13	32.309	
9,800.0	7,182.2	7,261.8	7,106.9	74.3	25.1	89.33	2,431.4	-4,058.7	2,943.3	2,847.5	95.84	30.711	
9,900.0	7,181.5	7,261.4	7,106.5	77.0	25.1	89.32	2,431.4	-4,058.7	2,879.6	2,781.0	98.55	29.219	
10,000.0	7,180.8	7,261.0	7,106.1	79.7	25.1	89.31	2,431.4	-4,058.7	2,818.0	2,716.7	101.27	27.826	
10,100.0	7,180.2	7,260.6	7,105.6	82.5	25.1	89.30	2,431.4	-4,058.7	2,758.6	2,654.6	104.00	26.525	
10,200.0	7,179.5	7,260.1	7,105.2	85.2	25.1	89.29	2,431.4	-4,058.7	2,701.6	2,594.9	106.73	25.313	
10,300.0	7,178.9	7,259.7	7,104.8	87.9	25.1	89.28	2,431.4	-4,058.7	2,647.2	2,537.7	109.47	24.183	
10,400.0	7,178.2	7,259.2	7,104.3	90.7	25.1	89.26	2,431.4	-4,058.7	2,595.5	2,483.3	112.21	23.131	
10,500.0	7,177.6	7,258.8	7,103.9	93.4	25.1	89.25	2,431.4	-4,058.7	2,546.6	2,431.7	114.95	22.154	
10,600.0	7,176.9	7,258.3	7,103.4	96.2	25.1	89.24	2,431.4	-4,058.7	2,500.9	2,383.2	117.70	21.248	
10,700.0	7,176.2	7,257.9	7,102.9	98.9	25.1	89.23	2,431.4	-4,058.7	2,458.3	2,337.8	120.45	20.409	
10,800.0	7,175.6	7,257.4	7,102.5	101.7	25.1	89.22	2,431.3	-4,058.7	2,419.1	2,295.9	123.20	19.635	
10,900.0	7,174.9	7,256.9	7,102.0	104.4	25.1	89.20	2,431.3	-4,058.7	2,383.5	2,257.5	125.96	18.922	
11,000.0	7,174.3	7,256.4	7,101.5	107.2	25.1	89.19	2,431.3	-4,058.7	2,351.6	2,222.8	128.72	18.269	
11,100.0	7,173.6	7,255.9	7,101.0	109.9	25.1	89.18	2,431.3	-4,058.7	2,323.5	2,192.0	131.48	17.672	
11,200.0	7,172.9	7,255.4	7,100.5	112.7	25.1	89.17	2,431.3	-4,058.7	2,299.5	2,165.2	134.25	17.129	
11,300.0	7,172.3	7,254.9	7,099.9	115.5	25.1	89.15	2,431.3	-4,058.7	2,279.6	2,142.6	137.01	16.638	
11,400.0	7,171.6	7,254.3	7,099.4	118.3	25.1	89.14	2,431.3	-4,058.7	2,263.9	2,124.2	139.78	16.196	
11,500.0	7,171.0	7,253.8	7,098.9	121.0	25.1	89.13	2,431.3	-4,058.7	2,252.6	2,110.1	142.55	15.802	
11,600.0	7,170.3	7,253.2	7,098.3	123.8	25.1	89.11	2,431.3	-4,058.7	2,245.7	2,100.4	145.33	15.453	
11,700.0	7,169.6	7,252.7	7,097.7	126.6	25.1	89.10	2,431.3	-4,058.7	2,243.2	2,095.1	148.10	15.147	
11,705.6	7,169.6	7,252.6	7,097.7	126.7	25.1	89.10	2,431.3	-4,058.7	2,243.2	2,095.0	148.25	15.131	CC
11,797.6	7,169.0	7,252.1	7,097.2	129.3	25.1	89.08	2,431.3	-4,058.7	2,245.1	2,094.3	150.81	14.887	ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 542-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-71.74	1,638.0	-4,963.8	5,227.2				
100.0	100.0	53.9	53.9	0.1	0.0	-71.74	1,638.1	-4,963.8	5,227.1	5,227.0	0.15	N/A	
200.0	200.0	138.8	138.8	0.3	0.1	-71.74	1,638.2	-4,964.0	5,227.4	5,227.0	0.45	N/A	
300.0	300.0	223.7	223.7	0.5	0.2	-71.73	1,638.6	-4,964.5	5,228.1	5,227.3	0.75	6,995.161	
400.0	400.0	308.6	308.6	0.8	0.3	-71.73	1,639.0	-4,965.1	5,229.0	5,227.9	1.05	4,988.104	
500.0	500.0	393.5	393.5	1.0	0.4	-71.73	1,639.6	-4,966.0	5,230.2	5,228.8	1.35	3,876.527	
600.0	600.0	2,319.0	2,276.4	1.2	7.2	-72.49	1,483.7	-4,704.0	5,221.4	5,212.9	8.45	618.244	
700.0	700.0	2,694.0	2,625.3	1.4	9.8	-72.95	1,407.6	-4,590.1	5,186.4	5,175.1	11.29	459.424	
800.0	800.0	2,736.4	2,664.3	1.7	10.1	-73.00	1,398.7	-4,576.2	5,148.9	5,137.1	11.81	436.159	
900.0	900.0	2,788.0	2,712.2	1.9	10.5	-73.06	1,388.5	-4,560.0	5,112.6	5,100.2	12.38	412.815	
1,000.0	1,000.0	2,813.8	2,736.3	2.1	10.7	-148.16	1,383.5	-4,552.0	5,078.6	5,069.9	8.67	586.063	
1,100.0	1,099.8	2,881.0	2,799.0	2.3	11.1	-148.60	1,370.4	-4,531.9	5,048.3	5,039.2	9.13	552.953	
1,200.0	1,199.5	2,965.7	2,878.3	2.5	11.7	-149.04	1,354.3	-4,506.8	5,021.3	5,011.6	9.66	519.665	
1,300.0	1,298.7	3,053.8	2,960.8	2.8	12.2	-149.45	1,338.7	-4,480.2	4,997.2	4,987.0	10.21	489.571	
1,400.0	1,397.5	3,101.1	3,005.2	3.1	12.5	-149.75	1,330.9	-4,466.0	4,976.5	4,965.9	10.61	469.229	
1,500.0	1,495.6	3,161.0	3,061.8	3.4	12.9	-150.03	1,321.8	-4,448.6	4,960.1	4,949.1	11.05	448.996	
1,500.1	1,495.7	3,161.0	3,061.8	3.4	12.9	-150.03	1,321.8	-4,448.6	4,960.1	4,949.1	11.05	448.985	
1,600.0	1,593.4	3,214.0	3,112.1	3.8	13.3	-150.14	1,313.9	-4,433.5	4,946.0	4,934.6	11.48	430.692	
1,700.0	1,691.3	3,287.1	3,181.3	4.1	13.7	-150.29	1,302.7	-4,413.0	4,932.3	4,920.3	12.00	411.090	
1,800.0	1,789.1	3,349.0	3,240.1	4.5	14.1	-150.43	1,293.2	-4,396.1	4,919.5	4,907.0	12.48	394.072	
1,900.0	1,886.9	3,430.2	3,317.4	4.9	14.6	-150.60	1,281.2	-4,374.3	4,907.2	4,894.2	13.04	376.449	
2,000.0	1,984.7	3,487.8	3,372.3	5.3	14.9	-150.71	1,272.8	-4,359.0	4,895.4	4,881.9	13.51	362.255	
2,100.0	2,082.5	3,548.9	3,430.6	5.7	15.3	-150.85	1,263.8	-4,343.4	4,884.6	4,870.6	14.01	348.684	
2,200.0	2,180.3	3,629.0	3,507.1	6.2	15.7	-151.02	1,251.6	-4,322.9	4,873.9	4,859.3	14.58	334.367	
2,300.0	2,278.1	3,694.7	3,569.9	6.6	16.1	-151.16	1,241.8	-4,306.5	4,863.8	4,848.7	15.09	322.225	
2,400.0	2,375.9	3,876.6	3,744.0	7.0	17.2	-151.57	1,214.0	-4,261.3	4,853.9	4,837.9	16.02	302.901	
2,500.0	2,473.8	3,972.6	3,835.4	7.5	17.7	-151.80	1,197.8	-4,236.9	4,842.9	4,826.2	16.67	290.438	
2,600.0	2,571.6	4,078.7	3,936.4	7.9	18.4	-152.07	1,179.4	-4,210.0	4,832.0	4,814.7	17.37	278.171	
2,700.0	2,669.4	4,130.4	3,985.6	8.3	18.7	-152.20	1,170.5	-4,197.1	4,821.4	4,803.6	17.86	269.930	
2,800.0	2,767.2	4,191.0	4,043.6	8.8	19.1	-152.34	1,160.6	-4,182.6	4,812.2	4,793.8	18.38	261.759	
2,900.0	2,865.0	4,214.4	4,066.1	9.2	19.2	-152.40	1,157.0	-4,177.2	4,804.0	4,785.2	18.77	255.981	
3,000.0	2,962.8	4,284.0	4,133.2	9.7	19.5	-152.56	1,146.3	-4,161.9	4,797.1	4,777.8	19.31	248.458	
3,100.0	3,060.6	4,284.0	4,133.2	10.1	19.5	-152.56	1,146.3	-4,161.9	4,791.2	4,771.6	19.61	244.301	
3,200.0	3,158.5	4,378.0	4,224.2	10.6	20.0	-152.78	1,132.9	-4,142.7	4,786.4	4,766.2	20.22	236.671	
3,300.0	3,256.3	4,402.0	4,247.5	11.0	20.1	-152.83	1,129.8	-4,138.1	4,782.7	4,762.1	20.60	232.146	
3,400.0	3,354.1	4,471.0	4,314.8	11.5	20.4	-152.97	1,121.6	-4,125.2	4,780.2	4,759.1	21.12	226.364	
3,500.0	3,451.9	4,518.0	4,360.8	11.9	20.6	-153.06	1,116.6	-4,116.7	4,778.5	4,757.0	21.56	221.657	
3,600.0	3,549.7	4,565.0	4,406.8	12.4	20.8	-153.15	1,111.7	-4,108.4	4,777.6	4,755.6	22.00	217.176	
3,628.0	3,577.1	4,565.0	4,406.8	12.5	20.8	-153.15	1,111.7	-4,108.4	4,777.7	4,755.6	22.08	216.334	
3,700.0	3,647.5	4,613.5	4,454.4	12.8	21.0	-153.24	1,107.0	-4,100.2	4,777.9	4,755.4	22.44	212.952	
3,800.0	3,745.3	4,658.0	4,498.2	13.3	21.2	-153.32	1,103.2	-4,093.4	4,779.5	4,756.6	22.86	209.052	
3,900.0	3,843.2	4,689.3	4,529.0	13.7	21.3	-153.38	1,100.7	-4,088.9	4,782.4	4,759.1	23.25	205.716	
4,000.0	3,941.0	4,752.0	4,591.0	14.2	21.5	-153.48	1,096.0	-4,080.8	4,786.7	4,763.0	23.71	201.879	
4,100.0	4,038.8	4,752.0	4,591.0	14.6	21.5	-153.48	1,096.0	-4,080.8	4,792.1	4,768.1	24.02	199.525	
4,200.0	4,136.6	4,806.8	4,645.3	15.1	21.6	-153.57	1,092.1	-4,074.8	4,798.8	4,774.3	24.45	196.240	
4,300.0	4,234.4	4,845.0	4,683.3	15.5	21.7	-153.64	1,089.6	-4,071.1	4,806.8	4,781.9	24.85	193.428	
4,325.2	4,259.1	4,845.0	4,683.3	15.6	21.7	-153.64	1,089.6	-4,071.1	4,809.0	4,784.1	24.93	192.918	
4,400.0	4,332.4	4,879.6	4,717.7	15.9	21.8	-153.75	1,087.3	-4,068.2	4,815.2	4,790.0	25.23	190.829	
4,500.0	4,431.0	4,939.0	4,776.9	16.2	22.0	-153.89	1,083.6	-4,064.3	4,822.2	4,796.6	25.61	188.287	
4,600.0	4,530.2	4,939.0	4,776.9	16.5	22.0	-153.94	1,083.6	-4,064.3	4,827.1	4,801.3	25.81	186.999	
4,700.0	4,629.7	5,032.0	4,869.6	16.7	22.1	-154.05	1,079.0	-4,059.8	4,830.0	4,803.8	26.16	184.623	
4,800.0	4,729.5	5,069.9	4,907.4	16.9	22.2	-154.08	1,077.9	-4,058.2	4,830.5	4,804.2	26.34	183.372	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 542-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	5,126.0	4,963.5	17.0	22.3	-154.08	1,076.9	-4,056.1	4,828.9	4,802.4	26.51	182.146	
4,925.3	4,854.8	5,126.0	4,963.5	17.1	22.3	-79.39	1,076.9	-4,056.1	4,828.2	4,790.7	37.46	128.894	
5,000.0	4,929.5	5,160.3	4,997.8	17.2	22.3	-79.39	1,076.6	-4,055.1	4,826.2	4,788.6	37.60	128.365	
5,100.0	5,029.5	5,220.0	5,057.5	17.3	22.4	-79.39	1,076.8	-4,054.5	4,824.8	4,787.0	37.81	127.598	
5,169.7	5,099.2	5,220.0	5,057.5	17.4	22.4	-79.39	1,076.8	-4,054.5	4,824.4	4,786.5	37.91	127.247	
5,200.0	5,129.5	5,249.0	5,086.6	17.4	22.4	-79.38	1,077.0	-4,054.5	4,824.4	4,786.4	37.99	127.008	
5,300.0	5,229.5	5,335.3	5,172.8	17.6	22.5	-79.37	1,077.9	-4,054.5	4,824.7	4,786.5	38.21	126.257	
5,400.0	5,329.5	5,408.1	5,245.6	17.7	22.6	-79.37	1,078.4	-4,054.9	4,825.4	4,786.9	38.43	125.572	
5,500.0	5,429.5	5,543.8	5,381.3	17.9	22.7	-79.37	1,078.5	-4,055.7	4,825.9	4,787.2	38.70	124.691	
5,600.0	5,529.5	5,674.1	5,511.6	18.0	22.8	-79.37	1,078.5	-4,055.6	4,825.9	4,786.9	38.99	123.776	
5,700.0	5,629.5	5,772.0	5,609.5	18.1	22.9	-79.38	1,077.7	-4,055.4	4,825.5	4,786.2	39.25	122.944	
5,800.0	5,729.5	5,855.6	5,693.1	18.3	23.0	-79.39	1,076.8	-4,055.4	4,825.3	4,785.8	39.50	122.175	
5,800.8	5,730.3	5,856.3	5,693.8	18.3	23.0	-79.39	1,076.8	-4,055.4	4,825.3	4,785.8	39.50	122.169	
5,900.0	5,829.5	5,937.9	5,775.4	18.4	23.1	-79.40	1,076.2	-4,055.7	4,825.5	4,785.8	39.74	121.432	
6,000.0	5,929.5	6,043.1	5,880.6	18.6	23.2	-79.40	1,075.6	-4,056.2	4,825.9	4,785.9	40.01	120.630	
6,100.0	6,029.5	6,192.1	6,029.6	18.7	23.4	-79.42	1,074.2	-4,055.8	4,825.3	4,785.0	40.34	119.623	
6,200.0	6,129.5	6,265.7	6,103.1	18.9	23.5	-79.43	1,073.6	-4,055.5	4,824.8	4,784.3	40.59	118.879	
6,245.6	6,175.1	6,301.1	6,138.6	19.0	23.5	-79.43	1,073.3	-4,055.5	4,824.8	4,784.1	40.70	118.543	
6,300.0	6,229.5	6,342.0	6,179.5	19.1	23.5	-79.43	1,073.1	-4,055.6	4,824.9	4,784.0	40.84	118.154	
6,400.0	6,329.5	6,410.9	6,248.3	19.2	23.6	-79.44	1,072.8	-4,056.1	4,825.5	4,784.4	41.07	117.489	
6,500.0	6,429.5	6,503.0	6,340.5	19.4	23.7	-79.45	1,072.3	-4,057.2	4,826.6	4,785.2	41.33	116.780	
6,550.3	6,479.8	6,547.4	6,384.9	19.5	23.8	-79.45	1,072.1	-4,057.7	4,827.1	4,785.6	41.46	116.434	
6,600.0	6,529.4	6,582.6	6,420.1	19.5	23.8	10.56	1,071.9	-4,058.3	4,826.1	4,794.5	31.55	152.974	
6,650.0	6,579.2	6,623.0	6,460.4	19.5	23.8	10.63	1,071.6	-4,059.0	4,821.8	4,790.5	31.26	154.247	
6,700.0	6,628.4	6,654.4	6,491.9	19.5	23.9	10.75	1,071.3	-4,059.7	4,814.2	4,783.4	30.83	156.180	
6,750.0	6,676.9	6,690.7	6,528.2	19.5	23.9	10.94	1,071.1	-4,060.6	4,803.5	4,773.2	30.27	158.682	
6,800.0	6,724.5	6,729.9	6,567.3	19.4	23.9	11.19	1,071.0	-4,061.6	4,789.5	4,759.9	29.60	161.793	
6,850.0	6,770.8	6,776.5	6,613.9	19.4	24.0	11.51	1,070.7	-4,062.8	4,772.3	4,743.4	28.84	165.486	
6,900.0	6,815.8	6,810.0	6,647.4	19.3	24.0	11.91	1,070.4	-4,063.7	4,751.9	4,723.9	27.96	169.977	
6,950.0	6,859.1	6,848.9	6,686.3	19.2	24.0	12.40	1,070.0	-4,064.9	4,728.5	4,701.5	27.01	175.092	
7,000.0	6,900.5	6,878.4	6,715.8	19.1	24.1	12.98	1,069.8	-4,065.8	4,702.4	4,676.4	25.98	180.974	
7,050.0	6,939.9	6,908.8	6,746.1	19.1	24.1	13.70	1,069.5	-4,066.9	4,673.5	4,648.5	24.93	187.426	
7,100.0	6,977.1	6,951.0	6,788.3	19.0	24.1	14.59	1,069.3	-4,068.4	4,641.9	4,618.0	23.92	194.060	
7,150.0	7,011.8	6,990.6	6,827.8	19.0	24.2	15.69	1,069.1	-4,069.7	4,607.7	4,584.8	22.97	200.626	
7,200.0	7,044.0	7,019.6	6,856.9	19.1	24.2	17.00	1,069.0	-4,070.7	4,571.2	4,549.1	22.13	206.544	
7,250.0	7,073.4	7,045.0	6,882.2	19.1	24.2	18.61	1,068.9	-4,071.6	4,532.6	4,511.1	21.52	210.583	
7,300.0	7,099.9	7,068.1	6,905.3	19.3	24.2	20.62	1,068.8	-4,072.4	4,492.0	4,470.7	21.28	211.134	
7,350.0	7,123.4	7,091.0	6,928.2	19.5	24.2	23.19	1,068.7	-4,073.3	4,449.6	4,428.0	21.56	206.384	
7,400.0	7,143.7	7,108.9	6,946.1	19.8	24.3	26.48	1,068.6	-4,073.9	4,405.6	4,383.0	22.55	195.377	
7,450.0	7,160.9	7,126.3	6,963.5	20.2	24.3	30.85	1,068.5	-4,074.6	4,360.2	4,335.8	24.47	178.161	
7,500.0	7,174.7	7,140.8	6,978.0	20.7	24.3	36.76	1,068.4	-4,075.2	4,313.7	4,286.2	27.52	156.745	
7,550.0	7,185.1	7,152.2	6,989.4	21.2	24.3	44.90	1,068.3	-4,075.6	4,266.3	4,234.5	31.82	134.088	
7,600.0	7,192.1	7,160.5	6,997.6	21.8	24.3	56.16	1,068.2	-4,076.0	4,218.2	4,181.0	37.17	113.492	
7,650.0	7,195.6	7,165.6	7,002.7	22.5	24.3	71.15	1,068.2	-4,076.2	4,169.6	4,127.1	42.45	98.223	
7,680.0	7,196.0	7,167.1	7,004.3	22.9	24.3	81.66	1,068.2	-4,076.2	4,140.3	4,095.7	44.63	92.760	
7,700.0	7,195.9	7,167.7	7,004.9	23.3	24.3	81.70	1,068.2	-4,076.3	4,120.8	4,075.8	44.94	91.698	
7,800.0	7,195.2	7,170.9	7,008.0	24.9	24.3	81.90	1,068.1	-4,076.4	4,023.2	3,976.6	46.59	86.346	
7,900.0	7,194.6	7,174.0	7,011.2	26.7	24.3	82.11	1,068.1	-4,076.5	3,925.7	3,877.3	48.44	81.040	
8,000.0	7,193.9	7,177.2	7,014.4	28.7	24.3	82.31	1,068.1	-4,076.6	3,828.4	3,777.9	50.45	75.890	
8,100.0	7,193.3	7,180.4	7,017.6	30.9	24.3	82.51	1,068.0	-4,076.8	3,731.2	3,678.6	52.58	70.965	
8,200.0	7,192.6	7,184.0	7,021.1	33.1	24.3	82.74	1,068.0	-4,076.9	3,634.1	3,579.3	54.81	66.299	
8,300.0	7,192.0	7,184.0	7,021.1	35.4	24.3	82.74	1,068.0	-4,076.9	3,537.2	3,480.1	57.11	61.941	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 542-MWD — **Offset Well Error:** 0.0 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
8,400.0	7,191.3	7,184.0	7,021.1	37.8	24.3	82.74	1,068.0	-4,076.9	3,440.5	3,381.1	59.47	57.858	
8,500.0	7,190.7	7,184.0	7,021.1	40.2	24.3	82.75	1,068.0	-4,076.9	3,344.0	3,282.1	61.88	54.041	
8,600.0	7,190.0	7,194.9	7,032.0	42.7	24.3	83.44	1,067.9	-4,077.4	3,247.7	3,183.2	64.43	50.403	
8,700.0	7,189.4	7,197.8	7,034.9	45.2	24.3	83.63	1,067.9	-4,077.5	3,151.6	3,084.6	66.96	47.066	
8,800.0	7,188.7	7,200.7	7,037.8	47.8	24.3	83.82	1,067.8	-4,077.6	3,055.7	2,986.2	69.52	43.954	
8,900.0	7,188.0	7,203.7	7,040.8	50.3	24.3	84.01	1,067.8	-4,077.7	2,960.1	2,888.0	72.11	41.050	
9,000.0	7,187.4	7,206.7	7,043.8	52.9	24.3	84.21	1,067.8	-4,077.9	2,864.9	2,790.1	74.73	38.339	
9,100.0	7,186.7	7,209.8	7,046.9	55.6	24.3	84.41	1,067.7	-4,078.0	2,769.9	2,692.5	77.36	35.805	
9,200.0	7,186.1	7,213.0	7,050.1	58.2	24.3	84.61	1,067.7	-4,078.1	2,675.3	2,595.3	80.02	33.435	
9,300.0	7,185.4	7,216.1	7,053.2	60.9	24.3	84.81	1,067.7	-4,078.3	2,581.1	2,498.5	82.69	31.216	
9,400.0	7,184.8	7,219.4	7,056.5	63.5	24.3	85.02	1,067.6	-4,078.4	2,487.4	2,402.0	85.37	29.136	
9,500.0	7,184.1	7,222.7	7,059.8	66.2	24.3	85.24	1,067.6	-4,078.6	2,394.2	2,306.1	88.07	27.185	
9,600.0	7,183.5	7,226.0	7,063.1	68.9	24.3	85.45	1,067.5	-4,078.7	2,301.5	2,210.7	90.78	25.353	
9,700.0	7,182.8	7,229.4	7,066.5	71.6	24.4	85.67	1,067.5	-4,078.9	2,209.5	2,116.0	93.50	23.631	
9,800.0	7,182.2	7,232.9	7,069.9	74.3	24.4	85.90	1,067.5	-4,079.0	2,118.1	2,021.9	96.23	22.012	
9,900.0	7,181.5	7,236.4	7,073.5	77.0	24.4	86.12	1,067.4	-4,079.2	2,027.6	1,928.7	98.96	20.489	
10,000.0	7,180.8	7,239.9	7,077.0	79.7	24.4	86.36	1,067.4	-4,079.3	1,938.1	1,836.4	101.71	19.056	
10,100.0	7,180.2	7,243.6	7,080.7	82.5	24.4	86.59	1,067.3	-4,079.5	1,849.5	1,745.1	104.46	17.707	
10,200.0	7,179.5	7,247.3	7,084.3	85.2	24.4	86.83	1,067.3	-4,079.7	1,762.2	1,655.0	107.21	16.437	
10,300.0	7,178.9	7,251.0	7,088.1	87.9	24.4	87.08	1,067.2	-4,079.9	1,676.3	1,566.4	109.97	15.244	
10,400.0	7,178.2	7,254.9	7,091.9	90.7	24.4	87.33	1,067.1	-4,080.0	1,592.1	1,479.4	112.73	14.123	
10,500.0	7,177.6	7,258.8	7,095.8	93.4	24.4	87.58	1,067.1	-4,080.2	1,509.8	1,394.3	115.50	13.071	
10,600.0	7,176.9	7,262.7	7,099.8	96.2	24.4	87.84	1,067.0	-4,080.4	1,429.7	1,311.4	118.27	12.088	
10,700.0	7,176.2	7,266.8	7,103.8	98.9	24.4	88.10	1,067.0	-4,080.6	1,352.2	1,231.2	121.04	11.171	
10,800.0	7,175.6	7,270.9	7,107.9	101.7	24.4	88.37	1,066.9	-4,080.8	1,277.9	1,154.1	123.82	10.321	
10,900.0	7,174.9	7,275.1	7,112.1	104.4	24.4	88.64	1,066.8	-4,081.0	1,207.2	1,080.6	126.59	9.536	
11,000.0	7,174.3	7,279.5	7,116.5	107.2	24.4	88.93	1,066.8	-4,081.2	1,141.0	1,011.6	129.37	8.820	
11,100.0	7,173.6	7,284.3	7,121.3	109.9	24.4	89.24	1,066.7	-4,081.5	1,079.9	947.8	132.15	8.172	
11,200.0	7,172.9	7,289.1	7,126.1	112.7	24.4	89.55	1,066.6	-4,081.7	1,025.0	890.0	134.92	7.597	
11,300.0	7,172.3	7,294.0	7,131.0	115.5	24.4	89.87	1,066.5	-4,082.0	977.2	839.5	137.70	7.096	
11,400.0	7,171.6	7,298.9	7,135.9	118.3	24.4	90.20	1,066.4	-4,082.2	937.6	797.1	140.47	6.675	
11,500.0	7,171.0	7,304.0	7,141.0	121.0	24.4	90.52	1,066.3	-4,082.5	907.4	764.1	143.25	6.334	
11,600.0	7,170.3	7,309.0	7,146.0	123.8	24.4	90.85	1,066.2	-4,082.7	887.4	741.4	146.01	6.078	
11,700.0	7,169.6	7,314.2	7,151.2	126.6	24.4	91.19	1,066.1	-4,083.0	878.4	729.6	148.78	5.904	
11,729.6	7,169.4	7,315.7	7,152.7	127.4	24.4	91.29	1,066.0	-4,083.1	877.9	728.3	149.60	5.869	CC, ES
11,797.6	7,169.0	7,319.3	7,156.2	129.3	24.4	91.52	1,066.0	-4,083.3	880.5	729.1	151.47	5.813	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 705-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-45.41	1,956.0	-1,984.5	2,786.5				
100.0	100.0	89.9	89.9	0.1	0.1	-45.42	1,955.9	-1,984.5	2,786.4	2,786.2	0.18	N/A	
200.0	200.0	195.1	195.1	0.3	0.2	-45.42	1,955.6	-1,984.5	2,786.2	2,785.7	0.50	5,562.491	
300.0	300.0	300.2	300.2	0.5	0.3	-45.43	1,955.0	-1,984.4	2,785.7	2,784.9	0.82	3,388.579	
400.0	400.0	405.3	405.3	0.8	0.4	-45.44	1,954.2	-1,984.3	2,785.1	2,784.0	1.14	2,436.028	
500.0	500.0	510.5	510.5	1.0	0.5	-45.45	1,953.2	-1,984.2	2,784.3	2,782.8	1.46	1,901.197	
600.0	600.0	615.6	615.6	1.2	0.6	-45.47	1,951.8	-1,984.0	2,783.3	2,781.5	1.79	1,558.672	
700.0	700.0	705.0	705.0	1.4	0.6	-45.48	1,950.5	-1,983.8	2,782.2	2,780.1	2.09	1,329.632	
773.0	773.0	757.5	757.4	1.6	0.8	-45.50	1,949.7	-1,984.2	2,781.8	2,779.4	2.37	1,174.651	
800.0	800.0	773.6	773.5	1.7	0.8	-45.51	1,949.4	-1,984.5	2,781.9	2,779.4	2.46	1,129.291	
900.0	900.0	841.9	841.8	1.9	0.9	-45.57	1,948.0	-1,987.0	2,782.9	2,780.1	2.84	980.989	
1,000.0	1,000.0	919.7	919.4	2.1	1.1	-120.33	1,945.3	-1,991.8	2,785.8	2,782.6	3.23	861.709	
1,100.0	1,099.8	1,093.2	1,091.8	2.3	1.6	-120.82	1,933.6	-2,007.2	2,790.6	2,786.7	3.92	712.470	
1,200.0	1,199.5	1,222.8	1,219.8	2.5	2.0	-121.37	1,918.2	-2,020.6	2,794.5	2,789.9	4.57	612.106	
1,300.0	1,298.7	1,317.3	1,312.6	2.8	2.4	-121.84	1,904.5	-2,031.6	2,799.5	2,794.4	5.15	543.548	
1,400.0	1,397.5	1,391.8	1,385.5	3.1	2.7	-122.21	1,893.0	-2,041.6	2,807.4	2,801.7	5.70	492.303	
1,500.0	1,495.6	1,474.5	1,466.2	3.4	3.0	-122.66	1,879.5	-2,053.9	2,818.0	2,811.7	6.34	444.195	
1,500.1	1,495.7	1,474.6	1,466.3	3.4	3.0	-122.67	1,879.5	-2,053.9	2,818.0	2,811.7	6.34	444.142	
1,600.0	1,593.4	1,565.1	1,553.7	3.8	3.5	-123.44	1,862.3	-2,069.6	2,830.2	2,823.1	7.10	398.711	
1,700.0	1,691.3	1,641.0	1,626.7	4.1	3.9	-124.12	1,846.9	-2,083.8	2,843.2	2,835.4	7.83	363.301	
1,800.0	1,789.1	1,696.1	1,679.5	4.5	4.2	-124.62	1,835.7	-2,094.7	2,857.7	2,849.2	8.46	337.801	
1,900.0	1,886.9	1,760.2	1,740.8	4.9	4.5	-125.20	1,822.8	-2,108.4	2,873.8	2,864.7	9.15	313.952	
2,000.0	1,984.7	1,907.0	1,880.7	5.3	5.4	-126.55	1,791.7	-2,140.1	2,890.6	2,880.3	10.29	280.942	
2,100.0	2,082.5	1,991.0	1,960.9	5.7	5.8	-127.32	1,773.0	-2,157.2	2,906.6	2,895.5	11.09	262.108	
2,200.0	2,180.3	2,060.0	2,026.4	6.2	6.2	-127.95	1,757.4	-2,172.0	2,923.6	2,911.8	11.81	247.501	
2,300.0	2,278.1	2,149.7	2,111.8	6.6	6.7	-128.76	1,738.0	-2,191.2	2,941.9	2,929.3	12.62	233.111	
2,400.0	2,375.9	2,258.6	2,215.8	7.0	7.2	-129.71	1,714.4	-2,213.4	2,960.1	2,946.6	13.49	219.466	
2,500.0	2,473.8	2,335.1	2,289.0	7.5	7.6	-130.37	1,698.2	-2,228.8	2,978.9	2,964.7	14.21	209.572	
2,600.0	2,571.6	2,426.4	2,376.3	7.9	8.1	-131.14	1,679.1	-2,247.5	2,998.8	2,983.8	15.02	199.694	
2,700.0	2,669.4	2,551.7	2,496.5	8.3	8.8	-132.17	1,653.2	-2,271.3	3,018.1	3,002.2	15.98	188.858	
2,800.0	2,767.2	2,664.0	2,603.6	8.8	9.4	-133.12	1,627.5	-2,293.1	3,037.5	3,020.6	16.92	179.491	
2,900.0	2,865.0	2,763.0	2,697.9	9.2	10.0	-133.96	1,604.1	-2,312.0	3,056.9	3,039.1	17.77	171.981	
3,000.0	2,962.8	2,844.1	2,775.3	9.7	10.4	-134.63	1,585.3	-2,327.2	3,076.8	3,058.3	18.51	166.255	
3,100.0	3,060.6	2,906.6	2,835.1	10.1	10.8	-135.13	1,571.2	-2,339.1	3,097.8	3,078.6	19.16	161.695	
3,200.0	3,158.5	3,043.0	2,965.4	10.6	11.5	-136.22	1,540.7	-2,365.3	3,119.8	3,099.6	20.15	154.807	
3,300.0	3,256.3	3,102.1	3,022.2	11.0	11.8	-136.68	1,527.8	-2,375.9	3,141.3	3,120.5	20.77	151.274	
3,400.0	3,354.1	3,165.3	3,082.8	11.5	12.2	-137.15	1,514.8	-2,387.6	3,164.2	3,142.8	21.40	147.862	
3,500.0	3,451.9	3,230.0	3,144.9	11.9	12.5	-137.64	1,501.3	-2,400.0	3,188.1	3,166.1	22.04	144.627	
3,600.0	3,549.7	3,300.8	3,212.7	12.4	12.9	-138.17	1,486.7	-2,414.1	3,213.1	3,190.4	22.71	141.477	
3,700.0	3,647.5	3,394.1	3,302.3	12.8	13.4	-138.84	1,468.3	-2,432.7	3,239.0	3,215.5	23.46	138.058	
3,800.0	3,745.3	3,473.8	3,378.8	13.3	13.8	-139.41	1,453.0	-2,448.4	3,265.2	3,241.0	24.13	135.313	
3,900.0	3,843.2	3,565.7	3,467.7	13.7	14.3	-140.01	1,437.3	-2,465.9	3,292.0	3,267.2	24.84	132.546	
4,000.0	3,941.0	3,660.4	3,559.0	14.2	14.8	-140.64	1,419.8	-2,484.2	3,319.0	3,293.4	25.56	129.875	
4,100.0	4,038.8	3,727.2	3,623.3	14.6	15.1	-141.09	1,407.4	-2,497.3	3,346.5	3,320.3	26.17	127.890	
4,200.0	4,136.6	3,792.0	3,685.6	15.1	15.5	-141.52	1,395.5	-2,510.7	3,375.4	3,348.6	26.77	126.092	
4,300.0	4,234.4	3,865.3	3,755.9	15.5	15.9	-142.00	1,381.9	-2,526.4	3,405.1	3,377.7	27.41	124.219	
4,325.2	4,259.1	3,893.7	3,783.1	15.6	16.0	-142.19	1,376.4	-2,532.5	3,412.7	3,385.1	27.61	123.583	
4,400.0	4,332.4	4,014.4	3,898.5	15.9	16.7	-143.26	1,351.7	-2,557.5	3,433.7	3,405.4	28.34	121.143	
4,500.0	4,431.0	4,118.9	3,998.4	16.2	17.3	-144.22	1,329.5	-2,578.5	3,459.0	3,430.0	29.03	119.155	
4,600.0	4,530.2	4,226.5	4,101.6	16.5	17.9	-145.09	1,307.3	-2,599.5	3,481.7	3,452.0	29.68	117.305	
4,700.0	4,629.7	4,308.9	4,180.7	16.7	18.3	-145.74	1,290.6	-2,615.3	3,501.5	3,471.3	30.21	115.904	
4,800.0	4,729.5	4,396.0	4,264.1	16.9	18.8	-146.37	1,272.2	-2,632.7	3,519.3	3,488.6	30.74	114.482	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 705-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,486.2	4,350.3	17.0	19.3	-146.95	1,253.0	-2,650.6	3,534.3	3,503.0	31.27	113.040	
4,925.3	4,854.8	4,502.8	4,366.2	17.1	19.4	-72.38	1,249.4	-2,654.0	3,537.7	3,509.2	28.51	124.108	
5,000.0	4,929.5	4,555.7	4,416.6	17.2	19.7	-72.62	1,237.6	-2,665.0	3,548.0	3,519.2	28.85	122.995	
5,100.0	5,029.5	4,755.9	4,607.9	17.3	20.8	-73.49	1,194.1	-2,704.9	3,561.6	3,531.7	29.89	119.156	
5,200.0	5,129.5	4,842.8	4,691.0	17.4	21.3	-73.86	1,174.4	-2,720.8	3,573.2	3,542.8	30.42	117.467	
5,300.0	5,229.5	4,917.5	4,762.3	17.6	21.8	-74.19	1,157.1	-2,734.9	3,585.4	3,554.5	30.90	116.020	
5,400.0	5,329.5	5,097.1	4,935.3	17.7	22.7	-74.90	1,120.4	-2,766.4	3,597.4	3,565.6	31.81	113.086	
5,500.0	5,429.5	5,344.9	5,179.0	17.9	23.6	-75.52	1,087.5	-2,795.4	3,604.8	3,572.0	32.77	110.011	
5,600.0	5,529.5	5,594.8	5,427.3	18.0	24.2	-75.92	1,065.9	-2,812.3	3,609.2	3,575.6	33.54	107.609	
5,700.0	5,629.5	5,773.2	5,605.4	18.1	24.5	-76.08	1,056.9	-2,816.8	3,610.2	3,576.2	34.02	106.118	
5,800.0	5,729.5	5,866.3	5,698.5	18.3	24.7	-76.12	1,054.6	-2,817.7	3,610.6	3,576.3	34.32	105.199	
5,900.0	5,829.5	5,960.9	5,793.1	18.4	24.8	-76.14	1,053.2	-2,818.6	3,611.1	3,576.5	34.62	104.301	
6,000.0	5,929.5	6,050.1	5,882.3	18.6	24.9	-76.16	1,052.3	-2,819.5	3,611.9	3,577.0	34.92	103.442	
6,100.0	6,029.5	6,135.8	5,968.0	18.7	25.0	-76.17	1,051.7	-2,820.6	3,613.0	3,577.8	35.21	102.612	
6,200.0	6,129.5	6,245.1	6,077.3	18.9	25.1	-76.19	1,051.0	-2,822.0	3,614.1	3,578.6	35.54	101.682	
6,300.0	6,229.5	6,333.8	6,165.9	19.1	25.2	-76.20	1,050.5	-2,823.2	3,615.3	3,579.5	35.85	100.856	
6,400.0	6,329.5	6,422.5	6,254.7	19.2	25.3	-76.21	1,050.2	-2,824.7	3,616.8	3,580.7	36.15	100.039	
6,500.0	6,429.5	6,505.0	6,337.1	19.4	25.4	-76.22	1,050.1	-2,826.3	3,618.7	3,582.2	36.46	99.261	
6,550.3	6,479.8	6,550.2	6,382.3	19.5	25.5	-76.22	1,050.1	-2,827.3	3,619.8	3,583.1	36.62	98.854	
6,600.0	6,529.4	6,598.0	6,430.1	19.5	25.5	13.79	1,050.1	-2,828.5	3,619.3	3,579.9	39.35	91.985	
6,650.0	6,579.2	6,636.4	6,468.5	19.5	25.6	13.88	1,050.2	-2,829.5	3,615.5	3,576.3	39.25	92.123	
6,700.0	6,628.4	6,682.2	6,514.2	19.5	25.7	14.04	1,050.5	-2,830.7	3,608.5	3,569.4	39.02	92.478	
6,750.0	6,676.9	6,731.1	6,563.2	19.5	25.7	14.30	1,051.0	-2,832.0	3,598.1	3,559.4	38.66	93.063	
6,800.0	6,724.5	6,780.3	6,612.3	19.4	25.8	14.65	1,051.5	-2,833.2	3,584.4	3,546.2	38.18	93.877	
6,850.0	6,770.8	6,832.3	6,664.3	19.4	25.8	15.11	1,052.1	-2,834.5	3,567.5	3,529.9	37.59	94.900	
6,900.0	6,815.8	6,889.4	6,721.4	19.3	25.9	15.70	1,052.4	-2,835.9	3,547.4	3,510.5	36.91	96.107	
6,950.0	6,859.1	6,989.9	6,821.9	19.2	26.0	16.53	1,051.7	-2,837.5	3,523.7	3,487.5	36.23	97.252	
7,000.0	6,900.5	7,046.8	6,878.8	19.1	26.1	17.43	1,050.6	-2,838.0	3,496.8	3,461.4	35.42	98.712	
7,050.0	6,939.9	7,096.3	6,928.3	19.1	26.2	18.51	1,049.3	-2,838.4	3,467.0	3,432.5	34.57	100.289	
7,100.0	6,977.1	7,140.5	6,972.4	19.0	26.2	19.82	1,048.1	-2,838.6	3,434.6	3,400.9	33.71	101.879	
7,150.0	7,011.8	7,174.9	7,006.9	19.0	26.3	21.37	1,047.3	-2,838.7	3,399.7	3,366.8	32.88	103.386	
7,200.0	7,044.0	7,201.3	7,033.2	19.1	26.3	23.23	1,046.7	-2,838.8	3,362.6	3,330.5	32.14	104.614	
7,250.0	7,073.4	7,225.5	7,057.4	19.1	26.4	25.51	1,046.1	-2,838.9	3,323.5	3,291.9	31.58	105.231	
7,300.0	7,099.9	7,253.0	7,084.9	19.3	26.4	28.39	1,045.5	-2,839.1	3,282.6	3,251.3	31.33	104.778	
7,350.0	7,123.4	7,267.8	7,099.7	19.5	26.4	31.85	1,045.2	-2,839.3	3,240.1	3,208.7	31.42	103.119	
7,400.0	7,143.7	7,285.8	7,117.7	19.8	26.5	36.31	1,044.9	-2,839.4	3,196.2	3,164.1	32.08	99.620	
7,450.0	7,160.9	7,301.1	7,133.0	20.2	26.5	41.99	1,044.6	-2,839.6	3,151.0	3,117.6	33.43	94.260	
7,500.0	7,174.7	7,313.5	7,145.4	20.7	26.5	49.25	1,044.3	-2,839.7	3,104.9	3,069.3	35.55	87.348	
7,550.0	7,185.1	7,323.0	7,154.9	21.2	26.5	58.40	1,044.2	-2,839.8	3,057.9	3,019.6	38.35	79.744	
7,600.0	7,192.1	7,329.6	7,161.5	21.8	26.5	69.55	1,044.0	-2,839.9	3,010.5	2,969.1	41.39	72.735	
7,650.0	7,195.6	7,333.1	7,165.0	22.5	26.5	82.25	1,044.0	-2,839.9	2,962.7	2,918.9	43.85	67.568	
7,680.0	7,196.0	7,333.8	7,165.7	22.9	26.5	90.16	1,044.0	-2,839.9	2,934.0	2,889.3	44.69	65.649	
7,700.0	7,195.9	7,333.9	7,165.7	23.3	26.5	90.17	1,044.0	-2,839.9	2,914.9	2,869.9	45.00	64.783	
7,800.0	7,195.2	7,334.3	7,166.2	24.9	26.5	90.20	1,044.0	-2,839.9	2,819.5	2,772.8	46.64	60.447	
7,900.0	7,194.6	7,334.7	7,166.6	26.7	26.5	90.22	1,044.0	-2,839.9	2,724.4	2,675.9	48.49	56.188	
8,000.0	7,193.9	7,335.1	7,167.0	28.7	26.5	90.25	1,043.9	-2,839.9	2,629.6	2,579.1	50.49	52.085	
8,100.0	7,193.3	7,335.5	7,167.4	30.9	26.5	90.28	1,043.9	-2,839.9	2,535.2	2,482.6	52.61	48.187	
8,200.0	7,192.6	7,335.9	7,167.8	33.1	26.5	90.31	1,043.9	-2,839.9	2,441.3	2,386.5	54.84	44.517	
8,300.0	7,192.0	7,336.3	7,168.2	35.4	26.5	90.34	1,043.9	-2,839.9	2,348.0	2,290.8	57.15	41.083	
8,400.0	7,191.3	7,336.7	7,168.6	37.8	26.5	90.36	1,043.9	-2,839.9	2,255.1	2,195.6	59.53	37.882	
8,500.0	7,190.7	7,337.2	7,169.1	40.2	26.5	90.39	1,043.9	-2,840.0	2,162.9	2,101.0	61.96	34.906	
8,600.0	7,190.0	7,337.6	7,169.5	42.7	26.5	90.42	1,043.9	-2,840.0	2,071.5	2,007.0	64.45	32.143	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 705-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,338.0	7,169.9	45.2	26.5	90.45	1,043.9	-2,840.0	1,980.8	1,913.9	66.96	29.581	
8,800.0	7,188.7	7,338.5	7,170.4	47.8	26.5	90.48	1,043.9	-2,840.0	1,891.1	1,821.6	69.52	27.205	
8,900.0	7,188.0	7,338.9	7,170.8	50.3	26.5	90.51	1,043.9	-2,840.0	1,802.5	1,730.4	72.09	25.002	
9,000.0	7,187.4	7,339.3	7,171.2	52.9	26.5	90.54	1,043.9	-2,840.0	1,715.2	1,640.5	74.70	22.962	
9,100.0	7,186.7	7,339.8	7,171.7	55.6	26.5	90.57	1,043.9	-2,840.0	1,629.3	1,551.9	77.32	21.072	
9,200.0	7,186.1	7,340.2	7,172.1	58.2	26.5	90.60	1,043.9	-2,840.0	1,545.0	1,465.1	79.96	19.323	
9,300.0	7,185.4	7,340.7	7,172.6	60.9	26.5	90.63	1,043.8	-2,840.0	1,462.8	1,380.2	82.61	17.707	
9,400.0	7,184.8	7,341.1	7,173.0	63.5	26.5	90.66	1,043.8	-2,840.0	1,383.0	1,297.7	85.28	16.216	
9,500.0	7,184.1	7,341.6	7,173.5	66.2	26.5	90.69	1,043.8	-2,840.0	1,305.9	1,217.9	87.96	14.846	
9,600.0	7,183.5	7,342.0	7,173.9	68.9	26.5	90.72	1,043.8	-2,840.0	1,232.0	1,141.4	90.65	13.591	
9,700.0	7,182.8	7,342.5	7,174.4	71.6	26.5	90.75	1,043.8	-2,840.0	1,162.2	1,068.8	93.35	12.450	
9,800.0	7,182.2	7,342.9	7,174.8	74.3	26.5	90.78	1,043.8	-2,840.0	1,097.0	1,000.9	96.06	11.420	
9,900.0	7,181.5	7,343.4	7,175.3	77.0	26.5	90.81	1,043.8	-2,840.0	1,037.3	938.5	98.77	10.502	
10,000.0	7,180.8	7,343.9	7,175.8	79.7	26.5	90.84	1,043.8	-2,840.0	984.2	882.7	101.49	9.698	
10,100.0	7,180.2	7,344.3	7,176.2	82.5	26.5	90.88	1,043.8	-2,840.0	938.8	834.6	104.22	9.008	
10,200.0	7,179.5	7,344.8	7,176.7	85.2	26.5	90.91	1,043.8	-2,840.0	902.3	795.3	106.95	8.436	
10,300.0	7,178.9	7,347.0	7,178.9	87.9	26.5	91.05	1,043.7	-2,840.1	875.7	766.0	109.69	7.983	
10,400.0	7,178.2	7,347.0	7,178.9	90.7	26.5	91.05	1,043.7	-2,840.1	859.9	747.5	112.43	7.649	
10,486.6	7,177.6	7,347.0	7,178.9	93.0	26.5	91.05	1,043.7	-2,840.1	855.6	740.8	114.80	7.452	CC
10,500.0	7,177.6	7,347.0	7,178.9	93.4	26.5	91.05	1,043.7	-2,840.1	855.7	740.5	115.17	7.429	ES
10,600.0	7,176.9	7,347.0	7,178.9	96.2	26.5	91.05	1,043.7	-2,840.1	863.0	745.1	117.92	7.319	
10,700.0	7,176.2	7,347.0	7,178.9	98.9	26.5	91.05	1,043.7	-2,840.1	881.8	761.1	120.67	7.307	SF
10,800.0	7,175.6	7,347.0	7,178.9	101.7	26.5	91.05	1,043.7	-2,840.1	911.2	787.7	123.43	7.382	
10,900.0	7,174.9	7,347.0	7,178.9	104.4	26.5	91.05	1,043.7	-2,840.1	950.2	824.0	126.19	7.530	
11,000.0	7,174.3	7,347.0	7,178.9	107.2	26.5	91.05	1,043.7	-2,840.1	997.8	868.9	128.95	7.738	
11,100.0	7,173.6	7,347.0	7,178.9	109.9	26.5	91.05	1,043.7	-2,840.1	1,052.8	921.0	131.71	7.993	
11,200.0	7,172.9	7,347.0	7,178.9	112.7	26.5	91.05	1,043.7	-2,840.1	1,114.0	979.5	134.47	8.284	
11,300.0	7,172.3	7,347.0	7,178.9	115.5	26.5	91.05	1,043.7	-2,840.1	1,180.5	1,043.3	137.24	8.602	
11,400.0	7,171.6	7,347.0	7,178.9	118.3	26.5	91.05	1,043.7	-2,840.1	1,251.5	1,111.5	140.01	8.939	
11,500.0	7,171.0	7,347.0	7,178.9	121.0	26.5	91.05	1,043.7	-2,840.1	1,326.3	1,183.5	142.78	9.289	
11,600.0	7,170.3	7,347.0	7,178.9	123.8	26.5	91.05	1,043.7	-2,840.1	1,404.2	1,258.6	145.55	9.647	
11,700.0	7,169.6	7,347.0	7,178.9	126.6	26.5	91.05	1,043.7	-2,840.1	1,484.7	1,336.4	148.33	10.010	
11,797.6	7,169.0	7,347.0	7,178.9	129.3	26.5	91.05	1,043.7	-2,840.1	1,565.5	1,414.4	151.03	10.365	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-68.51	2,534.6	-6,436.3	6,917.4				
100.0	100.0	62.5	62.5	0.1	0.0	-68.51	2,534.6	-6,436.3	6,917.3	6,917.2	0.10	N/A	
200.0	200.0	162.5	162.5	0.3	0.7	-68.51	2,534.6	-6,436.3	6,917.3	6,916.3	1.05	6,613.738	
300.0	300.0	262.5	262.5	0.5	2.6	-68.51	2,534.6	-6,436.3	6,917.3	6,914.2	3.14	2,201.828	
400.0	400.0	362.5	362.5	0.8	4.8	-68.51	2,534.6	-6,436.3	6,917.3	6,911.8	5.53	1,251.384	
500.0	500.0	462.5	462.5	1.0	6.8	-68.51	2,534.6	-6,436.3	6,917.3	6,909.5	7.81	885.859	
600.0	600.0	562.5	562.5	1.2	8.8	-68.51	2,534.6	-6,436.3	6,917.3	6,907.3	10.07	687.098	
700.0	700.0	662.5	662.5	1.4	10.9	-68.51	2,534.6	-6,436.3	6,917.3	6,905.0	12.32	561.591	
800.0	800.0	762.5	762.5	1.7	12.9	-68.51	2,534.6	-6,436.3	6,917.3	6,902.8	14.56	475.001	
900.0	900.0	862.5	862.5	1.9	14.9	-68.51	2,534.6	-6,436.3	6,917.3	6,900.5	16.81	411.612	
1,000.0	1,000.0	962.5	962.5	2.1	16.9	-143.18	2,534.6	-6,436.3	6,918.7	6,899.7	19.03	363.588	
1,100.0	1,099.8	1,062.3	1,062.3	2.3	18.9	-143.15	2,534.6	-6,436.3	6,922.9	6,901.7	21.23	326.168	
1,200.0	1,199.5	1,162.0	1,162.0	2.5	20.9	-143.11	2,534.6	-6,436.3	6,929.9	6,906.5	23.40	296.158	
1,300.0	1,298.7	1,261.2	1,261.2	2.8	22.9	-143.06	2,534.6	-6,436.3	6,939.7	6,914.1	25.55	271.627	
1,400.0	1,397.5	1,360.0	1,360.0	3.1	24.9	-142.98	2,534.6	-6,436.3	6,952.2	6,924.6	27.67	251.251	
1,500.0	1,495.6	1,458.1	1,458.1	3.4	26.9	-142.89	2,534.6	-6,436.3	6,967.6	6,937.8	29.76	234.094	
1,500.1	1,495.7	1,458.2	1,458.2	3.4	26.9	-142.89	2,534.6	-6,436.3	6,967.6	6,937.8	29.77	234.077	
1,600.0	1,593.4	1,555.9	1,555.9	3.8	28.9	-142.99	2,534.6	-6,436.3	6,984.3	6,952.3	31.98	218.405	
1,700.0	1,691.3	1,653.8	1,653.8	4.1	30.8	-143.09	2,534.6	-6,436.3	7,001.0	6,966.8	34.20	204.684	
1,800.0	1,789.1	1,751.6	1,751.6	4.5	32.8	-143.19	2,534.6	-6,436.3	7,017.8	6,981.4	36.44	192.596	
1,900.0	1,886.9	1,849.4	1,849.4	4.9	34.8	-143.29	2,534.6	-6,436.3	7,034.6	6,995.9	38.68	181.876	
2,000.0	1,984.7	1,947.2	1,947.2	5.3	36.7	-143.39	2,534.6	-6,436.3	7,051.4	7,010.5	40.92	172.308	
2,100.0	2,082.5	2,045.0	2,045.0	5.7	38.7	-143.49	2,534.6	-6,436.3	7,068.2	7,025.1	43.17	163.722	
2,200.0	2,180.3	2,142.8	2,142.8	6.2	40.7	-143.59	2,534.6	-6,436.3	7,085.1	7,039.7	45.42	155.976	
2,300.0	2,278.1	2,240.6	2,240.6	6.6	42.7	-143.69	2,534.6	-6,436.3	7,102.0	7,054.3	47.68	148.954	
2,400.0	2,375.9	2,338.4	2,338.4	7.0	44.6	-143.79	2,534.6	-6,436.3	7,118.9	7,068.9	49.94	142.561	
2,500.0	2,473.8	2,436.3	2,436.3	7.5	46.6	-143.89	2,534.6	-6,436.3	7,135.8	7,083.6	52.19	136.718	
2,600.0	2,571.6	2,534.1	2,534.1	7.9	48.6	-143.98	2,534.6	-6,436.3	7,152.7	7,098.3	54.45	131.357	
2,700.0	2,669.4	2,631.9	2,631.9	8.3	50.5	-144.08	2,534.6	-6,436.3	7,169.7	7,113.0	56.71	126.421	
2,800.0	2,767.2	2,729.7	2,729.7	8.8	52.5	-144.18	2,534.6	-6,436.3	7,186.6	7,127.7	58.97	121.862	
2,900.0	2,865.0	2,827.5	2,827.5	9.2	54.5	-144.27	2,534.6	-6,436.3	7,203.6	7,142.4	61.23	117.640	
3,000.0	2,962.8	2,925.3	2,925.3	9.7	56.4	-144.37	2,534.6	-6,436.3	7,220.7	7,157.2	63.50	113.717	
3,100.0	3,060.6	3,023.1	3,023.1	10.1	58.4	-144.47	2,534.6	-6,436.3	7,237.7	7,171.9	65.76	110.065	
3,200.0	3,158.5	3,121.0	3,121.0	10.6	60.4	-144.56	2,534.6	-6,436.3	7,254.8	7,186.7	68.02	106.656	
3,300.0	3,256.3	3,218.8	3,218.8	11.0	62.3	-144.65	2,534.6	-6,436.3	7,271.8	7,201.5	70.28	103.466	
3,400.0	3,354.1	3,316.6	3,316.6	11.5	64.3	-144.75	2,534.6	-6,436.3	7,288.9	7,216.4	72.54	100.475	
3,500.0	3,451.9	3,414.4	3,414.4	11.9	66.3	-144.84	2,534.6	-6,436.3	7,306.0	7,231.2	74.81	97.666	
3,600.0	3,549.7	3,512.2	3,512.2	12.4	68.2	-144.93	2,534.6	-6,436.3	7,323.2	7,246.1	77.07	95.022	
3,700.0	3,647.5	3,610.0	3,610.0	12.8	70.2	-145.03	2,534.6	-6,436.3	7,340.3	7,261.0	79.33	92.530	
3,800.0	3,745.3	3,707.8	3,707.8	13.3	72.2	-145.12	2,534.6	-6,436.3	7,357.5	7,275.9	81.59	90.176	
3,900.0	3,843.2	3,805.7	3,805.7	13.7	74.1	-145.21	2,534.6	-6,436.3	7,374.7	7,290.8	83.85	87.949	
4,000.0	3,941.0	3,903.5	3,903.5	14.2	76.1	-145.30	2,534.6	-6,436.3	7,391.9	7,305.8	86.11	85.840	
4,100.0	4,038.8	4,001.3	4,001.3	14.6	78.1	-145.39	2,534.6	-6,436.3	7,409.1	7,320.8	88.37	83.839	
4,200.0	4,136.6	4,099.1	4,099.1	15.1	80.0	-145.48	2,534.6	-6,436.3	7,426.4	7,335.7	90.63	81.939	
4,300.0	4,234.4	4,196.9	4,196.9	15.5	82.0	-145.57	2,534.6	-6,436.3	7,443.6	7,350.7	92.89	80.132	
4,325.2	4,259.1	4,221.6	4,221.6	15.6	82.5	-145.60	2,534.6	-6,436.3	7,448.0	7,354.5	93.46	79.690	
4,400.0	4,332.4	4,294.9	4,294.9	15.9	84.0	-145.80	2,534.6	-6,436.3	7,460.1	7,364.7	95.41	78.192	
4,500.0	4,431.0	4,393.5	4,393.5	16.2	86.0	-146.02	2,534.6	-6,436.3	7,473.9	7,375.9	97.93	76.316	
4,600.0	4,530.2	4,492.7	4,492.7	16.5	87.9	-146.20	2,534.6	-6,436.3	7,484.7	7,384.3	100.39	74.557	
4,700.0	4,629.7	4,592.2	4,592.2	16.7	89.9	-146.33	2,534.6	-6,436.3	7,492.7	7,389.9	102.77	72.908	
4,800.0	4,729.5	4,692.0	4,692.0	16.9	92.0	-146.41	2,534.6	-6,436.3	7,497.8	7,392.8	105.06	71.365	
4,900.0	4,829.5	4,792.0	4,792.0	17.0	94.0	-146.45	2,534.6	-6,436.3	7,500.0	7,392.7	107.26	69.922	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,817.3	4,817.3	17.1	94.5	-71.77	2,534.6	-6,436.3	7,500.1	7,389.9	110.15	68.091	
5,000.0	4,929.5	4,892.0	4,892.0	17.2	96.0	-71.77	2,534.6	-6,436.3	7,500.1	7,388.3	111.75	67.114	
5,100.0	5,029.5	4,992.0	4,992.0	17.3	98.0	-71.77	2,534.6	-6,436.3	7,500.1	7,386.2	113.91	65.843	
5,200.0	5,129.5	5,092.0	5,092.0	17.4	100.0	-71.77	2,534.6	-6,436.3	7,500.1	7,384.0	116.07	64.617	
5,300.0	5,229.5	5,192.0	5,192.0	17.6	102.0	-71.77	2,534.6	-6,436.3	7,500.1	7,381.9	118.23	63.436	
5,400.0	5,329.5	5,292.0	5,292.0	17.7	104.0	-71.77	2,534.6	-6,436.3	7,500.1	7,379.7	120.40	62.296	
5,500.0	5,429.5	5,392.0	5,392.0	17.9	106.0	-71.77	2,534.6	-6,436.3	7,500.1	7,377.5	122.56	61.195	
5,600.0	5,529.5	5,492.0	5,492.0	18.0	108.0	-71.77	2,534.6	-6,436.3	7,500.1	7,375.4	124.73	60.132	
5,700.0	5,629.5	5,592.0	5,592.0	18.1	110.1	-71.77	2,534.6	-6,436.3	7,500.1	7,373.2	126.90	59.104	
5,800.0	5,729.5	5,692.0	5,692.0	18.3	112.1	-71.77	2,534.6	-6,436.3	7,500.1	7,371.0	129.07	58.111	
5,900.0	5,829.5	5,792.0	5,792.0	18.4	114.1	-71.77	2,534.6	-6,436.3	7,500.1	7,368.9	131.24	57.149	
6,000.0	5,929.5	5,892.0	5,892.0	18.6	116.1	-71.77	2,534.6	-6,436.3	7,500.1	7,366.7	133.41	56.218	
6,100.0	6,029.5	5,992.0	5,992.0	18.7	118.1	-71.77	2,534.6	-6,436.3	7,500.1	7,364.5	135.58	55.317	
6,200.0	6,129.5	6,092.0	6,092.0	18.9	120.1	-71.77	2,534.6	-6,436.3	7,500.1	7,362.3	137.76	54.443	
6,300.0	6,229.5	6,192.0	6,192.0	19.1	122.1	-71.77	2,534.6	-6,436.3	7,500.1	7,360.2	139.94	53.596	
6,400.0	6,329.5	6,292.0	6,292.0	19.2	124.1	-71.77	2,534.6	-6,436.3	7,500.1	7,358.0	142.12	52.775	
6,500.0	6,429.5	6,392.0	6,392.0	19.4	126.1	-71.77	2,534.6	-6,436.3	7,500.1	7,355.8	144.29	51.978	
6,550.3	6,479.8	6,442.3	6,442.3	19.5	127.2	-71.77	2,534.6	-6,436.3	7,500.1	7,354.7	145.39	51.586	
6,600.0	6,529.4	6,491.9	6,491.9	19.5	128.2	18.28	2,534.6	-6,436.3	7,498.5	7,354.4	144.04	52.057	
6,650.0	6,579.2	6,541.7	6,541.7	19.5	129.2	18.41	2,534.6	-6,436.3	7,493.5	7,349.4	144.12	51.994	
6,700.0	6,628.4	6,590.9	6,590.9	19.5	130.1	18.65	2,534.6	-6,436.3	7,485.3	7,341.7	143.57	52.136	
6,750.0	6,676.9	6,639.4	6,639.4	19.5	131.1	18.98	2,534.6	-6,436.3	7,473.8	7,331.4	142.40	52.485	
6,800.0	6,724.5	6,687.0	6,687.0	19.4	132.1	19.42	2,534.6	-6,436.3	7,459.2	7,318.6	140.62	53.046	
6,850.0	6,770.8	6,733.3	6,733.3	19.4	133.0	19.98	2,534.6	-6,436.3	7,441.4	7,303.2	138.26	53.821	
6,900.0	6,815.8	6,778.3	6,778.3	19.3	133.9	20.68	2,534.6	-6,436.3	7,420.7	7,285.3	135.39	54.810	
6,950.0	6,859.1	6,821.6	6,821.6	19.2	134.8	21.52	2,534.6	-6,436.3	7,397.0	7,264.9	132.07	56.007	
7,000.0	6,900.5	6,863.0	6,863.0	19.1	135.6	22.54	2,534.6	-6,436.3	7,370.5	7,242.1	128.42	57.394	
7,050.0	6,939.9	6,902.4	6,902.4	19.1	136.4	23.76	2,534.6	-6,436.3	7,341.3	7,216.8	124.58	58.929	
7,100.0	6,977.1	6,939.6	6,939.6	19.0	137.2	25.22	2,534.6	-6,436.3	7,309.7	7,188.9	120.75	60.533	
7,150.0	7,011.8	6,974.3	6,974.3	19.0	137.9	26.97	2,534.6	-6,436.3	7,275.6	7,158.4	117.22	62.068	
7,200.0	7,044.0	7,006.5	7,006.5	19.1	138.5	29.08	2,534.6	-6,436.3	7,239.4	7,125.1	114.34	63.316	
7,250.0	7,073.4	7,035.9	7,035.9	19.1	139.1	31.63	2,534.6	-6,436.3	7,201.2	7,088.6	112.56	63.974	
7,300.0	7,099.9	7,062.4	7,062.4	19.3	139.6	34.72	2,534.6	-6,436.3	7,161.1	7,048.7	112.44	63.691	
7,350.0	7,123.4	7,085.9	7,085.9	19.5	140.1	38.50	2,534.6	-6,436.3	7,119.4	7,004.9	114.51	62.173	
7,400.0	7,143.7	7,106.2	7,106.2	19.8	140.5	43.14	2,534.6	-6,436.3	7,076.3	6,957.1	119.23	59.351	
7,450.0	7,160.9	7,123.4	7,123.4	20.2	140.9	48.84	2,534.6	-6,436.3	7,032.1	6,905.3	126.72	55.491	
7,500.0	7,174.7	7,137.2	7,137.2	20.7	141.1	55.79	2,534.6	-6,436.3	6,986.8	6,850.2	136.56	51.164	
7,550.0	7,185.1	7,147.6	7,147.6	21.2	141.3	64.14	2,534.6	-6,436.3	6,940.7	6,793.3	147.46	47.068	
7,600.0	7,192.1	7,154.6	7,154.6	21.8	141.5	73.82	2,534.6	-6,436.3	6,894.2	6,736.9	157.26	43.838	
7,650.0	7,195.6	7,158.1	7,158.1	22.5	141.5	84.46	2,534.6	-6,436.3	6,847.3	6,683.9	163.38	41.911	
7,680.0	7,196.0	7,158.5	7,158.5	22.9	141.6	91.02	2,534.6	-6,436.3	6,819.1	6,654.7	164.46	41.463	
7,700.0	7,195.9	7,158.4	7,158.4	23.3	141.6	91.01	2,534.6	-6,436.3	6,800.4	6,635.6	164.76	41.274	
7,800.0	7,195.2	7,157.7	7,157.7	24.9	141.5	91.00	2,534.6	-6,436.3	6,706.6	6,540.2	166.40	40.305	
7,900.0	7,194.6	7,157.1	7,157.1	26.7	141.5	90.98	2,534.6	-6,436.3	6,613.0	6,444.8	168.23	39.310	
8,000.0	7,193.9	7,156.4	7,156.4	28.7	141.5	90.97	2,534.6	-6,436.3	6,519.6	6,349.4	170.21	38.302	
8,100.0	7,193.3	7,155.8	7,155.8	30.9	141.5	90.95	2,534.6	-6,436.3	6,426.4	6,254.1	172.33	37.292	
8,200.0	7,192.6	7,155.1	7,155.1	33.1	141.5	90.94	2,534.6	-6,436.3	6,333.4	6,158.9	174.54	36.286	
8,300.0	7,192.0	7,154.5	7,154.5	35.4	141.5	90.92	2,534.6	-6,436.3	6,240.7	6,063.8	176.84	35.290	
8,400.0	7,191.3	7,153.8	7,153.8	37.8	141.5	90.91	2,534.6	-6,436.3	6,148.1	5,968.9	179.20	34.308	
8,500.0	7,190.7	7,153.2	7,153.2	40.2	141.5	90.89	2,534.6	-6,436.3	6,055.8	5,874.2	181.63	33.342	
8,600.0	7,190.0	7,152.5	7,152.5	42.7	141.4	90.87	2,534.6	-6,436.3	5,963.7	5,779.6	184.09	32.395	
8,700.0	7,189.4	7,151.9	7,151.9	45.2	141.4	90.86	2,534.6	-6,436.3	5,871.9	5,685.3	186.60	31.468	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,151.2	7,151.2	47.8	141.4	90.84	2,534.6	-6,436.3	5,780.4	5,591.3	189.14	30.562	
8,900.0	7,188.0	7,150.5	7,150.5	50.3	141.4	90.83	2,534.6	-6,436.3	5,689.2	5,497.5	191.70	29.677	
9,000.0	7,187.4	7,149.9	7,149.9	52.9	141.4	90.81	2,534.6	-6,436.3	5,598.2	5,403.9	194.29	28.814	
9,100.0	7,186.7	7,149.2	7,149.2	55.6	141.4	90.80	2,534.6	-6,436.3	5,507.6	5,310.7	196.90	27.972	
9,200.0	7,186.1	7,148.6	7,148.6	58.2	141.4	90.78	2,534.6	-6,436.3	5,417.3	5,217.8	199.53	27.151	
9,300.0	7,185.4	7,147.9	7,147.9	60.9	141.3	90.76	2,534.6	-6,436.3	5,327.3	5,125.2	202.17	26.351	
9,400.0	7,184.8	7,147.3	7,147.3	63.5	141.3	90.75	2,534.6	-6,436.3	5,237.7	5,032.9	204.82	25.572	
9,500.0	7,184.1	7,146.6	7,146.6	66.2	141.3	90.73	2,534.6	-6,436.3	5,148.5	4,941.0	207.49	24.813	
9,600.0	7,183.5	7,146.0	7,146.0	68.9	141.3	90.72	2,534.6	-6,436.3	5,059.7	4,849.5	210.17	24.075	
9,700.0	7,182.8	7,145.3	7,145.3	71.6	141.3	90.70	2,534.6	-6,436.3	4,971.3	4,758.5	212.85	23.356	
9,800.0	7,182.2	7,144.7	7,144.7	74.3	141.3	90.69	2,534.6	-6,436.3	4,883.4	4,667.9	215.55	22.656	
9,900.0	7,181.5	7,144.0	7,144.0	77.0	141.3	90.67	2,534.6	-6,436.3	4,795.9	4,577.7	218.25	21.975	
10,000.0	7,180.8	7,143.3	7,143.3	79.7	141.3	90.65	2,534.6	-6,436.3	4,709.0	4,488.0	220.96	21.312	
10,100.0	7,180.2	7,142.7	7,142.7	82.5	141.2	90.64	2,534.6	-6,436.3	4,622.5	4,398.9	223.67	20.667	
10,200.0	7,179.5	7,142.0	7,142.0	85.2	141.2	90.62	2,534.6	-6,436.3	4,536.7	4,310.3	226.39	20.039	
10,300.0	7,178.9	7,141.4	7,141.4	87.9	141.2	90.61	2,534.6	-6,436.3	4,451.4	4,222.3	229.11	19.429	
10,400.0	7,178.2	7,140.7	7,140.7	90.7	141.2	90.59	2,534.6	-6,436.3	4,366.7	4,134.9	231.84	18.835	
10,500.0	7,177.6	7,140.1	7,140.1	93.4	141.2	90.58	2,534.6	-6,436.3	4,282.7	4,048.1	234.57	18.257	
10,600.0	7,176.9	7,139.4	7,139.4	96.2	141.2	90.56	2,534.6	-6,436.3	4,199.4	3,962.1	237.31	17.696	
10,700.0	7,176.2	7,138.7	7,138.7	98.9	141.2	90.54	2,534.6	-6,436.3	4,116.9	3,876.8	240.05	17.150	
10,800.0	7,175.6	7,138.1	7,138.1	101.7	141.1	90.53	2,534.6	-6,436.3	4,035.1	3,792.3	242.79	16.620	
10,900.0	7,174.9	7,137.4	7,137.4	104.4	141.1	90.51	2,534.6	-6,436.3	3,954.2	3,708.6	245.54	16.104	
11,000.0	7,174.3	7,136.8	7,136.8	107.2	141.1	90.50	2,534.6	-6,436.3	3,874.1	3,625.8	248.29	15.603	
11,100.0	7,173.6	7,136.1	7,136.1	109.9	141.1	90.48	2,534.6	-6,436.3	3,795.0	3,544.0	251.04	15.117	
11,200.0	7,172.9	7,135.4	7,135.4	112.7	141.1	90.46	2,534.6	-6,436.3	3,717.0	3,463.2	253.79	14.646	
11,300.0	7,172.3	7,134.8	7,134.8	115.5	141.1	90.45	2,534.6	-6,436.3	3,639.9	3,383.4	256.54	14.188	
11,400.0	7,171.6	7,134.1	7,134.1	118.3	141.1	90.43	2,534.6	-6,436.3	3,564.1	3,304.8	259.30	13.745	
11,500.0	7,171.0	7,133.5	7,133.5	121.0	141.1	90.42	2,534.6	-6,436.3	3,489.4	3,227.4	262.06	13.315	
11,600.0	7,170.3	7,132.8	7,132.8	123.8	141.0	90.40	2,534.6	-6,436.3	3,416.1	3,151.2	264.82	12.900	
11,700.0	7,169.6	7,132.1	7,132.1	126.6	141.0	90.38	2,534.6	-6,436.3	3,344.1	3,076.5	267.58	12.497	
11,797.6	7,169.0	7,131.5	7,131.5	129.3	141.0	90.37	2,534.6	-6,436.3	3,275.3	3,005.0	270.28	12.118	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BROWN 22-20 - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-INC

Offset Well Error: 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-78.89	1,045.4	-5,324.3	5,426.1				
100.0	100.0	50.5	50.5	0.1	0.0	-78.89	1,045.4	-5,324.3	5,425.9	5,425.8	0.10	N/A	
200.0	200.0	150.5	150.5	0.3	0.7	-78.89	1,045.4	-5,324.3	5,425.9	5,424.9	0.99	5,494.102	
300.0	300.0	250.5	250.5	0.5	2.5	-78.89	1,045.4	-5,324.3	5,425.9	5,422.9	3.01	1,803.779	
400.0	400.0	350.5	350.5	0.8	4.6	-78.89	1,045.4	-5,324.3	5,425.9	5,420.5	5.40	1,004.457	
500.0	500.0	450.5	450.5	1.0	6.7	-78.89	1,045.4	-5,324.3	5,425.9	5,418.2	7.69	706.027	
600.0	600.0	550.5	550.5	1.2	8.7	-78.89	1,045.4	-5,324.3	5,425.9	5,416.0	9.94	545.594	
700.0	700.0	650.5	650.5	1.4	10.7	-78.89	1,045.4	-5,324.3	5,425.9	5,413.7	12.20	444.914	
800.0	800.0	750.5	750.5	1.7	12.8	-78.89	1,045.4	-5,324.3	5,425.9	5,411.5	14.44	375.727	
900.0	900.0	850.5	850.5	1.9	14.8	-78.89	1,045.4	-5,324.3	5,425.9	5,409.2	16.68	325.217	
1,000.0	1,000.0	950.5	950.5	2.1	16.8	-153.57	1,045.4	-5,324.3	5,427.5	5,408.6	18.91	287.078	
1,100.0	1,099.8	1,050.3	1,050.3	2.3	18.8	-153.55	1,045.4	-5,324.3	5,432.2	5,411.1	21.10	257.503	
1,200.0	1,199.5	1,150.0	1,150.0	2.5	20.8	-153.52	1,045.4	-5,324.3	5,440.0	5,416.7	23.26	233.913	
1,300.0	1,298.7	1,249.2	1,249.2	2.8	22.8	-153.48	1,045.4	-5,324.3	5,450.9	5,425.5	25.38	214.749	
1,400.0	1,397.5	1,348.0	1,348.0	3.1	24.8	-153.43	1,045.4	-5,324.3	5,464.9	5,437.5	27.47	198.948	
1,500.0	1,495.6	1,446.1	1,446.1	3.4	26.8	-153.36	1,045.4	-5,324.3	5,482.1	5,452.5	29.51	185.757	
1,500.1	1,495.7	1,446.2	1,446.2	3.4	26.8	-153.36	1,045.4	-5,324.3	5,482.1	5,452.6	29.51	185.744	
1,600.0	1,593.4	1,543.9	1,543.9	3.8	28.8	-153.46	1,045.4	-5,324.3	5,500.7	5,469.0	31.70	173.523	
1,700.0	1,691.3	1,641.8	1,641.8	4.1	30.7	-153.55	1,045.4	-5,324.3	5,519.4	5,485.5	33.90	162.830	
1,800.0	1,789.1	1,739.6	1,739.6	4.5	32.7	-153.65	1,045.4	-5,324.3	5,538.1	5,502.0	36.10	153.412	
1,900.0	1,886.9	1,837.4	1,837.4	4.9	34.7	-153.74	1,045.4	-5,324.3	5,556.8	5,518.5	38.31	145.060	
2,000.0	1,984.7	1,935.2	1,935.2	5.3	36.6	-153.84	1,045.4	-5,324.3	5,575.6	5,535.1	40.52	137.605	
2,100.0	2,082.5	2,033.0	2,033.0	5.7	38.6	-153.93	1,045.4	-5,324.3	5,594.3	5,551.6	42.73	130.912	
2,200.0	2,180.3	2,130.8	2,130.8	6.2	40.6	-154.02	1,045.4	-5,324.3	5,613.1	5,568.1	44.95	124.873	
2,300.0	2,278.1	2,228.6	2,228.6	6.6	42.5	-154.11	1,045.4	-5,324.3	5,631.9	5,584.7	47.17	119.396	
2,400.0	2,375.9	2,326.4	2,326.4	7.0	44.5	-154.21	1,045.4	-5,324.3	5,650.7	5,601.3	49.39	114.408	
2,500.0	2,473.8	2,424.3	2,424.3	7.5	46.5	-154.30	1,045.4	-5,324.3	5,669.5	5,617.9	51.61	109.847	
2,600.0	2,571.6	2,522.1	2,522.1	7.9	48.4	-154.39	1,045.4	-5,324.3	5,688.3	5,634.5	53.84	105.661	
2,700.0	2,669.4	2,619.9	2,619.9	8.3	50.4	-154.48	1,045.4	-5,324.3	5,707.1	5,651.1	56.06	101.806	
2,800.0	2,767.2	2,717.7	2,717.7	8.8	52.4	-154.57	1,045.4	-5,324.3	5,726.0	5,667.7	58.28	98.244	
2,900.0	2,865.0	2,815.5	2,815.5	9.2	54.3	-154.66	1,045.4	-5,324.3	5,744.8	5,684.3	60.51	94.943	
3,000.0	2,962.8	2,913.3	2,913.3	9.7	56.3	-154.74	1,045.4	-5,324.3	5,763.7	5,701.0	62.73	91.876	
3,100.0	3,060.6	3,011.1	3,011.1	10.1	58.3	-154.83	1,045.4	-5,324.3	5,782.6	5,717.6	64.96	89.019	
3,200.0	3,158.5	3,109.0	3,109.0	10.6	60.2	-154.92	1,045.4	-5,324.3	5,801.5	5,734.3	67.18	86.352	
3,300.0	3,256.3	3,206.8	3,206.8	11.0	62.2	-155.01	1,045.4	-5,324.3	5,820.4	5,751.0	69.41	83.855	
3,400.0	3,354.1	3,304.6	3,304.6	11.5	64.2	-155.09	1,045.4	-5,324.3	5,839.3	5,767.7	71.64	81.514	
3,500.0	3,451.9	3,402.4	3,402.4	11.9	66.1	-155.18	1,045.4	-5,324.3	5,858.3	5,784.4	73.86	79.314	
3,600.0	3,549.7	3,500.2	3,500.2	12.4	68.1	-155.26	1,045.4	-5,324.3	5,877.2	5,801.1	76.09	77.243	
3,700.0	3,647.5	3,598.0	3,598.0	12.8	70.1	-155.35	1,045.4	-5,324.3	5,896.2	5,817.9	78.31	75.290	
3,800.0	3,745.3	3,695.8	3,695.8	13.3	72.0	-155.43	1,045.4	-5,324.3	5,915.2	5,834.6	80.54	73.445	
3,900.0	3,843.2	3,793.7	3,793.7	13.7	74.0	-155.51	1,045.4	-5,324.3	5,934.2	5,851.4	82.76	71.700	
4,000.0	3,941.0	3,891.5	3,891.5	14.2	76.0	-155.60	1,045.4	-5,324.3	5,953.2	5,868.2	84.99	70.046	
4,100.0	4,038.8	3,989.3	3,989.3	14.6	77.9	-155.68	1,045.4	-5,324.3	5,972.2	5,885.0	87.21	68.477	
4,200.0	4,136.6	4,087.1	4,087.1	15.1	79.9	-155.76	1,045.4	-5,324.3	5,991.2	5,901.8	89.44	66.987	
4,300.0	4,234.4	4,184.9	4,184.9	15.5	81.9	-155.84	1,045.4	-5,324.3	6,010.2	5,918.6	91.66	65.569	
4,325.2	4,259.1	4,209.6	4,209.6	15.6	82.4	-155.86	1,045.4	-5,324.3	6,015.0	5,922.8	92.22	65.222	
4,400.0	4,332.4	4,282.9	4,282.9	15.9	83.8	-156.03	1,045.4	-5,324.3	6,028.4	5,934.2	94.22	63.982	
4,500.0	4,431.0	4,381.5	4,381.5	16.2	85.8	-156.21	1,045.4	-5,324.3	6,043.5	5,946.7	96.81	62.429	
4,600.0	4,530.2	4,480.7	4,480.7	16.5	87.8	-156.36	1,045.4	-5,324.3	6,055.5	5,956.2	99.31	60.974	
4,700.0	4,629.7	4,580.2	4,580.2	16.7	89.8	-156.47	1,045.4	-5,324.3	6,064.3	5,962.6	101.73	59.612	
4,800.0	4,729.5	4,680.0	4,680.0	16.9	91.8	-156.54	1,045.4	-5,324.3	6,069.9	5,965.9	104.05	58.338	
4,900.0	4,829.5	4,780.0	4,780.0	17.0	93.8	-156.57	1,045.4	-5,324.3	6,072.3	5,966.1	106.26	57.148	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BROWN 22-20 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,805.3	4,805.3	17.1	94.4	-81.89	1,045.4	-5,324.3	6,072.5	5,961.7	110.74	54.836	
5,000.0	4,929.5	4,880.0	4,880.0	17.2	95.9	-81.89	1,045.4	-5,324.3	6,072.5	5,960.1	112.34	54.056	
5,100.0	5,029.5	4,980.0	4,980.0	17.3	97.9	-81.89	1,045.4	-5,324.3	6,072.5	5,958.0	114.49	53.039	
5,200.0	5,129.5	5,080.0	5,080.0	17.4	99.9	-81.89	1,045.4	-5,324.3	6,072.5	5,955.8	116.64	52.059	
5,300.0	5,229.5	5,180.0	5,180.0	17.6	101.9	-81.89	1,045.4	-5,324.3	6,072.5	5,953.7	118.80	51.115	
5,400.0	5,329.5	5,280.0	5,280.0	17.7	103.9	-81.89	1,045.4	-5,324.3	6,072.5	5,951.5	120.96	50.203	
5,500.0	5,429.5	5,380.0	5,380.0	17.9	105.9	-81.89	1,045.4	-5,324.3	6,072.5	5,949.3	123.12	49.322	
5,600.0	5,529.5	5,480.0	5,480.0	18.0	107.9	-81.89	1,045.4	-5,324.3	6,072.5	5,947.2	125.28	48.471	
5,700.0	5,629.5	5,580.0	5,580.0	18.1	109.9	-81.89	1,045.4	-5,324.3	6,072.5	5,945.0	127.44	47.648	
5,800.0	5,729.5	5,680.0	5,680.0	18.3	111.9	-81.89	1,045.4	-5,324.3	6,072.5	5,942.8	129.61	46.853	
5,900.0	5,829.5	5,780.0	5,780.0	18.4	114.0	-81.89	1,045.4	-5,324.3	6,072.5	5,940.7	131.77	46.082	
6,000.0	5,929.5	5,880.0	5,880.0	18.6	116.0	-81.89	1,045.4	-5,324.3	6,072.5	5,938.5	133.94	45.337	
6,100.0	6,029.5	5,980.0	5,980.0	18.7	118.0	-81.89	1,045.4	-5,324.3	6,072.5	5,936.3	136.11	44.614	
6,200.0	6,129.5	6,080.0	6,080.0	18.9	120.0	-81.89	1,045.4	-5,324.3	6,072.5	5,934.2	138.28	43.914	
6,300.0	6,229.5	6,180.0	6,180.0	19.1	122.0	-81.89	1,045.4	-5,324.3	6,072.5	5,932.0	140.45	43.235	
6,400.0	6,329.5	6,280.0	6,280.0	19.2	124.0	-81.89	1,045.4	-5,324.3	6,072.5	5,929.8	142.62	42.576	
6,500.0	6,429.5	6,380.0	6,380.0	19.4	126.0	-81.89	1,045.4	-5,324.3	6,072.5	5,927.7	144.80	41.937	
6,550.3	6,479.8	6,430.3	6,430.3	19.5	127.0	-81.89	1,045.4	-5,324.3	6,072.5	5,926.6	145.89	41.622	
6,600.0	6,529.4	6,479.9	6,479.9	19.5	128.0	8.14	1,045.4	-5,324.3	6,070.7	5,927.6	143.15	42.408	
6,650.0	6,579.2	6,529.7	6,529.7	19.5	129.0	8.20	1,045.4	-5,324.3	6,065.6	5,922.5	143.14	42.376	
6,700.0	6,628.4	6,578.9	6,578.9	19.5	130.0	8.31	1,045.4	-5,324.3	6,057.0	5,914.6	142.43	42.528	
6,750.0	6,676.9	6,627.4	6,627.4	19.5	131.0	8.47	1,045.4	-5,324.3	6,045.1	5,904.1	141.01	42.869	
6,800.0	6,724.5	6,675.0	6,675.0	19.4	132.0	8.69	1,045.4	-5,324.3	6,029.8	5,890.9	138.90	43.411	
6,850.0	6,770.8	6,721.3	6,721.3	19.4	132.9	8.96	1,045.4	-5,324.3	6,011.3	5,875.2	136.10	44.168	
6,900.0	6,815.8	6,766.3	6,766.3	19.3	133.8	9.30	1,045.4	-5,324.3	5,989.6	5,857.0	132.63	45.160	
6,950.0	6,859.1	6,809.6	6,809.6	19.2	134.7	9.71	1,045.4	-5,324.3	5,964.9	5,836.4	128.52	46.412	
7,000.0	6,900.5	6,851.0	6,851.0	19.1	135.5	10.22	1,045.4	-5,324.3	5,937.3	5,813.4	123.82	47.952	
7,050.0	6,939.9	6,890.4	6,890.4	19.1	136.3	10.83	1,045.4	-5,324.3	5,906.8	5,788.2	118.58	49.813	
7,100.0	6,977.1	6,927.6	6,927.6	19.0	137.0	11.58	1,045.4	-5,324.3	5,873.7	5,760.8	112.90	52.025	
7,150.0	7,011.8	6,962.3	6,962.3	19.0	137.7	12.50	1,045.4	-5,324.3	5,838.2	5,731.3	106.91	54.606	
7,200.0	7,044.0	6,994.5	6,994.5	19.1	138.4	13.63	1,045.4	-5,324.3	5,800.3	5,699.5	100.81	57.537	
7,250.0	7,073.4	7,023.9	7,023.9	19.1	139.0	15.05	1,045.4	-5,324.3	5,760.3	5,665.5	94.88	60.711	
7,300.0	7,099.9	7,050.4	7,050.4	19.3	139.5	16.85	1,045.4	-5,324.3	5,718.4	5,628.8	89.59	63.829	
7,350.0	7,123.4	7,073.9	7,073.9	19.5	140.0	19.20	1,045.4	-5,324.3	5,674.8	5,589.1	85.66	66.244	
7,400.0	7,143.7	7,094.2	7,094.2	19.8	140.4	22.33	1,045.4	-5,324.3	5,629.7	5,545.4	84.25	66.824	
7,450.0	7,160.9	7,111.4	7,111.4	20.2	140.7	26.66	1,045.4	-5,324.3	5,583.3	5,496.3	86.99	64.187	
7,500.0	7,174.7	7,125.2	7,125.2	20.7	141.0	32.89	1,045.4	-5,324.3	5,535.8	5,439.9	95.94	57.701	
7,550.0	7,185.1	7,135.6	7,135.6	21.2	141.2	42.25	1,045.4	-5,324.3	5,487.5	5,374.5	113.00	48.563	
7,600.0	7,192.1	7,142.6	7,142.6	21.8	141.4	56.66	1,045.4	-5,324.3	5,438.6	5,300.9	137.71	39.493	
7,650.0	7,195.6	7,146.1	7,146.1	22.5	141.4	77.61	1,045.4	-5,324.3	5,389.4	5,229.0	160.37	33.605	
7,680.0	7,196.0	7,146.5	7,146.5	22.9	141.4	92.30	1,045.4	-5,324.3	5,359.8	5,195.5	164.22	32.637	
7,700.0	7,195.9	7,146.4	7,146.4	23.3	141.4	92.29	1,045.4	-5,324.3	5,340.0	5,175.5	164.52	32.458	
7,800.0	7,195.2	7,145.7	7,145.7	24.9	141.4	92.25	1,045.4	-5,324.3	5,241.3	5,075.2	166.16	31.544	
7,900.0	7,194.6	7,145.1	7,145.1	26.7	141.4	92.21	1,045.4	-5,324.3	5,142.7	4,974.7	167.99	30.612	
8,000.0	7,193.9	7,144.4	7,144.4	28.7	141.4	92.16	1,045.4	-5,324.3	5,044.1	4,874.2	169.98	29.674	
8,100.0	7,193.3	7,143.8	7,143.8	30.9	141.4	92.12	1,045.4	-5,324.3	4,945.6	4,773.5	172.10	28.737	
8,200.0	7,192.6	7,143.1	7,143.1	33.1	141.4	92.08	1,045.4	-5,324.3	4,847.2	4,672.9	174.32	27.806	
8,300.0	7,192.0	7,142.5	7,142.5	35.4	141.4	92.03	1,045.4	-5,324.3	4,748.8	4,572.2	176.62	26.887	
8,400.0	7,191.3	7,141.8	7,141.8	37.8	141.3	91.99	1,045.4	-5,324.3	4,650.5	4,471.5	178.99	25.982	
8,500.0	7,190.7	7,141.2	7,141.2	40.2	141.3	91.95	1,045.4	-5,324.3	4,552.2	4,370.8	181.41	25.093	
8,600.0	7,190.0	7,140.5	7,140.5	42.7	141.3	91.91	1,045.4	-5,324.3	4,454.1	4,270.2	183.88	24.222	
8,700.0	7,189.4	7,139.9	7,139.9	45.2	141.3	91.86	1,045.4	-5,324.3	4,356.0	4,169.6	186.39	23.370	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BROWN 22-20 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,139.2	7,139.2	47.8	141.3	91.82	1,045.4	-5,324.3	4,258.0	4,069.0	188.93	22.537	
8,900.0	7,188.0	7,138.5	7,138.5	50.3	141.3	91.78	1,045.4	-5,324.3	4,160.1	3,968.6	191.50	21.724	
9,000.0	7,187.4	7,137.9	7,137.9	52.9	141.3	91.74	1,045.4	-5,324.3	4,062.3	3,868.2	194.09	20.930	
9,100.0	7,186.7	7,137.2	7,137.2	55.6	141.3	91.69	1,045.4	-5,324.3	3,964.6	3,767.9	196.70	20.155	
9,200.0	7,186.1	7,136.6	7,136.6	58.2	141.2	91.65	1,045.4	-5,324.3	3,867.0	3,667.7	199.33	19.400	
9,300.0	7,185.4	7,135.9	7,135.9	60.9	141.2	91.61	1,045.4	-5,324.3	3,769.6	3,567.6	201.98	18.663	
9,400.0	7,184.8	7,135.3	7,135.3	63.5	141.2	91.56	1,045.4	-5,324.3	3,672.2	3,467.6	204.64	17.945	
9,500.0	7,184.1	7,134.6	7,134.6	66.2	141.2	91.52	1,045.4	-5,324.3	3,575.1	3,367.8	207.31	17.246	
9,600.0	7,183.5	7,134.0	7,134.0	68.9	141.2	91.48	1,045.4	-5,324.3	3,478.1	3,268.1	209.99	16.563	
9,700.0	7,182.8	7,133.3	7,133.3	71.6	141.2	91.43	1,045.4	-5,324.3	3,381.3	3,168.6	212.67	15.899	
9,800.0	7,182.2	7,132.7	7,132.7	74.3	141.2	91.39	1,045.4	-5,324.3	3,284.6	3,069.3	215.37	15.251	
9,900.0	7,181.5	7,132.0	7,132.0	77.0	141.1	91.35	1,045.4	-5,324.3	3,188.2	2,970.1	218.08	14.620	
10,000.0	7,180.8	7,131.3	7,131.3	79.7	141.1	91.30	1,045.4	-5,324.3	3,092.0	2,871.2	220.79	14.004	
10,100.0	7,180.2	7,130.7	7,130.7	82.5	141.1	91.26	1,045.4	-5,324.3	2,996.1	2,772.5	223.50	13.405	
10,200.0	7,179.5	7,130.0	7,130.0	85.2	141.1	91.22	1,045.4	-5,324.3	2,900.4	2,674.1	226.23	12.821	
10,300.0	7,178.9	7,129.4	7,129.4	87.9	141.1	91.17	1,045.4	-5,324.3	2,805.0	2,576.0	228.95	12.251	
10,400.0	7,178.2	7,128.7	7,128.7	90.7	141.1	91.13	1,045.4	-5,324.3	2,710.0	2,478.3	231.68	11.697	
10,500.0	7,177.6	7,128.1	7,128.1	93.4	141.1	91.09	1,045.4	-5,324.3	2,615.3	2,380.9	234.42	11.156	
10,600.0	7,176.9	7,127.4	7,127.4	96.2	141.1	91.04	1,045.4	-5,324.3	2,521.0	2,283.9	237.16	10.630	
10,700.0	7,176.2	7,126.7	7,126.7	98.9	141.0	91.00	1,045.4	-5,324.3	2,427.2	2,187.3	239.90	10.118	
10,800.0	7,175.6	7,126.1	7,126.1	101.7	141.0	90.96	1,045.4	-5,324.3	2,333.9	2,091.3	242.64	9.619	
10,900.0	7,174.9	7,125.4	7,125.4	104.4	141.0	90.91	1,045.4	-5,324.3	2,241.2	1,995.8	245.39	9.133	
11,000.0	7,174.3	7,124.8	7,124.8	107.2	141.0	90.87	1,045.4	-5,324.3	2,149.2	1,901.0	248.14	8.661	
11,100.0	7,173.6	7,124.1	7,124.1	109.9	141.0	90.82	1,045.4	-5,324.3	2,057.8	1,806.9	250.90	8.202	
11,200.0	7,172.9	7,123.4	7,123.4	112.7	141.0	90.78	1,045.4	-5,324.3	1,967.4	1,713.7	253.65	7.756	
11,300.0	7,172.3	7,122.8	7,122.8	115.5	141.0	90.74	1,045.4	-5,324.3	1,877.9	1,621.5	256.41	7.324	
11,400.0	7,171.6	7,122.1	7,122.1	118.3	140.9	90.69	1,045.4	-5,324.3	1,789.5	1,530.3	259.17	6.905	
11,500.0	7,171.0	7,121.5	7,121.5	121.0	140.9	90.65	1,045.4	-5,324.3	1,702.4	1,440.4	261.93	6.499	
11,600.0	7,170.3	7,120.8	7,120.8	123.8	140.9	90.61	1,045.4	-5,324.3	1,616.7	1,352.1	264.69	6.108	
11,700.0	7,169.6	7,120.1	7,120.1	126.6	140.9	90.56	1,045.4	-5,324.3	1,532.9	1,265.4	267.45	5.731	
11,797.6	7,169.0	7,119.5	7,119.5	129.3	140.9	90.52	1,045.4	-5,324.3	1,453.0	1,182.9	270.15	5.379	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-64.96	2,417.7	-5,176.1	5,713.1				
100.0	100.0	57.5	57.5	0.1	0.0	-64.96	2,417.7	-5,176.1	5,712.9	5,712.8	0.10	N/A	
200.0	200.0	157.5	157.5	0.3	0.7	-64.96	2,417.7	-5,176.1	5,712.9	5,711.9	1.03	5,566.728	
300.0	300.0	257.5	257.5	0.5	2.5	-64.96	2,417.7	-5,176.1	5,712.9	5,709.9	3.08	1,851.977	
400.0	400.0	357.5	357.5	0.8	4.7	-64.96	2,417.7	-5,176.1	5,712.9	5,707.5	5.47	1,043.476	
500.0	500.0	457.5	457.5	1.0	6.8	-64.96	2,417.7	-5,176.1	5,712.9	5,705.2	7.76	736.494	
600.0	600.0	557.5	557.5	1.2	8.8	-64.96	2,417.7	-5,176.1	5,712.9	5,702.9	10.02	570.367	
700.0	700.0	657.5	657.5	1.4	10.8	-64.96	2,417.7	-5,176.1	5,712.9	5,700.7	12.27	465.738	
800.0	800.0	757.5	757.5	1.7	12.8	-64.96	2,417.7	-5,176.1	5,712.9	5,698.4	14.51	393.671	
900.0	900.0	857.5	857.5	1.9	14.9	-64.96	2,417.7	-5,176.1	5,712.9	5,696.2	16.75	340.974	
1,000.0	1,000.0	957.5	957.5	2.1	16.9	-139.64	2,417.7	-5,176.1	5,714.3	5,695.3	18.98	301.083	
1,100.0	1,099.8	1,057.3	1,057.3	2.3	18.9	-139.62	2,417.7	-5,176.1	5,718.3	5,697.1	21.18	270.013	
1,200.0	1,199.5	1,157.0	1,157.0	2.5	20.9	-139.59	2,417.7	-5,176.1	5,724.9	5,701.6	23.36	245.101	
1,300.0	1,298.7	1,256.2	1,256.2	2.8	22.9	-139.55	2,417.7	-5,176.1	5,734.2	5,708.7	25.52	224.736	
1,400.0	1,397.5	1,355.0	1,355.0	3.1	24.9	-139.49	2,417.7	-5,176.1	5,746.2	5,718.5	27.65	207.814	
1,500.0	1,495.6	1,453.1	1,453.1	3.4	26.9	-139.42	2,417.7	-5,176.1	5,760.8	5,731.0	29.76	193.558	
1,500.1	1,495.7	1,453.2	1,453.2	3.4	26.9	-139.42	2,417.7	-5,176.1	5,760.8	5,731.0	29.76	193.544	
1,600.0	1,593.4	1,550.9	1,550.9	3.8	28.8	-139.56	2,417.7	-5,176.1	5,776.7	5,744.8	31.99	180.600	
1,700.0	1,691.3	1,648.8	1,648.8	4.1	30.8	-139.69	2,417.7	-5,176.1	5,792.7	5,758.5	34.22	169.270	
1,800.0	1,789.1	1,746.6	1,746.6	4.5	32.8	-139.82	2,417.7	-5,176.1	5,808.8	5,772.3	36.47	159.292	
1,900.0	1,886.9	1,844.4	1,844.4	4.9	34.7	-139.95	2,417.7	-5,176.1	5,824.8	5,786.1	38.72	150.446	
2,000.0	1,984.7	1,942.2	1,942.2	5.3	36.7	-140.08	2,417.7	-5,176.1	5,840.9	5,799.9	40.97	142.554	
2,100.0	2,082.5	2,040.0	2,040.0	5.7	38.7	-140.21	2,417.7	-5,176.1	5,857.0	5,813.7	43.23	135.475	
2,200.0	2,180.3	2,137.8	2,137.8	6.2	40.6	-140.34	2,417.7	-5,176.1	5,873.1	5,827.6	45.50	129.091	
2,300.0	2,278.1	2,235.6	2,235.6	6.6	42.6	-140.47	2,417.7	-5,176.1	5,889.3	5,841.5	47.76	123.306	
2,400.0	2,375.9	2,333.4	2,333.4	7.0	44.6	-140.59	2,417.7	-5,176.1	5,905.5	5,855.5	50.03	118.041	
2,500.0	2,473.8	2,431.3	2,431.3	7.5	46.5	-140.72	2,417.7	-5,176.1	5,921.7	5,869.4	52.30	113.231	
2,600.0	2,571.6	2,529.1	2,529.1	7.9	48.5	-140.85	2,417.7	-5,176.1	5,938.0	5,883.4	54.57	108.819	
2,700.0	2,669.4	2,626.9	2,626.9	8.3	50.5	-140.97	2,417.7	-5,176.1	5,954.2	5,897.4	56.84	104.758	
2,800.0	2,767.2	2,724.7	2,724.7	8.8	52.4	-141.10	2,417.7	-5,176.1	5,970.5	5,911.4	59.11	101.009	
2,900.0	2,865.0	2,822.5	2,822.5	9.2	54.4	-141.22	2,417.7	-5,176.1	5,986.9	5,925.5	61.38	97.537	
3,000.0	2,962.8	2,920.3	2,920.3	9.7	56.4	-141.34	2,417.7	-5,176.1	6,003.2	5,939.6	63.65	94.313	
3,100.0	3,060.6	3,018.1	3,018.1	10.1	58.3	-141.47	2,417.7	-5,176.1	6,019.6	5,953.7	65.92	91.312	
3,200.0	3,158.5	3,116.0	3,116.0	10.6	60.3	-141.59	2,417.7	-5,176.1	6,036.1	5,967.9	68.20	88.511	
3,300.0	3,256.3	3,213.8	3,213.8	11.0	62.3	-141.71	2,417.7	-5,176.1	6,052.5	5,982.0	70.47	85.892	
3,400.0	3,354.1	3,311.6	3,311.6	11.5	64.2	-141.83	2,417.7	-5,176.1	6,069.0	5,996.2	72.74	83.436	
3,500.0	3,451.9	3,409.4	3,409.4	11.9	66.2	-141.95	2,417.7	-5,176.1	6,085.5	6,010.5	75.01	81.130	
3,600.0	3,549.7	3,507.2	3,507.2	12.4	68.2	-142.07	2,417.7	-5,176.1	6,102.0	6,024.7	77.28	78.960	
3,700.0	3,647.5	3,605.0	3,605.0	12.8	70.1	-142.19	2,417.7	-5,176.1	6,118.5	6,039.0	79.55	76.915	
3,800.0	3,745.3	3,702.8	3,702.8	13.3	72.1	-142.31	2,417.7	-5,176.1	6,135.1	6,053.3	81.82	74.984	
3,900.0	3,843.2	3,800.7	3,800.7	13.7	74.1	-142.42	2,417.7	-5,176.1	6,151.7	6,067.6	84.09	73.158	
4,000.0	3,941.0	3,898.5	3,898.5	14.2	76.0	-142.54	2,417.7	-5,176.1	6,168.3	6,082.0	86.36	71.428	
4,100.0	4,038.8	3,996.3	3,996.3	14.6	78.0	-142.66	2,417.7	-5,176.1	6,185.0	6,096.4	88.63	69.788	
4,200.0	4,136.6	4,094.1	4,094.1	15.1	80.0	-142.77	2,417.7	-5,176.1	6,201.7	6,110.8	90.89	68.230	
4,300.0	4,234.4	4,191.9	4,191.9	15.5	81.9	-142.89	2,417.7	-5,176.1	6,218.4	6,125.2	93.16	66.749	
4,325.2	4,259.1	4,216.6	4,216.6	15.6	82.4	-142.92	2,417.7	-5,176.1	6,222.6	6,128.9	93.73	66.387	
4,400.0	4,332.4	4,289.9	4,289.9	15.9	83.9	-143.14	2,417.7	-5,176.1	6,234.3	6,138.7	95.66	65.171	
4,500.0	4,431.0	4,388.5	4,388.5	16.2	85.9	-143.39	2,417.7	-5,176.1	6,247.6	6,149.5	98.17	63.643	
4,600.0	4,530.2	4,487.7	4,487.7	16.5	87.9	-143.59	2,417.7	-5,176.1	6,258.2	6,157.6	100.61	62.203	
4,700.0	4,629.7	4,587.2	4,587.2	16.7	89.9	-143.73	2,417.7	-5,176.1	6,265.9	6,162.9	102.98	60.848	
4,800.0	4,729.5	4,687.0	4,687.0	16.9	91.9	-143.82	2,417.7	-5,176.1	6,270.9	6,165.6	105.26	59.573	
4,900.0	4,829.5	4,787.0	4,787.0	17.0	93.9	-143.86	2,417.7	-5,176.1	6,273.0	6,165.5	107.46	58.376	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,812.3	4,812.3	17.1	94.4	-69.18	2,417.7	-5,176.1	6,273.1	6,163.2	109.89	57.087	
5,000.0	4,929.5	4,887.0	4,887.0	17.2	95.9	-69.18	2,417.7	-5,176.1	6,273.1	6,161.6	111.49	56.266	
5,100.0	5,029.5	4,987.0	4,987.0	17.3	97.9	-69.18	2,417.7	-5,176.1	6,273.1	6,159.4	113.65	55.197	
5,200.0	5,129.5	5,087.0	5,087.0	17.4	99.9	-69.18	2,417.7	-5,176.1	6,273.1	6,157.3	115.81	54.166	
5,300.0	5,229.5	5,187.0	5,187.0	17.6	102.0	-69.18	2,417.7	-5,176.1	6,273.1	6,155.1	117.97	53.173	
5,400.0	5,329.5	5,287.0	5,287.0	17.7	104.0	-69.18	2,417.7	-5,176.1	6,273.1	6,152.9	120.14	52.214	
5,500.0	5,429.5	5,387.0	5,387.0	17.9	106.0	-69.18	2,417.7	-5,176.1	6,273.1	6,150.8	122.31	51.289	
5,600.0	5,529.5	5,487.0	5,487.0	18.0	108.0	-69.18	2,417.7	-5,176.1	6,273.1	6,148.6	124.48	50.396	
5,700.0	5,629.5	5,587.0	5,587.0	18.1	110.0	-69.18	2,417.7	-5,176.1	6,273.1	6,146.4	126.65	49.532	
5,800.0	5,729.5	5,687.0	5,687.0	18.3	112.0	-69.18	2,417.7	-5,176.1	6,273.1	6,144.2	128.82	48.697	
5,900.0	5,829.5	5,787.0	5,787.0	18.4	114.0	-69.18	2,417.7	-5,176.1	6,273.1	6,142.1	130.99	47.889	
6,000.0	5,929.5	5,887.0	5,887.0	18.6	116.0	-69.18	2,417.7	-5,176.1	6,273.1	6,139.9	133.17	47.107	
6,100.0	6,029.5	5,987.0	5,987.0	18.7	118.0	-69.18	2,417.7	-5,176.1	6,273.1	6,137.7	135.34	46.350	
6,200.0	6,129.5	6,087.0	6,087.0	18.9	120.1	-69.18	2,417.7	-5,176.1	6,273.1	6,135.5	137.52	45.616	
6,300.0	6,229.5	6,187.0	6,187.0	19.1	122.1	-69.18	2,417.7	-5,176.1	6,273.1	6,133.4	139.70	44.905	
6,400.0	6,329.5	6,287.0	6,287.0	19.2	124.1	-69.18	2,417.7	-5,176.1	6,273.1	6,131.2	141.88	44.215	
6,500.0	6,429.5	6,387.0	6,387.0	19.4	126.1	-69.18	2,417.7	-5,176.1	6,273.1	6,129.0	144.06	43.546	
6,550.3	6,479.8	6,437.3	6,437.3	19.5	127.1	-69.18	2,417.7	-5,176.1	6,273.1	6,127.9	145.16	43.216	
6,600.0	6,529.4	6,486.9	6,486.9	19.5	128.1	20.87	2,417.7	-5,176.1	6,271.5	6,127.2	144.21	43.488	
6,650.0	6,579.2	6,536.7	6,536.7	19.5	129.1	21.03	2,417.7	-5,176.1	6,266.6	6,122.3	144.33	43.419	
6,700.0	6,628.4	6,585.9	6,585.9	19.5	130.1	21.29	2,417.7	-5,176.1	6,258.5	6,114.7	143.84	43.511	
6,750.0	6,676.9	6,634.4	6,634.4	19.5	131.1	21.67	2,417.7	-5,176.1	6,247.2	6,104.5	142.75	43.765	
6,800.0	6,724.5	6,682.0	6,682.0	19.4	132.0	22.17	2,417.7	-5,176.1	6,232.8	6,091.7	141.08	44.178	
6,850.0	6,770.8	6,728.3	6,728.3	19.4	133.0	22.81	2,417.7	-5,176.1	6,215.3	6,076.5	138.89	44.751	
6,900.0	6,815.8	6,773.3	6,773.3	19.3	133.9	23.59	2,417.7	-5,176.1	6,194.9	6,058.7	136.22	45.477	
6,950.0	6,859.1	6,816.6	6,816.6	19.2	134.7	24.55	2,417.7	-5,176.1	6,171.6	6,038.4	133.18	46.342	
7,000.0	6,900.5	6,858.0	6,858.0	19.1	135.6	25.69	2,417.7	-5,176.1	6,145.6	6,015.7	129.87	47.320	
7,050.0	6,939.9	6,897.4	6,897.4	19.1	136.4	27.05	2,417.7	-5,176.1	6,116.9	5,990.4	126.48	48.363	
7,100.0	6,977.1	6,934.6	6,934.6	19.0	137.1	28.68	2,417.7	-5,176.1	6,085.8	5,962.6	123.22	49.391	
7,150.0	7,011.8	6,969.3	6,969.3	19.0	137.8	30.62	2,417.7	-5,176.1	6,052.4	5,932.0	120.38	50.279	
7,200.0	7,044.0	7,001.5	7,001.5	19.1	138.5	32.93	2,417.7	-5,176.1	6,016.8	5,898.5	118.31	50.854	
7,250.0	7,073.4	7,030.9	7,030.9	19.1	139.0	35.68	2,417.7	-5,176.1	5,979.3	5,861.8	117.46	50.905	
7,300.0	7,099.9	7,057.4	7,057.4	19.3	139.6	38.98	2,417.7	-5,176.1	5,940.0	5,821.7	118.26	50.229	
7,350.0	7,123.4	7,080.9	7,080.9	19.5	140.0	42.93	2,417.7	-5,176.1	5,899.1	5,778.0	121.10	48.712	
7,400.0	7,143.7	7,101.2	7,101.2	19.8	140.5	47.66	2,417.7	-5,176.1	5,856.8	5,730.6	126.20	46.408	
7,450.0	7,160.9	7,118.4	7,118.4	20.2	140.8	53.30	2,417.7	-5,176.1	5,813.4	5,680.0	133.43	43.569	
7,500.0	7,174.7	7,132.2	7,132.2	20.7	141.1	59.95	2,417.7	-5,176.1	5,769.1	5,626.9	142.16	40.583	
7,550.0	7,185.1	7,142.6	7,142.6	21.2	141.3	67.62	2,417.7	-5,176.1	5,724.0	5,572.8	151.19	37.861	
7,600.0	7,192.1	7,149.6	7,149.6	21.8	141.4	76.18	2,417.7	-5,176.1	5,678.5	5,519.6	158.86	35.744	
7,650.0	7,195.6	7,153.1	7,153.1	22.5	141.5	85.31	2,417.7	-5,176.1	5,632.6	5,469.1	163.53	34.445	
7,680.0	7,196.0	7,153.5	7,153.5	22.9	141.5	90.86	2,417.7	-5,176.1	5,605.1	5,440.7	164.42	34.090	
7,700.0	7,195.9	7,153.4	7,153.4	23.3	141.5	90.86	2,417.7	-5,176.1	5,586.8	5,422.0	164.72	33.916	
7,800.0	7,195.2	7,152.7	7,152.7	24.9	141.5	90.84	2,417.7	-5,176.1	5,495.2	5,328.9	166.36	33.033	
7,900.0	7,194.6	7,152.1	7,152.1	26.7	141.5	90.82	2,417.7	-5,176.1	5,404.0	5,235.8	168.19	32.131	
8,000.0	7,193.9	7,151.4	7,151.4	28.7	141.5	90.81	2,417.7	-5,176.1	5,313.0	5,142.9	170.17	31.221	
8,100.0	7,193.3	7,150.8	7,150.8	30.9	141.5	90.79	2,417.7	-5,176.1	5,222.4	5,050.2	172.29	30.313	
8,200.0	7,192.6	7,150.1	7,150.1	33.1	141.4	90.77	2,417.7	-5,176.1	5,132.2	4,957.7	174.50	29.411	
8,300.0	7,192.0	7,149.5	7,149.5	35.4	141.4	90.76	2,417.7	-5,176.1	5,042.3	4,865.5	176.80	28.520	
8,400.0	7,191.3	7,148.8	7,148.8	37.8	141.4	90.74	2,417.7	-5,176.1	4,952.8	4,773.7	179.16	27.644	
8,500.0	7,190.7	7,148.2	7,148.2	40.2	141.4	90.72	2,417.7	-5,176.1	4,863.7	4,682.1	181.58	26.785	
8,600.0	7,190.0	7,147.5	7,147.5	42.7	141.4	90.71	2,417.7	-5,176.1	4,775.1	4,591.0	184.05	25.944	
8,700.0	7,189.4	7,146.9	7,146.9	45.2	141.4	90.69	2,417.7	-5,176.1	4,686.9	4,500.3	186.56	25.123	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-INC — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,146.2	7,146.2	47.8	141.4	90.68	2,417.7	-5,176.1	4,599.2	4,410.1	189.09	24.322	
8,900.0	7,188.0	7,145.5	7,145.5	50.3	141.3	90.66	2,417.7	-5,176.1	4,512.0	4,320.3	191.66	23.541	
9,000.0	7,187.4	7,144.9	7,144.9	52.9	141.3	90.64	2,417.7	-5,176.1	4,425.3	4,231.0	194.25	22.782	
9,100.0	7,186.7	7,144.2	7,144.2	55.6	141.3	90.63	2,417.7	-5,176.1	4,339.2	4,142.3	196.86	22.042	
9,200.0	7,186.1	7,143.6	7,143.6	58.2	141.3	90.61	2,417.7	-5,176.1	4,253.7	4,054.2	199.48	21.324	
9,300.0	7,185.4	7,142.9	7,142.9	60.9	141.3	90.59	2,417.7	-5,176.1	4,168.9	3,966.8	202.13	20.625	
9,400.0	7,184.8	7,142.3	7,142.3	63.5	141.3	90.58	2,417.7	-5,176.1	4,084.7	3,880.0	204.78	19.947	
9,500.0	7,184.1	7,141.6	7,141.6	66.2	141.3	90.56	2,417.7	-5,176.1	4,001.3	3,793.9	207.45	19.288	
9,600.0	7,183.5	7,141.0	7,141.0	68.9	141.3	90.54	2,417.7	-5,176.1	3,918.7	3,708.6	210.12	18.649	
9,700.0	7,182.8	7,140.3	7,140.3	71.6	141.2	90.53	2,417.7	-5,176.1	3,836.9	3,624.1	212.81	18.029	
9,800.0	7,182.2	7,139.7	7,139.7	74.3	141.2	90.51	2,417.7	-5,176.1	3,755.9	3,540.4	215.50	17.429	
9,900.0	7,181.5	7,139.0	7,139.0	77.0	141.2	90.49	2,417.7	-5,176.1	3,675.9	3,457.7	218.21	16.846	
10,000.0	7,180.8	7,138.3	7,138.3	79.7	141.2	90.48	2,417.7	-5,176.1	3,596.9	3,376.0	220.91	16.282	
10,100.0	7,180.2	7,137.7	7,137.7	82.5	141.2	90.46	2,417.7	-5,176.1	3,519.0	3,295.4	223.63	15.736	
10,200.0	7,179.5	7,137.0	7,137.0	85.2	141.2	90.44	2,417.7	-5,176.1	3,442.2	3,215.9	226.35	15.208	
10,300.0	7,178.9	7,136.4	7,136.4	87.9	141.2	90.43	2,417.7	-5,176.1	3,366.6	3,137.6	229.07	14.697	
10,400.0	7,178.2	7,135.7	7,135.7	90.7	141.2	90.41	2,417.7	-5,176.1	3,292.4	3,060.6	231.80	14.204	
10,500.0	7,177.6	7,135.1	7,135.1	93.4	141.1	90.39	2,417.7	-5,176.1	3,219.5	2,985.0	234.53	13.727	
10,600.0	7,176.9	7,134.4	7,134.4	96.2	141.1	90.38	2,417.7	-5,176.1	3,148.1	2,910.9	237.27	13.268	
10,700.0	7,176.2	7,133.7	7,133.7	98.9	141.1	90.36	2,417.7	-5,176.1	3,078.3	2,838.3	240.01	12.826	
10,800.0	7,175.6	7,133.1	7,133.1	101.7	141.1	90.34	2,417.7	-5,176.1	3,010.3	2,767.5	242.75	12.401	
10,900.0	7,174.9	7,132.4	7,132.4	104.4	141.1	90.33	2,417.7	-5,176.1	2,944.0	2,698.5	245.50	11.992	
11,000.0	7,174.3	7,131.8	7,131.8	107.2	141.1	90.31	2,417.7	-5,176.1	2,879.7	2,631.4	248.24	11.600	
11,100.0	7,173.6	7,131.1	7,131.1	109.9	141.1	90.29	2,417.7	-5,176.1	2,817.4	2,566.4	250.99	11.225	
11,200.0	7,172.9	7,130.4	7,130.4	112.7	141.0	90.28	2,417.7	-5,176.1	2,757.4	2,503.7	253.75	10.867	
11,300.0	7,172.3	7,129.8	7,129.8	115.5	141.0	90.26	2,417.7	-5,176.1	2,699.8	2,443.3	256.50	10.525	
11,400.0	7,171.6	7,129.1	7,129.1	118.3	141.0	90.24	2,417.7	-5,176.1	2,644.7	2,385.4	259.26	10.201	
11,500.0	7,171.0	7,128.5	7,128.5	121.0	141.0	90.22	2,417.7	-5,176.1	2,592.3	2,330.2	262.02	9.893	
11,600.0	7,170.3	7,127.8	7,127.8	123.8	141.0	90.21	2,417.7	-5,176.1	2,542.7	2,277.9	264.78	9.603	
11,700.0	7,169.6	7,127.1	7,127.1	126.6	141.0	90.19	2,417.7	-5,176.1	2,496.1	2,228.6	267.54	9.330	
11,797.6	7,169.0	7,126.5	7,126.5	129.3	141.0	90.17	2,417.7	-5,176.1	2,453.8	2,183.6	270.23	9.080	CC, ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21N-234 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	1.0	1.0	0.0	0.0	0.43	75.0	0.6	75.0				
100.0	100.0	101.0	101.0	0.1	0.1	0.43	75.0	0.6	75.0	74.9	0.20	381.597	
200.0	200.0	201.0	201.0	0.3	0.3	0.43	75.0	0.6	75.0	74.4	0.65	116.138	
300.0	300.0	301.0	301.0	0.5	0.5	0.43	75.0	0.6	75.0	74.0	1.10	68.492	
366.3	366.3	367.3	367.3	0.7	0.7	0.43	75.0	0.6	75.0	73.7	1.39	53.841	CC
400.0	400.0	400.0	400.0	0.8	0.8	0.43	75.0	0.6	75.1	73.5	1.54	48.642	ES
500.0	500.0	498.7	498.7	1.0	1.0	1.02	76.5	1.4	76.6	74.6	1.99	38.534	
600.0	600.0	596.1	596.0	1.2	1.2	2.65	81.0	3.7	81.2	78.8	2.43	33.381	
700.0	700.0	693.2	692.7	1.4	1.4	4.97	88.2	7.7	89.0	86.1	2.89	30.785	
800.0	800.0	789.5	788.3	1.7	1.7	7.60	98.3	13.1	100.0	96.6	3.37	29.674	
900.0	900.0	885.0	882.7	1.9	2.0	10.21	111.1	20.0	114.4	110.5	3.88	29.461	
1,000.0	1,000.0	979.6	975.6	2.1	2.3	-62.42	126.5	28.3	131.3	127.0	4.27	30.747	
1,100.0	1,099.8	1,073.4	1,067.2	2.3	2.7	-61.57	144.4	38.0	149.7	145.0	4.73	31.685	
1,200.0	1,199.5	1,166.5	1,157.4	2.5	3.1	-61.54	164.8	49.0	169.7	164.5	5.21	32.592	
1,300.0	1,298.7	1,264.5	1,251.9	2.8	3.6	-62.27	187.5	61.2	189.5	183.8	5.73	33.085	
1,400.0	1,397.5	1,362.6	1,346.6	3.1	4.0	-63.69	210.3	73.5	207.8	201.5	6.29	33.027	
1,500.0	1,495.6	1,460.8	1,441.3	3.4	4.5	-65.66	233.0	85.8	224.9	218.0	6.92	32.509	
1,500.1	1,495.7	1,460.9	1,441.4	3.4	4.5	-65.66	233.1	85.8	224.9	218.0	6.92	32.508	
1,600.0	1,593.4	1,558.9	1,535.9	3.8	5.0	-68.00	255.8	98.1	241.6	234.0	7.61	31.731	
1,700.0	1,691.3	1,657.1	1,630.6	4.1	5.6	-70.04	278.6	110.3	258.7	250.3	8.35	30.995	
1,800.0	1,789.1	1,755.2	1,725.3	4.5	6.1	-71.83	301.3	122.6	276.0	266.9	9.11	30.312	
1,900.0	1,886.9	1,853.3	1,819.9	4.9	6.6	-73.40	324.1	134.9	293.6	283.7	9.89	29.687	
2,000.0	1,984.7	1,951.5	1,914.6	5.3	7.1	-74.80	346.9	147.2	311.4	300.7	10.69	29.121	
2,100.0	2,082.5	2,049.6	2,009.3	5.7	7.6	-76.04	369.6	159.5	329.3	317.8	11.51	28.610	
2,200.0	2,180.3	2,147.8	2,103.9	6.2	8.1	-77.16	392.4	171.8	347.4	335.0	12.34	28.150	
2,300.0	2,278.1	2,245.9	2,198.6	6.6	8.7	-78.17	415.2	184.0	365.6	352.4	13.18	27.735	
2,400.0	2,375.9	2,344.0	2,293.3	7.0	9.2	-79.08	437.9	196.3	383.8	369.8	14.03	27.362	
2,500.0	2,473.8	2,442.2	2,387.9	7.5	9.7	-79.91	460.7	208.6	402.2	387.3	14.88	27.024	
2,600.0	2,571.6	2,540.3	2,482.6	7.9	10.2	-80.67	483.5	220.9	420.7	404.9	15.74	26.718	
2,700.0	2,669.4	2,638.4	2,577.3	8.3	10.8	-81.36	506.2	233.2	439.2	422.6	16.61	26.440	
2,800.0	2,767.2	2,736.6	2,671.9	8.8	11.3	-82.00	529.0	245.4	457.7	440.3	17.48	26.186	
2,900.0	2,865.0	2,834.7	2,766.6	9.2	11.8	-82.58	551.8	257.7	476.3	458.0	18.35	25.955	
3,000.0	2,962.8	2,932.9	2,861.3	9.7	12.3	-83.13	574.6	270.0	495.0	475.8	19.23	25.743	
3,100.0	3,060.6	3,031.0	2,955.9	10.1	12.9	-83.63	597.3	282.3	513.7	493.6	20.11	25.548	
3,200.0	3,158.5	3,129.1	3,050.6	10.6	13.4	-84.10	620.1	294.6	532.4	511.5	20.99	25.368	
3,300.0	3,256.3	3,227.3	3,145.3	11.0	13.9	-84.54	642.9	306.9	551.2	529.3	21.87	25.202	
3,400.0	3,354.1	3,325.4	3,240.0	11.5	14.5	-84.95	665.6	319.1	570.0	547.3	22.76	25.049	
3,500.0	3,451.9	3,423.6	3,334.6	11.9	15.0	-85.33	688.4	331.4	588.8	565.2	23.64	24.906	
3,600.0	3,549.7	3,521.7	3,429.3	12.4	15.5	-85.69	711.2	343.7	607.7	583.2	24.53	24.774	
3,700.0	3,647.5	3,619.8	3,524.0	12.8	16.0	-86.02	733.9	356.0	626.5	601.1	25.42	24.650	
3,800.0	3,745.3	3,718.0	3,618.6	13.3	16.6	-86.34	756.7	368.3	645.4	619.1	26.31	24.534	
3,900.0	3,843.2	3,816.1	3,713.3	13.7	17.1	-86.64	779.5	380.5	664.3	637.1	27.20	24.426	
4,000.0	3,941.0	3,914.3	3,808.0	14.2	17.6	-86.92	802.2	392.8	683.3	655.2	28.09	24.325	
4,100.0	4,038.8	4,012.4	3,902.6	14.6	18.2	-87.19	825.0	405.1	702.2	673.2	28.98	24.230	
4,200.0	4,136.6	4,110.5	3,997.3	15.1	18.7	-87.44	847.8	417.4	721.2	691.3	29.87	24.140	
4,300.0	4,234.4	4,208.7	4,092.0	15.5	19.2	-87.68	870.5	429.7	740.1	709.4	30.77	24.055	
4,325.2	4,259.1	4,233.4	4,115.8	15.6	19.3	-87.74	876.3	432.8	744.9	713.9	30.99	24.035	
4,400.0	4,332.4	4,306.8	4,186.6	15.9	19.7	-88.13	893.3	442.0	759.1	727.5	31.64	23.994	
4,500.0	4,431.0	4,405.0	4,281.3	16.2	20.3	-88.41	916.1	454.2	778.3	745.9	32.39	24.031	
4,600.0	4,530.2	4,503.0	4,375.9	16.5	20.8	-88.44	938.8	466.5	797.5	764.4	33.06	24.123	
4,700.0	4,629.7	4,600.7	4,470.2	16.7	21.3	-88.25	961.5	478.7	816.9	783.2	33.66	24.269	
4,800.0	4,729.5	4,698.1	4,564.1	16.9	21.9	-87.85	984.1	490.9	836.5	802.3	34.18	24.473	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21N-234 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,795.0	4,657.6	17.0	22.4	-87.27	1,006.6	503.1	856.4	821.8	34.62	24.734	
4,925.3	4,854.8	4,819.5	4,681.2	17.1	22.5	-12.41	1,012.2	506.1	861.5	831.2	30.38	28.361	
5,000.0	4,929.5	4,891.5	4,750.7	17.2	22.9	-11.58	1,029.0	515.1	876.8	845.8	30.97	28.306	
5,100.0	5,029.5	4,988.0	4,843.7	17.3	23.4	-10.52	1,051.3	527.2	897.4	865.6	31.79	28.234	
5,200.0	5,129.5	5,084.4	4,936.8	17.4	23.9	-9.50	1,073.7	539.3	918.4	885.8	32.60	28.173	
5,300.0	5,229.5	5,180.9	5,029.8	17.6	24.5	-8.52	1,096.1	551.3	939.6	906.2	33.41	28.122	
5,400.0	5,329.5	5,277.4	5,122.9	17.7	25.0	-7.59	1,118.5	563.4	961.1	926.9	34.23	28.080	
5,500.0	5,429.5	5,373.8	5,215.9	17.9	25.5	-6.70	1,140.9	575.5	982.8	947.8	35.04	28.046	
5,600.0	5,529.5	5,470.3	5,309.0	18.0	26.0	-5.85	1,163.2	587.6	1,004.8	968.9	35.86	28.021	
5,700.0	5,629.5	5,566.8	5,402.0	18.1	26.5	-5.03	1,185.6	599.6	1,026.9	990.2	36.67	28.003	
5,800.0	5,729.5	5,663.2	5,495.1	18.3	27.1	-4.25	1,208.0	611.7	1,049.2	1,011.8	37.48	27.992	
5,900.0	5,829.5	5,760.9	5,589.3	18.4	27.6	-3.48	1,230.6	623.9	1,071.8	1,033.5	38.30	27.983	
6,000.0	5,929.5	5,904.8	5,729.1	18.6	28.2	-2.52	1,260.8	640.2	1,092.3	1,053.0	39.23	27.845	
6,100.0	6,029.5	6,052.0	5,873.6	18.7	28.7	-1.78	1,285.2	653.3	1,108.6	1,068.6	40.02	27.700	
6,200.0	6,129.5	6,201.7	6,021.8	18.9	29.1	-1.25	1,303.3	663.1	1,120.5	1,079.8	40.71	27.527	
6,300.0	6,229.5	6,353.1	6,172.7	19.1	29.3	-0.92	1,314.6	669.2	1,127.9	1,086.7	41.26	27.340	
6,400.0	6,329.5	6,505.6	6,325.1	19.2	29.5	-0.80	1,318.9	671.5	1,130.7	1,089.0	41.68	27.126	
6,500.0	6,429.5	6,609.6	6,429.0	19.4	29.6	-0.92	1,318.9	669.2	1,130.8	1,088.8	41.96	26.948	
6,550.3	6,479.8	6,658.1	6,477.2	19.5	29.6	-1.21	1,318.9	663.6	1,130.9	1,088.9	42.05	26.895	
6,600.0	6,529.4	6,705.4	6,523.7	19.5	29.6	88.43	1,318.9	655.0	1,131.1	1,090.8	40.26	28.096	
6,650.0	6,579.2	6,752.6	6,569.5	19.5	29.6	88.07	1,318.9	643.5	1,131.3	1,091.0	40.33	28.050	
6,700.0	6,628.4	6,800.0	6,614.5	19.5	29.6	87.71	1,318.9	628.8	1,131.6	1,091.2	40.35	28.042	
6,750.0	6,676.9	6,845.8	6,657.0	19.5	29.5	87.38	1,318.9	611.9	1,131.9	1,091.5	40.32	28.071	
6,800.0	6,724.5	6,891.8	6,698.6	19.4	29.4	87.05	1,318.9	592.1	1,132.2	1,091.9	40.25	28.130	
6,850.0	6,770.8	6,937.5	6,738.5	19.4	29.4	86.74	1,318.9	570.0	1,132.5	1,092.4	40.14	28.213	
6,900.0	6,815.8	6,982.8	6,776.7	19.3	29.3	86.44	1,318.9	545.4	1,132.9	1,092.8	40.01	28.314	
6,950.0	6,859.1	7,027.9	6,813.0	19.2	29.2	86.16	1,318.9	518.8	1,133.2	1,093.3	39.87	28.422	
7,000.0	6,900.5	7,072.7	6,847.3	19.1	29.1	85.90	1,318.9	490.0	1,133.6	1,093.8	39.73	28.529	
7,050.0	6,939.9	7,117.2	6,879.6	19.1	29.0	85.66	1,318.9	459.4	1,133.9	1,094.3	39.62	28.622	
7,100.0	6,977.1	7,161.6	6,909.8	19.0	28.8	85.43	1,318.9	426.9	1,134.3	1,094.7	39.54	28.687	
7,150.0	7,011.8	7,205.7	6,937.9	19.0	28.7	85.23	1,318.9	392.8	1,134.6	1,095.1	39.52	28.711	
7,200.0	7,044.0	7,250.0	6,963.8	19.1	28.6	85.04	1,318.9	356.9	1,134.9	1,095.3	39.57	28.679	
7,250.0	7,073.4	7,293.4	6,987.1	19.1	28.5	84.88	1,318.9	320.3	1,135.2	1,095.5	39.73	28.574	
7,300.0	7,099.9	7,337.1	7,008.2	19.3	28.4	84.74	1,318.9	282.0	1,135.4	1,095.4	39.99	28.390	
7,350.0	7,123.4	7,380.6	7,026.8	19.5	28.3	84.62	1,318.9	242.7	1,135.7	1,095.3	40.39	28.120	
7,400.0	7,143.7	7,424.1	7,043.0	19.8	28.2	84.53	1,318.9	202.4	1,135.8	1,094.9	40.91	27.763	
7,450.0	7,160.9	7,467.4	7,056.8	20.2	28.1	84.46	1,318.9	161.3	1,136.0	1,094.4	41.58	27.322	
7,500.0	7,174.7	7,510.8	7,068.0	20.7	28.0	84.41	1,318.9	119.4	1,136.0	1,093.7	42.38	26.805	
7,550.0	7,185.1	7,554.1	7,076.6	21.2	27.9	84.39	1,318.9	77.0	1,136.1	1,092.8	43.33	26.223	
7,600.0	7,192.1	7,600.0	7,082.9	21.8	27.8	84.39	1,318.9	31.5	1,136.1	1,091.7	44.43	25.571	
7,650.0	7,195.6	7,640.6	7,086.1	22.5	27.7	84.41	1,318.9	-9.0	1,136.0	1,090.4	45.60	24.916	
7,680.0	7,196.0	7,666.6	7,086.9	22.9	27.7	84.44	1,318.9	-35.0	1,136.0	1,089.6	46.36	24.504	
7,700.0	7,195.9	7,684.9	7,087.0	23.3	27.6	84.45	1,318.9	-53.3	1,136.0	1,089.1	46.91	24.217	
7,800.0	7,195.2	7,784.9	7,086.8	24.9	27.5	84.47	1,318.9	-153.3	1,135.9	1,085.9	50.06	22.693	
7,900.0	7,194.6	7,884.9	7,086.6	26.7	27.8	84.50	1,318.9	-253.3	1,135.9	1,082.3	53.59	21.195	
8,000.0	7,193.9	7,984.9	7,086.4	28.7	29.2	84.52	1,318.9	-353.3	1,135.8	1,078.4	57.46	19.769	
8,100.0	7,193.3	8,084.9	7,086.2	30.9	31.2	84.54	1,318.9	-453.3	1,135.8	1,074.2	61.59	18.443	
8,200.0	7,192.6	8,184.9	7,086.0	33.1	33.4	84.56	1,318.9	-553.3	1,135.8	1,069.8	65.93	17.226	
8,300.0	7,192.0	8,284.9	7,085.8	35.4	35.6	84.59	1,318.9	-653.3	1,135.7	1,065.3	70.46	16.120	
8,400.0	7,191.3	8,384.9	7,085.6	37.8	37.9	84.61	1,318.9	-753.2	1,135.7	1,060.5	75.12	15.117	
8,500.0	7,190.7	8,484.9	7,085.4	40.2	40.3	84.63	1,318.9	-853.2	1,135.6	1,055.7	79.91	14.211	
8,600.0	7,190.0	8,584.9	7,085.2	42.7	42.8	84.66	1,318.9	-953.2	1,135.6	1,050.8	84.80	13.391	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21N-234 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,700.0	7,189.4	8,684.9	7,085.0	45.2	45.2	84.68	1,318.9	-1,053.2	1,135.5	1,045.8	89.77	12.649	
8,800.0	7,188.7	8,784.9	7,084.9	47.8	47.7	84.70	1,318.9	-1,153.2	1,135.5	1,040.7	94.81	11.976	
8,900.0	7,188.0	8,884.9	7,084.7	50.3	50.3	84.73	1,318.9	-1,253.2	1,135.5	1,035.5	99.91	11.365	
9,000.0	7,187.4	8,984.9	7,084.5	52.9	52.8	84.75	1,318.9	-1,353.2	1,135.4	1,030.3	105.06	10.807	
9,100.0	7,186.7	9,084.9	7,084.3	55.6	55.4	84.77	1,318.9	-1,453.2	1,135.4	1,025.1	110.26	10.297	
9,200.0	7,186.1	9,184.9	7,084.1	58.2	58.0	84.79	1,318.9	-1,553.2	1,135.3	1,019.8	115.49	9.830	
9,300.0	7,185.4	9,284.9	7,083.9	60.9	60.7	84.82	1,318.9	-1,653.2	1,135.3	1,014.5	120.76	9.401	
9,400.0	7,184.8	9,384.9	7,083.7	63.5	63.3	84.84	1,318.9	-1,753.2	1,135.2	1,009.2	126.05	9.006	
9,500.0	7,184.1	9,484.9	7,083.5	66.2	65.9	84.86	1,318.9	-1,853.2	1,135.2	1,003.8	131.37	8.641	
9,600.0	7,183.5	9,584.9	7,083.3	68.9	68.6	84.89	1,318.9	-1,953.2	1,135.2	998.4	136.72	8.303	
9,700.0	7,182.8	9,684.9	7,083.1	71.6	71.3	84.91	1,318.9	-2,053.2	1,135.1	993.0	142.08	7.989	
9,800.0	7,182.2	9,784.9	7,082.9	74.3	74.0	84.93	1,318.9	-2,153.2	1,135.1	987.6	147.46	7.697	
9,900.0	7,181.5	9,884.9	7,082.7	77.0	76.6	84.96	1,318.9	-2,253.2	1,135.0	982.2	152.86	7.425	
10,000.0	7,180.8	9,984.9	7,082.5	79.7	79.3	84.98	1,318.9	-2,353.2	1,135.0	976.7	158.27	7.171	
10,100.0	7,180.2	10,084.9	7,082.3	82.5	82.0	85.00	1,318.9	-2,453.2	1,134.9	971.2	163.70	6.933	
10,200.0	7,179.5	10,184.9	7,082.1	85.2	84.8	85.03	1,318.9	-2,553.2	1,134.9	965.8	169.14	6.710	
10,300.0	7,178.9	10,284.9	7,081.9	87.9	87.5	85.05	1,318.9	-2,653.2	1,134.9	960.3	174.58	6.500	
10,400.0	7,178.2	10,384.9	7,081.7	90.7	90.2	85.07	1,318.9	-2,753.2	1,134.8	954.8	180.04	6.303	
10,500.0	7,177.6	10,484.9	7,081.5	93.4	92.9	85.09	1,318.9	-2,853.2	1,134.8	949.3	185.51	6.117	
10,600.0	7,176.9	10,584.9	7,081.3	96.2	95.7	85.12	1,318.9	-2,953.2	1,134.7	943.8	190.98	5.942	
10,700.0	7,176.2	10,684.9	7,081.1	98.9	98.4	85.14	1,318.9	-3,053.2	1,134.7	938.2	196.47	5.776	
10,800.0	7,175.6	10,784.9	7,080.9	101.7	101.1	85.16	1,318.9	-3,153.2	1,134.7	932.7	201.96	5.618	
10,900.0	7,174.9	10,884.9	7,080.7	104.4	103.9	85.19	1,318.9	-3,253.2	1,134.6	927.2	207.45	5.469	
11,000.0	7,174.3	10,984.9	7,080.5	107.2	106.6	85.21	1,318.9	-3,353.2	1,134.6	921.6	212.95	5.328	
11,100.0	7,173.6	11,084.9	7,080.3	109.9	109.4	85.23	1,318.9	-3,453.2	1,134.5	916.1	218.46	5.193	
11,200.0	7,172.9	11,184.9	7,080.1	112.7	112.1	85.26	1,318.9	-3,553.2	1,134.5	910.5	223.97	5.065	
11,300.0	7,172.3	11,284.9	7,079.9	115.5	114.9	85.28	1,318.9	-3,653.2	1,134.5	905.0	229.49	4.943	
11,400.0	7,171.6	11,384.9	7,079.7	118.3	117.6	85.30	1,318.9	-3,753.2	1,134.4	899.4	235.01	4.827	
11,500.0	7,171.0	11,484.9	7,079.5	121.0	120.4	85.33	1,318.9	-3,853.2	1,134.4	893.8	240.54	4.716	
11,600.0	7,170.3	11,584.9	7,079.3	123.8	123.1	85.35	1,318.9	-3,953.2	1,134.3	888.3	246.07	4.610	
11,700.0	7,169.6	11,684.9	7,079.1	126.6	125.9	85.37	1,318.9	-4,053.2	1,134.3	882.7	251.60	4.508	
11,797.6	7,169.0	11,782.4	7,078.9	129.3	128.6	85.40	1,318.9	-4,150.8	1,134.3	877.3	257.00	4.413	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21N-334 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	2.0	2.0	0.0	0.0	0.53	90.0	0.8	90.0				
100.0	100.0	102.0	102.0	0.1	0.1	0.53	90.0	0.8	90.0	89.8	0.20	452.383	
200.0	200.0	202.0	202.0	0.3	0.3	0.53	90.0	0.8	90.0	89.3	0.65	138.773	
266.0	266.0	268.0	268.0	0.5	0.5	0.53	90.0	0.8	90.0	89.0	0.95	95.216	CC
300.0	300.0	301.9	301.9	0.5	0.6	0.53	90.0	0.8	90.0	88.9	1.10	81.969	ES
400.0	400.0	400.0	400.0	0.8	0.8	0.99	91.6	1.6	91.6	90.1	1.54	59.423	
500.0	500.0	496.1	495.9	1.0	1.0	2.20	96.1	3.7	96.3	94.3	1.99	48.519	
600.0	600.0	592.6	592.1	1.2	1.2	3.98	103.5	7.2	104.2	101.8	2.45	42.618	
700.0	700.0	688.4	687.3	1.4	1.5	6.04	113.8	12.0	115.4	112.4	2.93	39.368	
800.0	800.0	783.4	781.1	1.7	1.8	8.15	126.8	18.2	129.8	126.3	3.45	37.636	
900.0	900.0	877.3	873.4	1.9	2.1	10.16	142.4	25.5	147.5	143.5	4.01	36.829	
1,000.0	1,000.0	970.3	964.2	2.1	2.5	-62.84	160.6	34.1	167.7	163.4	4.30	39.032	
1,100.0	1,099.8	1,062.3	1,053.3	2.3	2.9	-62.13	181.2	43.8	189.5	184.7	4.76	39.820	
1,200.0	1,199.5	1,155.2	1,142.6	2.5	3.4	-62.09	204.5	54.8	212.5	207.3	5.25	40.501	
1,300.0	1,298.7	1,252.6	1,236.0	2.8	3.9	-62.74	229.6	66.6	234.8	229.1	5.77	40.687	
1,400.0	1,397.5	1,350.2	1,329.5	3.1	4.4	-63.94	254.7	78.4	255.7	249.4	6.34	40.329	
1,500.0	1,495.6	1,447.8	1,423.1	3.4	5.0	-65.58	279.9	90.2	275.3	268.3	6.97	39.488	
1,500.1	1,495.7	1,447.9	1,423.2	3.4	5.0	-65.58	279.9	90.3	275.3	268.4	6.97	39.487	
1,600.0	1,593.4	1,545.4	1,516.6	3.8	5.5	-67.64	305.0	102.1	294.6	286.9	7.67	38.415	
1,700.0	1,691.3	1,643.0	1,610.2	4.1	6.0	-69.44	330.2	113.9	314.1	305.7	8.40	37.403	
1,800.0	1,789.1	1,740.6	1,703.8	4.5	6.6	-71.03	355.3	125.8	334.0	324.8	9.16	36.469	
1,900.0	1,886.9	1,838.2	1,797.4	4.9	7.1	-72.45	380.5	137.6	354.0	344.1	9.94	35.618	
2,000.0	1,984.7	1,935.8	1,890.9	5.3	7.7	-73.71	405.6	149.4	374.3	363.5	10.74	34.849	
2,100.0	2,082.5	2,033.5	1,984.5	5.7	8.3	-74.84	430.8	161.3	394.6	383.1	11.55	34.155	
2,200.0	2,180.3	2,131.1	2,078.1	6.2	8.8	-75.87	455.9	173.1	415.2	402.8	12.38	33.530	
2,300.0	2,278.1	2,228.7	2,171.6	6.6	9.4	-76.79	481.1	185.0	435.8	422.6	13.22	32.967	
2,400.0	2,375.9	2,326.3	2,265.2	7.0	9.9	-77.64	506.2	196.8	456.6	442.5	14.07	32.459	
2,500.0	2,473.8	2,423.9	2,358.8	7.5	10.5	-78.40	531.4	208.6	477.4	462.5	14.92	31.999	
2,600.0	2,571.6	2,521.5	2,452.3	7.9	11.0	-79.11	556.5	220.5	498.3	482.5	15.78	31.581	
2,700.0	2,669.4	2,619.1	2,545.9	8.3	11.6	-79.76	581.7	232.3	519.3	502.7	16.64	31.201	
2,800.0	2,767.2	2,716.7	2,639.5	8.8	12.2	-80.36	606.8	244.2	540.3	522.8	17.51	30.855	
2,900.0	2,865.0	2,814.4	2,733.1	9.2	12.7	-80.91	632.0	256.0	561.4	543.0	18.38	30.537	
3,000.0	2,962.8	2,912.0	2,826.6	9.7	13.3	-81.42	657.1	267.9	582.5	563.3	19.26	30.246	
3,100.0	3,060.6	3,009.6	2,920.2	10.1	13.8	-81.90	682.3	279.7	603.7	583.6	20.14	29.978	
3,200.0	3,158.5	3,107.2	3,013.8	10.6	14.4	-82.35	707.4	291.5	624.9	603.9	21.02	29.731	
3,300.0	3,256.3	3,204.8	3,107.3	11.0	15.0	-82.76	732.6	303.4	646.2	624.3	21.90	29.503	
3,400.0	3,354.1	3,302.4	3,200.9	11.5	15.5	-83.15	757.7	315.2	667.5	644.7	22.79	29.291	
3,500.0	3,451.9	3,400.0	3,294.5	11.9	16.1	-83.52	782.9	327.1	688.8	665.1	23.67	29.094	
3,600.0	3,549.7	3,497.6	3,388.1	12.4	16.6	-83.86	808.0	338.9	710.1	685.5	24.56	28.910	
3,700.0	3,647.5	3,595.3	3,481.6	12.8	17.2	-84.19	833.2	350.7	731.5	706.0	25.45	28.739	
3,800.0	3,745.3	3,692.9	3,575.2	13.3	17.8	-84.49	858.3	362.6	752.8	726.5	26.34	28.579	
3,900.0	3,843.2	3,790.5	3,668.8	13.7	18.3	-84.78	883.5	374.4	774.2	747.0	27.23	28.429	
4,000.0	3,941.0	3,888.1	3,762.3	14.2	18.9	-85.05	908.6	386.3	795.6	767.5	28.13	28.288	
4,100.0	4,038.8	3,985.7	3,855.9	14.6	19.4	-85.31	933.8	398.1	817.1	788.0	29.02	28.156	
4,200.0	4,136.6	4,083.3	3,949.5	15.1	20.0	-85.56	958.9	409.9	838.5	808.6	29.91	28.031	
4,300.0	4,234.4	4,180.9	4,043.1	15.5	20.6	-85.79	984.0	421.8	860.0	829.1	30.81	27.913	
4,325.2	4,259.1	4,205.5	4,066.6	15.6	20.7	-85.85	990.4	424.8	865.4	834.3	31.03	27.884	
4,400.0	4,332.4	4,278.6	4,136.6	15.9	21.1	-86.28	1,009.2	433.6	881.5	849.8	31.69	27.815	
4,500.0	4,431.0	4,376.2	4,230.2	16.2	21.7	-86.65	1,034.3	445.5	903.2	870.8	32.46	27.830	
4,600.0	4,530.2	4,473.6	4,323.6	16.5	22.3	-86.82	1,059.5	457.3	925.2	892.1	33.15	27.912	
4,700.0	4,629.7	4,570.8	4,416.8	16.7	22.8	-86.78	1,084.5	469.1	947.4	913.6	33.76	28.059	
4,800.0	4,729.5	4,667.6	4,509.6	16.9	23.4	-86.57	1,109.4	480.8	969.9	935.6	34.31	28.271	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21N-334 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,763.9	4,601.9	17.0	23.9	-86.20	1,134.2	492.5	992.7	958.0	34.77	28.548	
4,925.3	4,854.8	4,788.2	4,625.2	17.1	24.1	-11.40	1,140.5	495.4	998.6	966.3	32.26	30.959	
5,000.0	4,929.5	4,859.8	4,693.8	17.2	24.5	-10.69	1,158.9	504.1	1,016.0	983.1	32.87	30.909	
5,100.0	5,029.5	4,955.6	4,785.7	17.3	25.0	-9.78	1,183.6	515.8	1,039.5	1,005.8	33.70	30.843	
5,200.0	5,129.5	5,051.5	4,877.6	17.4	25.6	-8.92	1,208.3	527.4	1,063.3	1,028.7	34.54	30.786	
5,300.0	5,229.5	5,147.4	4,969.5	17.6	26.1	-8.08	1,233.0	539.0	1,087.3	1,051.9	35.37	30.738	
5,400.0	5,329.5	5,243.2	5,061.4	17.7	26.7	-7.29	1,257.7	550.6	1,111.5	1,075.3	36.21	30.698	
5,500.0	5,429.5	5,339.1	5,153.3	17.9	27.2	-6.52	1,282.4	562.3	1,135.9	1,098.8	37.04	30.665	
5,600.0	5,529.5	5,434.9	5,245.1	18.0	27.8	-5.79	1,307.1	573.9	1,160.5	1,122.6	37.87	30.640	
5,700.0	5,629.5	5,530.8	5,337.0	18.1	28.4	-5.09	1,331.8	585.5	1,185.2	1,146.5	38.71	30.621	
5,800.0	5,729.5	5,626.7	5,428.9	18.3	28.9	-4.42	1,356.5	597.1	1,210.1	1,170.6	39.54	30.607	
5,900.0	5,829.5	5,722.5	5,520.8	18.4	29.5	-3.77	1,381.2	608.8	1,235.2	1,194.8	40.37	30.599	
6,000.0	5,929.5	5,818.4	5,612.7	18.6	30.0	-3.15	1,405.9	620.4	1,260.4	1,219.2	41.20	30.596	
6,100.0	6,029.5	5,963.3	5,752.4	18.7	30.7	-2.31	1,441.0	636.9	1,284.4	1,242.2	42.20	30.438	
6,200.0	6,129.5	6,127.2	5,912.3	18.9	31.3	-1.58	1,472.9	652.0	1,303.7	1,260.6	43.11	30.244	
6,300.0	6,229.5	6,294.7	6,077.7	19.1	31.8	-1.06	1,497.0	663.3	1,317.9	1,274.1	43.88	30.036	
6,400.0	6,329.5	6,464.8	6,246.9	19.2	32.1	-0.73	1,512.5	670.6	1,327.0	1,282.5	44.49	29.823	
6,500.0	6,429.5	6,636.3	6,418.2	19.4	32.4	-0.60	1,518.8	673.6	1,330.7	1,285.7	44.96	29.598	
6,550.3	6,479.8	6,699.8	6,481.8	19.5	32.4	-0.59	1,519.0	673.6	1,330.8	1,285.6	45.12	29.493	
6,600.0	6,529.4	6,748.6	6,530.5	19.5	32.5	89.40	1,519.0	671.8	1,330.8	1,290.0	40.72	32.678	
6,650.0	6,579.2	6,797.6	6,579.2	19.5	32.5	89.40	1,519.0	666.7	1,330.8	1,290.0	40.77	32.644	
6,700.0	6,628.4	6,846.7	6,627.5	19.5	32.5	89.40	1,519.0	658.3	1,330.8	1,290.0	40.75	32.656	
6,750.0	6,676.9	6,895.7	6,675.2	19.5	32.4	89.41	1,519.0	646.5	1,330.8	1,290.1	40.68	32.709	
6,800.0	6,724.5	6,944.8	6,721.9	19.4	32.4	89.41	1,519.0	631.5	1,330.8	1,290.2	40.57	32.798	
6,850.0	6,770.8	6,993.8	6,767.4	19.4	32.3	89.42	1,519.0	613.4	1,330.8	1,290.3	40.43	32.916	
6,900.0	6,815.8	7,042.9	6,811.7	19.3	32.3	89.44	1,519.0	592.1	1,330.7	1,290.5	40.26	33.055	
6,950.0	6,859.1	7,092.1	6,854.4	19.2	32.2	89.45	1,519.0	567.9	1,330.7	1,290.7	40.08	33.204	
7,000.0	6,900.5	7,141.2	6,895.4	19.1	32.1	89.47	1,519.0	540.8	1,330.7	1,290.8	39.90	33.352	
7,050.0	6,939.9	7,190.4	6,934.4	19.1	32.0	89.49	1,519.0	510.9	1,330.7	1,291.0	39.74	33.482	
7,100.0	6,977.1	7,239.6	6,971.3	19.0	31.9	89.51	1,519.0	478.4	1,330.7	1,291.1	39.63	33.580	
7,150.0	7,011.8	7,288.8	7,006.0	19.0	31.8	89.54	1,519.0	443.4	1,330.7	1,291.2	39.58	33.625	
7,200.0	7,044.0	7,338.1	7,038.1	19.1	31.7	89.57	1,519.0	406.1	1,330.7	1,291.1	39.60	33.601	
7,250.0	7,073.4	7,387.4	7,067.7	19.1	31.5	89.60	1,519.0	366.6	1,330.7	1,291.0	39.73	33.491	
7,300.0	7,099.9	7,436.8	7,094.5	19.3	31.4	89.63	1,519.0	325.1	1,330.7	1,290.7	39.99	33.280	
7,350.0	7,123.4	7,486.2	7,118.3	19.5	31.3	89.66	1,519.0	281.9	1,330.7	1,290.3	40.37	32.960	
7,400.0	7,143.7	7,535.7	7,139.2	19.8	31.2	89.70	1,519.0	237.0	1,330.7	1,289.8	40.91	32.528	
7,450.0	7,160.9	7,585.2	7,157.0	20.2	31.1	89.73	1,519.0	190.8	1,330.7	1,289.1	41.60	31.988	
7,500.0	7,174.7	7,634.8	7,171.5	20.7	31.0	89.77	1,519.0	143.4	1,330.7	1,288.2	42.45	31.350	
7,550.0	7,185.1	7,684.5	7,182.7	21.2	30.9	89.81	1,519.0	95.0	1,330.7	1,287.2	43.44	30.631	
7,600.0	7,192.1	7,734.2	7,190.5	21.8	30.8	89.85	1,519.0	46.0	1,330.7	1,286.1	44.58	29.849	
7,650.0	7,195.6	7,783.9	7,195.0	22.5	30.7	89.89	1,519.0	-3.6	1,330.7	1,284.8	45.84	29.026	
7,680.0	7,196.0	7,813.8	7,196.0	22.9	30.6	89.91	1,519.0	-33.5	1,330.7	1,284.0	46.65	28.523	
7,693.7	7,195.9	7,827.5	7,196.0	23.2	30.6	89.92	1,519.0	-47.2	1,330.7	1,283.6	47.04	28.290	
7,700.0	7,195.9	7,833.8	7,196.0	23.3	30.6	89.92	1,519.0	-53.5	1,330.7	1,283.5	47.22	28.181	
7,800.0	7,195.2	7,933.8	7,195.2	24.9	30.6	89.91	1,519.0	-153.5	1,330.7	1,280.3	50.35	26.430	
7,900.0	7,194.6	8,033.8	7,194.3	26.7	30.7	89.90	1,519.0	-253.4	1,330.7	1,276.8	53.86	24.706	
8,000.0	7,193.9	8,133.8	7,193.5	28.7	31.3	89.90	1,519.0	-353.4	1,330.7	1,273.0	57.71	23.059	
8,100.0	7,193.3	8,233.8	7,192.7	30.9	32.6	89.89	1,519.0	-453.4	1,330.7	1,268.9	61.82	21.523	
8,200.0	7,192.6	8,333.8	7,191.9	33.1	34.5	89.88	1,519.0	-553.4	1,330.7	1,264.5	66.16	20.112	
8,300.0	7,192.0	8,433.8	7,191.1	35.4	36.6	89.88	1,519.0	-653.4	1,330.7	1,260.0	70.68	18.826	
8,400.0	7,191.3	8,533.8	7,190.3	37.8	38.8	89.87	1,519.0	-753.4	1,330.7	1,255.3	75.35	17.660	
8,500.0	7,190.7	8,633.8	7,189.5	40.2	41.1	89.86	1,519.0	-853.4	1,330.7	1,250.5	80.14	16.605	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21N-334 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	8,733.8	7,188.7	42.7	43.5	89.86	1,519.0	-953.4	1,330.7	1,245.7	85.03	15.650	
8,700.0	7,189.4	8,833.8	7,187.9	45.2	45.9	89.85	1,519.0	-1,053.4	1,330.7	1,240.7	90.01	14.784	
8,800.0	7,188.7	8,933.8	7,187.1	47.8	48.4	89.84	1,519.0	-1,153.4	1,330.7	1,235.6	95.05	13.999	
8,900.0	7,188.0	9,033.8	7,186.3	50.3	50.9	89.84	1,519.0	-1,253.4	1,330.7	1,230.5	100.16	13.285	
9,000.0	7,187.4	9,133.8	7,185.5	52.9	53.4	89.83	1,519.0	-1,353.4	1,330.7	1,225.4	105.32	12.635	
9,100.0	7,186.7	9,233.8	7,184.7	55.6	56.0	89.82	1,519.0	-1,453.4	1,330.7	1,220.2	110.53	12.040	
9,200.0	7,186.1	9,333.8	7,183.9	58.2	58.6	89.82	1,519.0	-1,553.4	1,330.7	1,214.9	115.77	11.494	
9,300.0	7,185.4	9,433.8	7,183.1	60.9	61.2	89.81	1,519.0	-1,653.4	1,330.7	1,209.6	121.05	10.993	
9,400.0	7,184.8	9,533.8	7,182.2	63.5	63.8	89.80	1,519.0	-1,753.4	1,330.7	1,204.3	126.35	10.532	
9,500.0	7,184.1	9,633.8	7,181.4	66.2	66.4	89.80	1,519.0	-1,853.4	1,330.7	1,199.0	131.68	10.105	
9,600.0	7,183.5	9,733.8	7,180.6	68.9	69.0	89.79	1,519.0	-1,953.4	1,330.7	1,193.6	137.04	9.710	
9,700.0	7,182.8	9,833.8	7,179.8	71.6	71.7	89.79	1,519.0	-2,053.4	1,330.7	1,188.3	142.41	9.344	
9,800.0	7,182.2	9,933.8	7,179.0	74.3	74.4	89.78	1,519.0	-2,153.4	1,330.7	1,182.9	147.81	9.003	
9,900.0	7,181.5	10,033.8	7,178.2	77.0	77.0	89.77	1,519.0	-2,253.4	1,330.7	1,177.5	153.22	8.685	
10,000.0	7,180.8	10,133.8	7,177.4	79.7	79.7	89.77	1,519.0	-2,353.4	1,330.7	1,172.0	158.64	8.388	
10,100.0	7,180.2	10,233.8	7,176.6	82.5	82.4	89.76	1,519.0	-2,453.4	1,330.7	1,166.6	164.08	8.110	
10,200.0	7,179.5	10,333.8	7,175.8	85.2	85.1	89.75	1,519.0	-2,553.4	1,330.7	1,161.1	169.53	7.849	
10,300.0	7,178.9	10,433.8	7,175.0	87.9	87.8	89.75	1,519.0	-2,653.4	1,330.7	1,155.7	174.99	7.604	
10,400.0	7,178.2	10,533.8	7,174.2	90.7	90.5	89.74	1,519.0	-2,753.4	1,330.7	1,150.2	180.46	7.374	
10,500.0	7,177.6	10,633.8	7,173.3	93.4	93.2	89.73	1,519.0	-2,853.4	1,330.7	1,144.7	185.93	7.157	
10,600.0	7,176.9	10,733.8	7,172.5	96.2	96.0	89.73	1,519.0	-2,953.4	1,330.7	1,139.3	191.42	6.952	
10,700.0	7,176.2	10,833.8	7,171.7	98.9	98.7	89.72	1,519.0	-3,053.4	1,330.7	1,133.8	196.91	6.758	
10,800.0	7,175.6	10,933.8	7,170.9	101.7	101.4	89.71	1,519.0	-3,153.4	1,330.7	1,128.3	202.41	6.574	
10,900.0	7,174.9	11,033.8	7,170.1	104.4	104.2	89.71	1,519.0	-3,253.4	1,330.7	1,122.7	207.92	6.400	
11,000.0	7,174.3	11,133.8	7,169.3	107.2	106.9	89.70	1,519.0	-3,353.4	1,330.7	1,117.2	213.43	6.235	
11,100.0	7,173.6	11,233.8	7,168.5	109.9	109.6	89.69	1,519.0	-3,453.3	1,330.7	1,111.7	218.95	6.078	
11,200.0	7,172.9	11,333.8	7,167.7	112.7	112.4	89.69	1,519.0	-3,553.3	1,330.7	1,106.2	224.47	5.928	
11,300.0	7,172.3	11,433.8	7,166.9	115.5	115.1	89.68	1,519.0	-3,653.3	1,330.7	1,100.7	230.00	5.786	
11,400.0	7,171.6	11,533.8	7,166.1	118.3	117.9	89.67	1,519.0	-3,753.3	1,330.7	1,095.1	235.53	5.650	
11,500.0	7,171.0	11,633.8	7,165.2	121.0	120.6	89.67	1,519.0	-3,853.3	1,330.7	1,089.6	241.07	5.520	
11,600.0	7,170.3	11,733.8	7,164.4	123.8	123.4	89.66	1,519.0	-3,953.3	1,330.7	1,084.1	246.60	5.396	
11,700.0	7,169.6	11,833.8	7,163.6	126.6	126.2	89.65	1,519.0	-4,053.3	1,330.7	1,078.5	252.15	5.277	
11,797.6	7,169.0	11,931.4	7,162.8	129.3	128.8	89.65	1,519.0	-4,150.9	1,330.7	1,073.1	257.56	5.166	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-204 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	1.07	14.9	0.3	14.9				
100.0	100.0	100.0	100.0	0.1	0.1	1.07	14.9	0.3	14.9	14.7	0.19	76.838	
200.0	200.0	200.0	200.0	0.3	0.3	1.07	14.9	0.3	14.9	14.3	0.64	23.199	
300.0	300.0	300.0	300.0	0.5	0.5	1.07	14.9	0.3	14.9	13.8	1.09	13.662	
400.0	400.0	400.0	400.0	0.8	0.8	1.07	14.9	0.3	14.9	13.4	1.54	9.682	
500.0	500.0	500.0	500.0	1.0	1.0	1.07	14.9	0.3	14.9	12.9	1.99	7.497	
600.0	600.0	600.0	600.0	1.2	1.2	1.07	14.9	0.3	14.9	12.5	2.44	6.117	
700.0	700.0	700.0	700.0	1.4	1.4	1.07	14.9	0.3	14.9	12.0	2.89	5.166	
800.0	800.0	800.0	800.0	1.7	1.7	1.07	14.9	0.3	14.9	11.6	3.34	4.471	CC, ES
900.0	900.0	899.7	899.7	1.9	1.9	6.26	15.9	1.7	16.0	12.2	3.78	4.221	
1,000.0	1,000.0	999.2	999.0	2.1	2.1	-60.93	18.7	6.1	18.8	14.5	4.22	4.447	
1,100.0	1,099.8	1,098.6	1,098.0	2.3	2.3	-57.26	23.3	13.4	22.5	17.9	4.65	4.845	
1,200.0	1,199.5	1,197.8	1,196.5	2.5	2.6	-56.18	29.8	23.5	27.1	22.0	5.11	5.311	
1,300.0	1,298.7	1,296.9	1,294.4	2.8	2.9	-56.66	38.1	36.5	32.5	26.9	5.60	5.801	
1,400.0	1,397.5	1,395.8	1,391.5	3.1	3.2	-58.02	48.2	52.3	38.6	32.4	6.14	6.283	
1,500.0	1,495.6	1,495.5	1,489.0	3.4	3.5	-61.25	59.3	69.8	44.3	37.5	6.76	6.557	
1,500.1	1,495.7	1,495.6	1,489.2	3.4	3.5	-61.25	59.3	69.8	44.3	37.5	6.76	6.557	
1,600.0	1,593.4	1,595.3	1,586.7	3.8	3.9	-65.63	70.5	87.3	49.4	41.9	7.46	6.623	
1,700.0	1,691.3	1,695.1	1,684.3	4.1	4.3	-69.17	81.7	104.7	54.7	46.5	8.21	6.671	
1,800.0	1,789.1	1,794.9	1,781.9	4.5	4.7	-72.07	92.8	122.2	60.3	51.3	8.99	6.704	
1,900.0	1,886.9	1,894.7	1,879.5	4.9	5.1	-74.48	104.0	139.7	65.9	56.1	9.80	6.728	
2,000.0	1,984.7	1,994.5	1,977.2	5.3	5.5	-76.51	115.2	157.2	71.6	61.0	10.62	6.746	
2,100.0	2,082.5	2,094.3	2,074.8	5.7	6.0	-78.24	126.3	174.7	77.5	66.0	11.46	6.759	
2,200.0	2,180.3	2,194.1	2,172.4	6.2	6.4	-79.72	137.5	192.2	83.3	71.0	12.31	6.770	
2,300.0	2,278.1	2,294.0	2,270.0	6.6	6.8	-81.01	148.7	209.6	89.3	76.1	13.17	6.778	
2,400.0	2,375.9	2,393.8	2,367.7	7.0	7.3	-82.14	159.9	227.1	95.2	81.2	14.03	6.785	
2,500.0	2,473.8	2,493.6	2,465.3	7.5	7.7	-83.13	171.0	244.6	101.2	86.3	14.91	6.791	
2,600.0	2,571.6	2,593.4	2,562.9	7.9	8.1	-84.02	182.2	262.1	107.3	91.5	15.78	6.796	
2,700.0	2,669.4	2,693.2	2,660.5	8.3	8.6	-84.81	193.4	279.6	113.3	96.6	16.66	6.801	
2,800.0	2,767.2	2,793.0	2,758.2	8.8	9.0	-85.51	204.5	297.1	119.4	101.8	17.54	6.805	
2,900.0	2,865.0	2,892.8	2,855.8	9.2	9.4	-86.15	215.7	314.5	125.4	107.0	18.43	6.809	
3,000.0	2,962.8	2,992.6	2,953.4	9.7	9.9	-86.74	226.9	332.0	131.5	112.2	19.31	6.812	
3,100.0	3,060.6	3,092.4	3,051.1	10.1	10.3	-87.26	238.0	349.5	137.7	117.5	20.20	6.815	
3,200.0	3,158.5	3,192.2	3,148.7	10.6	10.8	-87.75	249.2	367.0	143.8	122.7	21.09	6.818	
3,300.0	3,256.3	3,292.0	3,246.3	11.0	11.2	-88.19	260.4	384.5	149.9	127.9	21.98	6.820	
3,400.0	3,354.1	3,391.8	3,343.9	11.5	11.7	-88.60	271.5	402.0	156.0	133.2	22.87	6.822	
3,500.0	3,451.9	3,491.6	3,441.6	11.9	12.1	-88.98	282.7	419.4	162.2	138.4	23.76	6.825	
3,600.0	3,549.7	3,591.4	3,539.2	12.4	12.6	-89.33	293.9	436.9	168.3	143.7	24.66	6.827	
3,700.0	3,647.5	3,691.2	3,636.8	12.8	13.0	-89.66	305.1	454.4	174.5	148.9	25.55	6.829	
3,800.0	3,745.3	3,791.0	3,734.4	13.3	13.5	-89.96	316.2	471.9	180.7	154.2	26.45	6.831	
3,900.0	3,843.2	3,890.8	3,832.1	13.7	13.9	-90.25	327.4	489.4	186.8	159.5	27.34	6.832	
4,000.0	3,941.0	3,990.6	3,929.7	14.2	14.4	-90.51	338.6	506.9	193.0	164.8	28.24	6.834	
4,100.0	4,038.8	4,090.5	4,027.3	14.6	14.8	-90.76	349.7	524.4	199.2	170.0	29.14	6.836	
4,200.0	4,136.6	4,190.3	4,124.9	15.1	15.2	-91.00	360.9	541.8	205.3	175.3	30.03	6.837	
4,300.0	4,234.4	4,290.1	4,222.6	15.5	15.7	-91.22	372.1	559.3	211.5	180.6	30.93	6.839	
4,325.2	4,259.1	4,315.2	4,247.2	15.6	15.8	-91.27	374.9	563.7	213.1	181.9	31.16	6.839	
4,400.0	4,332.4	4,389.9	4,320.2	15.9	16.1	-91.26	383.2	576.8	217.7	185.9	31.78	6.851	
4,500.0	4,431.0	4,489.6	4,417.7	16.2	16.6	-90.47	394.4	594.3	223.8	191.3	32.49	6.889	
4,600.0	4,530.2	4,589.2	4,515.1	16.5	17.0	-88.87	405.5	611.7	230.0	196.9	33.12	6.946	
4,700.0	4,629.7	4,688.5	4,612.3	16.7	17.5	-86.53	416.7	629.1	236.6	203.0	33.64	7.034	
4,800.0	4,729.5	4,790.8	4,712.7	16.9	17.8	-83.82	427.1	645.5	243.3	209.4	33.95	7.166	
4,900.0	4,829.5	4,893.7	4,814.4	17.0	18.1	-81.19	435.7	658.9	249.5	215.4	34.15	7.307	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-204 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,919.8	4,840.3	17.1	18.2	-5.86	437.6	661.8	251.0	226.1	24.91	10.077	
5,000.0	4,929.5	4,997.2	4,917.1	17.2	18.4	-4.07	442.3	669.3	255.0	229.5	25.44	10.021	
5,100.0	5,029.5	5,101.5	5,021.0	17.3	18.6	-2.39	447.0	676.6	259.1	233.0	26.08	9.935	
5,200.0	5,129.5	5,206.2	5,125.7	17.4	18.8	-1.47	449.6	680.7	261.4	234.8	26.58	9.835	
5,300.0	5,229.5	5,310.1	5,229.5	17.6	18.9	-1.25	450.2	681.7	262.0	235.0	26.96	9.717	
5,400.0	5,329.5	5,410.1	5,329.5	17.7	19.0	-1.25	450.2	681.7	262.0	234.7	27.32	9.591	
5,500.0	5,429.5	5,510.1	5,429.5	17.9	19.2	-1.25	450.2	681.7	262.0	234.3	27.67	9.467	
5,600.0	5,529.5	5,610.1	5,529.5	18.0	19.3	-1.25	450.2	681.7	262.0	234.0	28.03	9.346	
5,700.0	5,629.5	5,710.1	5,629.5	18.1	19.4	-1.25	450.2	681.7	262.0	233.6	28.40	9.227	
5,800.0	5,729.5	5,810.1	5,729.5	18.3	19.6	-1.25	450.2	681.7	262.0	233.2	28.76	9.110	
5,900.0	5,829.5	5,910.1	5,829.5	18.4	19.7	-1.25	450.2	681.7	262.0	232.9	29.13	8.995	
6,000.0	5,929.5	6,010.1	5,929.5	18.6	19.9	-1.25	450.2	681.7	262.0	232.5	29.50	8.883	
6,100.0	6,029.5	6,110.1	6,029.5	18.7	20.0	-1.25	450.2	681.7	262.0	232.1	29.87	8.772	
6,200.0	6,129.5	6,210.1	6,129.5	18.9	20.1	-1.25	450.2	681.7	262.0	231.8	30.24	8.664	
6,300.0	6,229.5	6,310.1	6,229.5	19.1	20.3	-1.25	450.2	681.7	262.0	231.4	30.61	8.558	
6,400.0	6,329.5	6,410.1	6,329.5	19.2	20.4	-1.25	450.2	681.7	262.0	231.0	30.99	8.454	
6,439.7	6,369.2	6,449.7	6,369.2	19.3	20.5	-1.25	450.2	681.7	262.0	230.9	31.14	8.413	
6,500.0	6,429.5	6,509.6	6,429.0	19.4	20.6	-1.64	450.2	679.9	262.0	230.7	31.31	8.370	
6,550.3	6,479.8	6,558.9	6,478.0	19.5	20.6	-2.76	450.2	674.8	262.2	230.9	31.34	8.369	
6,600.0	6,529.4	6,607.0	6,525.4	19.5	20.6	85.76	450.2	666.5	262.7	223.7	38.95	6.745	
6,650.0	6,579.2	6,655.0	6,572.1	19.5	20.5	84.31	450.2	655.1	263.3	224.2	39.07	6.738	
6,700.0	6,628.4	6,702.6	6,617.4	19.5	20.5	82.89	450.2	640.8	264.0	224.9	39.13	6.748	
6,750.0	6,676.9	6,750.0	6,661.5	19.5	20.4	81.52	450.2	623.5	264.9	225.8	39.11	6.772	
6,800.0	6,724.5	6,796.7	6,703.8	19.4	20.4	80.20	450.2	603.7	265.9	226.8	39.04	6.810	
6,850.0	6,770.8	6,843.2	6,744.5	19.4	20.3	78.94	450.2	581.3	267.0	228.0	38.91	6.860	
6,900.0	6,815.8	6,889.3	6,783.4	19.3	20.2	77.74	450.2	556.4	268.1	229.4	38.75	6.920	
6,950.0	6,859.1	6,935.2	6,820.4	19.2	20.1	76.60	450.2	529.3	269.3	230.8	38.55	6.987	
7,000.0	6,900.5	6,980.8	6,855.3	19.1	20.0	75.54	450.2	500.1	270.6	232.3	38.34	7.058	
7,050.0	6,939.9	7,026.1	6,888.2	19.1	19.9	74.55	450.2	468.9	271.8	233.7	38.13	7.129	
7,100.0	6,977.1	7,071.2	6,918.9	19.0	19.8	73.63	450.2	435.9	273.1	235.1	37.95	7.196	
7,150.0	7,011.8	7,116.0	6,947.2	19.0	19.8	72.79	450.2	401.2	274.3	236.5	37.82	7.253	
7,200.0	7,044.0	7,160.7	6,973.3	19.1	19.8	72.03	450.2	364.9	275.4	237.7	37.75	7.297	
7,250.0	7,073.4	7,205.2	6,996.9	19.1	19.8	71.35	450.2	327.2	276.5	238.7	37.77	7.321	
7,300.0	7,099.9	7,250.0	7,018.4	19.3	19.9	70.75	450.2	287.8	277.5	239.6	37.91	7.320	
7,350.0	7,123.4	7,293.7	7,036.8	19.5	20.0	70.24	450.2	248.3	278.4	240.2	38.18	7.291	
7,400.0	7,143.7	7,337.8	7,053.0	19.8	20.2	69.80	450.2	207.2	279.1	240.5	38.59	7.233	
7,450.0	7,160.9	7,381.8	7,066.5	20.2	20.5	69.45	450.2	165.4	279.8	240.6	39.16	7.144	
7,500.0	7,174.7	7,425.7	7,077.5	20.7	20.8	69.19	450.2	122.9	280.2	240.4	39.88	7.027	
7,550.0	7,185.1	7,469.5	7,085.8	21.2	21.2	69.00	450.2	79.8	280.6	239.8	40.76	6.884	
7,600.0	7,192.1	7,513.4	7,091.5	21.8	21.7	68.90	450.2	36.4	280.8	239.0	41.79	6.719	
7,650.0	7,195.6	7,557.2	7,094.5	22.5	22.2	68.88	450.2	-7.3	280.8	237.8	42.95	6.538	
7,680.0	7,196.0	7,583.5	7,095.0	22.9	22.6	68.91	450.2	-33.6	280.7	237.0	43.71	6.423	
7,700.0	7,195.9	7,603.1	7,095.0	23.3	22.9	68.93	450.2	-53.2	280.7	236.4	44.27	6.340	
7,800.0	7,195.2	7,703.1	7,094.7	24.9	24.5	69.01	450.2	-153.2	280.6	233.2	47.37	5.923	
7,900.0	7,194.6	7,803.1	7,094.5	26.7	26.3	69.09	450.2	-253.2	280.4	229.6	50.82	5.517	
8,000.0	7,193.9	7,903.1	7,094.2	28.7	28.3	69.16	450.2	-353.2	280.3	225.7	54.58	5.135	
8,100.0	7,193.3	8,003.1	7,094.0	30.9	30.4	69.24	450.2	-453.2	280.1	221.5	58.58	4.782	
8,200.0	7,192.6	8,103.1	7,093.7	33.1	32.6	69.32	450.2	-553.2	280.0	217.2	62.77	4.460	
8,300.0	7,192.0	8,203.1	7,093.5	35.4	35.0	69.40	450.2	-653.2	279.8	212.7	67.12	4.169	
8,400.0	7,191.3	8,303.1	7,093.3	37.8	37.3	69.48	450.2	-753.2	279.7	208.1	71.61	3.906	
8,500.0	7,190.7	8,403.1	7,093.0	40.2	39.8	69.56	450.2	-853.2	279.5	203.3	76.21	3.668	
8,600.0	7,190.0	8,503.1	7,092.8	42.7	42.3	69.63	450.2	-953.2	279.4	198.5	80.90	3.454	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-204 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	8,603.1	7,092.5	45.2	44.8	69.71	450.2	-1,053.2	279.3	193.6	85.67	3.260	
8,800.0	7,188.7	8,703.1	7,092.3	47.8	47.3	69.79	450.2	-1,153.2	279.1	188.6	90.51	3.084	
8,900.0	7,188.0	8,803.1	7,092.0	50.3	49.9	69.87	450.2	-1,253.2	279.0	183.6	95.40	2.924	
9,000.0	7,187.4	8,903.1	7,091.8	52.9	52.5	69.95	450.2	-1,353.2	278.8	178.5	100.34	2.779	
9,100.0	7,186.7	9,003.1	7,091.6	55.6	55.1	70.03	450.2	-1,453.2	278.7	173.4	105.33	2.646	
9,200.0	7,186.1	9,103.1	7,091.3	58.2	57.8	70.11	450.2	-1,553.2	278.5	168.2	110.36	2.524	
9,300.0	7,185.4	9,203.1	7,091.1	60.9	60.4	70.19	450.2	-1,653.2	278.4	163.0	115.41	2.412	
9,400.0	7,184.8	9,303.1	7,090.8	63.5	63.1	70.27	450.2	-1,753.2	278.3	157.8	120.50	2.309	
9,500.0	7,184.1	9,403.1	7,090.6	66.2	65.8	70.35	450.2	-1,853.2	278.1	152.5	125.62	2.214	
9,600.0	7,183.5	9,503.1	7,090.3	68.9	68.5	70.43	450.2	-1,953.2	278.0	147.2	130.76	2.126	
9,700.0	7,182.8	9,603.1	7,090.1	71.6	71.2	70.51	450.2	-2,053.2	277.8	141.9	135.92	2.044	
9,800.0	7,182.2	9,703.1	7,089.9	74.3	73.9	70.59	450.2	-2,153.2	277.7	136.6	141.11	1.968	
9,900.0	7,181.5	9,803.1	7,089.6	77.0	76.6	70.67	450.2	-2,253.2	277.6	131.3	146.31	1.897	
10,000.0	7,180.8	9,903.1	7,089.4	79.7	79.3	70.75	450.2	-2,353.2	277.4	125.9	151.53	1.831	
10,100.0	7,180.2	10,003.1	7,089.1	82.5	82.0	70.83	450.2	-2,453.2	277.3	120.5	156.77	1.769	
10,200.0	7,179.5	10,103.1	7,088.9	85.2	84.8	70.91	450.2	-2,553.2	277.2	115.1	162.02	1.711	
10,300.0	7,178.9	10,203.1	7,088.6	87.9	87.5	70.99	450.2	-2,653.2	277.0	109.7	167.28	1.656	
10,400.0	7,178.2	10,303.1	7,088.4	90.7	90.2	71.07	450.2	-2,753.2	276.9	104.3	172.56	1.605	
10,500.0	7,177.6	10,403.1	7,088.2	93.4	93.0	71.15	450.2	-2,853.2	276.8	98.9	177.85	1.556	
10,600.0	7,176.9	10,503.1	7,087.9	96.2	95.7	71.24	450.2	-2,953.2	276.6	93.5	183.15	1.510	
10,700.0	7,176.2	10,603.1	7,087.7	98.9	98.5	71.32	450.2	-3,053.2	276.5	88.0	188.46	1.467	Level 3
10,800.0	7,175.6	10,703.1	7,087.4	101.7	101.3	71.40	450.2	-3,153.2	276.4	82.6	193.78	1.426	Level 3
10,900.0	7,174.9	10,803.0	7,087.2	104.4	104.0	71.48	450.2	-3,253.2	276.2	77.1	199.12	1.387	Level 3
11,000.0	7,174.3	10,903.0	7,086.9	107.2	106.8	71.56	450.2	-3,353.2	276.1	71.6	204.46	1.350	Level 3
11,100.0	7,173.6	11,003.0	7,086.7	109.9	109.5	71.64	450.2	-3,453.2	276.0	66.1	209.81	1.315	Level 3
11,200.0	7,172.9	11,103.0	7,086.5	112.7	112.3	71.73	450.2	-3,553.2	275.8	60.6	215.17	1.282	Level 3
11,300.0	7,172.3	11,203.0	7,086.2	115.5	115.1	71.81	450.2	-3,653.2	275.7	55.1	220.54	1.250	Level 3
11,400.0	7,171.6	11,303.0	7,086.0	118.3	117.8	71.89	450.2	-3,753.2	275.6	49.6	225.92	1.220	Level 2
11,500.0	7,171.0	11,403.0	7,085.7	121.0	120.6	71.97	450.2	-3,853.2	275.4	44.1	231.30	1.191	Level 2
11,600.0	7,170.3	11,503.0	7,085.5	123.8	123.4	72.06	450.2	-3,953.2	275.3	38.6	236.69	1.163	Level 2
11,700.0	7,169.6	11,602.9	7,085.2	126.6	126.2	72.14	450.2	-4,053.1	275.2	33.1	242.09	1.137	Level 2
11,797.6	7,169.0	11,700.5	7,085.0	129.3	128.9	72.22	450.3	-4,150.6	275.1	27.7	247.37	1.112	Level 2, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-214 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	1.0	1.0	0.0	0.0	0.36	44.8	0.3	44.8				
100.0	100.0	101.0	101.0	0.1	0.1	0.36	44.8	0.3	44.8	44.6	0.20	227.845	
200.0	200.0	201.0	201.0	0.3	0.3	0.36	44.8	0.3	44.8	44.2	0.65	69.344	
300.0	300.0	301.0	301.0	0.5	0.5	0.36	44.8	0.3	44.8	43.7	1.10	40.895	
400.0	400.0	401.0	401.0	0.8	0.8	0.36	44.8	0.3	44.8	43.3	1.55	28.998	
500.0	500.0	501.0	501.0	1.0	1.0	0.36	44.8	0.3	44.8	42.8	1.99	22.464	
566.3	566.3	567.3	567.3	1.1	1.1	0.36	44.8	0.3	44.8	42.5	2.29	19.542	CC
600.0	600.0	601.0	601.0	1.2	1.2	0.36	44.8	0.3	44.8	42.4	2.44	18.333	ES
700.0	700.0	700.0	700.0	1.4	1.4	1.71	46.2	1.4	46.2	43.3	2.89	15.995	
800.0	800.0	798.3	798.1	1.7	1.7	5.24	50.1	4.6	50.4	47.1	3.33	15.138	
900.0	900.0	896.3	895.8	1.9	1.9	9.92	56.7	9.9	57.8	54.0	3.79	15.270	
1,000.0	1,000.0	993.8	992.6	2.1	2.1	-61.03	65.8	17.3	67.7	63.5	4.24	15.983	
1,100.0	1,099.8	1,090.9	1,088.5	2.3	2.4	-59.39	77.4	26.7	79.1	74.4	4.68	16.889	
1,200.0	1,199.5	1,187.5	1,183.3	2.5	2.7	-59.11	91.4	38.1	91.9	86.7	5.16	17.818	
1,300.0	1,298.7	1,286.2	1,280.0	2.8	3.1	-60.03	107.4	51.0	104.7	99.1	5.66	18.499	
1,400.0	1,397.5	1,385.5	1,377.0	3.1	3.5	-62.24	123.4	64.0	116.0	109.8	6.22	18.666	
1,500.0	1,495.6	1,484.7	1,474.1	3.4	3.9	-65.46	139.4	77.0	126.0	119.2	6.84	18.422	
1,500.1	1,495.7	1,484.8	1,474.2	3.4	3.9	-65.46	139.4	77.0	126.0	119.2	6.84	18.422	
1,600.0	1,593.4	1,583.9	1,571.1	3.8	4.3	-69.03	155.5	90.0	135.8	128.2	7.54	18.017	
1,700.0	1,691.3	1,683.1	1,668.1	4.1	4.7	-72.13	171.5	103.0	146.0	137.7	8.27	17.647	
1,800.0	1,789.1	1,782.3	1,765.2	4.5	5.1	-74.81	187.5	116.0	156.5	147.5	9.04	17.320	
1,900.0	1,886.9	1,881.5	1,862.2	4.9	5.5	-77.15	203.5	129.0	167.4	157.6	9.83	17.034	
2,000.0	1,984.7	1,980.7	1,959.2	5.3	6.0	-79.20	219.5	142.0	178.5	167.9	10.64	16.785	
2,100.0	2,082.5	2,079.8	2,056.2	5.7	6.4	-81.02	235.6	154.9	189.8	178.4	11.46	16.568	
2,200.0	2,180.3	2,179.0	2,153.2	6.2	6.8	-82.62	251.6	167.9	201.3	189.0	12.29	16.380	
2,300.0	2,278.1	2,278.2	2,250.3	6.6	7.3	-84.06	267.6	180.9	212.9	199.8	13.13	16.217	
2,400.0	2,375.9	2,377.4	2,347.3	7.0	7.7	-85.34	283.6	193.9	224.6	210.7	13.97	16.074	
2,500.0	2,473.8	2,476.6	2,444.3	7.5	8.1	-86.50	299.7	206.9	236.5	221.6	14.83	15.949	
2,600.0	2,571.6	2,575.8	2,541.3	7.9	8.6	-87.55	315.7	219.9	248.4	232.7	15.68	15.840	
2,700.0	2,669.4	2,675.0	2,638.4	8.3	9.0	-88.50	331.7	232.9	260.4	243.8	16.54	15.743	
2,800.0	2,767.2	2,774.2	2,735.4	8.8	9.4	-89.36	347.7	245.9	272.4	255.0	17.40	15.657	
2,900.0	2,865.0	2,873.4	2,832.4	9.2	9.9	-90.16	363.8	258.9	284.5	266.3	18.26	15.580	
3,000.0	2,962.8	2,972.5	2,929.4	9.7	10.3	-90.89	379.8	271.9	296.7	277.6	19.13	15.512	
3,100.0	3,060.6	3,071.7	3,026.4	10.1	10.8	-91.56	395.8	284.9	308.9	288.9	19.99	15.451	
3,200.0	3,158.5	3,170.9	3,123.5	10.6	11.2	-92.18	411.8	297.9	321.2	300.3	20.86	15.395	
3,300.0	3,256.3	3,270.1	3,220.5	11.0	11.6	-92.75	427.9	310.9	333.4	311.7	21.73	15.346	
3,400.0	3,354.1	3,369.3	3,317.5	11.5	12.1	-93.29	443.9	323.8	345.7	323.1	22.60	15.300	
3,500.0	3,451.9	3,468.5	3,414.5	11.9	12.5	-93.78	459.9	336.8	358.1	334.6	23.47	15.259	
3,600.0	3,549.7	3,567.7	3,511.5	12.4	13.0	-94.25	475.9	349.8	370.4	346.1	24.34	15.222	
3,700.0	3,647.5	3,666.9	3,608.6	12.8	13.4	-94.68	491.9	362.8	382.8	357.6	25.21	15.188	
3,800.0	3,745.3	3,766.1	3,705.6	13.3	13.9	-95.09	508.0	375.8	395.2	369.2	26.08	15.156	
3,900.0	3,843.2	3,865.3	3,802.6	13.7	14.3	-95.47	524.0	388.8	407.7	380.7	26.95	15.127	
4,000.0	3,941.0	3,964.4	3,899.6	14.2	14.7	-95.83	540.0	401.8	420.1	392.3	27.82	15.101	
4,100.0	4,038.8	4,063.6	3,996.6	14.6	15.2	-96.17	556.0	414.8	432.6	403.9	28.69	15.076	
4,200.0	4,136.6	4,162.8	4,093.7	15.1	15.6	-96.49	572.1	427.8	445.0	415.5	29.56	15.053	
4,300.0	4,234.4	4,262.0	4,190.7	15.5	16.1	-96.79	588.1	440.8	457.5	427.1	30.43	15.032	
4,325.2	4,259.1	4,287.0	4,215.1	15.6	16.2	-96.86	592.1	444.0	460.7	430.0	30.65	15.027	
4,400.0	4,332.4	4,361.2	4,287.7	15.9	16.5	-97.14	604.1	453.8	469.9	438.6	31.27	15.028	
4,500.0	4,431.0	4,460.5	4,384.8	16.2	17.0	-97.14	620.1	466.8	481.8	449.9	31.98	15.065	
4,600.0	4,530.2	4,559.7	4,481.8	16.5	17.4	-96.73	636.2	479.8	493.4	460.8	32.64	15.117	
4,700.0	4,629.7	4,658.6	4,578.6	16.7	17.8	-95.96	652.2	492.7	504.7	471.4	33.23	15.188	
4,800.0	4,729.5	4,757.3	4,675.1	16.9	18.3	-94.85	668.1	505.6	515.8	482.0	33.75	15.284	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-214 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,855.5	4,771.2	17.0	18.7	-93.43	684.0	518.5	527.0	492.8	34.19	15.415	
4,925.3	4,854.8	4,880.3	4,795.5	17.1	18.8	-18.34	688.0	521.8	529.9	504.1	25.79	20.546	
5,000.0	4,929.5	4,953.4	4,866.9	17.2	19.2	-16.97	699.8	531.3	538.5	512.2	26.30	20.475	
5,100.0	5,029.5	5,051.2	4,962.6	17.3	19.6	-15.20	715.6	544.1	550.6	523.6	27.01	20.381	
5,200.0	5,129.5	5,149.0	5,058.3	17.4	20.0	-13.51	731.4	557.0	563.2	535.4	27.74	20.298	
5,300.0	5,229.5	5,246.8	5,153.9	17.6	20.5	-11.89	747.2	569.8	576.2	547.7	28.49	20.226	
5,400.0	5,329.5	5,344.6	5,249.6	17.7	20.9	-10.34	763.0	582.6	589.7	560.5	29.24	20.165	
5,500.0	5,429.5	5,442.4	5,345.3	17.9	21.3	-8.86	778.8	595.4	603.6	573.6	30.01	20.116	
5,600.0	5,529.5	5,540.2	5,441.0	18.0	21.8	-7.44	794.6	608.2	617.9	587.2	30.78	20.078	
5,700.0	5,629.5	5,638.1	5,536.6	18.1	22.2	-6.09	810.4	621.0	632.6	601.1	31.55	20.050	
5,800.0	5,729.5	5,735.9	5,632.3	18.3	22.7	-4.80	826.2	633.8	647.6	615.3	32.33	20.033	
5,900.0	5,829.5	5,848.7	5,743.0	18.4	23.1	-3.46	843.4	647.8	662.1	629.0	33.12	19.993	
6,000.0	5,929.5	5,968.4	5,861.1	18.6	23.4	-2.37	858.0	659.6	673.9	640.0	33.82	19.925	
6,100.0	6,029.5	6,089.4	5,981.3	18.7	23.7	-1.59	868.9	668.5	682.6	648.2	34.43	19.825	
6,200.0	6,129.5	6,211.4	6,102.9	18.9	24.0	-1.11	875.9	674.1	688.2	653.3	34.95	19.694	
6,300.0	6,229.5	6,333.9	6,225.4	19.1	24.1	-0.90	878.8	676.5	690.6	655.3	35.36	19.530	
6,400.0	6,329.5	6,439.0	6,330.5	19.2	24.3	-0.90	878.9	676.6	690.7	655.0	35.70	19.347	
6,427.1	6,356.6	6,466.1	6,357.6	19.3	24.3	-0.90	878.9	676.6	690.7	654.9	35.79	19.297	
6,500.0	6,429.5	6,538.0	6,429.4	19.4	24.3	-1.10	878.9	674.2	690.7	654.7	35.99	19.192	
6,550.3	6,479.8	6,586.8	6,477.9	19.5	24.4	-1.57	878.9	668.5	690.9	654.8	36.06	19.159	
6,600.0	6,529.4	6,634.5	6,524.8	19.5	24.3	87.83	878.9	659.8	691.1	651.7	39.43	17.529	
6,650.0	6,579.2	6,681.9	6,570.8	19.5	24.3	87.23	878.9	648.1	691.4	651.9	39.52	17.497	
6,700.0	6,628.4	6,729.0	6,615.5	19.5	24.3	86.65	878.9	633.5	691.8	652.3	39.55	17.493	
6,750.0	6,676.9	6,775.6	6,658.8	19.5	24.2	86.09	878.9	616.1	692.2	652.7	39.53	17.513	
6,800.0	6,724.5	6,821.9	6,700.5	19.4	24.1	85.55	878.9	596.2	692.7	653.3	39.46	17.554	
6,850.0	6,770.8	6,867.8	6,740.6	19.4	24.0	85.03	878.9	573.8	693.3	653.9	39.36	17.613	
6,900.0	6,815.8	6,913.4	6,778.8	19.3	23.9	84.53	878.9	549.0	693.8	654.6	39.23	17.685	
6,950.0	6,859.1	6,958.7	6,815.2	19.2	23.8	84.06	878.9	522.0	694.4	655.3	39.09	17.764	
7,000.0	6,900.5	7,003.7	6,849.6	19.1	23.7	83.62	878.9	493.0	695.0	656.0	38.95	17.844	
7,050.0	6,939.9	7,050.0	6,883.0	19.1	23.6	83.19	878.9	461.0	695.5	656.7	38.82	17.917	
7,100.0	6,977.1	7,092.9	6,912.1	19.0	23.5	82.82	878.9	429.4	696.1	657.4	38.74	17.970	
7,150.0	7,011.8	7,137.2	6,940.0	19.0	23.3	82.47	878.9	395.1	696.7	658.0	38.71	17.997	
7,200.0	7,044.0	7,181.3	6,965.7	19.1	23.2	82.15	878.9	359.2	697.2	658.4	38.76	17.988	
7,250.0	7,073.4	7,225.2	6,989.0	19.1	23.1	81.86	878.9	322.0	697.7	658.8	38.90	17.933	
7,300.0	7,099.9	7,269.0	7,009.9	19.3	23.0	81.62	878.9	283.6	698.1	658.9	39.16	17.827	
7,350.0	7,123.4	7,312.6	7,028.4	19.5	22.9	81.40	878.9	244.1	698.5	658.9	39.54	17.665	
7,400.0	7,143.7	7,356.2	7,044.4	19.8	22.8	81.23	878.9	203.6	698.8	658.7	40.06	17.444	
7,450.0	7,160.9	7,400.0	7,058.1	20.2	22.8	81.09	878.9	161.9	699.0	658.3	40.72	17.166	
7,500.0	7,174.7	7,443.0	7,068.9	20.7	22.7	80.99	878.9	120.3	699.2	657.7	41.54	16.834	
7,550.0	7,185.1	7,486.3	7,077.3	21.2	22.7	80.93	878.9	77.8	699.4	656.9	42.49	16.459	
7,600.0	7,192.1	7,529.6	7,083.1	21.8	22.7	80.91	878.9	34.9	699.4	655.8	43.58	16.049	
7,650.0	7,195.6	7,573.0	7,086.3	22.5	22.8	80.92	878.9	-8.3	699.4	654.6	44.78	15.617	
7,680.0	7,196.0	7,600.0	7,087.0	22.9	23.0	80.95	878.9	-35.3	699.3	653.8	45.57	15.347	
7,700.0	7,195.9	7,617.9	7,087.0	23.3	23.1	80.96	878.9	-53.3	699.3	653.2	46.13	15.159	
7,800.0	7,195.2	7,717.9	7,086.8	24.9	24.4	81.00	878.9	-153.3	699.2	649.9	49.31	14.180	
7,900.0	7,194.6	7,817.9	7,086.6	26.7	26.2	81.03	878.9	-253.3	699.2	646.3	52.88	13.221	
8,000.0	7,193.9	7,917.9	7,086.4	28.7	28.2	81.07	878.9	-353.3	699.1	642.3	56.77	12.314	
8,100.0	7,193.3	8,017.9	7,086.2	30.9	30.3	81.11	878.9	-453.3	699.0	638.1	60.92	11.474	
8,200.0	7,192.6	8,117.9	7,086.0	33.1	32.5	81.14	878.9	-553.3	698.9	633.7	65.28	10.706	
8,300.0	7,192.0	8,217.9	7,085.8	35.4	34.8	81.18	878.9	-653.3	698.9	629.1	69.82	10.010	
8,400.0	7,191.3	8,317.9	7,085.6	37.8	37.2	81.22	878.9	-753.3	698.8	624.3	74.49	9.381	
8,500.0	7,190.7	8,417.9	7,085.4	40.2	39.6	81.26	878.9	-853.2	698.7	619.5	79.28	8.814	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-214 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	8,517.9	7,085.2	42.7	42.1	81.29	878.9	-953.2	698.7	614.5	84.16	8.301	
8,700.0	7,189.4	8,617.9	7,085.0	45.2	44.6	81.33	878.9	-1,053.2	698.6	609.5	89.13	7.838	
8,800.0	7,188.7	8,717.9	7,084.8	47.8	47.2	81.37	878.9	-1,153.2	698.5	604.4	94.16	7.418	
8,900.0	7,188.0	8,817.9	7,084.6	50.3	49.7	81.40	878.9	-1,253.2	698.5	599.2	99.25	7.037	
9,000.0	7,187.4	8,917.9	7,084.5	52.9	52.3	81.44	878.9	-1,353.2	698.4	594.0	104.39	6.690	
9,100.0	7,186.7	9,017.9	7,084.3	55.6	54.9	81.48	878.9	-1,453.2	698.3	588.7	109.58	6.373	
9,200.0	7,186.1	9,117.9	7,084.1	58.2	57.6	81.52	878.9	-1,553.2	698.2	583.4	114.80	6.082	
9,300.0	7,185.4	9,217.9	7,083.9	60.9	60.2	81.55	878.9	-1,653.2	698.2	578.1	120.05	5.816	
9,400.0	7,184.8	9,317.9	7,083.7	63.5	62.9	81.59	878.9	-1,753.2	698.1	572.8	125.33	5.570	
9,500.0	7,184.1	9,417.9	7,083.5	66.2	65.5	81.63	878.9	-1,853.2	698.0	567.4	130.64	5.343	
9,600.0	7,183.5	9,517.9	7,083.3	68.9	68.2	81.66	878.9	-1,953.2	698.0	562.0	135.96	5.133	
9,700.0	7,182.8	9,617.9	7,083.1	71.6	70.9	81.70	878.9	-2,053.2	697.9	556.6	141.31	4.939	
9,800.0	7,182.2	9,717.9	7,082.9	74.3	73.6	81.74	878.9	-2,153.2	697.8	551.2	146.68	4.758	
9,900.0	7,181.5	9,817.9	7,082.7	77.0	76.3	81.78	878.9	-2,253.2	697.8	545.7	152.06	4.589	
10,000.0	7,180.8	9,917.9	7,082.5	79.7	79.0	81.81	878.9	-2,353.2	697.7	540.2	157.45	4.431	
10,100.0	7,180.2	10,017.9	7,082.3	82.5	81.7	81.85	878.9	-2,453.2	697.6	534.8	162.86	4.284	
10,200.0	7,179.5	10,117.9	7,082.1	85.2	84.5	81.89	878.9	-2,553.2	697.6	529.3	168.28	4.145	
10,300.0	7,178.9	10,217.9	7,081.9	87.9	87.2	81.93	878.9	-2,653.2	697.5	523.8	173.72	4.015	
10,400.0	7,178.2	10,317.9	7,081.7	90.7	89.9	81.96	878.9	-2,753.2	697.4	518.3	179.16	3.893	
10,500.0	7,177.6	10,417.9	7,081.5	93.4	92.7	82.00	878.9	-2,853.2	697.4	512.8	184.61	3.778	
10,600.0	7,176.9	10,517.9	7,081.3	96.2	95.4	82.04	878.9	-2,953.2	697.3	507.2	190.07	3.669	
10,700.0	7,176.2	10,617.9	7,081.1	98.9	98.2	82.08	878.9	-3,053.2	697.2	501.7	195.53	3.566	
10,800.0	7,175.6	10,717.9	7,080.9	101.7	100.9	82.11	878.9	-3,153.2	697.2	496.2	201.01	3.468	
10,900.0	7,174.9	10,817.9	7,080.7	104.4	103.7	82.15	878.9	-3,253.2	697.1	490.6	206.49	3.376	
11,000.0	7,174.3	10,917.9	7,080.5	107.2	106.4	82.19	878.9	-3,353.2	697.0	485.1	211.98	3.288	
11,100.0	7,173.6	11,017.9	7,080.3	109.9	109.2	82.23	878.9	-3,453.2	697.0	479.5	217.47	3.205	
11,200.0	7,172.9	11,117.9	7,080.1	112.7	111.9	82.26	878.9	-3,553.2	696.9	473.9	222.97	3.126	
11,300.0	7,172.3	11,217.9	7,079.9	115.5	114.7	82.30	878.9	-3,653.2	696.8	468.4	228.47	3.050	
11,400.0	7,171.6	11,317.9	7,079.7	118.3	117.5	82.34	878.9	-3,753.2	696.8	462.8	233.98	2.978	
11,500.0	7,171.0	11,417.9	7,079.5	121.0	120.2	82.38	878.9	-3,853.2	696.7	457.2	239.49	2.909	
11,600.0	7,170.3	11,517.9	7,079.3	123.8	123.0	82.41	878.9	-3,953.2	696.7	451.6	245.01	2.843	
11,700.0	7,169.6	11,617.9	7,079.1	126.6	125.8	82.45	878.9	-4,053.2	696.6	446.1	250.53	2.781	
11,797.6	7,169.0	11,715.4	7,078.9	129.3	128.5	82.49	878.9	-4,150.8	696.5	440.6	255.92	2.722	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-234 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-14.9	0.0	14.9				
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-14.9	0.0	14.9	14.7	0.19	76.782	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-14.9	0.0	14.9	14.3	0.64	23.182	
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-14.9	0.0	14.9	13.8	1.09	13.652	
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-14.9	0.0	14.9	13.4	1.54	9.675	
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-14.9	0.0	14.9	12.9	1.99	7.492	CC
600.0	600.0	599.9	599.9	1.2	1.2	173.45	-15.1	1.7	15.2	12.8	2.43	6.258	ES
700.0	700.0	699.6	699.4	1.4	1.4	156.09	-15.6	6.9	17.1	14.2	2.86	5.968	
800.0	800.0	798.8	798.2	1.7	1.6	136.70	-16.4	15.5	22.7	19.3	3.31	6.849	
900.0	900.0	897.2	896.0	1.9	1.9	122.74	-17.6	27.4	32.8	29.0	3.78	8.672	
1,000.0	1,000.0	995.0	992.6	2.1	2.2	40.71	-19.1	42.5	45.8	41.6	4.19	10.923	
1,100.0	1,099.8	1,092.3	1,088.1	2.3	2.5	37.69	-20.8	60.7	59.7	55.1	4.63	12.897	
1,200.0	1,199.5	1,191.3	1,184.9	2.5	2.9	36.96	-22.8	81.2	72.8	67.7	5.08	14.324	
1,300.0	1,298.7	1,290.7	1,282.2	2.8	3.3	37.87	-24.8	101.8	83.2	77.6	5.56	14.965	
1,400.0	1,397.5	1,390.4	1,379.7	3.1	3.8	39.97	-26.9	122.4	90.8	84.8	6.07	14.972	
1,500.0	1,495.6	1,490.1	1,477.2	3.4	4.2	43.13	-28.9	143.0	96.1	89.4	6.64	14.475	
1,500.1	1,495.7	1,490.2	1,477.3	3.4	4.2	43.14	-28.9	143.0	96.1	89.4	6.64	14.475	
1,600.0	1,593.4	1,589.8	1,574.8	3.8	4.6	46.74	-30.9	163.6	100.4	93.1	7.28	13.777	
1,700.0	1,691.3	1,689.5	1,672.3	4.1	5.1	50.04	-32.9	184.3	105.0	97.0	7.98	13.157	
1,800.0	1,789.1	1,789.3	1,769.8	4.5	5.5	53.06	-34.9	204.9	110.0	101.3	8.72	12.611	
1,900.0	1,886.9	1,889.0	1,867.4	4.9	5.9	55.80	-36.9	225.5	115.2	105.7	9.50	12.134	
2,000.0	1,984.7	1,988.7	1,964.9	5.3	6.4	58.30	-38.9	246.1	120.7	110.4	10.30	11.718	
2,100.0	2,082.5	2,088.4	2,062.4	5.7	6.8	60.58	-40.9	266.8	126.4	115.3	11.13	11.357	
2,200.0	2,180.3	2,188.1	2,160.0	6.2	7.3	62.67	-42.9	287.4	132.3	120.3	11.98	11.043	
2,300.0	2,278.1	2,287.8	2,257.5	6.6	7.7	64.57	-44.9	308.0	138.4	125.5	12.85	10.770	
2,400.0	2,375.9	2,387.6	2,355.1	7.0	8.2	66.31	-47.0	328.7	144.6	130.8	13.73	10.533	
2,500.0	2,473.8	2,487.3	2,452.6	7.5	8.7	67.91	-49.0	349.3	150.9	136.3	14.61	10.325	
2,600.0	2,571.6	2,587.0	2,550.1	7.9	9.1	69.38	-51.0	369.9	157.3	141.8	15.51	10.143	
2,700.0	2,669.4	2,686.7	2,647.7	8.3	9.6	70.73	-53.0	390.5	163.8	147.4	16.41	9.984	
2,800.0	2,767.2	2,786.4	2,745.2	8.8	10.0	71.98	-55.0	411.2	170.4	153.1	17.31	9.843	
2,900.0	2,865.0	2,886.1	2,842.7	9.2	10.5	73.13	-57.0	431.8	177.1	158.8	18.22	9.718	
3,000.0	2,962.8	2,985.8	2,940.3	9.7	10.9	74.20	-59.0	452.4	183.8	164.7	19.13	9.607	
3,100.0	3,060.6	3,085.6	3,037.8	10.1	11.4	75.20	-61.0	473.1	190.6	170.6	20.04	9.509	
3,200.0	3,158.5	3,185.3	3,135.4	10.6	11.8	76.13	-63.0	493.7	197.4	176.5	20.96	9.420	
3,300.0	3,256.3	3,285.0	3,232.9	11.0	12.3	76.99	-65.1	514.3	204.3	182.5	21.88	9.341	
3,400.0	3,354.1	3,384.7	3,330.4	11.5	12.8	77.80	-67.1	534.9	211.3	188.5	22.79	9.270	
3,500.0	3,451.9	3,484.4	3,428.0	11.9	13.2	78.55	-69.1	555.6	218.3	194.6	23.71	9.205	
3,600.0	3,549.7	3,584.1	3,525.5	12.4	13.7	79.26	-71.1	576.2	225.3	200.6	24.63	9.147	
3,700.0	3,647.5	3,683.9	3,623.1	12.8	14.1	79.93	-73.1	596.8	232.3	206.8	25.55	9.094	
3,800.0	3,745.3	3,783.6	3,720.6	13.3	14.6	80.56	-75.1	617.5	239.4	212.9	26.47	9.045	
3,900.0	3,843.2	3,886.0	3,820.9	13.7	15.0	81.31	-77.1	637.9	246.2	218.8	27.37	8.992	
4,000.0	3,941.0	3,990.0	3,923.4	14.2	15.3	82.74	-78.8	655.3	251.4	223.1	28.26	8.894	
4,100.0	4,038.8	4,093.6	4,026.2	14.6	15.6	84.85	-80.1	668.9	255.1	226.0	29.16	8.749	
4,200.0	4,136.6	4,196.7	4,128.7	15.1	15.8	87.64	-81.1	678.8	257.8	227.8	30.06	8.578	
4,300.0	4,234.4	4,298.8	4,230.7	15.5	16.0	91.09	-81.7	684.9	259.8	228.9	30.91	8.405	
4,325.2	4,259.1	4,324.4	4,256.3	15.6	16.0	92.07	-81.8	685.9	260.3	229.2	31.12	8.365	
4,400.0	4,332.4	4,400.1	4,331.9	15.9	16.1	95.01	-81.9	687.4	261.7	230.0	31.64	8.271	
4,500.0	4,431.0	4,499.2	4,431.0	16.2	16.2	98.58	-81.9	687.5	263.7	231.5	32.15	8.201	
4,600.0	4,530.2	4,598.4	4,530.2	16.5	16.4	101.39	-81.9	687.5	266.0	233.4	32.56	8.167	
4,700.0	4,629.7	4,697.9	4,629.7	16.7	16.5	103.43	-81.9	687.5	268.0	235.1	32.90	8.146	
4,800.0	4,729.5	4,797.7	4,729.5	16.9	16.6	104.72	-81.9	687.5	269.5	236.3	33.20	8.119	
4,900.0	4,829.5	4,897.7	4,829.5	17.0	16.8	105.27	-81.9	687.5	270.2	236.7	33.46	8.076	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-234 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,923.0	4,854.8	17.1	16.8	179.98	-81.9	687.5	270.2	246.9	23.34	11.578	
5,000.0	4,929.5	4,997.7	4,929.5	17.2	16.9	179.98	-81.9	687.5	270.2	246.6	23.61	11.446	
5,100.0	5,029.5	5,097.7	5,029.5	17.3	17.0	179.98	-81.9	687.5	270.2	246.2	23.98	11.269	
5,200.0	5,129.5	5,197.7	5,129.5	17.4	17.2	179.98	-81.9	687.5	270.2	245.9	24.35	11.096	
5,300.0	5,229.5	5,297.7	5,229.5	17.6	17.3	179.98	-81.9	687.5	270.2	245.5	24.73	10.927	
5,400.0	5,329.5	5,397.7	5,329.5	17.7	17.4	179.98	-81.9	687.5	270.2	245.1	25.11	10.763	
5,500.0	5,429.5	5,497.7	5,429.5	17.9	17.6	179.98	-81.9	687.5	270.2	244.7	25.49	10.602	
5,600.0	5,529.5	5,597.7	5,529.5	18.0	17.7	179.98	-81.9	687.5	270.2	244.4	25.87	10.445	
5,700.0	5,629.5	5,697.7	5,629.5	18.1	17.9	179.98	-81.9	687.5	270.2	244.0	26.26	10.292	
5,800.0	5,729.5	5,797.7	5,729.5	18.3	18.0	179.98	-81.9	687.5	270.2	243.6	26.64	10.142	
5,900.0	5,829.5	5,897.7	5,829.5	18.4	18.2	179.98	-81.9	687.5	270.2	243.2	27.03	9.996	
6,000.0	5,929.5	5,997.7	5,929.5	18.6	18.3	179.98	-81.9	687.5	270.2	242.8	27.42	9.853	
6,100.0	6,029.5	6,097.7	6,029.5	18.7	18.5	179.98	-81.9	687.5	270.2	242.4	27.82	9.714	
6,200.0	6,129.5	6,197.7	6,129.5	18.9	18.6	179.98	-81.9	687.5	270.2	242.0	28.21	9.578	
6,300.0	6,229.5	6,297.7	6,229.5	19.1	18.8	179.98	-81.9	687.5	270.2	241.6	28.61	9.446	
6,400.0	6,329.5	6,397.7	6,329.5	19.2	18.9	179.98	-81.9	687.5	270.2	241.2	29.01	9.316	
6,461.2	6,390.7	6,458.9	6,390.7	19.3	19.0	180.00	-81.9	687.4	270.2	241.0	29.25	9.239	
6,500.0	6,429.5	6,497.6	6,429.4	19.4	19.1	-179.64	-81.9	685.7	270.2	240.8	29.40	9.192	
6,550.3	6,479.8	6,547.3	6,478.8	19.5	19.1	-178.53	-81.9	680.5	270.3	240.7	29.61	9.130	
6,600.0	6,529.4	6,595.8	6,526.6	19.5	19.1	-87.09	-81.9	672.1	270.6	232.3	38.24	7.077	
6,650.0	6,579.2	6,644.2	6,573.5	19.5	19.1	-85.65	-81.9	660.5	271.0	232.8	38.18	7.099	
6,700.0	6,628.4	6,692.1	6,619.2	19.5	19.0	-84.25	-81.9	646.0	271.6	233.6	38.06	7.136	
6,750.0	6,676.9	6,739.6	6,663.4	19.5	19.0	-82.89	-81.9	628.5	272.4	234.5	37.90	7.186	
6,800.0	6,724.5	6,786.8	6,706.0	19.4	18.9	-81.57	-81.9	608.4	273.2	235.5	37.70	7.248	
6,850.0	6,770.8	6,833.6	6,746.9	19.4	18.8	-80.29	-81.9	585.7	274.2	236.7	37.47	7.318	
6,900.0	6,815.8	6,880.0	6,785.9	19.3	18.8	-79.08	-81.9	560.5	275.3	238.1	37.23	7.394	
6,950.0	6,859.1	6,926.1	6,823.0	19.2	18.7	-77.93	-81.9	533.1	276.4	239.4	36.98	7.474	
7,000.0	6,900.5	6,971.9	6,858.0	19.1	18.7	-76.84	-81.9	503.6	277.6	240.8	36.76	7.553	
7,050.0	6,939.9	7,017.5	6,890.8	19.1	18.7	-75.81	-81.9	472.1	278.8	242.3	36.56	7.627	
7,100.0	6,977.1	7,062.7	6,921.5	19.0	18.7	-74.86	-81.9	438.7	280.0	243.6	36.41	7.691	
7,150.0	7,011.8	7,107.8	6,949.8	19.0	18.8	-73.98	-81.9	403.7	281.2	244.9	36.33	7.741	
7,200.0	7,044.0	7,152.6	6,975.7	19.1	18.9	-73.18	-81.9	367.1	282.4	246.0	36.34	7.771	
7,250.0	7,073.4	7,197.3	6,999.2	19.1	19.0	-72.45	-81.9	329.2	283.5	247.0	36.45	7.777	
7,300.0	7,099.9	7,241.7	7,020.2	19.3	19.3	-71.81	-81.9	290.0	284.5	247.8	36.69	7.753	
7,350.0	7,123.4	7,286.0	7,038.7	19.5	19.6	-71.24	-81.9	249.7	285.4	248.4	37.07	7.700	
7,400.0	7,143.7	7,330.2	7,054.6	19.8	19.9	-70.75	-81.9	208.5	286.3	248.7	37.59	7.615	
7,450.0	7,160.9	7,374.3	7,067.9	20.2	20.3	-70.34	-81.9	166.5	287.0	248.7	38.26	7.501	
7,500.0	7,174.7	7,418.3	7,078.6	20.7	20.8	-70.01	-81.9	123.8	287.6	248.5	39.08	7.359	
7,550.0	7,185.1	7,462.2	7,086.6	21.2	21.3	-69.76	-81.9	80.7	288.0	248.0	40.04	7.193	
7,600.0	7,192.1	7,506.0	7,092.0	21.8	21.9	-69.60	-81.9	37.1	288.3	247.2	41.13	7.009	
7,650.0	7,195.6	7,550.0	7,094.7	22.5	22.5	-69.51	-81.9	-6.7	288.5	246.1	42.36	6.811	
7,680.0	7,196.0	7,576.5	7,095.0	22.9	22.9	-69.51	-81.9	-33.2	288.5	245.3	43.15	6.686	
7,700.0	7,195.9	7,596.5	7,094.9	23.3	23.2	-69.52	-81.9	-53.2	288.5	244.7	43.72	6.597	
7,800.0	7,195.2	7,696.5	7,094.7	24.9	24.8	-69.60	-81.9	-153.2	288.3	241.5	46.86	6.152	
7,900.0	7,194.6	7,796.5	7,094.5	26.7	26.7	-69.67	-81.9	-253.2	288.2	237.8	50.37	5.721	
8,000.0	7,193.9	7,896.5	7,094.2	28.7	28.7	-69.75	-81.9	-353.2	288.0	233.9	54.17	5.317	
8,100.0	7,193.3	7,996.5	7,094.0	30.9	30.9	-69.83	-81.9	-453.2	287.9	229.7	58.21	4.946	
8,200.0	7,192.6	8,096.5	7,093.8	33.1	33.1	-69.91	-81.9	-553.2	287.7	225.3	62.44	4.608	
8,300.0	7,192.0	8,196.5	7,093.5	35.4	35.4	-69.98	-81.9	-653.2	287.6	220.8	66.84	4.303	
8,400.0	7,191.3	8,296.5	7,093.3	37.8	37.8	-70.06	-81.9	-753.2	287.5	216.1	71.36	4.028	
8,500.0	7,190.7	8,396.5	7,093.0	40.2	40.2	-70.14	-81.9	-853.2	287.3	211.3	75.99	3.781	
8,600.0	7,190.0	8,496.5	7,092.8	42.7	42.7	-70.21	-81.9	-953.2	287.2	206.5	80.71	3.558	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-234 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	8,596.5	7,092.6	45.2	45.2	-70.29	-81.9	-1,053.2	287.0	201.5	85.51	3.357	
8,800.0	7,188.7	8,696.5	7,092.3	47.8	47.8	-70.37	-81.9	-1,153.2	286.9	196.5	90.38	3.175	
8,900.0	7,188.0	8,796.5	7,092.1	50.3	50.4	-70.45	-81.9	-1,253.2	286.8	191.5	95.30	3.009	
9,000.0	7,187.4	8,896.5	7,091.8	52.9	53.0	-70.53	-81.9	-1,353.2	286.6	186.4	100.26	2.859	
9,100.0	7,186.7	8,996.5	7,091.6	55.6	55.6	-70.60	-81.9	-1,453.2	286.5	181.2	105.27	2.721	
9,200.0	7,186.1	9,096.5	7,091.4	58.2	58.3	-70.68	-81.9	-1,553.2	286.4	176.0	110.32	2.596	
9,300.0	7,185.4	9,196.5	7,091.1	60.9	60.9	-70.76	-81.9	-1,653.2	286.2	170.8	115.40	2.480	
9,400.0	7,184.8	9,296.5	7,090.9	63.5	63.6	-70.84	-81.9	-1,753.2	286.1	165.6	120.51	2.374	
9,500.0	7,184.1	9,396.5	7,090.6	66.2	66.3	-70.92	-81.9	-1,853.2	286.0	160.3	125.64	2.276	
9,600.0	7,183.5	9,496.5	7,090.4	68.9	69.0	-70.99	-81.9	-1,953.2	285.8	155.0	130.80	2.185	
9,700.0	7,182.8	9,596.5	7,090.1	71.6	71.7	-71.07	-81.9	-2,053.2	285.7	149.7	135.98	2.101	
9,800.0	7,182.2	9,696.5	7,089.9	74.3	74.4	-71.15	-81.9	-2,153.2	285.6	144.4	141.18	2.023	
9,900.0	7,181.5	9,796.5	7,089.7	77.0	77.1	-71.23	-81.9	-2,253.2	285.4	139.0	146.40	1.950	
10,000.0	7,180.8	9,896.5	7,089.4	79.7	79.8	-71.31	-81.9	-2,353.2	285.3	133.7	151.64	1.881	
10,100.0	7,180.2	9,996.5	7,089.2	82.5	82.5	-71.39	-81.9	-2,453.2	285.2	128.3	156.89	1.818	
10,200.0	7,179.5	10,096.5	7,088.9	85.2	85.3	-71.47	-81.9	-2,553.2	285.0	122.9	162.15	1.758	
10,300.0	7,178.9	10,196.5	7,088.7	87.9	88.0	-71.55	-81.9	-2,653.2	284.9	117.5	167.43	1.702	
10,400.0	7,178.2	10,296.5	7,088.4	90.7	90.8	-71.62	-81.9	-2,753.2	284.8	112.1	172.72	1.649	
10,500.0	7,177.6	10,396.5	7,088.2	93.4	93.5	-71.70	-82.0	-2,853.2	284.7	106.6	178.02	1.599	
10,600.0	7,176.9	10,496.5	7,087.9	96.2	96.2	-71.78	-82.0	-2,953.2	284.5	101.2	183.34	1.552	
10,700.0	7,176.2	10,596.5	7,087.7	98.9	99.0	-71.86	-82.0	-3,053.2	284.4	95.7	188.66	1.507	
10,800.0	7,175.6	10,696.5	7,087.5	101.7	101.8	-71.94	-82.0	-3,153.2	284.3	90.3	194.00	1.465	Level 3
10,900.0	7,174.9	10,796.5	7,087.2	104.4	104.5	-72.02	-82.0	-3,253.2	284.2	84.8	199.34	1.425	Level 3
11,000.0	7,174.3	10,896.5	7,087.0	107.2	107.3	-72.10	-82.0	-3,353.2	284.0	79.3	204.69	1.388	Level 3
11,100.0	7,173.6	10,996.5	7,086.7	109.9	110.0	-72.18	-82.0	-3,453.2	283.9	73.9	210.05	1.352	Level 3
11,200.0	7,172.9	11,096.5	7,086.5	112.7	112.8	-72.26	-82.0	-3,553.2	283.8	68.4	215.42	1.317	Level 3
11,300.0	7,172.3	11,196.5	7,086.2	115.5	115.6	-72.34	-82.0	-3,653.2	283.7	62.9	220.80	1.285	Level 3
11,400.0	7,171.6	11,296.5	7,086.0	118.3	118.3	-72.42	-82.0	-3,753.2	283.5	57.4	226.19	1.254	Level 3
11,500.0	7,171.0	11,396.5	7,085.7	121.0	121.1	-72.50	-82.0	-3,853.2	283.4	51.8	231.58	1.224	Level 2
11,600.0	7,170.3	11,496.5	7,085.5	123.8	123.9	-72.58	-82.0	-3,953.2	283.3	46.3	236.98	1.195	Level 2
11,700.0	7,169.6	11,596.5	7,085.2	126.6	126.7	-72.66	-82.0	-4,053.2	283.2	40.8	242.39	1.168	Level 2
11,774.8	7,169.2	11,671.3	7,085.1	128.6	128.7	-72.72	-82.0	-4,128.0	283.1	36.7	246.44	1.149	Level 2
11,797.6	7,169.0	11,692.6	7,085.0	129.3	129.3	-72.74	-82.0	-4,149.3	283.1	35.4	247.63	1.143	Level 2, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-304 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	0.53	29.9	0.3	29.9				
100.0	100.0	100.0	100.0	0.1	0.1	0.53	29.9	0.3	29.9	29.7	0.19	153.656	
200.0	200.0	200.0	200.0	0.3	0.3	0.53	29.9	0.3	29.9	29.2	0.64	46.392	
300.0	300.0	300.0	300.0	0.5	0.5	0.53	29.9	0.3	29.9	28.8	1.09	27.320	
400.0	400.0	400.0	400.0	0.8	0.8	0.53	29.9	0.3	29.9	28.3	1.54	19.361	
500.0	500.0	500.0	500.0	1.0	1.0	0.53	29.9	0.3	29.9	27.9	1.99	14.993	
600.0	600.0	600.0	600.0	1.2	1.2	0.53	29.9	0.3	29.9	27.4	2.44	12.233	
700.0	700.0	700.0	700.0	1.4	1.4	0.53	29.9	0.3	29.9	27.0	2.89	10.331	CC, ES
800.0	800.0	799.2	799.2	1.7	1.7	2.81	31.1	1.5	31.1	27.8	3.33	9.327	
900.0	900.0	898.2	898.1	1.9	1.9	8.61	34.6	5.2	35.1	31.3	3.78	9.279	
1,000.0	1,000.0	996.9	996.4	2.1	2.1	-60.89	40.5	11.4	41.3	37.1	4.22	9.789	
1,100.0	1,099.8	1,095.3	1,094.0	2.3	2.4	-58.53	48.7	20.0	49.0	44.3	4.67	10.502	
1,200.0	1,199.5	1,193.3	1,190.9	2.5	2.6	-58.02	59.1	30.9	57.8	52.7	5.13	11.273	
1,300.0	1,298.7	1,291.0	1,286.8	2.8	3.0	-58.64	71.8	44.2	67.8	62.1	5.63	12.042	
1,400.0	1,397.5	1,390.2	1,383.9	3.1	3.3	-60.53	86.0	59.2	77.7	71.5	6.18	12.570	
1,500.0	1,495.6	1,489.7	1,481.2	3.4	3.7	-64.02	100.3	74.1	86.1	79.3	6.80	12.655	
1,500.1	1,495.7	1,489.9	1,481.3	3.4	3.7	-64.02	100.3	74.1	86.1	79.3	6.80	12.654	
1,600.0	1,593.4	1,589.2	1,578.5	3.8	4.1	-67.98	114.6	89.1	94.1	86.6	7.50	12.544	
1,700.0	1,691.3	1,688.7	1,675.8	4.1	4.5	-71.31	128.9	104.0	102.6	94.3	8.25	12.436	
1,800.0	1,789.1	1,788.2	1,773.2	4.5	4.9	-74.13	143.1	119.0	111.3	102.2	9.02	12.334	
1,900.0	1,886.9	1,887.7	1,870.5	4.9	5.3	-76.53	157.4	134.0	120.2	110.4	9.82	12.241	
2,000.0	1,984.7	1,987.2	1,967.8	5.3	5.7	-78.60	171.7	148.9	129.3	118.7	10.63	12.159	
2,100.0	2,082.5	2,086.6	2,065.1	5.7	6.2	-80.40	185.9	163.9	138.6	127.1	11.46	12.087	
2,200.0	2,180.3	2,186.1	2,162.4	6.2	6.6	-81.96	200.2	178.9	148.0	135.6	12.31	12.023	
2,300.0	2,278.1	2,285.6	2,259.7	6.6	7.0	-83.35	214.5	193.8	157.4	144.3	13.15	11.968	
2,400.0	2,375.9	2,385.1	2,357.0	7.0	7.5	-84.57	228.8	208.8	167.0	153.0	14.01	11.920	
2,500.0	2,473.8	2,484.6	2,454.3	7.5	7.9	-85.66	243.0	223.8	176.6	161.7	14.87	11.877	
2,600.0	2,571.6	2,584.1	2,551.6	7.9	8.3	-86.64	257.3	238.7	186.3	170.6	15.73	11.840	
2,700.0	2,669.4	2,683.5	2,648.9	8.3	8.8	-87.52	271.6	253.7	196.0	179.4	16.60	11.808	
2,800.0	2,767.2	2,783.0	2,746.2	8.8	9.2	-88.32	285.9	268.6	205.8	188.3	17.47	11.779	
2,900.0	2,865.0	2,882.5	2,843.6	9.2	9.7	-89.05	300.1	283.6	215.6	197.3	18.34	11.753	
3,000.0	2,962.8	2,982.0	2,940.9	9.7	10.1	-89.71	314.4	298.6	225.4	206.2	19.22	11.731	
3,100.0	3,060.6	3,081.5	3,038.2	10.1	10.5	-90.31	328.7	313.5	235.3	215.2	20.09	11.710	
3,200.0	3,158.5	3,180.9	3,135.5	10.6	11.0	-90.87	342.9	328.5	245.2	224.2	20.97	11.692	
3,300.0	3,256.3	3,280.4	3,232.8	11.0	11.4	-91.39	357.2	343.5	255.1	233.3	21.85	11.676	
3,400.0	3,354.1	3,379.9	3,330.1	11.5	11.9	-91.86	371.5	358.4	265.0	242.3	22.73	11.661	
3,500.0	3,451.9	3,479.4	3,427.4	11.9	12.3	-92.31	385.8	373.4	275.0	251.4	23.61	11.648	
3,600.0	3,549.7	3,578.9	3,524.7	12.4	12.7	-92.72	400.0	388.4	285.0	260.5	24.49	11.636	
3,700.0	3,647.5	3,678.4	3,622.0	12.8	13.2	-93.10	414.3	403.3	294.9	269.6	25.37	11.625	
3,800.0	3,745.3	3,777.8	3,719.3	13.3	13.6	-93.46	428.6	418.3	304.9	278.7	26.25	11.615	
3,900.0	3,843.2	3,877.3	3,816.6	13.7	14.1	-93.79	442.9	433.2	314.9	287.8	27.13	11.606	
4,000.0	3,941.0	3,976.8	3,914.0	14.2	14.5	-94.11	457.1	448.2	324.9	296.9	28.02	11.598	
4,100.0	4,038.8	4,076.3	4,011.3	14.6	15.0	-94.40	471.4	463.2	335.0	306.1	28.90	11.590	
4,200.0	4,136.6	4,175.8	4,108.6	15.1	15.4	-94.68	485.7	478.1	345.0	315.2	29.78	11.583	
4,300.0	4,234.4	4,275.3	4,205.9	15.5	15.9	-94.95	499.9	493.1	355.0	324.4	30.67	11.577	
4,325.2	4,259.1	4,300.3	4,230.4	15.6	16.0	-95.01	503.5	496.9	357.5	326.7	30.89	11.575	
4,400.0	4,332.4	4,374.7	4,303.2	15.9	16.3	-95.19	514.2	508.1	365.0	333.5	31.50	11.585	
4,500.0	4,431.0	4,474.2	4,400.5	16.2	16.8	-94.96	528.5	523.0	374.6	342.4	32.22	11.627	
4,600.0	4,530.2	4,573.6	4,497.7	16.5	17.2	-94.22	542.8	538.0	384.1	351.2	32.88	11.682	
4,700.0	4,629.7	4,672.7	4,594.7	16.7	17.6	-93.02	557.0	552.9	393.4	359.9	33.46	11.758	
4,800.0	4,729.5	4,771.5	4,691.3	16.9	18.1	-91.41	571.1	567.7	402.8	368.9	33.95	11.864	
4,900.0	4,829.5	4,869.7	4,787.4	17.0	18.5	-89.41	585.2	582.5	412.7	378.4	34.36	12.012	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-304 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,894.5	4,811.6	17.1	18.6	-14.18	588.8	586.2	415.3	390.0	25.28	16.426	
5,000.0	4,929.5	4,967.6	4,883.1	17.2	19.0	-12.38	599.3	597.2	423.3	397.4	25.85	16.372	
5,100.0	5,029.5	5,065.4	4,978.7	17.3	19.4	-10.07	613.3	611.9	434.6	408.0	26.65	16.306	
5,200.0	5,129.5	5,163.2	5,074.4	17.4	19.8	-7.88	627.3	626.7	446.6	419.2	27.48	16.254	
5,300.0	5,229.5	5,265.4	5,174.5	17.6	20.3	-5.74	641.8	641.8	459.1	430.7	28.32	16.208	
5,400.0	5,329.5	5,375.1	5,282.5	17.7	20.6	-3.90	655.0	655.6	470.1	441.0	29.11	16.148	
5,500.0	5,429.5	5,486.2	5,392.6	17.9	20.9	-2.51	665.4	666.5	479.0	449.2	29.80	16.073	
5,600.0	5,529.5	5,598.3	5,504.1	18.0	21.2	-1.54	672.9	674.4	485.4	455.0	30.39	15.973	
5,700.0	5,629.5	5,711.1	5,616.7	18.1	21.4	-0.97	677.4	679.1	489.3	458.5	30.88	15.848	
5,800.0	5,729.5	5,823.9	5,729.5	18.3	21.5	-0.78	678.9	680.7	490.6	459.4	31.27	15.692	
5,900.0	5,829.5	5,923.9	5,829.5	18.4	21.6	-0.78	678.9	680.7	490.6	459.0	31.60	15.525	
6,000.0	5,929.5	6,023.9	5,929.5	18.6	21.8	-0.78	678.9	680.7	490.6	458.7	31.95	15.358	
6,100.0	6,029.5	6,123.9	6,029.5	18.7	21.9	-0.78	678.9	680.7	490.6	458.3	32.29	15.193	
6,200.0	6,129.5	6,223.9	6,129.5	18.9	22.0	-0.78	678.9	680.7	490.6	458.0	32.64	15.030	
6,300.0	6,229.5	6,323.9	6,229.5	19.1	22.2	-0.78	678.9	680.7	490.6	457.6	32.99	14.870	
6,400.0	6,329.5	6,423.9	6,329.5	19.2	22.3	-0.78	678.9	680.7	490.6	457.3	33.35	14.712	
6,500.0	6,429.5	6,523.9	6,429.5	19.4	22.4	-0.78	678.9	680.7	490.6	456.9	33.70	14.557	
6,550.3	6,479.8	6,574.2	6,479.8	19.5	22.5	-0.78	678.9	680.7	490.6	456.7	33.88	14.480	
6,600.0	6,529.4	6,623.4	6,529.0	19.5	22.5	89.22	678.9	679.0	490.6	451.6	39.04	12.566	
6,650.0	6,579.2	6,673.0	6,578.2	19.5	22.6	89.22	678.9	673.9	490.6	451.5	39.09	12.552	
6,700.0	6,628.4	6,722.5	6,627.0	19.5	22.6	89.23	678.9	665.4	490.6	451.5	39.07	12.556	
6,750.0	6,676.9	6,772.1	6,675.1	19.5	22.5	89.25	678.9	653.5	490.6	451.6	39.01	12.577	
6,800.0	6,724.5	6,821.6	6,722.3	19.4	22.5	89.26	678.9	638.4	490.6	451.7	38.90	12.612	
6,850.0	6,770.8	6,871.2	6,768.3	19.4	22.4	89.28	678.9	620.0	490.6	451.9	38.76	12.658	
6,900.0	6,815.8	6,920.8	6,813.0	19.3	22.3	89.31	678.9	598.5	490.6	452.0	38.59	12.713	
6,950.0	6,859.1	6,970.4	6,856.1	19.2	22.2	89.33	678.9	573.9	490.6	452.2	38.42	12.771	
7,000.0	6,900.5	7,020.0	6,897.3	19.1	22.1	89.36	678.9	546.4	490.6	452.4	38.25	12.827	
7,050.0	6,939.9	7,069.6	6,936.6	19.1	22.0	89.40	678.9	516.1	490.6	452.5	38.10	12.875	
7,100.0	6,977.1	7,119.3	6,973.7	19.0	21.9	89.43	678.9	483.1	490.6	452.6	38.01	12.908	
7,150.0	7,011.8	7,168.9	7,008.5	19.0	21.7	89.47	678.9	447.6	490.6	452.6	37.97	12.919	
7,200.0	7,044.0	7,218.6	7,040.7	19.1	21.6	89.51	678.9	409.8	490.6	452.6	38.03	12.900	
7,250.0	7,073.4	7,268.3	7,070.3	19.1	21.5	89.56	678.9	369.8	490.6	452.4	38.20	12.844	
7,300.0	7,099.9	7,318.1	7,097.0	19.3	21.5	89.60	678.9	327.9	490.6	452.1	38.49	12.746	
7,350.0	7,123.4	7,367.9	7,120.7	19.5	21.4	89.65	678.9	284.1	490.6	451.7	38.93	12.603	
7,400.0	7,143.7	7,417.7	7,141.4	19.8	21.4	89.70	678.9	238.8	490.6	451.1	39.52	12.414	
7,450.0	7,160.9	7,467.5	7,158.9	20.2	21.4	89.75	678.9	192.2	490.6	450.3	40.27	12.182	
7,500.0	7,174.7	7,517.4	7,173.0	20.7	21.5	89.81	678.9	144.4	490.6	449.4	41.18	11.913	
7,550.0	7,185.1	7,567.3	7,183.9	21.2	21.7	89.86	678.9	95.7	490.6	448.3	42.25	11.612	
7,600.0	7,192.1	7,617.2	7,191.3	21.8	22.0	89.91	678.9	46.3	490.6	447.1	43.45	11.290	
7,650.0	7,195.6	7,667.2	7,195.3	22.5	22.5	89.97	678.9	-3.5	490.6	445.8	44.78	10.954	
7,679.7	7,196.0	7,696.9	7,196.0	22.9	22.8	90.00	678.9	-33.2	490.6	444.9	45.62	10.753	
7,680.0	7,196.0	7,697.2	7,196.0	22.9	22.8	90.00	678.9	-33.5	490.6	444.9	45.63	10.751	
7,700.0	7,195.9	7,717.2	7,195.9	23.3	23.1	90.01	678.9	-53.5	490.6	444.3	46.23	10.611	
7,800.0	7,195.2	7,817.2	7,195.5	24.9	24.6	90.04	678.9	-153.5	490.6	441.1	49.46	9.918	
7,900.0	7,194.6	7,917.2	7,195.1	26.7	26.3	90.06	678.9	-253.5	490.6	437.5	53.08	9.243	
8,000.0	7,193.9	8,017.2	7,194.7	28.7	28.3	90.09	678.9	-353.5	490.6	433.6	57.02	8.604	
8,100.0	7,193.3	8,117.2	7,194.3	30.9	30.4	90.12	678.9	-453.5	490.6	429.3	61.23	8.012	
8,200.0	7,192.6	8,217.2	7,193.9	33.1	32.6	90.15	678.9	-553.5	490.6	424.9	65.65	7.472	
8,300.0	7,192.0	8,317.2	7,193.5	35.4	34.9	90.17	678.9	-653.5	490.6	420.3	70.25	6.984	
8,400.0	7,191.3	8,417.2	7,193.0	37.8	37.3	90.20	678.9	-753.5	490.6	415.6	74.98	6.543	
8,500.0	7,190.7	8,517.2	7,192.6	40.2	39.7	90.23	678.9	-853.5	490.6	410.7	79.83	6.145	
8,600.0	7,190.0	8,617.2	7,192.2	42.7	42.2	90.26	678.9	-953.5	490.6	405.8	84.77	5.787	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-304 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	8,717.2	7,191.8	45.2	44.7	90.29	678.9	-1,053.5	490.6	400.8	89.79	5.463	
8,800.0	7,188.7	8,817.2	7,191.4	47.8	47.3	90.31	678.9	-1,153.5	490.6	395.7	94.88	5.170	
8,900.0	7,188.0	8,917.2	7,191.0	50.3	49.8	90.34	678.9	-1,253.5	490.6	390.6	100.03	4.904	
9,000.0	7,187.4	9,017.2	7,190.6	52.9	52.4	90.37	678.9	-1,353.5	490.6	385.4	105.22	4.662	
9,100.0	7,186.7	9,117.2	7,190.1	55.6	55.1	90.40	678.9	-1,453.5	490.6	380.1	110.45	4.441	
9,200.0	7,186.1	9,217.2	7,189.7	58.2	57.7	90.43	678.9	-1,553.5	490.6	374.9	115.73	4.239	
9,300.0	7,185.4	9,317.2	7,189.3	60.9	60.3	90.45	678.9	-1,653.5	490.6	369.6	121.03	4.054	
9,400.0	7,184.8	9,417.2	7,188.9	63.5	63.0	90.48	678.9	-1,753.5	490.6	364.2	126.35	3.883	
9,500.0	7,184.1	9,517.2	7,188.5	66.2	65.7	90.51	678.9	-1,853.5	490.6	358.9	131.71	3.725	
9,600.0	7,183.5	9,617.2	7,188.1	68.9	68.4	90.54	678.9	-1,953.5	490.6	353.5	137.08	3.579	
9,700.0	7,182.8	9,717.2	7,187.7	71.6	71.1	90.57	678.9	-2,053.4	490.6	348.1	142.47	3.443	
9,800.0	7,182.2	9,817.2	7,187.3	74.3	73.8	90.60	678.9	-2,153.4	490.6	342.7	147.88	3.317	
9,900.0	7,181.5	9,917.2	7,186.8	77.0	76.5	90.62	678.9	-2,253.4	490.6	337.3	153.30	3.200	
10,000.0	7,180.8	10,017.2	7,186.4	79.7	79.2	90.65	678.9	-2,353.4	490.6	331.9	158.74	3.091	
10,100.0	7,180.2	10,117.2	7,186.0	82.5	81.9	90.68	678.9	-2,453.4	490.6	326.4	164.19	2.988	
10,200.0	7,179.5	10,217.2	7,185.6	85.2	84.6	90.71	678.9	-2,553.4	490.6	320.9	169.65	2.892	
10,300.0	7,178.9	10,317.2	7,185.2	87.9	87.4	90.74	678.9	-2,653.4	490.6	315.5	175.12	2.802	
10,400.0	7,178.2	10,417.2	7,184.8	90.7	90.1	90.77	678.9	-2,753.4	490.6	310.0	180.59	2.717	
10,500.0	7,177.6	10,517.2	7,184.4	93.4	92.8	90.80	678.9	-2,853.4	490.6	304.5	186.08	2.637	
10,600.0	7,176.9	10,617.2	7,184.0	96.2	95.6	90.82	678.9	-2,953.4	490.6	299.0	191.57	2.561	
10,700.0	7,176.2	10,717.2	7,183.5	98.9	98.3	90.85	678.9	-3,053.4	490.6	293.5	197.07	2.489	
10,800.0	7,175.6	10,817.2	7,183.1	101.7	101.1	90.88	678.9	-3,153.4	490.6	288.0	202.58	2.422	
10,900.0	7,174.9	10,917.2	7,182.7	104.4	103.8	90.91	678.9	-3,253.4	490.6	282.5	208.09	2.358	
11,000.0	7,174.3	11,017.2	7,182.3	107.2	106.6	90.94	678.9	-3,353.4	490.6	277.0	213.61	2.297	
11,100.0	7,173.6	11,117.2	7,181.9	109.9	109.4	90.97	678.9	-3,453.4	490.6	271.5	219.13	2.239	
11,200.0	7,172.9	11,217.2	7,181.5	112.7	112.1	91.00	678.9	-3,553.4	490.6	266.0	224.65	2.184	
11,300.0	7,172.3	11,317.2	7,181.1	115.5	114.9	91.03	678.9	-3,653.4	490.6	260.4	230.18	2.131	
11,400.0	7,171.6	11,417.2	7,180.7	118.3	117.7	91.05	678.9	-3,753.4	490.6	254.9	235.72	2.081	
11,500.0	7,171.0	11,517.2	7,180.2	121.0	120.4	91.08	678.9	-3,853.4	490.6	249.4	241.25	2.034	
11,600.0	7,170.3	11,617.2	7,179.8	123.8	123.2	91.11	678.9	-3,953.4	490.6	243.8	246.79	1.988	
11,700.0	7,169.6	11,717.2	7,179.4	126.6	126.0	91.14	678.9	-4,053.4	490.6	238.3	252.34	1.944	
11,797.6	7,169.0	11,814.7	7,179.0	129.3	128.7	91.17	678.9	-4,151.0	490.6	232.9	257.75	1.904 SF	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-314 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	1.0	1.0	0.0	0.0	0.53	60.1	0.6	60.1				
100.0	100.0	101.0	101.0	0.1	0.1	0.53	60.1	0.6	60.1	59.9	0.20	305.653	
200.0	200.0	201.0	201.0	0.3	0.3	0.53	60.1	0.6	60.1	59.5	0.65	93.025	
300.0	300.0	301.0	301.0	0.5	0.5	0.53	60.1	0.6	60.1	59.0	1.10	54.861	
400.0	400.0	401.0	401.0	0.8	0.8	0.53	60.1	0.6	60.1	58.6	1.55	38.901	
466.3	466.3	467.3	467.3	0.9	0.9	0.53	60.1	0.6	60.1	58.3	1.84	32.609	CC
500.0	500.0	501.0	501.0	1.0	1.0	0.53	60.1	0.6	60.1	58.1	1.99	30.136	ES
600.0	600.0	600.0	600.0	1.2	1.2	1.39	61.6	1.5	61.6	59.2	2.44	25.254	
700.0	700.0	697.2	697.0	1.4	1.4	3.65	65.8	4.2	66.1	63.2	2.88	22.930	
800.0	800.0	794.7	794.2	1.7	1.7	6.80	72.9	8.7	73.7	70.4	3.34	22.087	
900.0	900.0	891.5	890.3	1.9	1.9	10.23	82.6	14.9	84.7	80.8	3.81	22.194	
1,000.0	1,000.0	987.7	985.3	2.1	2.2	-61.82	95.0	22.8	98.2	93.9	4.25	23.095	
1,100.0	1,099.8	1,083.2	1,079.2	2.3	2.5	-60.73	110.0	32.4	113.2	108.5	4.70	24.079	
1,200.0	1,199.5	1,178.4	1,172.1	2.5	2.9	-60.68	127.5	43.5	129.7	124.6	5.18	25.050	
1,300.0	1,298.7	1,277.0	1,268.0	2.8	3.3	-61.63	146.8	55.8	145.8	140.2	5.69	25.623	
1,400.0	1,397.5	1,375.8	1,364.1	3.1	3.7	-63.47	166.0	68.1	160.5	154.2	6.25	25.669	
1,500.0	1,495.6	1,474.6	1,460.2	3.4	4.2	-66.03	185.3	80.4	173.8	166.9	6.88	25.278	
1,500.1	1,495.7	1,474.7	1,460.3	3.4	4.2	-66.03	185.3	80.4	173.8	167.0	6.88	25.277	
1,600.0	1,593.4	1,573.3	1,556.3	3.8	4.6	-68.92	204.6	92.6	186.9	179.3	7.57	24.692	
1,700.0	1,691.3	1,672.0	1,652.3	4.1	5.1	-71.43	223.9	104.9	200.4	192.1	8.30	24.142	
1,800.0	1,789.1	1,770.7	1,748.3	4.5	5.5	-73.62	243.1	117.2	214.2	205.2	9.06	23.639	
1,900.0	1,886.9	1,869.5	1,844.4	4.9	6.0	-75.55	262.4	129.5	228.3	218.5	9.85	23.186	
2,000.0	1,984.7	1,968.2	1,940.4	5.3	6.5	-77.25	281.7	141.8	242.7	232.0	10.65	22.782	
2,100.0	2,082.5	2,066.9	2,036.5	5.7	6.9	-78.76	300.9	154.0	257.2	245.7	11.47	22.422	
2,200.0	2,180.3	2,165.6	2,132.5	6.2	7.4	-80.11	320.2	166.3	271.8	259.5	12.30	22.101	
2,300.0	2,278.1	2,264.4	2,228.6	6.6	7.9	-81.32	339.5	178.6	286.7	273.5	13.14	21.816	
2,400.0	2,375.9	2,363.1	2,324.6	7.0	8.3	-82.41	358.7	190.9	301.6	287.6	13.99	21.561	
2,500.0	2,473.8	2,461.8	2,420.7	7.5	8.8	-83.40	378.0	203.2	316.6	301.7	14.84	21.334	
2,600.0	2,571.6	2,560.5	2,516.7	7.9	9.3	-84.30	397.3	215.4	331.7	316.0	15.70	21.129	
2,700.0	2,669.4	2,659.3	2,612.7	8.3	9.8	-85.12	416.5	227.7	346.9	330.3	16.56	20.946	
2,800.0	2,767.2	2,758.0	2,708.8	8.8	10.2	-85.88	435.8	240.0	362.1	344.7	17.43	20.780	
2,900.0	2,865.0	2,856.7	2,804.8	9.2	10.7	-86.57	455.1	252.3	377.4	359.1	18.29	20.629	
3,000.0	2,962.8	2,955.4	2,900.9	9.7	11.2	-87.21	474.4	264.6	392.7	373.6	19.16	20.492	
3,100.0	3,060.6	3,054.2	2,996.9	10.1	11.7	-87.80	493.6	276.8	408.1	388.1	20.04	20.367	
3,200.0	3,158.5	3,152.9	3,093.0	10.6	12.1	-88.34	512.9	289.1	423.5	402.6	20.91	20.253	
3,300.0	3,256.3	3,251.6	3,189.0	11.0	12.6	-88.85	532.2	301.4	439.0	417.2	21.79	20.148	
3,400.0	3,354.1	3,350.3	3,285.1	11.5	13.1	-89.32	551.4	313.7	454.5	431.8	22.67	20.052	
3,500.0	3,451.9	3,449.1	3,381.1	11.9	13.6	-89.77	570.7	326.0	470.0	446.5	23.54	19.963	
3,600.0	3,549.7	3,547.8	3,477.1	12.4	14.0	-90.18	590.0	338.2	485.5	461.1	24.42	19.881	
3,700.0	3,647.5	3,646.5	3,573.2	12.8	14.5	-90.57	609.2	350.5	501.1	475.8	25.30	19.805	
3,800.0	3,745.3	3,745.2	3,669.2	13.3	15.0	-90.94	628.5	362.8	516.7	490.5	26.18	19.734	
3,900.0	3,843.2	3,844.0	3,765.3	13.7	15.5	-91.28	647.8	375.1	532.3	505.3	27.07	19.668	
4,000.0	3,941.0	3,942.7	3,861.3	14.2	16.0	-91.60	667.0	387.4	547.9	520.0	27.95	19.606	
4,100.0	4,038.8	4,041.4	3,957.4	14.6	16.4	-91.91	686.3	399.6	563.6	534.8	28.83	19.549	
4,200.0	4,136.6	4,140.1	4,053.4	15.1	16.9	-92.20	705.6	411.9	579.2	549.5	29.71	19.495	
4,300.0	4,234.4	4,238.9	4,149.5	15.5	17.4	-92.48	724.8	424.2	594.9	564.3	30.60	19.444	
4,325.2	4,259.1	4,263.8	4,173.7	15.6	17.5	-92.54	729.7	427.3	598.9	568.1	30.82	19.432	
4,400.0	4,332.4	4,337.6	4,245.5	15.9	17.9	-92.88	744.1	436.5	610.6	579.1	31.45	19.416	
4,500.0	4,431.0	4,436.4	4,341.6	16.2	18.3	-93.04	763.4	448.8	626.0	593.9	32.17	19.457	
4,600.0	4,530.2	4,535.1	4,437.6	16.5	18.8	-92.89	782.7	461.1	641.3	608.5	32.83	19.533	
4,700.0	4,629.7	4,633.6	4,533.4	16.7	19.3	-92.45	801.9	473.3	656.6	623.1	33.42	19.646	
4,800.0	4,729.5	4,731.7	4,628.9	16.9	19.8	-91.76	821.0	485.5	671.8	637.8	33.93	19.799	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-314 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,829.4	4,724.0	17.0	20.3	-90.82	840.1	497.7	687.2	652.8	34.36	19.998	
4,925.3	4,854.8	4,854.1	4,747.9	17.1	20.4	-15.87	844.9	500.7	691.1	663.3	27.78	24.880	
5,000.0	4,929.5	4,926.7	4,818.6	17.2	20.7	-14.83	859.1	509.8	702.9	674.5	28.33	24.811	
5,100.0	5,029.5	5,024.0	4,913.3	17.3	21.2	-13.49	878.1	521.9	719.0	689.9	29.08	24.720	
5,200.0	5,129.5	5,121.3	5,007.9	17.4	21.7	-12.21	897.1	534.0	735.5	705.6	29.85	24.640	
5,300.0	5,229.5	5,218.6	5,102.6	17.6	22.1	-10.99	916.0	546.1	752.3	721.7	30.62	24.571	
5,400.0	5,329.5	5,315.9	5,197.2	17.7	22.6	-9.82	935.0	558.2	769.5	738.1	31.39	24.513	
5,500.0	5,429.5	5,413.1	5,291.8	17.9	23.1	-8.70	954.0	570.3	786.9	754.8	32.17	24.465	
5,600.0	5,529.5	5,510.4	5,386.5	18.0	23.6	-7.62	973.0	582.4	804.7	771.8	32.94	24.426	
5,700.0	5,629.5	5,607.7	5,481.1	18.1	24.0	-6.60	992.0	594.5	822.7	789.0	33.72	24.397	
5,800.0	5,729.5	5,705.0	5,575.8	18.3	24.5	-5.61	1,011.0	606.6	841.0	806.5	34.50	24.376	
5,900.0	5,829.5	5,802.3	5,670.4	18.4	25.0	-4.67	1,030.0	618.7	859.5	824.2	35.28	24.362	
6,000.0	5,929.5	5,899.6	5,765.1	18.6	25.5	-3.76	1,049.0	630.8	878.2	842.2	36.06	24.356	
6,100.0	6,029.5	6,022.8	5,885.4	18.7	26.0	-2.74	1,071.6	645.2	896.1	859.2	36.90	24.281	
6,200.0	6,129.5	6,155.9	6,016.4	18.9	26.4	-1.89	1,091.1	657.6	910.5	872.8	37.65	24.185	
6,300.0	6,229.5	6,291.0	6,150.3	19.1	26.7	-1.28	1,105.7	666.9	921.1	882.8	38.29	24.057	
6,400.0	6,329.5	6,427.3	6,286.2	19.2	27.0	-0.90	1,115.0	672.8	927.8	889.0	38.82	23.902	
6,500.0	6,429.5	6,564.5	6,423.3	19.4	27.2	-0.75	1,118.8	675.3	930.6	891.4	39.24	23.715	
6,550.3	6,479.8	6,622.0	6,480.8	19.5	27.2	-0.74	1,118.9	675.4	930.7	891.3	39.41	23.614	
6,600.0	6,529.4	6,670.8	6,529.6	19.5	27.3	89.26	1,118.9	673.6	930.7	890.9	39.83	23.368	
6,650.0	6,579.2	6,720.0	6,578.5	19.5	27.3	89.26	1,118.9	668.5	930.7	890.8	39.87	23.342	
6,700.0	6,628.4	6,769.2	6,626.9	19.5	27.3	89.26	1,118.9	660.1	930.7	890.8	39.86	23.351	
6,750.0	6,676.9	6,818.3	6,674.7	19.5	27.3	89.27	1,118.9	648.3	930.7	890.9	39.79	23.390	
6,800.0	6,724.5	6,867.5	6,721.5	19.4	27.2	89.28	1,118.9	633.3	930.7	891.0	39.68	23.455	
6,850.0	6,770.8	6,916.7	6,767.2	19.4	27.1	89.30	1,118.9	615.2	930.7	891.1	39.53	23.541	
6,900.0	6,815.8	6,966.0	6,811.6	19.3	27.1	89.32	1,118.9	593.9	930.7	891.3	39.36	23.643	
6,950.0	6,859.1	7,015.2	6,854.4	19.2	27.0	89.34	1,118.9	569.6	930.7	891.5	39.18	23.753	
7,000.0	6,900.5	7,064.5	6,895.5	19.1	26.9	89.36	1,118.9	542.4	930.7	891.7	39.00	23.861	
7,050.0	6,939.9	7,113.8	6,934.6	19.1	26.7	89.39	1,118.9	512.4	930.7	891.8	38.85	23.956	
7,100.0	6,977.1	7,163.1	6,971.6	19.0	26.6	89.42	1,118.9	479.8	930.7	891.9	38.74	24.026	
7,150.0	7,011.8	7,212.5	7,006.3	19.0	26.5	89.45	1,118.9	444.7	930.7	892.0	38.69	24.057	
7,200.0	7,044.0	7,261.9	7,038.5	19.1	26.4	89.49	1,118.9	407.2	930.6	891.9	38.72	24.035	
7,250.0	7,073.4	7,311.3	7,068.1	19.1	26.2	89.53	1,118.9	367.6	930.6	891.8	38.86	23.949	
7,300.0	7,099.9	7,360.8	7,094.9	19.3	26.1	89.57	1,118.9	326.0	930.6	891.5	39.12	23.788	
7,350.0	7,123.4	7,410.4	7,118.8	19.5	26.0	89.61	1,118.9	282.6	930.6	891.1	39.53	23.545	
7,400.0	7,143.7	7,460.0	7,139.6	19.8	25.8	89.66	1,118.9	237.6	930.6	890.5	40.08	23.219	
7,450.0	7,160.9	7,509.6	7,157.3	20.2	25.7	89.71	1,118.9	191.3	930.6	889.8	40.79	22.814	
7,500.0	7,174.7	7,559.3	7,171.8	20.7	25.6	89.75	1,118.9	143.8	930.6	889.0	41.66	22.337	
7,550.0	7,185.1	7,609.0	7,182.9	21.2	25.5	89.80	1,118.9	95.3	930.6	887.9	42.69	21.802	
7,600.0	7,192.1	7,658.8	7,190.7	21.8	25.4	89.85	1,118.9	46.1	930.6	886.8	43.85	21.222	
7,650.0	7,195.6	7,708.7	7,195.0	22.5	25.3	89.91	1,118.9	-3.6	930.6	885.5	45.14	20.615	
7,680.0	7,196.0	7,738.6	7,196.0	22.9	25.2	89.94	1,118.9	-33.5	930.6	884.6	45.97	20.242	
7,700.0	7,195.9	7,758.6	7,196.0	23.3	25.2	89.94	1,118.9	-53.5	930.6	884.1	46.55	19.992	
7,800.0	7,195.2	7,858.6	7,195.5	24.9	24.9	89.96	1,118.9	-153.5	930.6	880.9	49.73	18.711	
7,900.0	7,194.6	7,958.6	7,195.1	26.7	26.6	89.97	1,118.9	-253.5	930.6	877.3	53.30	17.460	
8,000.0	7,193.9	8,058.6	7,194.7	28.7	28.7	89.99	1,118.9	-353.5	930.6	873.4	57.19	16.271	
8,100.0	7,193.3	8,158.6	7,194.3	30.9	30.8	90.00	1,118.9	-453.5	930.6	869.3	61.36	15.167	
8,200.0	7,192.6	8,258.6	7,193.9	33.1	33.0	90.02	1,118.9	-553.5	930.6	864.9	65.74	14.157	
8,300.0	7,192.0	8,358.6	7,193.5	35.4	35.3	90.03	1,118.9	-653.5	930.6	860.3	70.29	13.239	
8,400.0	7,191.3	8,458.6	7,193.1	37.8	37.7	90.05	1,118.9	-753.5	930.6	855.6	74.99	12.409	
8,500.0	7,190.7	8,558.6	7,192.7	40.2	40.1	90.06	1,118.9	-853.5	930.6	850.8	79.81	11.660	
8,503.2	7,190.6	8,561.8	7,192.7	40.3	40.1	90.06	1,118.9	-856.6	930.6	850.6	79.97	11.637	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-314 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	8,658.6	7,192.3	42.7	42.5	90.08	1,118.9	-953.5	930.6	845.9	84.73	10.983	
8,700.0	7,189.4	8,758.6	7,191.8	45.2	45.0	90.09	1,118.9	-1,053.5	930.6	840.9	89.73	10.371	
8,800.0	7,188.7	8,858.6	7,191.4	47.8	47.5	90.11	1,118.9	-1,153.5	930.6	835.8	94.80	9.817	
8,900.0	7,188.0	8,958.6	7,191.0	50.3	50.1	90.12	1,118.9	-1,253.5	930.6	830.7	99.92	9.313	
9,000.0	7,187.4	9,058.6	7,190.6	52.9	52.7	90.14	1,118.9	-1,353.5	930.6	825.5	105.10	8.854	
9,100.0	7,186.7	9,158.6	7,190.2	55.6	55.2	90.15	1,118.9	-1,453.4	930.6	820.3	110.32	8.435	
9,200.0	7,186.1	9,258.6	7,189.8	58.2	57.9	90.17	1,118.9	-1,553.4	930.6	815.0	115.58	8.052	
9,300.0	7,185.4	9,358.6	7,189.4	60.9	60.5	90.18	1,118.9	-1,653.4	930.6	809.7	120.87	7.699	
9,400.0	7,184.8	9,458.6	7,189.0	63.5	63.1	90.20	1,118.9	-1,753.4	930.6	804.4	126.19	7.375	
9,500.0	7,184.1	9,558.6	7,188.6	66.2	65.8	90.21	1,118.9	-1,853.4	930.6	799.1	131.53	7.075	
9,600.0	7,183.5	9,658.6	7,188.1	68.9	68.5	90.23	1,118.9	-1,953.4	930.6	793.7	136.89	6.798	
9,700.0	7,182.8	9,758.6	7,187.7	71.6	71.1	90.24	1,118.9	-2,053.4	930.6	788.3	142.28	6.541	
9,800.0	7,182.2	9,858.6	7,187.3	74.3	73.8	90.26	1,118.9	-2,153.4	930.6	782.9	147.68	6.302	
9,900.0	7,181.5	9,958.6	7,186.9	77.0	76.5	90.27	1,118.9	-2,253.4	930.6	777.5	153.10	6.079	
10,000.0	7,180.8	10,058.6	7,186.5	79.7	79.2	90.29	1,118.9	-2,353.4	930.6	772.1	158.53	5.870	
10,100.0	7,180.2	10,158.6	7,186.1	82.5	81.9	90.30	1,118.9	-2,453.4	930.6	766.6	163.97	5.675	
10,200.0	7,179.5	10,258.6	7,185.7	85.2	84.7	90.32	1,118.9	-2,553.4	930.6	761.2	169.42	5.493	
10,300.0	7,178.9	10,358.6	7,185.3	87.9	87.4	90.33	1,118.9	-2,653.4	930.6	755.7	174.89	5.321	
10,400.0	7,178.2	10,458.6	7,184.8	90.7	90.1	90.35	1,118.9	-2,753.4	930.6	750.3	180.36	5.160	
10,500.0	7,177.6	10,558.6	7,184.4	93.4	92.8	90.36	1,118.9	-2,853.4	930.6	744.8	185.85	5.007	
10,600.0	7,176.9	10,658.6	7,184.0	96.2	95.6	90.38	1,118.9	-2,953.4	930.6	739.3	191.34	4.864	
10,700.0	7,176.2	10,758.6	7,183.6	98.9	98.3	90.39	1,118.9	-3,053.4	930.6	733.8	196.83	4.728	
10,800.0	7,175.6	10,858.6	7,183.2	101.7	101.1	90.41	1,118.9	-3,153.4	930.6	728.3	202.34	4.599	
10,900.0	7,174.9	10,958.6	7,182.8	104.4	103.8	90.42	1,118.9	-3,253.4	930.6	722.8	207.85	4.477	
11,000.0	7,174.3	11,058.6	7,182.4	107.2	106.6	90.44	1,118.9	-3,353.4	930.6	717.3	213.36	4.362	
11,100.0	7,173.6	11,158.6	7,182.0	109.9	109.3	90.45	1,118.9	-3,453.4	930.6	711.7	218.88	4.252	
11,200.0	7,172.9	11,258.6	7,181.5	112.7	112.1	90.47	1,118.9	-3,553.4	930.6	706.2	224.41	4.147	
11,300.0	7,172.3	11,358.6	7,181.1	115.5	114.8	90.48	1,118.9	-3,653.4	930.6	700.7	229.94	4.047	
11,400.0	7,171.6	11,458.6	7,180.7	118.3	117.6	90.50	1,118.9	-3,753.4	930.6	695.2	235.47	3.952	
11,500.0	7,171.0	11,558.6	7,180.3	121.0	120.3	90.51	1,118.9	-3,853.4	930.6	689.6	241.01	3.861	
11,600.0	7,170.3	11,658.6	7,179.9	123.8	123.1	90.53	1,118.9	-3,953.4	930.6	684.1	246.55	3.775	
11,700.0	7,169.6	11,758.6	7,179.5	126.6	125.9	90.54	1,118.9	-4,053.4	930.6	678.5	252.09	3.692	
11,797.6	7,169.0	11,856.1	7,179.1	129.3	128.6	90.56	1,118.9	-4,151.0	930.6	673.1	257.50	3.614	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 33-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 568-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-105.61	-1,108.6	-3,967.3	4,119.5				
100.0	100.0	57.3	57.3	0.1	0.1	-105.61	-1,108.6	-3,967.3	4,119.3	4,119.2	0.16	N/A	
200.0	200.0	153.7	153.7	0.3	0.2	-105.61	-1,108.7	-3,967.4	4,119.4	4,118.9	0.49	8,375.661	
300.0	300.0	250.0	250.0	0.5	0.3	-105.61	-1,108.7	-3,967.6	4,119.6	4,118.8	0.82	5,005.049	
400.0	400.0	346.4	346.4	0.8	0.4	-105.61	-1,108.8	-3,967.8	4,119.9	4,118.7	1.15	3,569.013	
500.0	500.0	442.7	442.7	1.0	0.5	-105.61	-1,108.9	-3,968.2	4,120.2	4,118.8	1.49	2,773.447	
600.0	600.0	539.1	539.1	1.2	0.6	-105.61	-1,109.1	-3,968.6	4,120.7	4,118.9	1.82	2,268.031	
700.0	700.0	644.6	644.6	1.4	0.8	-105.61	-1,109.1	-3,969.1	4,121.2	4,118.9	2.23	1,846.988	
800.0	800.0	755.0	755.0	1.7	1.0	-105.61	-1,108.8	-3,969.4	4,121.4	4,118.7	2.67	1,543.749	
900.0	900.0	834.4	834.4	1.9	1.2	-105.61	-1,108.8	-3,969.7	4,121.7	4,118.7	3.06	1,347.272	
1,000.0	1,000.0	934.5	934.5	2.1	1.4	179.71	-1,108.9	-3,970.4	4,124.1	4,120.7	3.49	1,183.076	
1,100.0	1,099.8	1,036.0	1,036.0	2.3	1.6	179.72	-1,108.8	-3,971.0	4,129.9	4,126.0	3.90	1,058.623	
1,200.0	1,199.5	1,129.0	1,129.0	2.5	1.8	179.72	-1,108.9	-3,971.6	4,139.3	4,135.0	4.31	961.104	
1,300.0	1,298.7	1,222.8	1,222.8	2.8	2.0	179.73	-1,108.6	-3,972.5	4,152.4	4,147.6	4.72	880.429	
1,400.0	1,397.5	1,325.0	1,325.0	3.1	2.2	179.73	-1,108.3	-3,973.5	4,168.8	4,163.7	5.14	811.809	
1,500.0	1,495.6	1,434.1	1,434.1	3.4	2.4	179.74	-1,107.9	-3,974.3	4,188.4	4,182.9	5.56	752.781	
1,500.1	1,495.7	1,434.2	1,434.2	3.4	2.4	179.74	-1,107.9	-3,974.3	4,188.5	4,182.9	5.56	752.729	
1,600.0	1,593.4	1,525.9	1,525.8	3.8	2.6	179.75	-1,107.4	-3,975.0	4,209.8	4,203.8	5.98	703.624	
1,700.0	1,691.3	1,620.5	1,620.5	4.1	2.8	179.76	-1,106.7	-3,975.8	4,231.2	4,224.8	6.42	659.484	
1,800.0	1,789.1	1,704.6	1,704.6	4.5	3.0	179.77	-1,106.4	-3,976.7	4,252.9	4,246.1	6.83	622.690	
1,900.0	1,886.9	2,059.1	2,058.4	4.9	3.7	179.97	-1,090.3	-3,972.3	4,270.3	4,262.5	7.80	547.801	
2,000.0	1,984.7	2,106.4	2,105.4	5.3	3.8	-179.96	-1,084.8	-3,971.7	4,286.8	4,278.6	8.16	525.661	
2,100.0	2,082.5	2,158.0	2,156.5	5.7	4.0	-179.87	-1,078.0	-3,972.0	4,304.5	4,296.0	8.53	504.805	
2,200.0	2,180.3	2,345.0	2,340.9	6.2	4.5	-179.46	-1,046.8	-3,974.2	4,322.6	4,313.3	9.27	466.466	
2,300.0	2,278.1	2,421.0	2,415.2	6.6	4.7	-179.25	-1,030.7	-3,974.8	4,338.8	4,329.1	9.75	444.921	
2,400.0	2,375.9	2,489.4	2,481.5	7.0	4.9	-179.03	-1,014.1	-3,976.6	4,356.0	4,345.8	10.24	425.307	
2,500.0	2,473.8	2,576.3	2,564.8	7.5	5.3	-178.71	-989.7	-3,980.1	4,373.8	4,363.0	10.83	403.702	
2,600.0	2,571.6	2,661.6	2,646.0	7.9	5.7	-178.37	-963.7	-3,984.1	4,391.7	4,380.2	11.45	383.665	
2,700.0	2,669.4	2,731.1	2,712.1	8.3	6.0	-178.09	-942.8	-3,987.6	4,410.3	4,398.3	12.00	367.575	
2,800.0	2,767.2	2,869.2	2,844.2	8.8	6.5	-177.58	-903.2	-3,994.2	4,429.2	4,416.4	12.83	345.292	
2,900.0	2,865.0	3,004.7	2,974.5	9.2	7.1	-177.11	-866.2	-3,998.3	4,446.8	4,433.1	13.66	325.572	
3,000.0	2,962.8	3,125.8	3,091.6	9.7	7.6	-176.72	-835.3	-4,000.6	4,464.0	4,449.6	14.43	309.282	
3,100.0	3,060.6	3,215.6	3,178.4	10.1	8.0	-176.44	-812.3	-4,002.2	4,481.1	4,466.0	15.09	297.028	
3,200.0	3,158.5	3,285.6	3,246.2	10.6	8.4	-176.23	-794.8	-4,003.6	4,498.7	4,483.0	15.66	287.353	
3,300.0	3,256.3	3,396.6	3,353.8	11.0	8.8	-175.90	-767.6	-4,006.0	4,516.7	4,500.3	16.40	275.446	
3,400.0	3,354.1	3,558.0	3,510.1	11.5	9.6	-175.42	-727.6	-4,007.7	4,533.6	4,516.2	17.37	260.926	
3,500.0	3,451.9	3,623.9	3,573.8	11.9	9.9	-175.22	-710.8	-4,008.3	4,550.4	4,532.4	17.94	253.641	
3,600.0	3,549.7	3,694.3	3,641.8	12.4	10.2	-175.01	-692.6	-4,009.4	4,568.0	4,549.4	18.53	246.463	
3,700.0	3,647.5	3,770.2	3,714.9	12.8	10.6	-174.76	-672.0	-4,011.2	4,586.1	4,566.9	19.17	239.280	
3,800.0	3,745.3	3,843.0	3,784.7	13.3	10.9	-174.52	-651.8	-4,013.3	4,604.8	4,585.0	19.80	232.614	
3,900.0	3,843.2	3,919.5	3,858.0	13.7	11.3	-174.26	-630.2	-4,016.0	4,624.0	4,603.6	20.45	226.071	
4,000.0	3,941.0	4,001.1	3,936.2	14.2	11.8	-173.99	-607.1	-4,019.1	4,643.8	4,622.6	21.13	219.722	
4,100.0	4,038.8	4,254.0	4,179.2	14.6	13.0	-173.19	-537.2	-4,025.1	4,662.8	4,640.1	22.66	205.782	
4,200.0	4,136.6	4,331.7	4,253.7	15.1	13.4	-172.93	-514.9	-4,025.8	4,680.0	4,656.7	23.33	200.604	
4,300.0	4,234.4	4,448.9	4,365.5	15.5	14.1	-172.54	-480.0	-4,026.5	4,696.9	4,672.6	24.23	193.839	
4,325.2	4,259.1	4,465.3	4,381.1	15.6	14.2	-172.48	-474.9	-4,026.7	4,701.2	4,676.8	24.39	192.751	
4,400.0	4,332.4	4,514.5	4,427.8	15.9	14.4	-172.34	-459.3	-4,027.3	4,713.3	4,688.4	24.92	189.143	
4,500.0	4,431.0	4,593.0	4,502.3	16.2	14.9	-172.10	-434.7	-4,028.8	4,727.2	4,701.6	25.65	184.275	
4,600.0	4,530.2	4,658.6	4,564.6	16.5	15.3	-171.89	-414.3	-4,030.3	4,738.3	4,712.0	26.28	180.293	
4,700.0	4,629.7	4,727.5	4,630.0	16.7	15.6	-171.66	-392.5	-4,032.1	4,746.6	4,719.7	26.89	176.500	
4,800.0	4,729.5	4,781.0	4,680.9	16.9	15.9	-171.48	-376.1	-4,033.9	4,752.2	4,724.8	27.38	173.579	
4,900.0	4,829.5	4,853.0	4,749.6	17.0	16.3	-171.24	-354.8	-4,036.6	4,755.2	4,727.2	27.91	170.360	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 33-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 568-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,874.0	4,769.7	17.1	16.4	-96.48	-348.7	-4,037.5	4,755.5	4,727.8	27.74	171.449	
5,000.0	4,929.5	4,964.5	4,856.9	17.2	16.9	-96.19	-324.8	-4,040.9	4,756.2	4,728.1	28.06	169.523	
5,100.0	5,029.5	5,061.0	4,951.0	17.3	17.3	-95.94	-303.7	-4,043.7	4,756.8	4,728.4	28.42	167.354	
5,200.0	5,129.5	5,136.8	5,025.6	17.4	17.6	-95.77	-290.1	-4,045.8	4,757.7	4,729.0	28.74	165.566	
5,300.0	5,229.5	5,229.7	5,117.3	17.6	17.9	-95.60	-276.3	-4,048.5	4,759.2	4,730.1	29.09	163.628	
5,400.0	5,329.5	5,458.2	5,344.3	17.7	18.5	-95.29	-250.9	-4,051.6	4,759.6	4,729.9	29.72	160.167	
5,500.0	5,429.5	5,553.1	5,438.9	17.9	18.8	-95.21	-243.5	-4,051.1	4,758.4	4,728.4	30.05	158.326	
5,600.0	5,529.5	5,632.1	5,517.8	18.0	18.9	-95.14	-238.3	-4,050.9	4,757.6	4,727.2	30.36	156.705	
5,700.0	5,629.5	5,715.0	5,600.6	18.1	19.1	-95.09	-233.6	-4,051.0	4,757.2	4,726.5	30.67	155.088	
5,731.7	5,661.2	5,735.1	5,620.7	18.2	19.1	-95.08	-232.7	-4,051.1	4,757.2	4,726.4	30.76	154.651	
5,800.0	5,729.5	5,782.9	5,668.4	18.3	19.2	-95.05	-230.7	-4,051.4	4,757.3	4,726.4	30.96	153.679	
5,900.0	5,829.5	5,852.6	5,738.1	18.4	19.3	-95.03	-228.9	-4,052.1	4,758.1	4,726.8	31.24	152.298	
6,000.0	5,929.5	5,967.6	5,853.0	18.6	19.5	-95.01	-227.1	-4,053.6	4,759.3	4,727.7	31.61	150.559	
6,100.0	6,029.5	6,074.5	5,960.0	18.7	19.6	-95.02	-228.0	-4,054.1	4,759.9	4,727.9	31.96	148.931	
6,200.0	6,129.5	6,181.0	6,066.5	18.9	19.8	-95.03	-228.7	-4,054.5	4,760.3	4,728.0	32.31	147.336	
6,300.0	6,229.5	6,275.0	6,160.5	19.1	19.9	-95.03	-228.9	-4,054.9	4,760.7	4,728.1	32.64	145.864	
6,400.0	6,329.5	6,338.0	6,223.4	19.2	20.0	-95.03	-229.3	-4,055.6	4,761.8	4,728.9	32.91	144.674	
6,500.0	6,429.5	6,418.1	6,303.6	19.4	20.1	-95.04	-229.8	-4,056.9	4,763.4	4,730.2	33.22	143.377	
6,550.3	6,479.8	6,463.0	6,348.5	19.5	20.1	-95.04	-229.9	-4,057.7	4,764.4	4,731.0	33.39	142.699	
6,600.0	6,529.4	6,544.1	6,429.5	19.5	20.2	-5.05	-230.2	-4,059.0	4,763.4	4,728.5	34.97	136.230	
6,650.0	6,579.2	6,597.3	6,482.7	19.5	20.3	-5.09	-230.4	-4,059.6	4,758.8	4,724.0	34.80	136.750	
6,700.0	6,628.4	6,645.7	6,531.1	19.5	20.4	-5.16	-230.5	-4,060.1	4,750.8	4,716.3	34.48	137.793	
6,750.0	6,676.9	6,682.8	6,568.2	19.5	20.4	-5.25	-230.5	-4,060.6	4,739.4	4,705.4	34.00	139.409	
6,800.0	6,724.5	6,718.4	6,603.8	19.4	20.5	-5.38	-230.5	-4,061.2	4,724.8	4,691.4	33.37	141.575	
6,850.0	6,770.8	6,767.8	6,653.2	19.4	20.5	-5.55	-230.8	-4,062.0	4,707.0	4,674.3	32.63	144.240	
6,900.0	6,815.8	6,842.8	6,728.2	19.3	20.6	-5.78	-231.2	-4,063.0	4,685.7	4,653.9	31.80	147.349	
6,950.0	6,859.1	6,883.8	6,769.1	19.2	20.7	-6.04	-231.4	-4,063.4	4,661.3	4,630.5	30.81	151.294	
7,000.0	6,900.5	6,923.0	6,808.4	19.1	20.7	-6.36	-231.6	-4,063.8	4,633.9	4,604.2	29.72	155.942	
7,050.0	6,939.9	6,977.0	6,862.4	19.1	20.8	-6.77	-231.8	-4,064.3	4,603.7	4,575.1	28.56	161.214	
7,100.0	6,977.1	7,028.2	6,913.5	19.0	20.9	-7.28	-232.0	-4,064.6	4,570.6	4,543.3	27.33	167.247	
7,150.0	7,011.8	7,059.5	6,944.9	19.0	20.9	-7.86	-232.0	-4,064.8	4,535.0	4,509.0	26.04	174.189	
7,200.0	7,044.0	7,088.6	6,974.0	19.1	21.0	-8.59	-231.9	-4,065.0	4,497.1	4,472.4	24.73	181.866	
7,250.0	7,073.4	7,117.0	7,002.4	19.1	21.0	-9.51	-231.8	-4,065.2	4,457.1	4,433.6	23.45	190.092	
7,300.0	7,099.9	7,152.4	7,037.8	19.3	21.0	-10.72	-231.5	-4,065.4	4,415.1	4,392.8	22.26	198.346	
7,350.0	7,123.4	7,186.0	7,071.4	19.5	21.1	-12.33	-231.3	-4,065.6	4,371.2	4,350.0	21.23	205.945	
7,400.0	7,143.7	7,224.9	7,110.2	19.8	21.2	-14.61	-231.0	-4,065.6	4,325.8	4,305.3	20.48	211.246	
7,450.0	7,160.9	7,295.1	7,180.5	20.2	21.3	-18.39	-230.7	-4,065.1	4,278.9	4,258.6	20.35	210.278	
7,500.0	7,174.7	7,316.9	7,202.2	20.7	21.3	-23.70	-230.6	-4,064.8	4,230.9	4,209.9	21.02	201.320	
7,550.0	7,185.1	7,328.2	7,213.6	21.2	21.3	-32.54	-230.6	-4,064.6	4,182.1	4,158.7	23.43	178.526	
7,600.0	7,192.1	7,335.5	7,220.9	21.8	21.3	-49.11	-230.6	-4,064.5	4,132.7	4,103.5	29.21	141.484	
7,650.0	7,195.6	7,338.6	7,224.0	22.5	21.3	-79.88	-230.6	-4,064.4	4,083.1	4,045.7	37.36	109.293	
7,680.0	7,196.0	7,338.6	7,223.9	22.9	21.3	-102.73	-230.6	-4,064.4	4,053.2	4,014.7	38.50	105.272	
7,700.0	7,195.9	7,338.0	7,223.4	23.3	21.3	-102.66	-230.6	-4,064.4	4,033.4	3,994.5	38.80	103.946	
7,800.0	7,195.2	7,335.3	7,220.7	24.9	21.3	-102.31	-230.6	-4,064.5	3,933.9	3,893.5	40.44	97.288	
7,900.0	7,194.6	7,332.6	7,218.0	26.7	21.3	-101.96	-230.6	-4,064.5	3,834.5	3,792.3	42.26	90.734	
8,000.0	7,193.9	7,330.0	7,215.3	28.7	21.3	-101.61	-230.6	-4,064.6	3,735.2	3,690.9	44.24	84.425	
8,100.0	7,193.3	7,327.3	7,212.7	30.9	21.3	-101.27	-230.6	-4,064.6	3,635.9	3,589.5	46.35	78.442	
8,200.0	7,192.6	7,324.7	7,210.1	33.1	21.3	-100.92	-230.6	-4,064.7	3,536.6	3,488.0	48.56	72.824	
8,300.0	7,192.0	7,322.1	7,207.5	35.4	21.3	-100.58	-230.6	-4,064.7	3,437.3	3,386.5	50.86	67.584	
8,400.0	7,191.3	7,319.6	7,204.9	37.8	21.3	-100.24	-230.6	-4,064.7	3,338.1	3,284.9	53.23	62.715	
8,500.0	7,190.7	7,317.0	7,202.4	40.2	21.3	-99.91	-230.6	-4,064.8	3,239.0	3,183.3	55.65	58.201	
8,600.0	7,190.0	7,314.5	7,199.9	42.7	21.3	-99.57	-230.6	-4,064.8	3,139.8	3,081.7	58.12	54.019	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 33-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 568-MWD — **Offset Well Error:** 0.0 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
8,700.0	7,189.4	7,312.0	7,197.4	45.2	21.3	-99.24	-230.6	-4,064.9	3,040.8	2,980.2	60.64	50.146	
8,800.0	7,188.7	7,309.5	7,194.9	47.8	21.3	-98.91	-230.6	-4,064.9	2,941.8	2,878.6	63.19	46.556	
8,900.0	7,188.0	7,307.1	7,192.4	50.3	21.3	-98.59	-230.7	-4,064.9	2,842.9	2,777.1	65.77	43.227	
9,000.0	7,187.4	7,304.6	7,190.0	52.9	21.3	-98.26	-230.7	-4,065.0	2,744.0	2,675.7	68.37	40.135	
9,100.0	7,186.7	7,301.0	7,186.4	55.6	21.3	-97.78	-230.7	-4,065.0	2,645.3	2,574.3	71.01	37.251	
9,200.0	7,186.1	7,297.2	7,182.6	58.2	21.3	-97.26	-230.7	-4,065.1	2,546.6	2,472.9	73.67	34.566	
9,300.0	7,185.4	7,293.6	7,179.0	60.9	21.3	-96.78	-230.7	-4,065.1	2,448.1	2,371.7	76.35	32.064	
9,400.0	7,184.8	7,290.3	7,175.6	63.5	21.3	-96.33	-230.7	-4,065.2	2,349.6	2,270.6	79.03	29.729	
9,500.0	7,184.1	7,287.1	7,172.5	66.2	21.2	-95.90	-230.7	-4,065.2	2,251.3	2,169.6	81.73	27.545	
9,600.0	7,183.5	7,284.1	7,169.5	68.9	21.2	-95.50	-230.7	-4,065.3	2,153.2	2,068.7	84.44	25.500	
9,700.0	7,182.8	7,281.3	7,166.7	71.6	21.2	-95.12	-230.7	-4,065.3	2,055.2	1,968.0	87.15	23.582	
9,800.0	7,182.2	7,278.6	7,164.0	74.3	21.2	-94.76	-230.8	-4,065.3	1,957.4	1,867.5	89.87	21.781	
9,900.0	7,181.5	7,276.1	7,161.5	77.0	21.2	-94.42	-230.8	-4,065.3	1,859.9	1,767.3	92.59	20.087	
10,000.0	7,180.8	7,273.7	7,159.1	79.7	21.2	-94.09	-230.8	-4,065.4	1,762.6	1,667.3	95.32	18.491	
10,100.0	7,180.2	7,271.4	7,156.8	82.5	21.2	-93.78	-230.8	-4,065.4	1,665.6	1,567.6	98.06	16.986	
10,200.0	7,179.5	7,269.3	7,154.6	85.2	21.2	-93.49	-230.8	-4,065.4	1,569.1	1,468.3	100.80	15.567	
10,300.0	7,178.9	7,267.2	7,152.6	87.9	21.2	-93.21	-230.8	-4,065.4	1,473.0	1,369.4	103.54	14.226	
10,400.0	7,178.2	7,265.2	7,150.6	90.7	21.2	-92.94	-230.8	-4,065.4	1,377.4	1,271.1	106.28	12.960	
10,500.0	7,177.6	7,263.4	7,148.7	93.4	21.2	-92.69	-230.8	-4,065.5	1,282.5	1,173.5	109.03	11.763	
10,600.0	7,176.9	7,261.6	7,147.0	96.2	21.2	-92.44	-230.8	-4,065.5	1,188.5	1,076.7	111.78	10.632	
10,700.0	7,176.2	7,259.9	7,145.2	98.9	21.2	-92.21	-230.8	-4,065.5	1,095.5	980.9	114.54	9.565	
10,800.0	7,175.6	7,258.2	7,143.6	101.7	21.2	-91.98	-230.9	-4,065.5	1,003.8	886.5	117.29	8.558	
10,900.0	7,174.9	7,256.7	7,142.0	104.4	21.2	-91.77	-230.9	-4,065.5	913.9	793.9	120.05	7.613	
11,000.0	7,174.3	7,255.1	7,140.5	107.2	21.2	-91.56	-230.9	-4,065.5	826.4	703.6	122.81	6.729	
11,100.0	7,173.6	7,253.7	7,139.1	109.9	21.2	-91.37	-230.9	-4,065.5	741.9	616.4	125.57	5.909	
11,200.0	7,172.9	7,252.3	7,137.7	112.7	21.2	-91.18	-230.9	-4,065.5	661.9	533.5	128.33	5.157	
11,300.0	7,172.3	7,251.0	7,136.3	115.5	21.2	-90.99	-230.9	-4,065.5	587.9	456.8	131.09	4.485	
11,400.0	7,171.6	7,249.7	7,135.1	118.3	21.2	-90.82	-230.9	-4,065.5	522.7	388.8	133.86	3.905	
11,500.0	7,171.0	7,248.4	7,133.8	121.0	21.2	-90.65	-230.9	-4,065.6	469.9	333.3	136.63	3.439	
11,600.0	7,170.3	7,247.2	7,132.6	123.8	21.2	-90.49	-230.9	-4,065.6	434.0	294.6	139.39	3.114	
11,700.0	7,169.6	7,246.1	7,131.5	126.6	21.2	-90.33	-230.9	-4,065.6	419.4	277.3	142.16	2.950	
11,712.2	7,169.6	7,246.0	7,131.3	126.9	21.2	-90.31	-230.9	-4,065.6	419.3	276.8	142.50	2.942	CC, ES, SF
11,797.6	7,169.0	7,245.0	7,130.4	129.3	21.2	-90.18	-230.9	-4,065.6	427.9	283.0	144.86	2.954	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 599-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-105.91	-1,130.5	-3,965.1	4,123.3				
100.0	100.0	60.1	60.1	0.1	0.1	-105.91	-1,130.5	-3,965.1	4,123.1	4,122.9	0.16	N/A	
200.0	200.0	161.2	161.2	0.3	0.2	-105.91	-1,130.5	-3,965.1	4,123.1	4,122.6	0.50	8,244.504	
300.0	300.0	262.2	262.2	0.5	0.3	-105.91	-1,130.4	-3,965.0	4,123.0	4,122.2	0.84	4,928.653	
400.0	400.0	363.3	363.3	0.8	0.4	-105.91	-1,130.3	-3,965.0	4,122.9	4,121.8	1.17	3,514.921	
500.0	500.0	464.4	464.4	1.0	0.5	-105.91	-1,130.3	-3,964.9	4,122.8	4,121.3	1.51	2,731.397	
600.0	600.0	1,815.0	1,791.7	1.2	5.0	-105.12	-1,025.9	-3,797.7	4,122.3	4,116.4	5.89	700.349	
700.0	700.0	1,898.6	1,870.8	1.4	5.5	-104.96	-1,009.1	-3,776.6	4,092.5	4,086.0	6.51	628.637	
800.0	800.0	2,002.0	1,968.6	1.7	6.1	-104.75	-987.5	-3,750.6	4,062.5	4,055.3	7.24	561.261	
900.0	900.0	2,067.7	2,030.7	1.9	6.5	-104.61	-973.7	-3,734.2	4,032.9	4,025.1	7.77	519.234	
1,000.0	1,000.0	2,128.6	2,088.5	2.1	6.8	-179.17	-961.0	-3,719.8	4,006.0	3,999.1	6.89	581.419	
1,100.0	1,099.8	2,266.5	2,219.7	2.3	7.5	-178.92	-934.1	-3,686.8	3,983.0	3,975.5	7.55	527.511	
1,200.0	1,199.5	2,411.6	2,357.1	2.5	8.4	-178.68	-906.7	-3,649.1	3,961.3	3,953.0	8.27	478.828	
1,300.0	1,298.7	2,552.3	2,490.0	2.8	9.3	-178.42	-878.6	-3,612.6	3,943.1	3,934.1	9.00	438.274	
1,400.0	1,397.5	2,657.0	2,588.3	3.1	10.0	-178.22	-856.6	-3,584.1	3,926.6	3,917.0	9.62	408.314	
1,500.0	1,495.6	2,727.4	2,654.5	3.4	10.4	-178.08	-841.4	-3,565.4	3,914.2	3,904.1	10.10	387.619	
1,500.1	1,495.7	2,727.5	2,654.5	3.4	10.4	-178.08	-841.4	-3,565.4	3,914.2	3,904.1	10.10	387.601	
1,600.0	1,593.4	2,751.0	2,676.7	3.8	10.6	-178.03	-836.3	-3,559.3	3,904.8	3,894.3	10.42	374.562	
1,700.0	1,691.3	2,844.0	2,764.8	4.1	11.1	-177.84	-816.8	-3,536.8	3,896.7	3,885.7	11.01	353.863	
1,800.0	1,789.1	2,949.3	2,864.7	4.5	11.7	-177.62	-794.8	-3,512.0	3,889.3	3,877.6	11.66	333.428	
1,900.0	1,886.9	3,031.0	2,942.1	4.9	12.2	-177.44	-777.4	-3,492.4	3,881.4	3,869.1	12.24	317.209	
2,000.0	1,984.7	3,096.3	3,004.1	5.3	12.6	-177.30	-763.7	-3,477.0	3,874.1	3,861.4	12.74	304.174	
2,100.0	2,082.5	3,168.6	3,072.9	5.7	13.0	-177.15	-748.8	-3,460.6	3,867.7	3,854.5	13.27	291.544	
2,200.0	2,180.3	3,262.2	3,162.2	6.2	13.5	-176.96	-729.9	-3,439.7	3,861.9	3,848.0	13.88	278.312	
2,300.0	2,278.1	3,366.6	3,261.9	6.6	14.1	-176.77	-710.8	-3,415.6	3,855.9	3,841.4	14.52	265.634	
2,400.0	2,375.9	3,478.9	3,369.3	7.0	14.8	-176.58	-690.6	-3,389.6	3,849.9	3,834.7	15.19	253.417	
2,500.0	2,473.8	3,622.5	3,505.9	7.5	15.6	-176.30	-662.8	-3,355.3	3,842.8	3,826.8	16.02	239.920	
2,600.0	2,571.6	3,706.5	3,585.8	7.9	16.1	-176.14	-646.7	-3,335.1	3,835.7	3,819.1	16.61	230.991	
2,700.0	2,669.4	3,844.6	3,717.2	8.3	16.9	-175.89	-620.7	-3,301.4	3,828.4	3,810.9	17.41	219.936	
2,800.0	2,767.2	3,937.5	3,805.5	8.8	17.5	-175.72	-603.1	-3,278.1	3,820.4	3,802.3	18.04	211.779	
2,900.0	2,865.0	4,008.8	3,873.2	9.2	17.9	-175.58	-589.3	-3,260.6	3,813.0	3,794.4	18.59	205.133	
3,000.0	2,962.8	4,079.7	3,940.7	9.7	18.3	-175.44	-575.6	-3,243.9	3,806.4	3,787.3	19.13	198.939	
3,100.0	3,060.6	4,174.5	4,031.2	10.1	18.9	-175.27	-558.3	-3,221.8	3,800.4	3,780.7	19.77	192.255	
3,200.0	3,158.5	4,376.8	4,223.3	10.6	20.1	-174.89	-520.1	-3,171.3	3,792.4	3,771.5	20.86	181.832	
3,300.0	3,256.3	4,435.0	4,278.6	11.0	20.5	-174.79	-509.1	-3,156.5	3,784.3	3,762.9	21.36	177.166	
3,400.0	3,354.1	4,582.0	4,417.7	11.5	21.4	-174.49	-480.3	-3,119.1	3,775.9	3,753.7	22.25	169.717	
3,500.0	3,451.9	4,670.5	4,501.3	11.9	21.9	-174.31	-462.5	-3,096.1	3,767.2	3,744.3	22.90	164.532	
3,600.0	3,549.7	4,758.1	4,584.3	12.4	22.5	-174.14	-445.2	-3,073.8	3,758.9	3,735.4	23.54	159.691	
3,700.0	3,647.5	4,847.7	4,669.1	12.8	23.0	-173.95	-427.4	-3,051.1	3,750.8	3,726.6	24.20	155.017	
3,800.0	3,745.3	4,905.0	4,723.4	13.3	23.4	-173.83	-415.7	-3,036.9	3,743.4	3,718.6	24.72	151.450	
3,900.0	3,843.2	4,978.3	4,793.0	13.7	23.8	-173.67	-400.8	-3,019.4	3,736.8	3,711.5	25.31	147.663	
4,000.0	3,941.0	5,054.4	4,865.4	14.2	24.3	-173.51	-385.6	-3,001.9	3,731.2	3,705.3	25.90	144.047	
4,100.0	4,038.8	5,144.3	4,951.3	14.6	24.8	-173.33	-368.6	-2,981.4	3,726.0	3,699.5	26.55	140.349	
4,200.0	4,136.6	5,290.6	5,091.0	15.1	25.6	-173.06	-342.1	-2,947.2	3,720.6	3,693.2	27.43	135.652	
4,300.0	4,234.4	5,373.0	5,169.5	15.5	26.1	-172.89	-326.3	-2,927.3	3,714.3	3,686.2	28.06	132.373	
4,325.2	4,259.1	5,373.0	5,169.5	15.6	26.1	-172.89	-326.3	-2,927.3	3,712.9	3,684.8	28.13	132.006	
4,400.0	4,332.4	5,426.5	5,220.5	15.9	26.4	-172.78	-316.3	-2,914.9	3,707.9	3,679.4	28.56	129.830	
4,500.0	4,431.0	5,466.0	5,258.4	16.2	26.7	-172.68	-309.3	-2,906.2	3,699.9	3,670.9	28.95	127.802	
4,600.0	4,530.2	5,513.5	5,304.2	16.5	26.9	-172.57	-301.5	-2,896.4	3,689.9	3,660.6	29.32	125.856	
4,700.0	4,629.7	5,560.0	5,349.3	16.7	27.1	-172.45	-294.3	-2,887.5	3,677.9	3,648.3	29.64	124.070	
4,800.0	4,729.5	5,601.7	5,389.8	16.9	27.3	-172.34	-288.3	-2,880.0	3,664.0	3,634.1	29.90	122.544	
4,900.0	4,829.5	5,653.0	5,440.0	17.0	27.5	-172.21	-281.4	-2,871.5	3,648.2	3,618.1	30.15	121.001	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 599-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	5,653.0	5,440.0	17.1	27.5	-97.52	-281.4	-2,871.5	3,643.9	3,602.0	41.88	87.008	
5,000.0	4,929.5	5,703.5	5,489.6	17.2	27.7	-97.44	-275.4	-2,863.7	3,631.3	3,589.1	42.14	86.176	
5,100.0	5,029.5	5,765.2	5,550.2	17.3	28.0	-97.36	-269.2	-2,854.6	3,615.2	3,572.8	42.47	85.116	
5,200.0	5,129.5	5,840.0	5,624.0	17.4	28.2	-97.27	-262.2	-2,844.3	3,600.3	3,557.5	42.84	84.035	
5,300.0	5,229.5	5,883.8	5,667.3	17.6	28.4	-97.22	-258.2	-2,838.8	3,586.4	3,543.3	43.11	83.198	
5,400.0	5,329.5	5,945.3	5,728.1	17.7	28.6	-97.14	-252.6	-2,831.6	3,573.6	3,530.2	43.42	82.305	
5,500.0	5,429.5	6,025.0	5,807.0	17.9	28.8	-97.04	-245.4	-2,822.9	3,561.7	3,517.9	43.77	81.371	
5,600.0	5,529.5	6,074.3	5,855.9	18.0	29.0	-96.98	-241.1	-2,818.1	3,550.7	3,506.6	44.03	80.638	
5,700.0	5,629.5	6,119.0	5,900.2	18.1	29.1	-96.93	-237.5	-2,814.1	3,541.0	3,496.7	44.29	79.958	
5,800.0	5,729.5	6,188.0	5,968.9	18.3	29.3	-96.87	-232.7	-2,808.7	3,532.5	3,487.9	44.58	79.244	
5,900.0	5,829.5	6,243.3	6,023.9	18.4	29.4	-96.82	-229.4	-2,805.0	3,525.2	3,480.3	44.83	78.628	
6,000.0	5,929.5	6,306.0	6,086.5	18.6	29.5	-96.78	-226.6	-2,801.7	3,519.2	3,474.1	45.10	78.033	
6,100.0	6,029.5	6,350.8	6,131.2	18.7	29.6	-96.76	-225.3	-2,799.8	3,514.5	3,469.2	45.32	77.551	
6,200.0	6,129.5	6,399.0	6,179.4	18.9	29.6	-96.76	-224.6	-2,798.2	3,511.1	3,465.5	45.55	77.087	
6,300.0	6,229.5	6,493.0	6,273.4	19.1	29.8	-96.75	-224.1	-2,795.9	3,508.7	3,462.8	45.83	76.564	
6,400.0	6,329.5	6,558.5	6,338.8	19.2	29.8	-96.75	-223.9	-2,794.9	3,506.9	3,460.9	46.06	76.133	
6,500.0	6,429.5	6,631.5	6,411.8	19.4	29.9	-96.75	-223.9	-2,794.1	3,505.8	3,459.5	46.30	75.714	
6,550.3	6,479.8	6,680.0	6,460.3	19.5	29.9	-96.76	-224.2	-2,793.8	3,505.7	3,459.2	46.44	75.492	
6,600.0	6,529.4	6,707.6	6,487.9	19.5	30.0	-6.78	-224.5	-2,793.8	3,503.9	3,468.5	35.37	99.071	
6,650.0	6,579.2	6,752.9	6,533.2	19.5	30.0	-6.85	-224.8	-2,793.8	3,498.8	3,463.8	34.98	100.010	
6,700.0	6,628.4	6,798.0	6,578.3	19.5	30.0	-6.95	-225.1	-2,793.9	3,490.3	3,455.8	34.44	101.352	
6,750.0	6,676.9	6,842.7	6,623.0	19.5	30.1	-7.09	-225.4	-2,794.0	3,478.5	3,444.7	33.73	103.126	
6,800.0	6,724.5	6,885.8	6,666.2	19.4	30.1	-7.29	-225.7	-2,794.2	3,463.3	3,430.5	32.87	105.372	
6,850.0	6,770.8	6,927.2	6,707.5	19.4	30.2	-7.53	-226.0	-2,794.4	3,445.0	3,413.2	31.86	108.141	
6,900.0	6,815.8	6,961.0	6,741.3	19.3	30.2	-7.83	-226.4	-2,794.6	3,423.7	3,392.9	30.70	111.506	
6,950.0	6,859.1	6,999.2	6,779.5	19.2	30.2	-8.20	-226.9	-2,794.9	3,399.3	3,369.9	29.43	115.493	
7,000.0	6,900.5	7,030.7	6,811.1	19.1	30.2	-8.63	-227.1	-2,795.2	3,372.1	3,344.1	28.05	120.213	
7,050.0	6,939.9	7,054.0	6,834.3	19.1	30.2	-9.14	-227.3	-2,795.6	3,342.2	3,315.6	26.58	125.750	
7,100.0	6,977.1	7,090.8	6,871.1	19.0	30.3	-9.80	-227.6	-2,796.2	3,309.7	3,284.7	25.06	132.070	
7,150.0	7,011.8	7,118.7	6,899.0	19.0	30.3	-10.58	-227.9	-2,796.8	3,274.8	3,251.3	23.52	139.259	
7,200.0	7,044.0	7,148.0	6,928.3	19.1	30.3	-11.56	-228.2	-2,797.4	3,237.6	3,215.6	22.01	147.114	
7,250.0	7,073.4	7,179.6	6,959.9	19.1	30.3	-12.81	-228.7	-2,798.1	3,198.2	3,177.6	20.62	155.105	
7,300.0	7,099.9	7,212.5	6,992.8	19.3	30.3	-14.42	-229.2	-2,798.8	3,156.8	3,137.3	19.49	161.993	
7,350.0	7,123.4	7,241.7	7,021.9	19.5	30.4	-16.53	-229.7	-2,799.3	3,113.6	3,094.7	18.82	165.442	
7,400.0	7,143.7	7,268.2	7,048.4	19.8	30.4	-19.37	-230.2	-2,799.7	3,068.7	3,049.8	18.95	161.924	
7,450.0	7,160.9	7,290.5	7,070.7	20.2	30.4	-23.28	-230.6	-2,800.1	3,022.5	3,002.2	20.32	148.757	
7,500.0	7,174.7	7,308.5	7,088.8	20.7	30.4	-28.95	-230.9	-2,800.3	2,975.1	2,951.7	23.43	126.988	
7,550.0	7,185.1	7,322.2	7,102.5	21.2	30.4	-37.54	-231.1	-2,800.5	2,926.9	2,898.1	28.85	101.459	
7,600.0	7,192.1	7,331.6	7,111.9	21.8	30.4	-51.11	-231.2	-2,800.6	2,878.0	2,841.1	36.95	77.895	
7,650.0	7,195.6	7,335.0	7,115.2	22.5	30.4	-71.70	-231.3	-2,800.7	2,828.8	2,782.8	45.91	61.617	
7,680.0	7,196.0	7,335.0	7,115.2	22.9	30.4	-86.96	-231.3	-2,800.7	2,799.1	2,750.0	49.12	56.987	
7,700.0	7,195.9	7,335.0	7,115.2	23.3	30.4	-86.96	-231.3	-2,800.7	2,779.3	2,729.9	49.42	56.239	
7,800.0	7,195.2	7,335.0	7,115.2	24.9	30.4	-86.96	-231.3	-2,800.7	2,680.5	2,629.5	51.07	52.492	
7,900.0	7,194.6	7,335.0	7,115.2	26.7	30.4	-86.96	-231.3	-2,800.7	2,581.8	2,528.9	52.90	48.801	
8,000.0	7,193.9	7,338.6	7,118.8	28.7	30.4	-87.45	-231.3	-2,800.7	2,483.2	2,428.2	54.94	45.196	
8,100.0	7,193.3	7,339.1	7,119.3	30.9	30.4	-87.52	-231.3	-2,800.7	2,384.7	2,327.6	57.07	41.784	
8,200.0	7,192.6	7,339.6	7,119.8	33.1	30.4	-87.59	-231.3	-2,800.7	2,286.3	2,227.0	59.30	38.554	
8,300.0	7,192.0	7,340.1	7,120.3	35.4	30.4	-87.66	-231.3	-2,800.7	2,188.1	2,126.5	61.62	35.512	
8,400.0	7,191.3	7,340.6	7,120.8	37.8	30.4	-87.73	-231.3	-2,800.7	2,090.0	2,026.1	64.00	32.658	
8,500.0	7,190.7	7,341.1	7,121.4	40.2	30.4	-87.80	-231.3	-2,800.7	1,992.2	1,925.8	66.44	29.987	
8,600.0	7,190.0	7,341.6	7,121.9	42.7	30.4	-87.87	-231.3	-2,800.7	1,894.6	1,825.6	68.92	27.489	
8,700.0	7,189.4	7,342.1	7,122.4	45.2	30.4	-87.94	-231.4	-2,800.7	1,797.2	1,725.7	71.44	25.156	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 599-MWD — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,342.7	7,122.9	47.8	30.4	-88.02	-231.4	-2,800.8	1,700.1	1,626.1	74.00	22.975	
8,900.0	7,188.0	7,343.2	7,123.4	50.3	30.4	-88.09	-231.4	-2,800.8	1,603.4	1,526.8	76.58	20.938	
9,000.0	7,187.4	7,343.7	7,123.9	52.9	30.4	-88.16	-231.4	-2,800.8	1,507.1	1,427.9	79.19	19.033	
9,100.0	7,186.7	7,344.2	7,124.5	55.6	30.4	-88.23	-231.4	-2,800.8	1,411.3	1,329.5	81.81	17.251	
9,200.0	7,186.1	7,344.8	7,125.0	58.2	30.4	-88.30	-231.4	-2,800.8	1,316.2	1,231.8	84.46	15.585	
9,300.0	7,185.4	7,345.3	7,125.5	60.9	30.4	-88.38	-231.4	-2,800.8	1,221.9	1,134.7	87.11	14.026	
9,400.0	7,184.8	7,345.8	7,126.1	63.5	30.4	-88.45	-231.4	-2,800.8	1,128.5	1,038.7	89.79	12.568	
9,500.0	7,184.1	7,346.4	7,126.6	66.2	30.4	-88.52	-231.4	-2,800.8	1,036.3	943.8	92.47	11.207	
9,600.0	7,183.5	7,346.9	7,127.1	68.9	30.4	-88.60	-231.4	-2,800.8	945.8	850.6	95.17	9.938	
9,700.0	7,182.8	7,347.5	7,127.7	71.6	30.4	-88.67	-231.4	-2,800.8	857.3	759.4	97.87	8.760	
9,800.0	7,182.2	7,348.0	7,128.2	74.3	30.4	-88.75	-231.4	-2,800.8	771.7	671.1	100.58	7.672	
9,900.0	7,181.5	7,348.5	7,128.8	77.0	30.4	-88.82	-231.4	-2,800.8	689.9	586.6	103.30	6.679	
10,000.0	7,180.8	7,349.1	7,129.3	79.7	30.4	-88.90	-231.4	-2,800.8	613.6	507.6	106.03	5.787	
10,100.0	7,180.2	7,349.7	7,129.9	82.5	30.4	-88.97	-231.4	-2,800.8	545.0	436.2	108.76	5.011	
10,200.0	7,179.5	7,350.2	7,130.4	85.2	30.4	-89.05	-231.5	-2,800.8	487.3	375.8	111.49	4.371	
10,300.0	7,178.9	7,350.8	7,131.0	87.9	30.4	-89.13	-231.5	-2,800.8	445.0	330.7	114.24	3.895	
10,400.0	7,178.2	7,351.3	7,131.6	90.7	30.4	-89.20	-231.5	-2,800.9	422.5	305.5	116.98	3.612	
10,447.5	7,177.9	7,351.6	7,131.8	92.0	30.4	-89.24	-231.5	-2,800.9	419.8	301.5	118.29	3.549	CC, ES
10,500.0	7,177.6	7,351.9	7,132.1	93.4	30.4	-89.28	-231.5	-2,800.9	423.1	303.4	119.73	3.534	SF
10,600.0	7,176.9	7,352.5	7,132.7	96.2	30.4	-89.36	-231.5	-2,800.9	446.7	324.2	122.49	3.647	
10,700.0	7,176.2	7,353.0	7,133.3	98.9	30.4	-89.44	-231.5	-2,800.9	489.9	364.7	125.24	3.912	
10,800.0	7,175.6	7,353.6	7,133.9	101.7	30.4	-89.52	-231.5	-2,800.9	548.2	420.2	128.00	4.283	
10,900.0	7,174.9	7,354.2	7,134.4	104.4	30.4	-89.59	-231.5	-2,800.9	617.3	486.5	130.77	4.720	
11,000.0	7,174.3	7,354.8	7,135.0	107.2	30.4	-89.67	-231.5	-2,800.9	693.9	560.4	133.53	5.197	
11,100.0	7,173.6	7,355.4	7,135.6	109.9	30.4	-89.75	-231.5	-2,800.9	775.9	639.6	136.30	5.693	
11,200.0	7,172.9	7,355.9	7,136.2	112.7	30.4	-89.83	-231.5	-2,800.9	861.7	722.6	139.07	6.196	
11,300.0	7,172.3	7,356.5	7,136.8	115.5	30.4	-89.91	-231.5	-2,800.9	950.3	808.4	141.84	6.700	
11,400.0	7,171.6	7,357.1	7,137.4	118.3	30.4	-89.99	-231.5	-2,800.9	1,040.9	896.3	144.61	7.198	
11,500.0	7,171.0	7,357.7	7,138.0	121.0	30.4	-90.08	-231.6	-2,800.9	1,133.1	985.8	147.39	7.688	
11,600.0	7,170.3	7,358.3	7,138.6	123.8	30.4	-90.16	-231.6	-2,800.9	1,226.6	1,076.4	150.16	8.168	
11,700.0	7,169.6	7,358.9	7,139.2	126.6	30.4	-90.24	-231.6	-2,801.0	1,321.0	1,168.1	152.94	8.637	
11,797.6	7,169.0	7,359.5	7,139.8	129.3	30.4	-90.32	-231.6	-2,801.0	1,413.8	1,258.2	155.65	9.083	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WALTERS #21ODU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 703-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	3.5	3.5	0.0	0.0	-141.73	-673.6	-531.4	858.0				
100.0	100.0	102.7	102.7	0.1	0.1	-141.74	-673.7	-531.4	858.0	857.8	0.20	4,205.470	
200.0	200.0	201.9	201.9	0.3	0.2	-141.75	-673.9	-531.3	858.2	857.6	0.53	1,613.105	
300.0	300.0	301.1	301.1	0.5	0.3	-141.77	-674.3	-531.1	858.4	857.5	0.86	998.174	
400.0	400.0	400.4	400.4	0.8	0.4	-141.81	-674.9	-530.9	858.7	857.5	1.19	722.864	
500.0	500.0	499.6	499.6	1.0	0.5	-141.85	-675.6	-530.7	859.1	857.6	1.52	566.742	
600.0	600.0	598.8	598.8	1.2	0.6	-141.91	-676.5	-530.3	859.6	857.8	1.84	466.209	
700.0	700.0	698.0	698.0	1.4	0.7	-141.97	-677.6	-529.9	860.2	858.0	2.17	396.080	
800.0	800.0	841.0	841.0	1.7	1.0	-142.08	-676.5	-527.1	858.4	855.8	2.68	320.188	
900.0	900.0	991.4	990.8	1.9	1.3	-142.34	-670.3	-517.4	851.2	848.0	3.23	263.225	
1,000.0	1,000.0	1,145.2	1,143.3	2.1	1.7	142.99	-656.7	-502.3	839.9	836.1	3.80	220.864	
1,100.0	1,099.8	1,269.8	1,265.7	2.3	2.2	143.36	-639.0	-487.4	825.3	821.0	4.30	192.164	
1,200.0	1,199.5	1,381.9	1,375.5	2.5	2.6	143.88	-621.4	-472.7	811.9	807.1	4.77	170.146	
1,300.0	1,298.7	1,508.0	1,498.2	2.8	3.1	144.67	-599.3	-454.7	799.0	793.7	5.30	150.642	
1,400.0	1,397.5	1,649.3	1,634.2	3.1	3.8	145.73	-569.9	-429.9	784.2	778.3	5.91	132.619	
1,500.0	1,495.6	1,761.1	1,740.7	3.4	4.4	146.65	-545.1	-406.3	769.1	762.7	6.48	118.773	
1,500.1	1,495.7	1,761.2	1,740.8	3.4	4.4	146.65	-545.1	-406.3	769.1	762.6	6.48	118.760	
1,600.0	1,593.4	1,862.9	1,837.1	3.8	5.0	147.41	-521.5	-383.7	754.0	747.0	7.03	107.296	
1,700.0	1,691.3	1,957.8	1,927.2	4.1	5.6	148.16	-500.0	-363.1	739.7	732.2	7.57	97.737	
1,800.0	1,789.1	2,059.6	2,023.7	4.5	6.2	148.96	-476.8	-340.5	725.2	717.1	8.14	89.070	
1,900.0	1,886.9	2,150.7	2,110.1	4.9	6.7	149.69	-456.4	-320.2	711.0	702.3	8.69	81.844	
2,000.0	1,984.7	2,243.1	2,198.2	5.3	7.2	150.47	-436.4	-300.6	698.3	689.1	9.23	75.669	
2,100.0	2,082.5	2,348.7	2,298.8	5.7	7.8	151.44	-413.2	-278.5	685.8	675.9	9.81	69.880	
2,200.0	2,180.3	2,438.7	2,384.4	6.2	8.3	152.20	-393.9	-258.5	672.8	662.4	10.36	64.936	
2,300.0	2,278.1	2,541.7	2,482.8	6.6	8.9	153.12	-372.6	-236.8	661.4	650.5	10.94	60.450	
2,400.0	2,375.9	2,644.1	2,580.2	7.0	9.5	154.17	-349.6	-215.0	648.7	637.2	11.53	56.268	
2,500.0	2,473.8	2,740.0	2,671.3	7.5	10.0	155.28	-327.4	-195.3	636.3	624.2	12.10	52.608	
2,600.0	2,571.6	2,825.0	2,752.5	7.9	10.5	156.39	-307.6	-179.2	625.4	612.8	12.63	49.509	
2,700.0	2,669.4	2,929.7	2,852.5	8.3	11.1	157.88	-283.2	-160.8	615.9	602.7	13.24	46.531	
2,800.0	2,767.2	3,033.1	2,951.2	8.8	11.7	159.21	-260.0	-140.3	605.4	591.6	13.85	43.707	
2,900.0	2,865.0	3,136.7	3,049.8	9.2	12.3	160.47	-237.1	-118.3	594.3	579.9	14.47	41.068	
3,000.0	2,962.8	3,234.8	3,143.1	9.7	12.8	161.78	-214.7	-97.7	583.3	568.3	15.09	38.663	
3,100.0	3,060.6	3,339.5	3,242.5	10.1	13.5	163.17	-191.1	-74.8	572.0	556.2	15.74	36.348	
3,200.0	3,158.5	3,441.1	3,338.8	10.6	14.1	164.48	-168.5	-51.5	560.2	543.8	16.39	34.191	
3,300.0	3,256.3	3,544.4	3,436.3	11.0	14.7	165.93	-144.6	-27.5	548.0	531.0	17.06	32.116	
3,400.0	3,354.1	3,648.2	3,534.1	11.5	15.4	167.37	-120.9	-2.2	535.2	517.5	17.76	30.139	
3,500.0	3,451.9	3,745.8	3,626.0	11.9	16.0	168.72	-98.9	22.5	522.1	503.6	18.44	28.309	
3,600.0	3,549.7	3,864.5	3,737.0	12.4	16.8	170.71	-69.6	52.5	508.4	489.1	19.28	26.361	
3,700.0	3,647.5	3,955.0	3,820.7	12.8	17.5	172.56	-44.6	76.2	492.9	472.8	20.07	24.553	
3,800.0	3,745.3	4,051.8	3,910.3	13.3	18.2	174.85	-16.8	99.9	479.0	458.0	20.98	22.830	
3,900.0	3,843.2	4,140.3	3,992.5	13.7	18.8	177.05	8.4	121.0	466.8	444.9	21.89	21.329	
4,000.0	3,941.0	4,230.9	4,077.6	14.2	19.4	179.09	31.4	142.0	457.1	434.4	22.79	20.059	
4,100.0	4,038.8	4,338.6	4,179.1	14.6	20.0	-178.71	56.3	167.8	448.0	424.2	23.81	18.816	
4,200.0	4,136.6	4,439.4	4,273.7	15.1	20.7	-176.59	79.9	193.7	437.8	412.9	24.85	17.617	
4,300.0	4,234.4	4,525.0	4,354.4	15.5	21.3	-174.74	99.5	214.5	429.6	403.8	25.81	16.646	
4,325.2	4,259.1	4,547.8	4,376.0	15.6	21.4	-174.24	104.7	219.7	428.1	402.0	26.07	16.421	
4,400.0	4,332.4	4,618.0	4,442.3	15.9	21.8	-172.54	121.3	235.3	423.0	396.0	26.92	15.712	
4,500.0	4,431.0	4,711.0	4,530.8	16.2	22.4	-170.20	142.8	254.5	415.5	387.5	28.05	14.811	
4,600.0	4,530.2	4,804.0	4,620.0	16.5	22.9	-168.04	161.6	272.8	406.6	377.5	29.11	13.967	
4,700.0	4,629.7	4,898.0	4,710.7	16.7	23.3	-166.09	177.6	291.3	395.4	365.3	30.08	13.143	
4,800.0	4,729.5	4,996.3	4,806.0	16.9	23.8	-163.96	193.1	310.0	381.8	350.7	31.08	12.283	
4,900.0	4,829.5	5,084.0	4,891.1	17.0	24.2	-161.81	206.6	326.0	366.4	334.3	32.04	11.436	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WALTERS #21ODU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 703-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	5,109.8	4,916.3	17.1	24.3	-86.48	210.3	330.4	362.3	327.1	35.23	10.283	
5,000.0	4,929.5	5,177.0	4,982.0	17.2	24.6	-84.89	219.3	341.0	351.2	316.0	35.16	9.988	
5,100.0	5,029.5	5,270.0	5,073.5	17.3	25.0	-82.85	230.2	353.6	338.9	303.8	35.05	9.669	
5,200.0	5,129.5	5,359.2	5,161.7	17.4	25.2	-81.04	239.3	363.5	329.1	294.2	34.95	9.417	
5,300.0	5,229.5	5,456.0	5,257.7	17.6	25.5	-79.28	247.9	372.8	321.1	286.3	34.85	9.214	
5,400.0	5,329.5	5,549.0	5,350.1	17.7	25.8	-77.81	254.6	380.3	314.6	279.8	34.80	9.039	
5,500.0	5,429.5	5,645.4	5,446.2	17.9	26.0	-76.61	259.9	386.5	309.6	274.8	34.82	8.892	
5,600.0	5,529.5	5,742.6	5,543.2	18.0	26.2	-75.63	264.2	391.4	305.8	270.9	34.88	8.768	
5,700.0	5,629.5	5,837.7	5,638.1	18.1	26.3	-74.73	268.2	394.9	303.2	268.3	34.94	8.678	
5,779.3	5,708.8	5,912.0	5,712.3	18.3	26.4	-74.08	271.3	396.4	302.6	267.6	35.00	8.643	
5,800.0	5,729.5	5,931.8	5,732.1	18.3	26.5	-73.92	272.1	396.6	302.6	267.6	35.02	8.641	
5,900.0	5,829.5	6,030.0	5,830.3	18.4	26.6	-73.33	275.3	396.9	303.3	268.1	35.15	8.627	
6,000.0	5,929.5	6,130.3	5,930.5	18.6	26.7	-72.93	277.5	396.7	304.1	268.8	35.34	8.606	
6,100.0	6,029.5	6,230.3	6,030.5	18.7	26.8	-72.75	278.7	396.2	304.9	269.3	35.58	8.570	
6,200.0	6,129.5	6,330.7	6,131.0	18.9	26.9	-72.65	279.4	395.7	305.7	269.8	35.85	8.527	
6,300.0	6,229.5	6,431.5	6,231.7	19.1	27.0	-72.58	280.0	395.2	306.2	270.1	36.13	8.476	
6,400.0	6,329.5	6,531.6	6,331.9	19.2	27.1	-72.53	280.3	395.0	306.6	270.1	36.42	8.418	
6,500.0	6,429.5	6,631.0	6,431.2	19.4	27.2	-72.50	280.6	394.6	307.0	270.3	36.71	8.364	
6,550.3	6,479.8	6,681.1	6,481.3	19.5	27.2	-72.51	280.7	394.3	307.3	270.5	36.86	8.337	
6,600.0	6,529.4	6,730.8	6,531.1	19.5	27.3	17.60	280.6	393.9	306.0	264.6	41.39	7.393	
6,650.0	6,579.2	6,780.6	6,580.8	19.5	27.3	17.98	280.6	393.6	301.4	260.1	41.24	7.307	
6,700.0	6,628.4	6,829.6	6,629.8	19.5	27.4	18.64	280.4	393.2	293.5	252.4	41.02	7.154	
6,750.0	6,676.9	6,878.1	6,678.3	19.5	27.4	19.66	280.2	392.8	282.4	241.6	40.73	6.932	
6,800.0	6,724.5	6,925.7	6,725.9	19.4	27.5	21.10	280.0	392.3	268.2	227.7	40.43	6.633	
6,850.0	6,770.8	6,972.2	6,772.4	19.4	27.5	23.11	279.8	391.9	251.0	210.9	40.15	6.252	
6,900.0	6,815.8	7,017.4	6,817.6	19.3	27.5	25.87	279.6	391.4	231.1	191.1	39.98	5.781	
6,950.0	6,859.1	7,061.1	6,861.3	19.2	27.6	29.67	279.4	391.0	208.7	168.7	40.01	5.216	
7,000.0	6,900.5	7,103.1	6,903.3	19.1	27.6	34.96	279.2	390.7	184.1	143.8	40.36	4.563	
7,050.0	6,939.9	7,142.9	6,943.1	19.1	27.7	42.33	279.0	390.4	158.2	117.1	41.12	3.847	
7,100.0	6,977.1	7,180.3	6,980.5	19.0	27.7	52.47	278.8	390.2	132.2	90.0	42.22	3.132	
7,150.0	7,011.8	7,215.2	7,015.4	19.0	27.7	65.78	278.6	390.0	108.8	65.7	43.08	2.526	
7,200.0	7,044.0	7,247.5	7,047.7	19.1	27.7	81.35	278.5	389.8	93.0	50.3	42.66	2.179	
7,228.6	7,061.2	7,264.8	7,065.0	19.1	27.8	90.26	278.4	389.7	90.1	48.5	41.63	2.165	CC, ES, SF
7,250.0	7,073.4	7,277.1	7,077.2	19.1	27.8	96.48	278.4	389.7	91.8	51.3	40.55	2.264	
7,300.0	7,099.9	7,303.5	7,103.7	19.3	27.8	108.64	278.3	389.7	108.2	70.5	37.70	2.870	
7,350.0	7,123.4	7,326.9	7,127.1	19.5	27.8	117.05	278.2	389.7	137.6	102.3	35.31	3.898	
7,400.0	7,143.7	7,347.1	7,147.3	19.8	27.8	122.07	278.1	389.7	174.8	140.8	33.92	5.152	
7,450.0	7,160.9	7,364.1	7,164.3	20.2	27.9	124.13	278.1	389.7	216.4	182.7	33.71	6.419	
7,500.0	7,174.7	7,377.7	7,177.9	20.7	27.9	123.39	278.1	389.8	260.9	226.1	34.76	7.505	
7,550.0	7,185.1	7,388.0	7,188.2	21.2	27.9	119.51	278.0	389.8	307.3	270.1	37.14	8.273	
7,600.0	7,192.1	7,394.8	7,195.0	21.8	27.9	111.60	278.0	389.8	354.9	314.2	40.73	8.714	
7,650.0	7,195.6	7,398.2	7,198.4	22.5	27.9	98.39	278.0	389.8	403.4	358.8	44.57	9.050	
7,680.0	7,196.0	7,398.6	7,198.7	22.9	27.9	87.76	278.0	389.8	432.7	386.8	45.89	9.428	
7,700.0	7,195.9	7,398.4	7,198.6	23.3	27.9	87.65	278.0	389.8	452.3	406.1	46.20	9.790	
7,800.0	7,195.2	7,397.5	7,197.7	24.9	27.9	87.09	278.0	389.8	550.6	502.8	47.85	11.508	
7,900.0	7,194.6	7,396.6	7,196.8	26.7	27.9	86.54	278.0	389.8	649.5	599.8	49.68	13.072	
8,000.0	7,193.9	7,395.8	7,196.0	28.7	27.9	85.99	278.0	389.8	748.7	697.0	51.67	14.488	
8,100.0	7,193.3	7,394.9	7,195.1	30.9	27.9	85.44	278.0	389.8	848.0	794.2	53.78	15.768	
8,200.0	7,192.6	7,394.0	7,194.2	33.1	27.9	84.89	278.0	389.8	947.5	891.5	55.98	16.925	
8,300.0	7,192.0	7,393.2	7,193.4	35.4	27.9	84.34	278.0	389.8	1,047.1	988.8	58.26	17.973	
8,400.0	7,191.3	7,392.3	7,192.5	37.8	27.9	83.80	278.0	389.8	1,146.8	1,086.2	60.60	18.925	
8,500.0	7,190.7	7,391.5	7,191.7	40.2	27.9	83.26	278.0	389.8	1,246.5	1,183.5	62.98	19.793	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WALTERS #21ODU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 703-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	7,390.6	7,190.8	42.7	27.9	82.73	278.0	389.8	1,346.2	1,280.8	65.39	20.586	
8,700.0	7,189.4	7,389.8	7,190.0	45.2	27.9	82.19	278.0	389.8	1,446.0	1,378.2	67.84	21.315	
8,800.0	7,188.7	7,388.9	7,189.1	47.8	27.9	81.66	278.0	389.8	1,545.8	1,475.5	70.31	21.987	
8,900.0	7,188.0	7,388.1	7,188.3	50.3	27.9	81.14	278.0	389.8	1,645.7	1,572.9	72.79	22.609	
9,000.0	7,187.4	7,387.3	7,187.5	52.9	27.9	80.61	278.0	389.8	1,745.5	1,670.2	75.28	23.186	
9,100.0	7,186.7	7,386.4	7,186.6	55.6	27.9	80.09	278.0	389.8	1,845.4	1,767.6	77.79	23.724	
9,200.0	7,186.1	7,385.6	7,185.8	58.2	27.9	79.57	278.0	389.8	1,945.3	1,865.0	80.29	24.228	
9,300.0	7,185.4	7,384.8	7,185.0	60.9	27.9	79.06	278.0	389.8	2,045.2	1,962.4	82.80	24.700	
9,400.0	7,184.8	7,383.9	7,184.1	63.5	27.9	78.55	278.0	389.8	2,145.1	2,059.8	85.31	25.145	
9,500.0	7,184.1	7,383.1	7,183.3	66.2	27.9	78.04	278.0	389.8	2,245.0	2,157.2	87.81	25.566	
9,600.0	7,183.5	7,382.3	7,182.5	68.9	27.9	77.54	278.0	389.8	2,344.9	2,254.6	90.31	25.964	
9,700.0	7,182.8	7,381.5	7,181.7	71.6	27.9	77.04	278.0	389.8	2,444.8	2,352.0	92.81	26.343	
9,800.0	7,182.2	7,380.7	7,180.8	74.3	27.9	76.54	278.0	389.8	2,544.8	2,449.5	95.30	26.704	
9,900.0	7,181.5	7,379.8	7,180.0	77.0	27.9	76.04	278.0	389.8	2,644.7	2,546.9	97.78	27.049	
10,000.0	7,180.8	7,379.0	7,179.2	79.7	27.9	75.55	278.1	389.8	2,744.7	2,644.4	100.25	27.379	
10,100.0	7,180.2	7,378.2	7,178.4	82.5	27.9	75.07	278.1	389.8	2,844.6	2,741.9	102.71	27.696	
10,200.0	7,179.5	7,377.4	7,177.6	85.2	27.9	74.58	278.1	389.8	2,944.5	2,839.4	105.16	28.002	
10,300.0	7,178.9	7,376.6	7,176.8	87.9	27.9	74.10	278.1	389.8	3,044.5	2,936.9	107.59	28.296	
10,400.0	7,178.2	7,375.8	7,176.0	90.7	27.9	73.63	278.1	389.8	3,144.4	3,034.4	110.02	28.581	
10,500.0	7,177.6	7,375.0	7,175.2	93.4	27.9	73.16	278.1	389.7	3,244.4	3,132.0	112.43	28.857	
10,600.0	7,176.9	7,374.2	7,174.4	96.2	27.9	72.69	278.1	389.7	3,344.4	3,229.5	114.83	29.124	
10,700.0	7,176.2	7,373.4	7,173.6	98.9	27.9	72.22	278.1	389.7	3,444.3	3,327.1	117.22	29.385	
10,800.0	7,175.6	7,372.6	7,172.8	101.7	27.9	71.76	278.1	389.7	3,544.3	3,424.7	119.59	29.638	
10,900.0	7,174.9	7,371.8	7,172.0	104.4	27.9	71.31	278.1	389.7	3,644.3	3,522.3	121.94	29.885	
11,000.0	7,174.3	7,371.1	7,171.3	107.2	27.9	70.85	278.1	389.7	3,744.2	3,619.9	124.28	30.127	
11,100.0	7,173.6	7,370.3	7,170.5	109.9	27.9	70.40	278.1	389.7	3,844.2	3,717.6	126.61	30.363	
11,200.0	7,172.9	7,369.5	7,169.7	112.7	27.9	69.96	278.1	389.7	3,944.2	3,815.2	128.92	30.594	
11,300.0	7,172.3	7,368.7	7,168.9	115.5	27.9	69.51	278.1	389.7	4,044.1	3,912.9	131.21	30.821	
11,400.0	7,171.6	7,367.9	7,168.1	118.3	27.9	69.08	278.1	389.7	4,144.1	4,010.6	133.49	31.044	
11,500.0	7,171.0	7,367.2	7,167.4	121.0	27.9	68.64	278.1	389.7	4,244.1	4,108.3	135.75	31.264	
11,600.0	7,170.3	7,366.4	7,166.6	123.8	27.9	68.21	278.1	389.7	4,344.1	4,206.1	138.00	31.479	
11,700.0	7,169.6	7,365.6	7,165.8	126.6	27.9	67.78	278.1	389.7	4,444.0	4,303.8	140.23	31.692	
11,797.6	7,169.0	7,364.9	7,165.1	129.3	27.9	67.37	278.1	389.7	4,541.6	4,399.2	142.38	31.896	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 704-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	3.5	3.5	0.0	0.0	-142.54	-712.2	-545.6	897.2				
100.0	100.0	103.4	103.4	0.1	0.1	-142.54	-712.2	-545.7	897.2	897.0	0.20	4,382.720	
200.0	200.0	203.4	203.4	0.3	0.2	-142.53	-712.1	-545.8	897.2	896.7	0.53	1,682.227	
300.0	300.0	303.3	303.3	0.5	0.3	-142.51	-711.9	-546.1	897.2	896.4	0.86	1,040.889	
400.0	400.0	403.3	403.3	0.8	0.4	-142.48	-711.6	-546.5	897.2	896.0	1.19	753.601	
500.0	500.0	503.2	503.2	1.0	0.5	-142.44	-711.3	-546.9	897.3	895.7	1.52	590.605	
600.0	600.0	603.2	603.2	1.2	0.6	-142.40	-710.9	-547.5	897.3	895.5	1.85	485.588	
700.0	700.0	703.1	703.1	1.4	0.7	-142.35	-710.5	-548.1	897.3	895.2	2.18	412.288	
800.0	800.0	803.7	803.7	1.7	1.0	-142.28	-709.8	-549.0	897.3	894.7	2.63	341.807	
818.8	818.8	822.3	822.3	1.7	1.0	-142.27	-709.7	-549.2	897.3	894.6	2.71	331.534	
900.0	900.0	902.4	902.3	1.9	1.2	-142.20	-709.1	-550.0	897.4	894.3	3.06	293.440	
1,000.0	1,000.0	999.0	999.0	2.1	1.4	143.25	-708.5	-551.2	899.1	895.6	3.48	258.372	
1,100.0	1,099.8	1,104.3	1,104.2	2.3	1.6	143.49	-708.2	-552.7	903.9	900.0	3.91	231.327	
1,200.0	1,199.5	1,269.6	1,269.5	2.5	1.9	144.00	-703.6	-549.2	907.7	903.2	4.44	204.434	
1,300.0	1,298.7	1,408.2	1,407.3	2.8	2.2	144.54	-694.0	-540.0	907.9	903.0	4.95	183.536	
1,400.0	1,397.5	1,560.5	1,558.1	3.1	2.6	145.51	-676.4	-527.1	906.5	901.0	5.51	164.557	
1,500.0	1,495.6	1,687.5	1,682.8	3.4	3.0	146.50	-657.0	-512.6	903.2	897.1	6.04	149.595	
1,500.1	1,495.7	1,687.7	1,682.9	3.4	3.0	146.50	-657.0	-512.6	903.2	897.1	6.04	149.581	
1,600.0	1,593.4	1,816.9	1,809.0	3.8	3.5	147.52	-635.1	-494.9	898.8	892.2	6.61	135.939	
1,700.0	1,691.3	1,905.7	1,895.4	4.1	3.8	148.25	-618.8	-482.3	893.1	886.0	7.10	125.728	
1,800.0	1,789.1	2,011.8	1,998.7	4.5	4.2	149.02	-600.9	-466.2	888.0	880.4	7.64	116.304	
1,900.0	1,886.9	2,123.9	2,107.5	4.9	4.7	149.89	-580.3	-448.5	881.6	873.4	8.20	107.477	
2,000.0	1,984.7	2,218.5	2,199.2	5.3	5.1	150.67	-562.5	-434.0	875.2	866.4	8.73	100.260	
2,100.0	2,082.5	2,319.9	2,297.6	5.7	5.6	151.49	-543.7	-418.1	869.0	859.8	9.27	93.723	
2,200.0	2,180.3	2,422.6	2,397.1	6.2	6.0	152.31	-524.7	-401.3	862.6	852.7	9.83	87.778	
2,300.0	2,278.1	2,534.8	2,505.7	6.6	6.6	153.18	-503.9	-382.3	855.8	845.4	10.41	82.231	
2,400.0	2,375.9	2,641.2	2,608.2	7.0	7.1	153.96	-483.5	-362.2	847.3	836.3	10.98	77.149	
2,500.0	2,473.8	2,728.0	2,691.9	7.5	7.5	154.65	-466.6	-346.5	839.4	827.9	11.51	72.956	
2,600.0	2,571.6	2,811.3	2,772.5	7.9	7.9	155.36	-451.0	-332.8	833.4	821.4	12.02	69.364	
2,700.0	2,669.4	2,913.1	2,871.5	8.3	8.3	156.24	-432.7	-317.2	828.9	816.3	12.57	65.928	
2,800.0	2,767.2	3,008.8	2,964.3	8.8	8.8	157.07	-415.1	-301.9	823.9	810.7	13.12	62.806	
2,900.0	2,865.0	3,092.9	3,046.1	9.2	9.1	157.81	-400.4	-289.3	820.3	806.7	13.63	60.189	
3,000.0	2,962.8	3,188.8	3,139.7	9.7	9.6	158.67	-384.3	-276.2	818.5	804.3	14.17	57.758	
3,100.0	3,060.6	3,277.8	3,226.7	10.1	9.9	159.47	-369.4	-264.2	817.1	802.4	14.69	55.609	
3,119.1	3,079.3	3,293.5	3,242.1	10.2	10.0	159.60	-367.1	-262.1	817.0	802.2	14.79	55.245	
3,200.0	3,158.5	3,365.8	3,313.0	10.6	10.3	160.12	-357.3	-252.3	817.5	802.3	15.20	53.777	
3,300.0	3,256.3	3,462.4	3,408.0	11.0	10.6	160.76	-345.4	-239.3	819.0	803.3	15.73	52.082	
3,400.0	3,354.1	3,574.7	3,518.3	11.5	11.1	161.41	-332.1	-223.0	820.1	803.8	16.28	50.371	
3,500.0	3,451.9	3,671.2	3,613.0	11.9	11.5	161.86	-321.5	-207.3	820.3	803.5	16.80	48.830	
3,600.0	3,549.7	3,762.7	3,702.8	12.4	11.8	162.34	-311.3	-193.6	821.3	804.0	17.30	47.464	
3,700.0	3,647.5	3,866.8	3,805.0	12.8	12.2	163.06	-297.8	-179.6	822.9	805.0	17.85	46.100	
3,800.0	3,745.3	3,980.3	3,916.2	13.3	12.7	164.01	-280.1	-164.3	823.0	804.6	18.44	44.638	
3,819.9	3,764.8	3,997.5	3,932.9	13.4	12.8	164.16	-277.3	-161.9	823.0	804.5	18.54	44.387	
3,900.0	3,843.2	4,067.3	4,001.3	13.7	13.0	164.75	-266.4	-152.8	823.6	804.6	18.96	43.438	
4,000.0	3,941.0	4,160.7	4,093.0	14.2	13.4	165.51	-252.7	-141.0	825.4	805.9	19.49	42.341	
4,100.0	4,038.8	4,263.5	4,193.9	14.6	13.8	166.33	-237.8	-128.1	827.5	807.5	20.05	41.263	
4,200.0	4,136.6	4,366.9	4,295.2	15.1	14.2	167.13	-222.7	-114.3	829.0	808.4	20.62	40.201	
4,300.0	4,234.4	4,455.8	4,382.4	15.5	14.6	167.81	-210.1	-102.9	831.3	810.1	21.15	39.311	
4,325.2	4,259.1	4,478.2	4,404.4	15.6	14.7	167.98	-207.0	-100.1	832.1	810.8	21.28	39.106	
4,400.0	4,332.4	4,540.0	4,465.3	15.9	14.9	168.41	-199.1	-92.8	834.1	812.4	21.65	38.519	
4,500.0	4,431.0	4,617.0	4,541.5	16.2	15.2	168.89	-190.6	-85.4	836.6	814.6	22.08	37.894	
4,600.0	4,530.2	4,695.0	4,618.9	16.5	15.4	169.29	-183.4	-79.6	838.5	816.0	22.46	37.330	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 704-MWD — **Offset Well Error:** 0.0 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
4,700.0	4,629.7	4,777.0	4,700.5	16.7	15.6	169.62	-177.0	-74.3	838.8	816.0	22.81	36.770	
4,800.0	4,729.5	4,863.1	4,786.3	16.9	15.8	169.89	-171.7	-70.1	837.7	814.6	23.13	36.225	
4,900.0	4,829.5	4,946.7	4,869.8	17.0	16.0	170.02	-168.1	-66.7	834.8	811.4	23.38	35.701	
4,925.3	4,854.8	4,967.1	4,890.2	17.1	16.0	-115.28	-167.5	-66.1	833.9	801.7	32.21	25.890	
5,000.0	4,929.5	5,029.6	4,952.6	17.2	16.1	-115.24	-166.2	-64.6	831.6	799.2	32.41	25.659	
5,100.0	5,029.5	5,118.9	5,041.9	17.3	16.3	-115.20	-165.1	-63.6	830.0	797.4	32.68	25.395	
5,200.0	5,129.5	5,215.5	5,138.5	17.4	16.4	-115.17	-164.4	-63.0	829.2	796.2	32.96	25.155	
5,300.0	5,229.5	5,313.5	5,236.5	17.6	16.5	-115.14	-163.8	-62.7	828.7	795.4	33.24	24.927	
5,400.0	5,329.5	5,411.8	5,334.8	17.7	16.7	-115.11	-163.3	-62.6	828.3	794.8	33.53	24.708	
5,500.0	5,429.5	5,510.3	5,433.3	17.9	16.8	-115.08	-162.8	-62.7	828.2	794.4	33.81	24.498	
5,520.1	5,449.6	5,530.1	5,453.1	17.9	16.8	-115.08	-162.7	-62.7	828.2	794.3	33.86	24.456	
5,600.0	5,529.5	5,608.7	5,531.7	18.0	16.9	-115.05	-162.4	-62.9	828.3	794.2	34.09	24.296	
5,700.0	5,629.5	5,706.9	5,629.9	18.1	17.1	-115.05	-162.5	-63.2	828.5	794.2	34.37	24.103	
5,800.0	5,729.5	5,806.0	5,729.0	18.3	17.2	-115.07	-163.0	-63.4	829.0	794.3	34.66	23.917	
5,900.0	5,829.5	5,905.3	5,828.3	18.4	17.3	-115.11	-163.7	-63.7	829.5	794.6	34.95	23.736	
6,000.0	5,929.5	6,005.8	5,928.8	18.6	17.5	-115.15	-164.5	-63.9	830.0	794.8	35.24	23.555	
6,100.0	6,029.5	6,106.0	6,029.0	18.7	17.6	-115.19	-165.2	-64.1	830.5	795.0	35.53	23.375	
6,200.0	6,129.5	6,205.3	6,128.3	18.9	17.7	-115.22	-165.8	-64.3	831.0	795.2	35.82	23.197	
6,300.0	6,229.5	6,304.4	6,227.4	19.1	17.9	-115.24	-166.3	-64.8	831.6	795.5	36.12	23.026	
6,400.0	6,329.5	6,406.1	6,329.1	19.2	18.0	-115.24	-166.5	-65.3	832.2	795.8	36.42	22.850	
6,500.0	6,429.5	6,506.9	6,429.9	19.4	18.1	-115.23	-166.6	-65.7	832.6	795.9	36.72	22.672	
6,550.3	6,479.8	6,556.4	6,479.3	19.5	18.2	-115.23	-166.7	-65.9	832.8	795.9	36.88	22.584	
6,600.0	6,529.4	6,605.2	6,528.2	19.5	18.3	-25.32	-166.8	-66.2	831.5	802.1	29.38	28.301	
6,650.0	6,579.2	6,654.1	6,577.1	19.5	18.4	-25.63	-166.9	-66.5	827.1	797.9	29.22	28.305	
6,700.0	6,628.4	6,703.0	6,625.9	19.5	18.4	-26.15	-167.1	-66.8	819.6	790.7	28.96	28.299	
6,750.0	6,676.9	6,751.2	6,674.2	19.5	18.5	-26.91	-167.2	-67.1	809.1	780.5	28.62	28.272	
6,800.0	6,724.5	6,798.5	6,721.5	19.4	18.6	-27.93	-167.5	-67.4	795.7	767.5	28.21	28.209	
6,850.0	6,770.8	6,844.7	6,767.7	19.4	18.6	-29.23	-167.7	-67.7	779.4	751.6	27.75	28.083	
6,900.0	6,815.8	6,890.1	6,813.0	19.3	18.7	-30.86	-167.9	-68.0	760.4	733.1	27.30	27.855	
6,950.0	6,859.1	6,933.9	6,856.8	19.2	18.7	-32.86	-168.2	-68.3	738.7	711.8	26.89	27.473	
7,000.0	6,900.5	6,975.8	6,898.8	19.1	18.8	-35.27	-168.4	-68.5	714.7	688.1	26.60	26.873	
7,050.0	6,939.9	7,015.6	6,938.6	19.1	18.9	-38.15	-168.6	-68.7	688.5	662.0	26.49	25.987	
7,100.0	6,977.1	7,053.4	6,976.4	19.0	18.9	-41.56	-168.8	-68.9	660.4	633.7	26.67	24.761	
7,150.0	7,011.8	7,088.9	7,011.8	19.0	19.0	-45.55	-169.0	-69.0	630.7	603.5	27.20	23.183	
7,200.0	7,044.0	7,121.7	7,044.6	19.1	19.0	-50.10	-169.1	-69.1	599.7	571.6	28.13	21.319	
7,250.0	7,073.4	7,151.6	7,074.5	19.1	19.1	-55.17	-169.3	-69.2	567.9	538.4	29.42	19.301	
7,300.0	7,099.9	7,178.4	7,101.4	19.3	19.1	-60.64	-169.4	-69.2	535.7	504.7	30.98	17.291	
7,350.0	7,123.4	7,202.2	7,125.2	19.5	19.1	-66.29	-169.5	-69.2	503.8	471.2	32.65	15.429	
7,400.0	7,143.7	7,222.7	7,145.7	19.8	19.2	-71.86	-169.6	-69.2	472.9	438.6	34.27	13.799	
7,450.0	7,160.9	7,239.9	7,162.9	20.2	19.2	-77.03	-169.7	-69.2	443.7	408.0	35.70	12.427	
7,500.0	7,174.7	7,253.8	7,176.7	20.7	19.2	-81.54	-169.8	-69.1	417.1	380.2	36.91	11.303	
7,550.0	7,185.1	7,264.2	7,187.1	21.2	19.2	-85.18	-169.9	-69.1	394.3	356.4	37.90	10.404	
7,600.0	7,192.1	7,271.1	7,194.0	21.8	19.2	-87.82	-169.9	-69.1	376.4	337.6	38.75	9.712	
7,650.0	7,195.6	7,274.5	7,197.4	22.5	19.2	-89.37	-169.9	-69.1	364.2	324.6	39.53	9.213	
7,680.0	7,196.0	7,274.8	7,197.8	22.9	19.2	-89.77	-169.9	-69.1	360.0	320.0	39.98	9.004	
7,700.0	7,195.9	7,274.7	7,197.6	23.3	19.2	-89.74	-169.9	-69.1	358.5	318.3	40.28	8.901	
7,715.7	7,195.8	7,274.5	7,197.5	23.5	19.2	-89.72	-169.9	-69.1	358.2	317.7	40.54	8.836	CC, ES
7,800.0	7,195.2	7,273.8	7,196.8	24.9	19.2	-89.60	-169.9	-69.1	368.0	326.1	41.92	8.778	SF
7,900.0	7,194.6	7,272.9	7,195.9	26.7	19.2	-89.46	-169.9	-69.1	402.9	359.1	43.76	9.206	
8,000.0	7,193.9	7,272.1	7,195.0	28.7	19.2	-89.32	-169.9	-69.1	457.3	411.6	45.75	9.996	
8,100.0	7,193.3	7,271.2	7,194.2	30.9	19.2	-89.18	-169.9	-69.1	525.4	477.5	47.87	10.975	
8,200.0	7,192.6	7,270.4	7,193.3	33.1	19.2	-89.05	-169.9	-69.1	602.4	552.3	50.09	12.026	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 usft

Survey Program: 704-MWD

Offset Well Error: 0.0 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
8,300.0	7,192.0	7,269.5	7,192.5	35.4	19.2	-88.91	-169.9	-69.1	685.4	633.0	52.39	13.081	
8,400.0	7,191.3	7,268.7	7,191.6	37.8	19.2	-88.77	-169.9	-69.1	772.4	717.6	54.76	14.104	
8,500.0	7,190.7	7,267.8	7,190.8	40.2	19.2	-88.64	-169.9	-69.1	862.2	805.1	57.19	15.077	
8,600.0	7,190.0	7,267.0	7,189.9	42.7	19.2	-88.50	-169.9	-69.1	954.1	894.5	59.66	15.993	
8,700.0	7,189.4	7,266.1	7,189.1	45.2	19.2	-88.37	-169.9	-69.1	1,047.5	985.3	62.17	16.849	
8,800.0	7,188.7	7,265.3	7,188.2	47.8	19.2	-88.24	-169.9	-69.1	1,141.9	1,077.2	64.71	17.648	
8,900.0	7,188.0	7,264.5	7,187.4	50.3	19.2	-88.10	-169.9	-69.1	1,237.3	1,170.0	67.28	18.391	
9,000.0	7,187.4	7,263.6	7,186.6	52.9	19.2	-87.97	-169.8	-69.1	1,333.3	1,263.5	69.87	19.084	
9,100.0	7,186.7	7,262.8	7,185.8	55.6	19.2	-87.84	-169.8	-69.1	1,429.9	1,357.4	72.48	19.729	
9,200.0	7,186.1	7,262.0	7,184.9	58.2	19.2	-87.71	-169.8	-69.1	1,526.9	1,451.8	75.10	20.331	
9,300.0	7,185.4	7,261.2	7,184.1	60.9	19.2	-87.57	-169.8	-69.1	1,624.3	1,546.5	77.74	20.893	
9,400.0	7,184.8	7,260.4	7,183.3	63.5	19.2	-87.44	-169.8	-69.1	1,722.0	1,641.6	80.40	21.419	
9,500.0	7,184.1	7,259.5	7,182.5	66.2	19.2	-87.31	-169.8	-69.1	1,819.9	1,736.8	83.06	21.911	
9,600.0	7,183.5	7,258.7	7,181.7	68.9	19.2	-87.18	-169.8	-69.1	1,918.0	1,832.3	85.73	22.372	
9,700.0	7,182.8	7,257.9	7,180.9	71.6	19.2	-87.05	-169.8	-69.1	2,016.4	1,927.9	88.41	22.806	
9,800.0	7,182.2	7,257.1	7,180.1	74.3	19.2	-86.93	-169.8	-69.1	2,114.8	2,023.7	91.10	23.214	
9,900.0	7,181.5	7,256.3	7,179.3	77.0	19.2	-86.80	-169.8	-69.1	2,213.4	2,119.7	93.80	23.598	
10,000.0	7,180.8	7,255.5	7,178.5	79.7	19.2	-86.67	-169.8	-69.1	2,312.2	2,215.7	96.50	23.961	
10,100.0	7,180.2	7,254.8	7,177.7	82.5	19.2	-86.54	-169.8	-69.1	2,411.0	2,311.8	99.20	24.304	
10,200.0	7,179.5	7,254.0	7,176.9	85.2	19.2	-86.42	-169.8	-69.1	2,510.0	2,408.0	101.91	24.628	
10,300.0	7,178.9	7,253.2	7,176.1	87.9	19.2	-86.29	-169.8	-69.2	2,609.0	2,504.3	104.63	24.936	
10,400.0	7,178.2	7,252.4	7,175.4	90.7	19.2	-86.17	-169.8	-69.2	2,708.1	2,600.7	107.34	25.228	
10,500.0	7,177.6	7,251.6	7,174.6	93.4	19.2	-86.04	-169.8	-69.2	2,807.2	2,697.1	110.06	25.505	
10,600.0	7,176.9	7,250.9	7,173.8	96.2	19.2	-85.92	-169.8	-69.2	2,906.4	2,793.6	112.79	25.769	
10,700.0	7,176.2	7,250.1	7,173.0	98.9	19.2	-85.79	-169.8	-69.2	3,005.7	2,890.2	115.51	26.021	
10,800.0	7,175.6	7,249.3	7,172.3	101.7	19.2	-85.67	-169.8	-69.2	3,105.0	2,986.7	118.24	26.261	
10,900.0	7,174.9	7,248.5	7,171.5	104.4	19.2	-85.55	-169.8	-69.2	3,204.3	3,083.4	120.96	26.490	
11,000.0	7,174.3	7,247.8	7,170.7	107.2	19.2	-85.42	-169.8	-69.2	3,303.7	3,180.0	123.69	26.709	
11,100.0	7,173.6	7,247.0	7,170.0	109.9	19.2	-85.30	-169.8	-69.2	3,403.1	3,276.7	126.42	26.918	
11,200.0	7,172.9	7,246.3	7,169.2	112.7	19.2	-85.18	-169.8	-69.2	3,502.6	3,373.4	129.16	27.119	
11,300.0	7,172.3	7,245.5	7,168.5	115.5	19.2	-85.06	-169.8	-69.2	3,602.1	3,470.2	131.89	27.312	
11,400.0	7,171.6	7,244.8	7,167.7	118.3	19.2	-84.94	-169.8	-69.2	3,701.6	3,567.0	134.62	27.497	
11,500.0	7,171.0	7,244.0	7,167.0	121.0	19.2	-84.82	-169.8	-69.2	3,801.1	3,663.8	137.35	27.674	
11,600.0	7,170.3	7,243.3	7,166.2	123.8	19.2	-84.70	-169.7	-69.2	3,900.7	3,760.6	140.08	27.845	
11,700.0	7,169.6	7,242.5	7,165.5	126.6	19.2	-84.58	-169.7	-69.2	4,000.3	3,857.5	142.82	28.010	
11,797.6	7,169.0	7,241.8	7,164.8	129.3	19.2	-84.46	-169.7	-69.2	4,097.4	3,952.0	145.48	28.164	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 705-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-142.15	-693.3	-538.7	877.9				
100.0	100.0	101.8	101.8	0.1	0.1	-142.15	-693.3	-538.7	878.0	877.8	0.20	4,306.340	
200.0	200.0	200.1	200.1	0.3	0.2	-142.15	-693.5	-539.0	878.3	877.8	0.53	1,651.813	
300.0	300.0	298.5	298.5	0.5	0.3	-142.14	-693.8	-539.4	878.8	877.9	0.86	1,022.371	
400.0	400.0	396.8	396.8	0.8	0.4	-142.13	-694.2	-539.9	879.5	878.3	1.19	740.661	
500.0	500.0	495.2	495.2	1.0	0.5	-142.11	-694.7	-540.6	880.3	878.8	1.52	580.977	
600.0	600.0	593.5	593.5	1.2	0.6	-142.09	-695.4	-541.4	881.4	879.5	1.84	478.203	
700.0	700.0	691.8	691.8	1.4	0.7	-142.07	-696.1	-542.4	882.6	880.4	2.17	406.557	
800.0	800.0	791.9	791.9	1.7	0.9	-142.05	-696.9	-543.6	883.9	881.3	2.59	340.747	
900.0	900.0	890.3	890.2	1.9	1.1	-142.02	-697.7	-544.8	885.3	882.3	3.03	292.326	
1,000.0	1,000.0	1,014.0	1,013.9	2.1	1.4	143.48	-696.7	-546.2	886.7	883.2	3.49	254.195	
1,100.0	1,099.8	1,113.3	1,113.1	2.3	1.6	143.95	-692.5	-549.0	889.4	885.5	3.91	227.669	
1,200.0	1,199.5	1,196.3	1,195.8	2.5	1.8	144.61	-687.9	-554.6	896.4	892.1	4.32	207.495	
1,300.0	1,298.7	1,281.5	1,280.3	2.8	2.0	145.53	-682.0	-563.6	908.0	903.2	4.77	190.480	
1,400.0	1,397.5	1,359.0	1,356.8	3.1	2.2	146.52	-676.1	-574.2	924.4	919.2	5.23	176.837	
1,500.0	1,495.6	1,434.0	1,430.6	3.4	2.5	147.54	-670.7	-586.4	946.2	940.5	5.71	165.577	
1,500.1	1,495.7	1,434.0	1,430.7	3.4	2.5	147.54	-670.7	-586.4	946.3	940.5	5.72	165.567	
1,600.0	1,593.4	1,512.4	1,507.4	3.8	2.8	148.95	-665.4	-601.2	972.2	965.9	6.25	155.549	
1,700.0	1,691.3	1,591.6	1,584.3	4.1	3.1	150.47	-658.6	-618.8	1,000.2	993.3	6.82	146.723	
1,800.0	1,789.1	1,666.8	1,656.9	4.5	3.4	151.96	-651.5	-637.3	1,030.2	1,022.8	7.40	139.304	
1,900.0	1,886.9	1,738.0	1,725.0	4.9	3.8	153.38	-644.6	-656.7	1,062.8	1,054.8	7.98	133.209	
2,000.0	1,984.7	1,821.3	1,804.4	5.3	4.3	155.04	-635.9	-680.7	1,097.3	1,088.7	8.63	127.153	
2,100.0	2,082.5	1,908.6	1,887.2	5.7	4.8	156.72	-626.4	-706.5	1,133.0	1,123.7	9.30	121.878	
2,200.0	2,180.3	1,982.1	1,957.0	6.2	5.2	158.04	-619.1	-728.3	1,170.0	1,160.1	9.88	118.368	
2,300.0	2,278.1	2,073.2	2,043.7	6.6	5.7	159.54	-611.2	-755.4	1,208.6	1,198.1	10.53	114.828	
2,400.0	2,375.9	2,157.7	2,123.8	7.0	6.2	160.90	-602.7	-780.6	1,247.3	1,236.2	11.13	112.033	
2,500.0	2,473.8	2,240.0	2,201.9	7.5	6.7	162.13	-595.3	-805.3	1,287.4	1,275.7	11.72	109.815	
2,600.0	2,571.6	2,331.5	2,288.9	7.9	7.2	163.42	-587.2	-832.7	1,327.9	1,315.6	12.33	107.706	
2,700.0	2,669.4	2,441.2	2,393.3	8.3	7.8	164.88	-576.7	-865.1	1,368.4	1,355.4	13.00	105.299	
2,800.0	2,767.2	2,531.0	2,478.6	8.8	8.4	166.05	-566.4	-890.8	1,408.0	1,394.3	13.61	103.454	
2,900.0	2,865.0	2,608.1	2,551.4	9.2	8.9	167.08	-556.4	-914.2	1,448.7	1,434.5	14.20	102.049	
3,000.0	2,962.8	2,694.8	2,632.8	9.7	9.5	168.23	-544.2	-941.2	1,490.3	1,475.5	14.83	100.466	
3,100.0	3,060.6	2,802.3	2,733.8	10.1	10.2	169.61	-527.9	-974.4	1,531.9	1,516.4	15.54	98.598	
3,200.0	3,158.5	2,898.2	2,824.6	10.6	10.8	170.71	-514.5	-1,002.2	1,572.7	1,556.6	16.17	97.262	
3,300.0	3,256.3	2,984.1	2,905.9	11.0	11.3	171.65	-502.4	-1,027.2	1,614.1	1,597.4	16.76	96.321	
3,400.0	3,354.1	3,083.7	3,000.3	11.5	11.9	172.66	-488.9	-1,055.7	1,655.6	1,638.2	17.38	95.251	
3,500.0	3,451.9	3,178.5	3,090.6	11.9	12.5	173.55	-476.3	-1,082.1	1,696.7	1,678.8	17.97	94.420	
3,600.0	3,549.7	3,264.0	3,172.1	12.4	13.0	174.29	-465.9	-1,105.4	1,738.2	1,719.6	18.53	93.808	
3,700.0	3,647.5	3,343.8	3,248.1	12.8	13.5	174.96	-455.8	-1,127.6	1,780.1	1,761.0	19.07	93.345	
3,800.0	3,745.3	3,419.7	3,320.4	13.3	13.9	175.56	-446.9	-1,149.1	1,822.9	1,803.3	19.60	92.999	
3,900.0	3,843.2	3,502.7	3,399.2	13.7	14.5	176.21	-436.6	-1,173.1	1,866.2	1,846.1	20.16	92.591	
4,000.0	3,941.0	3,592.4	3,484.2	14.2	15.0	176.90	-424.9	-1,199.2	1,909.9	1,889.2	20.74	92.106	
4,100.0	4,038.8	3,768.9	3,652.6	14.6	16.0	178.13	-402.0	-1,246.6	1,952.0	1,930.4	21.57	90.481	
4,200.0	4,136.6	3,855.4	3,735.9	15.1	16.5	178.65	-391.7	-1,267.4	1,991.9	1,969.7	22.11	90.081	
4,300.0	4,234.4	3,948.5	3,825.3	15.5	17.0	179.24	-379.2	-1,290.5	2,032.1	2,009.5	22.69	89.577	
4,325.2	4,259.1	3,967.0	3,843.0	15.6	17.1	179.36	-376.5	-1,295.0	2,042.3	2,019.5	22.81	89.516	
4,400.0	4,332.4	4,026.9	3,900.3	15.9	17.5	179.74	-368.0	-1,310.0	2,071.7	2,048.4	23.30	88.932	
4,500.0	4,431.0	4,130.1	3,999.2	16.2	18.1	-179.65	-353.3	-1,336.1	2,108.7	2,084.7	23.97	87.983	
4,600.0	4,530.2	4,210.6	4,076.5	16.5	18.5	-179.23	-343.0	-1,355.9	2,142.1	2,117.6	24.52	87.377	
4,700.0	4,629.7	4,293.3	4,156.1	16.7	19.0	-178.87	-334.6	-1,376.4	2,173.2	2,148.1	25.03	86.809	
4,800.0	4,729.5	4,411.6	4,270.3	16.9	19.6	-178.40	-323.2	-1,405.3	2,200.8	2,175.2	25.62	85.908	
4,900.0	4,829.5	4,562.7	4,417.0	17.0	20.3	-177.88	-310.5	-1,439.0	2,223.3	2,197.1	26.23	84.754	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 705-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,603.1	4,456.5	17.1	20.5	-103.08	-307.5	-1,447.3	2,228.0	2,193.2	34.84	63.944	
5,000.0	4,929.5	4,772.8	4,623.2	17.2	21.1	-102.64	-297.3	-1,477.2	2,239.9	2,204.3	35.59	62.934	
5,100.0	5,029.5	4,979.4	4,827.8	17.3	21.8	-102.28	-288.5	-1,503.7	2,251.8	2,215.4	36.36	61.923	
5,200.0	5,129.5	5,177.6	5,025.4	17.4	22.2	-102.07	-283.4	-1,519.0	2,258.8	2,221.8	36.95	61.134	
5,300.0	5,229.5	5,327.4	5,175.1	17.6	22.4	-102.01	-282.3	-1,524.2	2,261.9	2,224.5	37.32	60.600	
5,400.0	5,329.5	5,430.1	5,277.7	17.7	22.5	-102.00	-282.2	-1,526.9	2,264.4	2,226.8	37.61	60.199	
5,500.0	5,429.5	5,527.2	5,374.8	17.9	22.7	-101.99	-282.4	-1,529.3	2,266.8	2,228.9	37.90	59.814	
5,600.0	5,529.5	5,630.0	5,477.6	18.0	22.8	-101.99	-283.0	-1,531.8	2,269.4	2,231.2	38.19	59.422	
5,700.0	5,629.5	5,742.4	5,589.9	18.1	22.9	-102.00	-283.9	-1,534.1	2,271.6	2,233.1	38.49	59.011	
5,800.0	5,729.5	5,845.4	5,692.9	18.3	23.1	-102.01	-284.6	-1,536.0	2,273.5	2,234.7	38.78	58.622	
5,900.0	5,829.5	5,963.7	5,811.2	18.4	23.2	-102.02	-285.4	-1,537.4	2,274.7	2,235.7	39.08	58.201	
6,000.0	5,929.5	6,071.6	5,919.1	18.6	23.3	-102.04	-286.3	-1,538.0	2,275.5	2,236.1	39.37	57.799	
6,100.0	6,029.5	6,172.4	6,019.9	18.7	23.4	-102.06	-287.2	-1,538.4	2,276.1	2,236.4	39.64	57.412	
6,200.0	6,129.5	6,273.2	6,120.7	18.9	23.5	-102.08	-288.1	-1,538.8	2,276.6	2,236.7	39.92	57.028	
6,300.0	6,229.5	6,370.1	6,217.6	19.1	23.6	-102.10	-289.0	-1,539.2	2,277.2	2,237.0	40.20	56.653	
6,400.0	6,329.5	6,473.2	6,320.7	19.2	23.7	-102.12	-290.1	-1,539.6	2,277.9	2,237.4	40.48	56.269	
6,500.0	6,429.5	6,574.8	6,422.3	19.4	23.9	-102.15	-291.3	-1,539.9	2,278.4	2,237.6	40.77	55.887	
6,550.3	6,479.8	6,625.2	6,472.6	19.5	23.9	-102.17	-292.0	-1,540.0	2,278.6	2,237.7	40.91	55.697	
6,600.0	6,529.4	6,675.2	6,522.7	19.5	24.0	-12.22	-292.6	-1,540.1	2,277.1	2,244.2	32.90	69.219	
6,650.0	6,579.2	6,727.6	6,575.0	19.5	24.0	-12.34	-293.1	-1,540.2	2,272.2	2,239.3	32.91	69.051	
6,700.0	6,628.4	6,776.8	6,624.2	19.5	24.1	-12.54	-293.5	-1,540.3	2,263.9	2,231.1	32.80	69.024	
6,750.0	6,676.9	6,820.6	6,668.1	19.5	24.1	-12.82	-293.9	-1,540.4	2,252.4	2,219.8	32.58	69.143	
6,800.0	6,724.5	6,864.5	6,711.9	19.4	24.2	-13.20	-294.4	-1,540.5	2,237.6	2,205.3	32.25	69.385	
6,850.0	6,770.8	6,910.2	6,757.6	19.4	24.2	-13.68	-295.0	-1,540.7	2,219.7	2,187.8	31.83	69.730	
6,900.0	6,815.8	6,954.4	6,801.8	19.3	24.3	-14.27	-295.6	-1,541.0	2,198.7	2,167.3	31.33	70.171	
6,950.0	6,859.1	6,996.4	6,843.8	19.2	24.3	-15.00	-296.2	-1,541.2	2,174.7	2,143.9	30.77	70.684	
7,000.0	6,900.5	7,036.6	6,884.0	19.1	24.4	-15.89	-296.9	-1,541.4	2,147.8	2,117.7	30.16	71.225	
7,050.0	6,939.9	7,072.2	6,919.6	19.1	24.4	-16.94	-297.6	-1,541.6	2,118.3	2,088.7	29.52	71.749	
7,100.0	6,977.1	7,105.6	6,953.0	19.0	24.5	-18.21	-298.2	-1,541.9	2,086.2	2,057.3	28.91	72.154	
7,150.0	7,011.8	7,137.7	6,985.1	19.0	24.5	-19.75	-298.7	-1,542.2	2,051.8	2,023.4	28.38	72.296	
7,200.0	7,044.0	7,171.7	7,019.1	19.1	24.5	-21.68	-299.3	-1,542.6	2,015.1	1,987.0	28.01	71.937	
7,250.0	7,073.4	7,202.8	7,050.2	19.1	24.6	-24.06	-299.9	-1,542.9	1,976.3	1,948.4	27.88	70.873	
7,300.0	7,099.9	7,230.7	7,078.1	19.3	24.6	-27.00	-300.4	-1,543.1	1,935.6	1,907.5	28.12	68.842	
7,350.0	7,123.4	7,254.3	7,101.7	19.5	24.6	-30.66	-300.8	-1,543.3	1,893.2	1,864.4	28.84	65.652	
7,400.0	7,143.7	7,274.9	7,122.3	19.8	24.7	-35.27	-301.1	-1,543.5	1,849.4	1,819.2	30.21	61.226	
7,450.0	7,160.9	7,292.3	7,139.7	20.2	24.7	-41.13	-301.4	-1,543.7	1,804.4	1,772.1	32.36	55.763	
7,500.0	7,174.7	7,306.4	7,153.8	20.7	24.7	-48.54	-301.7	-1,543.8	1,758.4	1,723.1	35.33	49.765	
7,550.0	7,185.1	7,317.2	7,164.5	21.2	24.7	-57.76	-301.9	-1,543.9	1,711.7	1,672.7	38.96	43.940	
7,600.0	7,192.1	7,324.7	7,172.1	21.8	24.7	-68.79	-302.0	-1,544.0	1,664.4	1,621.7	42.67	39.006	
7,650.0	7,195.6	7,328.8	7,176.2	22.5	24.7	-81.04	-302.1	-1,544.0	1,616.9	1,571.3	45.60	35.460	
7,680.0	7,196.0	7,329.5	7,176.9	22.9	24.7	-88.51	-302.1	-1,544.0	1,588.3	1,541.7	46.65	34.049	
7,700.0	7,195.9	7,329.6	7,177.0	23.3	24.7	-88.51	-302.1	-1,544.0	1,569.3	1,522.4	46.95	33.425	
7,800.0	7,195.2	7,329.8	7,177.2	24.9	24.7	-88.54	-302.1	-1,544.0	1,474.7	1,426.1	48.60	30.343	
7,900.0	7,194.6	7,330.1	7,177.4	26.7	24.7	-88.57	-302.1	-1,544.0	1,380.8	1,330.3	50.44	27.373	
8,000.0	7,193.9	7,330.3	7,177.7	28.7	24.7	-88.60	-302.1	-1,544.0	1,287.8	1,235.3	52.44	24.556	
8,100.0	7,193.3	7,330.6	7,177.9	30.9	24.7	-88.63	-302.2	-1,544.0	1,195.9	1,141.4	54.57	21.916	
8,200.0	7,192.6	7,330.8	7,178.2	33.1	24.7	-88.66	-302.2	-1,544.0	1,105.5	1,048.7	56.80	19.464	
8,300.0	7,192.0	7,331.0	7,178.4	35.4	24.7	-88.68	-302.2	-1,544.0	1,016.9	957.7	59.11	17.203	
8,400.0	7,191.3	7,331.3	7,178.6	37.8	24.7	-88.71	-302.2	-1,544.0	930.5	869.0	61.49	15.133	
8,500.0	7,190.7	7,331.5	7,178.9	40.2	24.7	-88.74	-302.2	-1,544.0	847.2	783.3	63.92	13.253	
8,600.0	7,190.0	7,331.7	7,179.1	42.7	24.7	-88.77	-302.2	-1,544.0	767.8	701.4	66.40	11.563	
8,700.0	7,189.4	7,332.0	7,179.3	45.2	24.7	-88.79	-302.2	-1,544.1	693.9	624.9	68.92	10.067	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 705-MWD — **Offset Well Error:** 0.0 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
8,800.0	7,188.7	7,332.2	7,179.6	47.8	24.7	-88.82	-302.2	-1,544.1	627.1	555.7	71.47	8.775	
8,900.0	7,188.0	7,332.4	7,179.8	50.3	24.7	-88.85	-302.2	-1,544.1	570.2	496.2	74.05	7.701	
9,000.0	7,187.4	7,332.7	7,180.0	52.9	24.7	-88.88	-302.2	-1,544.1	526.3	449.7	76.65	6.866	
9,100.0	7,186.7	7,332.9	7,180.2	55.6	24.7	-88.90	-302.2	-1,544.1	498.9	419.6	79.28	6.293	
9,190.7	7,186.1	7,333.1	7,180.5	58.0	24.7	-88.93	-302.2	-1,544.1	490.6	408.9	81.67	6.007	CC
9,200.0	7,186.1	7,333.1	7,180.5	58.2	24.7	-88.93	-302.2	-1,544.1	490.7	408.8	81.92	5.990	ES
9,300.0	7,185.4	7,333.3	7,180.7	60.9	24.7	-88.96	-302.2	-1,544.1	502.6	418.1	84.57	5.943	SF
9,400.0	7,184.8	7,333.6	7,180.9	63.5	24.7	-88.98	-302.2	-1,544.1	533.4	446.1	87.24	6.114	
9,500.0	7,184.1	7,333.8	7,181.2	66.2	24.7	-89.01	-302.2	-1,544.1	580.0	490.0	89.92	6.450	
9,600.0	7,183.5	7,334.0	7,181.4	68.9	24.7	-89.03	-302.2	-1,544.1	638.9	546.3	92.61	6.899	
9,700.0	7,182.8	7,334.2	7,181.6	71.6	24.7	-89.06	-302.2	-1,544.1	707.2	611.9	95.31	7.420	
9,800.0	7,182.2	7,334.4	7,181.8	74.3	24.7	-89.09	-302.2	-1,544.1	782.3	684.3	98.02	7.981	
9,900.0	7,181.5	7,334.7	7,182.0	77.0	24.7	-89.11	-302.2	-1,544.1	862.4	761.7	100.73	8.562	
10,000.0	7,180.8	7,334.9	7,182.3	79.7	24.7	-89.14	-302.2	-1,544.1	946.4	842.9	103.46	9.148	
10,100.0	7,180.2	7,335.1	7,182.5	82.5	24.7	-89.16	-302.2	-1,544.1	1,033.2	927.0	106.18	9.730	
10,200.0	7,179.5	7,335.3	7,182.7	85.2	24.7	-89.19	-302.2	-1,544.1	1,122.2	1,013.3	108.92	10.304	
10,300.0	7,178.9	7,335.5	7,182.9	87.9	24.7	-89.21	-302.2	-1,544.1	1,213.0	1,101.3	111.65	10.863	
10,400.0	7,178.2	7,335.8	7,183.1	90.7	24.7	-89.24	-302.3	-1,544.1	1,305.0	1,190.6	114.40	11.408	
10,500.0	7,177.6	7,336.0	7,183.3	93.4	24.7	-89.26	-302.3	-1,544.1	1,398.2	1,281.1	117.14	11.936	
10,600.0	7,176.9	7,336.2	7,183.5	96.2	24.7	-89.28	-302.3	-1,544.1	1,492.3	1,372.4	119.89	12.447	
10,700.0	7,176.2	7,336.4	7,183.8	98.9	24.7	-89.31	-302.3	-1,544.1	1,587.1	1,464.4	122.65	12.940	
10,800.0	7,175.6	7,336.6	7,184.0	101.7	24.7	-89.33	-302.3	-1,544.1	1,682.4	1,557.0	125.40	13.416	
10,900.0	7,174.9	7,336.8	7,184.2	104.4	24.7	-89.36	-302.3	-1,544.1	1,778.3	1,650.2	128.16	13.876	
11,000.0	7,174.3	7,337.0	7,184.4	107.2	24.7	-89.38	-302.3	-1,544.1	1,874.7	1,743.7	130.92	14.319	
11,100.0	7,173.6	7,337.2	7,184.6	109.9	24.7	-89.41	-302.3	-1,544.1	1,971.3	1,837.7	133.69	14.746	
11,200.0	7,172.9	7,337.4	7,184.8	112.7	24.7	-89.43	-302.3	-1,544.1	2,068.3	1,931.9	136.45	15.158	
11,300.0	7,172.3	7,337.6	7,185.0	115.5	24.7	-89.45	-302.3	-1,544.1	2,165.6	2,026.4	139.22	15.555	
11,400.0	7,171.6	7,337.9	7,185.2	118.3	24.7	-89.48	-302.3	-1,544.1	2,263.1	2,121.1	141.99	15.938	
11,500.0	7,171.0	7,338.1	7,185.4	121.0	24.7	-89.50	-302.3	-1,544.1	2,360.9	2,216.1	144.77	16.308	
11,600.0	7,170.3	7,338.3	7,185.6	123.8	24.7	-89.52	-302.3	-1,544.1	2,458.8	2,311.2	147.54	16.665	
11,700.0	7,169.6	7,338.5	7,185.8	126.6	24.7	-89.54	-302.3	-1,544.1	2,556.8	2,406.5	150.32	17.010	
11,797.6	7,169.0	7,338.7	7,186.0	129.3	24.7	-89.57	-302.3	-1,544.1	2,652.6	2,499.6	153.03	17.335	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	-134.64	-514.0	-520.5	731.6				
100.0	100.0	88.8	88.8	0.1	0.1	-134.64	-514.0	-520.6	731.5	731.4	0.15	4,726.260	
115.9	115.9	104.6	104.6	0.1	0.1	-134.63	-513.9	-520.6	731.5	731.3	0.20	3,616.750	
200.0	200.0	184.2	184.2	0.3	0.1	-134.62	-514.0	-520.8	731.8	731.3	0.47	1,563.566	
300.0	300.0	287.3	287.3	0.5	0.2	-134.62	-514.3	-521.2	732.2	731.5	0.78	944.106	
400.0	400.0	381.5	381.5	0.8	0.3	-134.61	-514.6	-521.6	732.7	731.6	1.06	692.564	
500.0	500.0	482.3	482.3	1.0	0.4	-134.60	-515.1	-522.4	733.7	732.4	1.35	544.811	
600.0	600.0	579.6	579.6	1.2	0.4	-134.58	-515.7	-523.2	734.7	733.1	1.62	452.210	
700.0	700.0	681.8	681.8	1.4	0.5	-134.53	-516.0	-524.6	735.8	733.9	1.90	387.250	
800.0	800.0	782.3	782.2	1.7	0.5	-134.49	-516.2	-525.5	736.7	734.5	2.16	340.600	
900.0	900.0	877.8	877.8	1.9	0.6	-134.49	-517.0	-526.3	737.8	735.3	2.43	304.153	
1,000.0	1,000.0	977.2	977.1	2.1	0.6	150.88	-517.9	-527.5	740.9	738.1	2.74	270.882	
1,100.0	1,099.8	1,077.2	1,077.1	2.3	0.7	151.00	-519.1	-528.5	747.0	743.9	3.00	248.691	
1,200.0	1,199.5	1,179.5	1,179.4	2.5	0.7	151.26	-519.9	-529.6	755.9	752.7	3.28	230.762	
1,300.0	1,298.7	1,275.8	1,275.7	2.8	0.8	151.61	-520.3	-530.8	767.9	764.3	3.56	215.885	
1,400.0	1,397.5	1,376.6	1,376.5	3.1	0.8	152.05	-521.1	-532.2	783.2	779.3	3.85	203.314	
1,500.0	1,495.6	1,473.8	1,473.7	3.4	0.8	152.55	-521.5	-533.3	801.3	797.1	4.16	192.737	
1,500.1	1,495.7	1,473.9	1,473.8	3.4	0.8	152.55	-521.5	-533.3	801.3	797.2	4.16	192.728	
1,600.0	1,593.4	1,568.9	1,568.8	3.8	0.9	153.20	-522.4	-534.4	821.3	816.9	4.46	184.252	
1,700.0	1,691.3	1,665.5	1,665.4	4.1	0.9	153.86	-523.2	-535.9	841.7	836.9	4.77	176.620	
1,800.0	1,789.1	1,767.9	1,767.7	4.5	0.9	154.53	-523.8	-537.4	862.0	856.9	5.07	169.950	
1,900.0	1,886.9	1,867.5	1,867.3	4.9	1.0	155.18	-523.7	-538.7	881.8	876.4	5.38	163.985	
2,000.0	1,984.7	1,960.0	1,959.9	5.3	1.0	155.75	-523.9	-539.9	901.9	896.2	5.69	158.536	
2,100.0	2,082.5	2,056.4	2,056.2	5.7	1.1	156.30	-524.5	-541.4	922.6	916.6	6.02	153.375	
2,200.0	2,180.3	2,157.9	2,157.8	6.2	1.1	156.84	-525.2	-542.7	943.1	936.8	6.35	148.514	
2,300.0	2,278.1	2,255.5	2,255.3	6.6	1.2	157.33	-525.8	-543.6	963.4	956.7	6.68	144.192	
2,400.0	2,375.9	2,349.9	2,349.7	7.0	1.2	157.81	-526.2	-544.8	984.0	977.0	7.01	140.392	
2,500.0	2,473.8	2,446.3	2,446.1	7.5	1.3	158.29	-526.6	-546.5	1,004.9	997.6	7.34	136.970	
2,600.0	2,571.6	2,545.2	2,545.0	7.9	1.3	158.75	-527.1	-548.0	1,025.9	1,018.2	7.67	133.825	
2,700.0	2,669.4	2,643.1	2,642.9	8.3	1.4	159.18	-527.6	-549.3	1,046.7	1,038.7	7.99	130.957	
2,800.0	2,767.2	2,739.5	2,739.3	8.8	1.4	159.60	-528.1	-550.8	1,067.7	1,059.4	8.32	128.370	
2,900.0	2,865.0	2,836.5	2,836.3	9.2	1.5	160.02	-528.4	-552.5	1,088.8	1,080.2	8.64	126.022	
3,000.0	2,962.8	2,934.8	2,934.5	9.7	1.5	160.44	-528.4	-554.3	1,110.0	1,101.0	8.96	123.882	
3,100.0	3,060.6	3,032.5	3,032.2	10.1	1.6	160.86	-528.1	-556.2	1,131.1	1,121.8	9.28	121.905	
3,200.0	3,158.5	3,129.3	3,129.0	10.6	1.6	161.25	-528.1	-558.1	1,152.3	1,142.7	9.60	120.083	
3,300.0	3,256.3	3,227.0	3,226.7	11.0	1.6	161.62	-528.2	-559.8	1,173.6	1,163.7	9.91	118.401	
3,400.0	3,354.1	3,327.2	3,326.9	11.5	1.7	162.01	-527.9	-561.7	1,194.8	1,184.6	10.22	116.861	
3,500.0	3,451.9	3,425.9	3,425.6	11.9	1.7	162.41	-526.9	-563.8	1,215.8	1,205.3	10.53	115.432	
3,600.0	3,549.7	3,520.9	3,520.5	12.4	1.8	162.80	-525.7	-566.0	1,237.0	1,226.2	10.84	114.121	
3,700.0	3,647.5	3,616.8	3,616.3	12.8	1.8	163.19	-524.4	-568.6	1,258.5	1,247.3	11.14	112.918	
3,800.0	3,745.3	3,717.9	3,717.4	13.3	1.8	163.60	-522.7	-571.3	1,279.8	1,268.4	11.45	111.792	
3,900.0	3,843.2	3,817.2	3,816.6	13.7	1.9	164.00	-520.6	-573.9	1,301.0	1,289.2	11.75	110.715	
4,000.0	3,941.0	3,908.4	3,907.8	14.2	1.9	164.35	-518.9	-576.4	1,322.4	1,310.3	12.05	109.720	
4,100.0	4,038.8	4,000.0	3,999.3	14.6	1.9	164.69	-517.6	-579.2	1,344.3	1,331.9	12.35	108.812	
4,200.0	4,136.6	4,108.6	4,107.9	15.1	2.0	165.06	-516.3	-582.1	1,366.0	1,353.4	12.66	107.926	
4,300.0	4,234.4	4,216.1	4,215.3	15.5	2.0	165.38	-515.0	-583.9	1,387.0	1,374.0	12.96	107.013	
4,325.2	4,259.1	4,240.3	4,239.6	15.6	2.0	165.45	-514.7	-584.2	1,392.2	1,379.2	13.04	106.794	
4,400.0	4,332.4	4,312.5	4,311.8	15.9	2.0	165.73	-513.9	-585.2	1,406.8	1,393.6	13.21	106.482	
4,500.0	4,431.0	4,410.1	4,409.3	16.2	2.1	166.04	-512.7	-586.6	1,423.5	1,410.1	13.40	106.199	
4,600.0	4,530.2	4,513.2	4,512.4	16.5	2.1	166.29	-511.7	-587.9	1,436.8	1,423.2	13.58	105.783	
4,700.0	4,629.7	4,614.8	4,614.1	16.7	2.1	166.48	-510.8	-588.7	1,446.4	1,432.7	13.75	105.220	
4,800.0	4,729.5	4,706.3	4,705.5	16.9	2.2	166.60	-510.3	-589.6	1,453.0	1,439.1	13.90	104.566	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 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
4,900.0	4,829.5	4,800.0	4,799.2	17.0	2.2	166.68	-509.9	-591.0	1,456.7	1,442.6	14.03	103.824	
4,925.3	4,854.8	4,825.3	4,824.5	17.1	2.2	-118.63	-509.8	-591.5	1,457.1	1,438.5	18.63	78.197	
5,000.0	4,929.5	4,907.5	4,906.7	17.2	2.2	-118.59	-509.3	-592.7	1,457.9	1,439.1	18.75	77.742	
5,100.0	5,029.5	5,015.0	5,014.1	17.3	2.3	-118.54	-508.5	-593.7	1,458.3	1,439.4	18.92	77.069	
5,200.0	5,129.5	5,108.8	5,108.0	17.4	2.3	-118.51	-507.9	-594.5	1,458.8	1,439.7	19.09	76.419	
5,300.0	5,229.5	5,203.1	5,202.3	17.6	2.3	-118.47	-507.6	-595.7	1,459.7	1,440.5	19.26	75.802	
5,400.0	5,329.5	5,312.2	5,311.3	17.7	2.3	-118.45	-507.4	-596.7	1,460.5	1,441.1	19.40	75.278	
5,500.0	5,429.5	5,419.9	5,419.0	17.9	2.3	-118.45	-507.5	-596.8	1,460.6	1,441.1	19.55	74.726	
5,600.0	5,529.5	5,521.6	5,520.8	18.0	2.3	-118.45	-507.5	-596.7	1,460.5	1,440.8	19.70	74.152	
5,700.0	5,629.5	5,620.8	5,620.0	18.1	2.3	-118.44	-507.2	-596.6	1,460.3	1,440.4	19.85	73.575	
5,721.8	5,651.3	5,640.6	5,639.8	18.2	2.3	-118.44	-507.1	-596.6	1,460.3	1,440.4	19.88	73.450	
5,800.0	5,729.5	5,711.6	5,710.8	18.3	2.3	-118.44	-507.2	-596.8	1,460.4	1,440.4	20.00	73.021	
5,900.0	5,829.5	5,802.8	5,801.9	18.4	2.4	-118.45	-507.7	-597.4	1,461.3	1,441.1	20.16	72.500	
6,000.0	5,929.5	5,906.4	5,905.5	18.6	2.4	-118.45	-508.2	-598.2	1,462.2	1,441.9	20.33	71.936	
6,100.0	6,029.5	6,010.3	6,009.5	18.7	2.4	-118.43	-508.2	-599.1	1,463.0	1,442.5	20.50	71.369	
6,200.0	6,129.5	6,117.7	6,116.8	18.9	2.4	-118.43	-508.3	-599.5	1,463.3	1,442.6	20.65	70.849	
6,300.0	6,229.5	6,223.0	6,222.1	19.1	2.4	-118.45	-508.7	-599.0	1,463.1	1,442.3	20.81	70.310	
6,400.0	6,329.5	6,321.3	6,320.5	19.2	2.4	-118.46	-509.0	-598.7	1,462.9	1,441.9	20.97	69.765	
6,500.0	6,429.5	6,419.7	6,418.9	19.4	2.4	-118.46	-508.7	-598.6	1,462.8	1,441.7	21.13	69.228	
6,550.3	6,479.8	6,469.2	6,468.4	19.5	2.4	-118.45	-508.7	-598.7	1,462.8	1,441.6	21.21	68.963	
6,600.0	6,529.4	6,518.0	6,517.2	19.5	2.4	-28.55	-508.7	-598.7	1,461.3	1,443.9	17.37	84.112	
6,650.0	6,579.2	6,566.9	6,566.1	19.5	2.4	-28.82	-508.9	-598.6	1,456.7	1,439.3	17.40	83.725	
6,700.0	6,628.4	6,615.3	6,614.4	19.5	2.4	-29.29	-509.2	-598.5	1,449.2	1,431.8	17.45	83.041	
6,750.0	6,676.9	6,662.8	6,662.0	19.5	2.4	-29.96	-509.5	-598.4	1,438.7	1,421.2	17.53	82.079	
6,800.0	6,724.5	6,709.4	6,708.5	19.4	2.4	-30.84	-509.9	-598.4	1,425.4	1,407.8	17.62	80.904	
6,850.0	6,770.8	6,754.8	6,754.0	19.4	2.4	-31.94	-510.3	-598.3	1,409.3	1,391.6	17.72	79.536	
6,900.0	6,815.8	6,800.0	6,799.1	19.3	2.4	-33.31	-510.8	-598.3	1,390.5	1,372.7	17.83	77.972	
6,950.0	6,859.1	6,839.8	6,839.0	19.2	2.5	-34.89	-511.2	-598.3	1,369.2	1,351.2	17.96	76.231	
7,000.0	6,900.5	6,879.1	6,878.2	19.1	2.5	-36.78	-511.6	-598.4	1,345.6	1,327.5	18.12	74.262	
7,050.0	6,939.9	6,916.6	6,915.7	19.1	2.5	-38.98	-511.9	-598.6	1,319.7	1,301.4	18.32	72.043	
7,100.0	6,977.1	6,952.1	6,951.2	19.0	2.5	-41.52	-512.2	-598.8	1,291.9	1,273.3	18.57	69.552	
7,150.0	7,011.8	6,985.4	6,984.5	19.0	2.5	-44.44	-512.5	-599.1	1,262.3	1,243.4	18.90	66.788	
7,200.0	7,044.0	7,019.2	7,018.3	19.1	2.5	-47.85	-512.7	-599.5	1,231.0	1,211.7	19.31	63.751	
7,250.0	7,073.4	7,052.1	7,051.3	19.1	2.5	-51.76	-512.9	-599.7	1,198.3	1,178.5	19.80	60.513	
7,300.0	7,099.9	7,081.8	7,080.9	19.3	2.5	-56.08	-513.0	-599.9	1,164.4	1,144.1	20.35	57.210	
7,350.0	7,123.4	7,108.0	7,107.1	19.5	2.5	-60.74	-513.0	-600.1	1,129.6	1,108.7	20.94	53.958	
7,400.0	7,143.7	7,130.5	7,129.6	19.8	2.5	-65.65	-513.0	-600.2	1,094.3	1,072.8	21.52	50.850	
7,450.0	7,160.9	7,149.4	7,148.6	20.2	2.5	-70.66	-513.0	-600.2	1,058.7	1,036.6	22.09	47.933	
7,500.0	7,174.7	7,164.6	7,163.7	20.7	2.5	-75.60	-513.0	-600.2	1,023.2	1,000.5	22.64	45.201	
7,550.0	7,185.1	7,176.0	7,175.2	21.2	2.5	-80.32	-513.0	-600.3	988.1	964.9	23.19	42.603	
7,600.0	7,192.1	7,183.6	7,182.8	21.8	2.5	-84.65	-513.0	-600.3	953.9	930.1	23.80	40.074	
7,650.0	7,195.6	7,187.5	7,186.6	22.5	2.5	-88.48	-512.9	-600.3	920.8	896.3	24.50	37.588	
7,680.0	7,196.0	7,187.9	7,187.0	22.9	2.5	-90.51	-512.9	-600.3	901.7	876.7	24.96	36.129	
7,700.0	7,195.9	7,187.8	7,186.9	23.3	2.5	-90.50	-512.9	-600.3	889.2	864.0	25.26	35.205	
7,800.0	7,195.2	7,187.1	7,186.2	24.9	2.5	-90.44	-512.9	-600.3	831.5	804.6	26.91	30.904	
7,900.0	7,194.6	7,186.4	7,185.5	26.7	2.5	-90.38	-512.9	-600.3	782.3	753.6	28.75	27.214	
8,000.0	7,193.9	7,185.7	7,184.8	28.7	2.5	-90.33	-512.9	-600.3	743.4	712.7	30.74	24.180	
8,100.0	7,193.3	7,185.0	7,184.1	30.9	2.5	-90.27	-512.9	-600.3	716.5	683.6	32.87	21.797	
8,200.0	7,192.6	7,184.4	7,183.5	33.1	2.5	-90.22	-512.9	-600.3	702.8	667.7	35.10	20.026	
8,246.8	7,192.3	7,184.0	7,183.2	34.2	2.5	-90.19	-513.0	-600.3	701.3	665.1	36.18	19.384	CC, ES
8,300.0	7,192.0	7,183.7	7,182.8	35.4	2.5	-90.16	-513.0	-600.3	703.3	665.9	37.41	18.801	
8,400.0	7,191.3	7,183.0	7,182.2	37.8	2.5	-90.11	-513.0	-600.3	717.8	678.0	39.78	18.043	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 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
8,500.0	7,190.7	7,182.4	7,181.5	40.2	2.5	-90.06	-513.0	-600.3	745.6	703.4	42.21	17.661	
8,600.0	7,190.0	7,181.8	7,180.9	42.7	2.5	-90.00	-513.0	-600.3	785.2	740.5	44.69	17.568	SF
8,700.0	7,189.4	7,181.1	7,180.2	45.2	2.5	-89.95	-513.0	-600.3	835.0	787.7	47.21	17.686	
8,800.0	7,188.7	7,180.5	7,179.6	47.8	2.5	-89.90	-513.0	-600.3	893.2	843.4	49.76	17.950	
8,900.0	7,188.0	7,179.9	7,179.0	50.3	2.5	-89.85	-513.0	-600.3	958.3	906.0	52.34	18.311	
9,000.0	7,187.4	7,179.3	7,178.4	52.9	2.5	-89.80	-513.0	-600.3	1,029.1	974.2	54.94	18.732	
9,100.0	7,186.7	7,178.7	7,177.8	55.6	2.5	-89.75	-513.0	-600.3	1,104.4	1,046.8	57.56	19.187	
9,200.0	7,186.1	7,178.1	7,177.2	58.2	2.5	-89.70	-513.0	-600.3	1,183.4	1,123.2	60.20	19.658	
9,300.0	7,185.4	7,177.5	7,176.6	60.9	2.5	-89.65	-513.0	-600.3	1,265.3	1,202.4	62.85	20.132	
9,400.0	7,184.8	7,176.9	7,176.0	63.5	2.5	-89.61	-513.0	-600.3	1,349.7	1,284.2	65.52	20.600	
9,500.0	7,184.1	7,176.3	7,175.4	66.2	2.5	-89.56	-513.0	-600.3	1,436.1	1,367.9	68.20	21.058	
9,600.0	7,183.5	7,175.7	7,174.9	68.9	2.5	-89.51	-513.0	-600.3	1,524.1	1,453.2	70.88	21.501	
9,700.0	7,182.8	7,175.2	7,174.3	71.6	2.5	-89.46	-513.0	-600.3	1,613.5	1,540.0	73.58	21.928	
9,800.0	7,182.2	7,174.6	7,173.7	74.3	2.5	-89.42	-513.0	-600.3	1,704.2	1,627.9	76.29	22.338	
9,900.0	7,181.5	7,174.1	7,173.2	77.0	2.5	-89.37	-513.0	-600.3	1,795.8	1,716.8	79.00	22.731	
10,000.0	7,180.8	7,173.5	7,172.6	79.7	2.5	-89.33	-513.0	-600.3	1,888.2	1,806.5	81.72	23.106	
10,100.0	7,180.2	7,173.0	7,172.1	82.5	2.5	-89.28	-513.0	-600.3	1,981.4	1,897.0	84.45	23.464	
10,200.0	7,179.5	7,172.4	7,171.5	85.2	2.5	-89.24	-513.0	-600.3	2,075.3	1,988.1	87.18	23.805	
10,300.0	7,178.9	7,171.9	7,171.0	87.9	2.5	-89.19	-513.0	-600.3	2,169.6	2,079.7	89.91	24.131	
10,400.0	7,178.2	7,171.4	7,170.5	90.7	2.5	-89.15	-513.0	-600.3	2,264.5	2,171.8	92.65	24.441	
10,500.0	7,177.6	7,170.8	7,170.0	93.4	2.5	-89.11	-513.0	-600.3	2,359.8	2,264.4	95.40	24.737	
10,600.0	7,176.9	7,170.3	7,169.4	96.2	2.5	-89.07	-513.0	-600.3	2,455.4	2,357.3	98.14	25.019	
10,700.0	7,176.2	7,169.8	7,168.9	98.9	2.5	-89.02	-513.0	-600.3	2,551.4	2,450.5	100.89	25.288	
10,800.0	7,175.6	7,169.3	7,168.4	101.7	2.5	-88.98	-513.0	-600.3	2,647.7	2,544.1	103.65	25.546	
10,900.0	7,174.9	7,168.8	7,167.9	104.4	2.5	-88.94	-513.0	-600.3	2,744.3	2,637.9	106.40	25.791	
11,000.0	7,174.3	7,168.3	7,167.4	107.2	2.5	-88.90	-513.0	-600.3	2,841.1	2,731.9	109.16	26.026	
11,100.0	7,173.6	7,167.8	7,166.9	109.9	2.5	-88.86	-513.0	-600.3	2,938.1	2,826.2	111.92	26.251	
11,200.0	7,172.9	7,167.3	7,166.4	112.7	2.5	-88.82	-513.0	-600.3	3,035.3	2,920.6	114.69	26.466	
11,300.0	7,172.3	7,166.8	7,166.0	115.5	2.5	-88.78	-513.0	-600.3	3,132.7	3,015.2	117.45	26.672	
11,400.0	7,171.6	7,166.4	7,165.5	118.3	2.5	-88.74	-513.0	-600.2	3,230.2	3,110.0	120.22	26.870	
11,500.0	7,171.0	7,165.9	7,165.0	121.0	2.5	-88.70	-513.0	-600.2	3,327.9	3,204.9	122.99	27.059	
11,600.0	7,170.3	7,165.4	7,164.5	123.8	2.5	-88.66	-513.0	-600.2	3,425.7	3,299.9	125.76	27.241	
11,700.0	7,169.6	7,165.0	7,164.1	126.6	2.5	-88.62	-513.0	-600.2	3,523.6	3,395.1	128.53	27.415	
11,797.6	7,169.0	7,164.5	7,163.6	129.3	2.5	-88.58	-513.0	-600.2	3,619.3	3,488.1	131.23	27.579	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
0.0	0.0	0.0	0.0	0.0	0.0	179.29	-1,162.5	14.5	1,162.6				
100.0	100.0	100.0	100.0	0.1	0.1	179.29	-1,162.5	14.5	1,162.6	1,162.4	0.19	5,979.683	
200.0	200.0	200.0	200.0	0.3	0.3	179.29	-1,162.5	14.5	1,162.6	1,161.9	0.64	1,805.386	
300.0	300.0	300.0	300.0	0.5	0.5	179.29	-1,162.5	14.5	1,162.6	1,161.5	1.09	1,063.192	
400.0	400.0	435.5	435.4	0.8	0.9	179.16	-1,160.4	16.9	1,161.1	1,159.4	1.62	717.119	
500.0	500.0	570.3	569.9	1.0	1.2	178.80	-1,154.1	24.1	1,156.5	1,154.3	2.16	536.034	
600.0	600.0	704.0	702.7	1.2	1.5	178.20	-1,143.8	36.0	1,149.0	1,146.3	2.73	421.454	
700.0	700.0	835.9	832.8	1.4	2.0	177.35	-1,129.7	52.2	1,138.7	1,135.3	3.34	340.461	
800.0	800.0	949.7	944.3	1.7	2.4	176.43	-1,114.6	69.6	1,126.1	1,122.2	3.95	285.342	
900.0	900.0	1,047.6	1,040.0	1.9	2.8	175.59	-1,101.3	84.9	1,113.4	1,108.9	4.51	246.962	
1,000.0	1,000.0	1,145.7	1,135.9	2.1	3.2	100.38	-1,087.9	100.3	1,101.3	1,096.1	5.14	214.153	
1,100.0	1,099.8	1,244.3	1,232.4	2.3	3.6	99.99	-1,074.5	115.8	1,089.9	1,084.2	5.73	190.152	
1,200.0	1,199.5	1,343.4	1,329.3	2.5	4.1	99.76	-1,061.0	131.4	1,079.3	1,072.9	6.34	170.212	
1,300.0	1,298.7	1,442.8	1,426.5	2.8	4.5	99.69	-1,047.4	147.0	1,069.2	1,062.3	6.97	153.303	
1,400.0	1,397.5	1,542.3	1,523.9	3.1	4.9	99.79	-1,033.8	162.6	1,059.8	1,052.2	7.64	138.721	
1,500.0	1,495.6	1,641.9	1,621.3	3.4	5.4	100.06	-1,020.2	178.2	1,051.0	1,042.6	8.34	125.964	
1,500.1	1,495.7	1,642.0	1,621.4	3.4	5.4	100.06	-1,020.2	178.2	1,051.0	1,042.6	8.34	125.952	
1,600.0	1,593.4	1,741.5	1,718.7	3.8	5.8	100.25	-1,006.7	193.8	1,042.5	1,033.4	9.08	114.767	
1,700.0	1,691.3	1,841.0	1,816.1	4.1	6.3	100.45	-993.1	209.5	1,034.0	1,024.1	9.84	105.047	
1,800.0	1,789.1	1,940.6	1,913.5	4.5	6.7	100.65	-979.5	225.1	1,025.5	1,014.9	10.62	96.589	
1,900.0	1,886.9	2,040.2	2,010.9	4.9	7.2	100.86	-965.9	240.7	1,017.0	1,005.6	11.40	89.199	
2,000.0	1,984.7	2,139.8	2,108.3	5.3	7.6	101.07	-952.3	256.4	1,008.5	996.3	12.19	82.709	
2,100.0	2,082.5	2,239.3	2,205.7	5.7	8.0	101.28	-938.7	272.0	1,000.1	987.1	12.99	76.977	
2,200.0	2,180.3	2,338.9	2,303.1	6.2	8.5	101.49	-925.2	287.6	991.6	977.8	13.79	71.888	
2,300.0	2,278.1	2,438.5	2,400.5	6.6	8.9	101.71	-911.6	303.2	983.2	968.6	14.60	67.345	
2,400.0	2,375.9	2,538.0	2,497.9	7.0	9.4	101.94	-898.0	318.9	974.8	959.4	15.41	63.269	
2,500.0	2,473.8	2,637.6	2,595.3	7.5	9.8	102.16	-884.4	334.5	966.4	950.2	16.22	59.595	
2,600.0	2,571.6	2,737.2	2,692.7	7.9	10.3	102.39	-870.8	350.1	958.0	941.0	17.03	56.269	
2,700.0	2,669.4	2,836.8	2,790.1	8.3	10.7	102.63	-857.3	365.8	949.6	931.8	17.84	53.245	
2,800.0	2,767.2	2,936.3	2,887.4	8.8	11.2	102.87	-843.7	381.4	941.3	922.6	18.64	50.485	
2,900.0	2,865.0	3,035.9	2,984.8	9.2	11.6	103.11	-830.1	397.0	933.0	913.5	19.45	47.957	
3,000.0	2,962.8	3,135.5	3,082.2	9.7	12.1	103.36	-816.5	412.6	924.6	904.4	20.26	45.634	
3,100.0	3,060.6	3,235.1	3,179.6	10.1	12.5	103.61	-802.9	428.3	916.3	895.3	21.07	43.492	
3,200.0	3,158.5	3,334.6	3,277.0	10.6	13.0	103.87	-789.3	443.9	908.1	886.2	21.88	41.511	
3,300.0	3,256.3	3,434.2	3,374.4	11.0	13.4	104.13	-775.8	459.5	899.8	877.1	22.68	39.675	
3,400.0	3,354.1	3,533.8	3,471.8	11.5	13.9	104.39	-762.2	475.2	891.6	868.1	23.48	37.969	
3,500.0	3,451.9	3,633.4	3,569.2	11.9	14.3	104.67	-748.6	490.8	883.3	859.1	24.28	36.379	
3,600.0	3,549.7	3,732.9	3,666.6	12.4	14.8	104.94	-735.0	506.4	875.1	850.0	25.08	34.894	
3,700.0	3,647.5	3,832.5	3,764.0	12.8	15.2	105.22	-721.4	522.0	866.9	841.1	25.87	33.505	
3,800.0	3,745.3	3,932.1	3,861.4	13.3	15.7	105.51	-707.9	537.7	858.8	832.1	26.67	32.203	
3,900.0	3,843.2	4,031.6	3,958.8	13.7	16.1	105.80	-694.3	553.3	850.6	823.2	27.46	30.980	
4,000.0	3,941.0	4,131.2	4,056.2	14.2	16.6	106.10	-680.7	568.9	842.5	814.3	28.24	29.829	
4,100.0	4,038.8	4,230.8	4,153.6	14.6	17.0	106.40	-667.1	584.6	834.4	805.4	29.03	28.745	
4,200.0	4,136.6	4,330.4	4,251.0	15.1	17.4	106.71	-653.5	600.2	826.4	796.6	29.81	27.722	
4,300.0	4,234.4	4,429.9	4,348.4	15.5	17.9	107.03	-639.9	615.8	818.3	787.7	30.59	26.754	
4,325.2	4,259.1	4,455.0	4,372.9	15.6	18.0	107.11	-636.5	619.8	816.3	785.5	30.78	26.519	
4,400.0	4,332.4	4,529.5	4,445.8	15.9	18.3	107.17	-626.4	631.4	810.0	778.7	31.33	25.856	
4,500.0	4,431.0	4,626.9	4,541.1	16.2	18.8	107.02	-613.1	646.7	800.7	768.7	32.00	25.026	
4,600.0	4,530.2	4,712.6	4,625.1	16.5	19.1	106.73	-602.2	659.2	791.4	758.9	32.55	24.315	
4,700.0	4,629.7	4,800.0	4,711.4	16.7	19.4	106.37	-592.8	670.0	783.1	750.1	33.03	23.709	
4,800.0	4,729.5	4,881.1	4,791.7	16.9	19.6	105.98	-585.7	678.3	775.8	742.3	33.44	23.199	
4,900.0	4,829.5	4,965.6	4,875.7	17.0	19.8	105.52	-579.8	685.0	769.5	735.7	33.82	22.756	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
4,925.3	4,854.8	4,987.0	4,897.1	17.1	19.8	-179.93	-578.6	686.4	768.1	740.3	27.79	27.640	
5,000.0	4,929.5	5,050.4	4,960.3	17.2	19.9	179.81	-575.6	689.9	764.5	736.5	27.98	27.319	
5,100.0	5,029.5	5,135.5	5,045.3	17.3	20.1	179.59	-573.0	692.9	761.4	733.2	28.26	26.940	
5,200.0	5,129.5	5,220.8	5,130.6	17.4	20.2	179.50	-572.0	694.0	760.3	731.8	28.56	26.625	
5,236.0	5,165.4	5,255.7	5,165.4	17.5	20.2	179.50	-572.0	694.0	760.3	731.7	28.67	26.518	
5,300.0	5,229.5	5,319.7	5,229.5	17.6	20.3	179.50	-572.0	694.0	760.3	731.4	28.88	26.326	
5,400.0	5,329.5	5,419.7	5,329.5	17.7	20.4	179.50	-572.0	694.0	760.3	731.1	29.21	26.025	
5,500.0	5,429.5	5,519.7	5,429.5	17.9	20.5	179.50	-572.0	694.0	760.3	730.8	29.55	25.728	
5,600.0	5,529.5	5,619.7	5,529.5	18.0	20.7	179.50	-572.0	694.0	760.3	730.4	29.89	25.436	
5,700.0	5,629.5	5,719.7	5,629.5	18.1	20.8	179.50	-572.0	694.0	760.3	730.1	30.23	25.147	
5,800.0	5,729.5	5,819.7	5,729.5	18.3	20.9	179.50	-572.0	694.0	760.3	729.7	30.58	24.863	
5,900.0	5,829.5	5,919.7	5,829.5	18.4	21.0	179.50	-572.0	694.0	760.3	729.4	30.93	24.584	
6,000.0	5,929.5	6,019.7	5,929.5	18.6	21.2	179.50	-572.0	694.0	760.3	729.0	31.28	24.308	
6,100.0	6,029.5	6,119.7	6,029.5	18.7	21.3	179.50	-572.0	694.0	760.3	728.7	31.63	24.037	
6,200.0	6,129.5	6,219.7	6,129.5	18.9	21.4	179.50	-572.0	694.0	760.3	728.3	31.99	23.770	
6,300.0	6,229.5	6,319.7	6,229.5	19.1	21.6	179.50	-572.0	694.0	760.3	728.0	32.34	23.507	
6,400.0	6,329.5	6,419.7	6,329.5	19.2	21.7	179.50	-572.0	694.0	760.3	727.6	32.70	23.249	
6,500.0	6,429.5	6,519.7	6,429.5	19.4	21.9	179.50	-572.0	694.0	760.3	727.3	33.07	22.995	
6,550.3	6,479.8	6,570.2	6,480.0	19.5	21.9	179.52	-572.0	693.8	760.3	727.1	33.25	22.868	
6,600.0	6,529.4	6,620.3	6,529.9	19.5	22.0	-90.39	-572.0	690.9	760.3	721.4	38.86	19.563	
6,650.0	6,579.2	6,670.6	6,579.8	19.5	22.0	-90.30	-572.0	684.4	760.3	721.4	38.89	19.552	
6,700.0	6,628.4	6,720.8	6,629.0	19.5	22.0	-90.20	-572.0	674.4	760.3	721.4	38.85	19.569	
6,750.0	6,676.9	6,770.9	6,677.3	19.5	21.9	-90.11	-572.0	661.1	760.3	721.5	38.77	19.612	
6,800.0	6,724.5	6,821.0	6,724.5	19.4	21.9	-90.01	-572.0	644.5	760.3	721.7	38.64	19.675	
6,806.3	6,730.4	6,827.3	6,730.4	19.4	21.8	-90.00	-572.0	642.1	760.3	721.7	38.62	19.685	CC
6,850.0	6,770.8	6,870.9	6,770.3	19.4	21.8	-89.92	-572.0	624.6	760.3	721.8	38.49	19.755	
6,900.0	6,815.8	6,920.8	6,814.6	19.3	21.7	-89.82	-572.0	601.7	760.3	722.0	38.31	19.844	
6,950.0	6,859.1	6,970.5	6,857.1	19.2	21.6	-89.73	-572.0	575.7	760.3	722.2	38.14	19.937	
7,000.0	6,900.5	7,020.2	6,897.6	19.1	21.5	-89.63	-572.0	546.9	760.3	722.3	37.97	20.024	
7,050.0	6,939.9	7,069.8	6,935.9	19.1	21.3	-89.54	-572.0	515.5	760.3	722.5	37.84	20.094	
7,100.0	6,977.1	7,119.4	6,971.9	19.0	21.2	-89.45	-572.0	481.5	760.3	722.6	37.76	20.138	
7,150.0	7,011.8	7,168.8	7,005.5	19.0	21.1	-89.37	-572.0	445.2	760.3	722.6	37.75	20.143	
7,200.0	7,044.0	7,218.2	7,036.4	19.1	21.0	-89.28	-572.0	406.7	760.4	722.5	37.83	20.098	
7,250.0	7,073.4	7,267.5	7,064.5	19.1	21.0	-89.21	-572.0	366.2	760.4	722.3	38.03	19.993	
7,300.0	7,099.9	7,316.7	7,089.8	19.3	20.9	-89.13	-572.0	324.0	760.4	722.0	38.36	19.821	
7,350.0	7,123.4	7,365.9	7,112.0	19.5	20.9	-89.06	-572.0	280.2	760.4	721.6	38.84	19.579	
7,400.0	7,143.7	7,415.0	7,131.2	19.8	21.0	-88.99	-572.0	235.0	760.4	720.9	39.47	19.267	
7,450.0	7,160.9	7,464.0	7,147.3	20.2	21.1	-88.93	-572.0	188.6	760.4	720.2	40.25	18.890	
7,500.0	7,174.7	7,513.0	7,160.1	20.7	21.3	-88.87	-572.0	141.4	760.4	719.2	41.20	18.459	
7,550.0	7,185.1	7,562.0	7,169.6	21.2	21.6	-88.82	-572.0	93.4	760.5	718.2	42.29	17.983	
7,600.0	7,192.1	7,610.9	7,175.9	21.8	22.0	-88.77	-572.0	44.9	760.5	717.0	43.51	17.477	
7,650.0	7,195.6	7,659.7	7,178.8	22.5	22.6	-88.73	-572.0	-3.9	760.5	715.6	44.85	16.955	
7,680.0	7,196.0	7,689.2	7,179.0	22.9	22.9	-88.72	-572.0	-33.4	760.5	714.8	45.71	16.637	
7,700.0	7,195.9	7,709.2	7,178.9	23.3	23.2	-88.72	-572.0	-53.4	760.5	714.2	46.32	16.418	
7,800.0	7,195.2	7,809.2	7,178.5	24.9	24.8	-88.74	-572.0	-153.4	760.5	710.9	49.58	15.340	
7,900.0	7,194.6	7,909.2	7,178.2	26.7	26.5	-88.76	-572.0	-253.4	760.5	707.3	53.22	14.290	
8,000.0	7,193.9	8,009.2	7,177.8	28.7	28.5	-88.79	-572.0	-353.4	760.5	703.3	57.18	13.300	
8,100.0	7,193.3	8,109.2	7,177.4	30.9	30.6	-88.81	-572.0	-453.4	760.5	699.1	61.40	12.386	
8,200.0	7,192.6	8,209.2	7,177.1	33.1	32.9	-88.83	-572.0	-553.4	760.5	694.6	65.83	11.553	
8,300.0	7,192.0	8,309.2	7,176.7	35.4	35.2	-88.85	-572.0	-653.4	760.5	690.0	70.42	10.798	
8,400.0	7,191.3	8,409.2	7,176.3	37.8	37.5	-88.87	-572.0	-753.4	760.4	685.3	75.16	10.117	
8,500.0	7,190.7	8,509.2	7,176.0	40.2	40.0	-88.89	-572.0	-853.4	760.4	680.4	80.01	9.504	

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

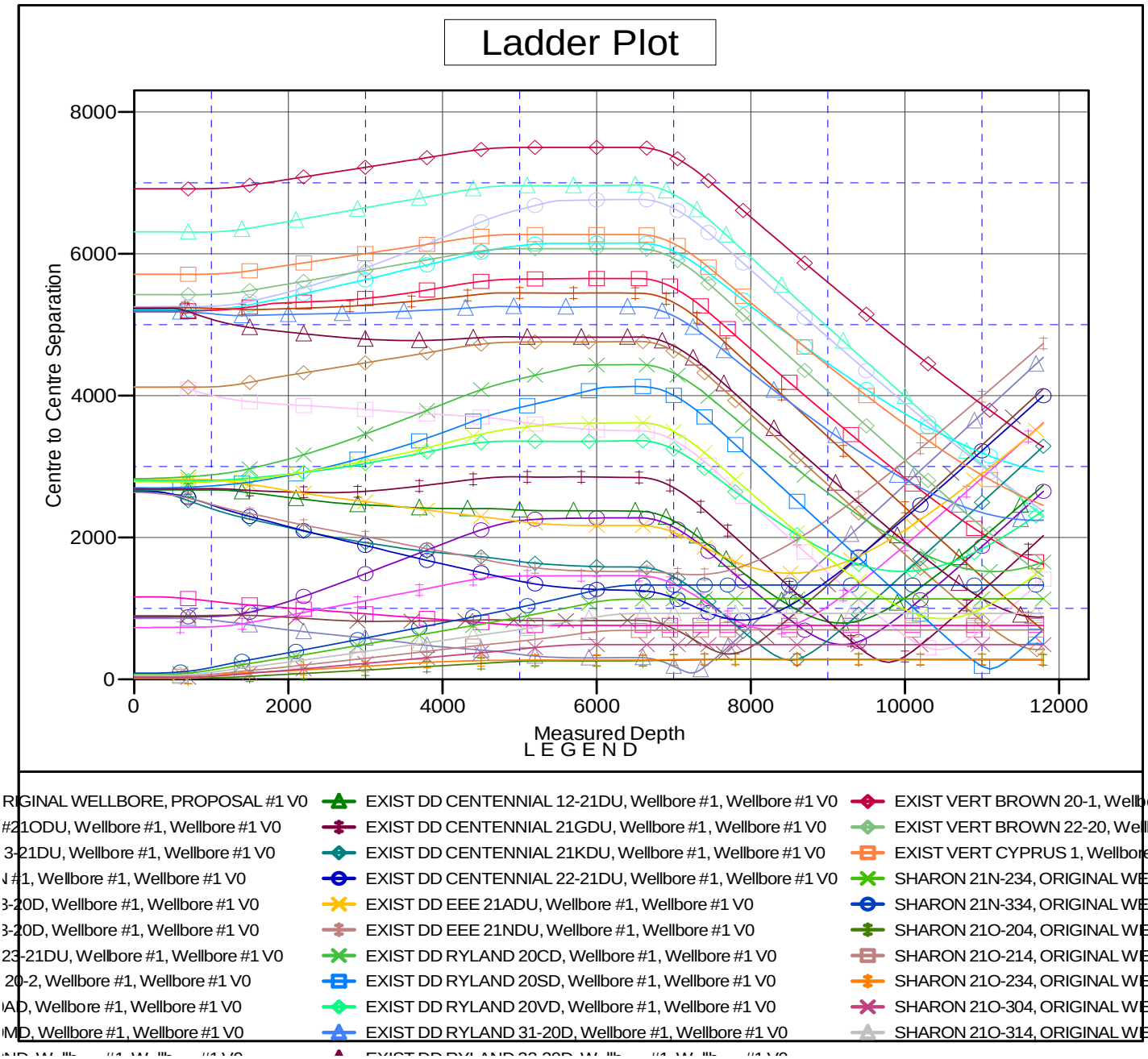
Offset Design SE SW SEC. 21 T4N R67W 6th P.M. - WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOSAL #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 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
8,600.0	7,190.0	8,609.2	7,175.6	42.7	42.4	-88.91	-572.0	-953.4	760.4	675.5	84.96	8.951	
8,700.0	7,189.4	8,709.2	7,175.2	45.2	44.9	-88.94	-572.0	-1,053.4	760.4	670.4	89.98	8.451	
8,800.0	7,188.7	8,809.2	7,174.9	47.8	47.5	-88.96	-572.0	-1,153.4	760.4	665.3	95.07	7.998	
8,900.0	7,188.0	8,909.2	7,174.5	50.3	50.1	-88.98	-572.0	-1,253.4	760.4	660.2	100.22	7.587	
9,000.0	7,187.4	9,009.2	7,174.1	52.9	52.7	-89.00	-572.0	-1,353.4	760.4	655.0	105.42	7.213	
9,100.0	7,186.7	9,109.2	7,173.8	55.6	55.3	-89.02	-572.0	-1,453.4	760.4	649.8	110.66	6.872	
9,200.0	7,186.1	9,209.2	7,173.4	58.2	57.9	-89.04	-572.0	-1,553.4	760.4	644.5	115.93	6.559	
9,300.0	7,185.4	9,309.2	7,173.0	60.9	60.6	-89.07	-572.0	-1,653.4	760.4	639.2	121.23	6.272	
9,400.0	7,184.8	9,409.2	7,172.7	63.5	63.2	-89.09	-572.0	-1,753.4	760.4	633.8	126.56	6.008	
9,500.0	7,184.1	9,509.2	7,172.3	66.2	65.9	-89.11	-572.0	-1,853.4	760.4	628.5	131.92	5.764	
9,600.0	7,183.5	9,609.2	7,172.0	68.9	68.6	-89.13	-572.0	-1,953.4	760.4	623.1	137.29	5.538	
9,700.0	7,182.8	9,709.2	7,171.6	71.6	71.3	-89.15	-572.0	-2,053.4	760.4	617.7	142.69	5.329	
9,800.0	7,182.2	9,809.2	7,171.2	74.3	74.0	-89.18	-572.0	-2,153.4	760.4	612.3	148.10	5.134	
9,900.0	7,181.5	9,909.2	7,170.9	77.0	76.7	-89.20	-572.0	-2,253.4	760.4	606.8	153.52	4.953	
10,000.0	7,180.8	10,009.2	7,170.5	79.7	79.4	-89.22	-572.0	-2,353.4	760.4	601.4	158.96	4.783	
10,100.0	7,180.2	10,109.2	7,170.1	82.5	82.1	-89.24	-572.0	-2,453.4	760.4	596.0	164.42	4.625	
10,200.0	7,179.5	10,209.2	7,169.8	85.2	84.8	-89.26	-572.0	-2,553.4	760.4	590.5	169.88	4.476	
10,300.0	7,178.9	10,309.2	7,169.4	87.9	87.6	-89.29	-572.0	-2,653.4	760.4	585.0	175.35	4.336	
10,400.0	7,178.2	10,409.2	7,169.0	90.7	90.3	-89.31	-572.0	-2,753.4	760.4	579.5	180.83	4.205	
10,500.0	7,177.6	10,509.2	7,168.7	93.4	93.1	-89.33	-572.0	-2,853.4	760.4	574.0	186.32	4.081	
10,600.0	7,176.9	10,609.2	7,168.3	96.2	95.8	-89.35	-572.0	-2,953.4	760.3	568.5	191.82	3.964	
10,700.0	7,176.2	10,709.2	7,168.0	98.9	98.5	-89.38	-572.0	-3,053.4	760.3	563.0	197.32	3.853	
10,800.0	7,175.6	10,809.2	7,167.6	101.7	101.3	-89.40	-572.0	-3,153.4	760.3	557.5	202.83	3.749	
10,900.0	7,174.9	10,909.2	7,167.2	104.4	104.1	-89.42	-572.0	-3,253.4	760.3	552.0	208.35	3.649	
11,000.0	7,174.3	11,009.2	7,166.9	107.2	106.8	-89.44	-572.0	-3,353.4	760.3	546.5	213.87	3.555	
11,100.0	7,173.6	11,109.2	7,166.5	109.9	109.6	-89.46	-572.0	-3,453.4	760.3	540.9	219.39	3.466	
11,200.0	7,172.9	11,209.2	7,166.1	112.7	112.3	-89.49	-572.0	-3,553.4	760.3	535.4	224.93	3.380	
11,300.0	7,172.3	11,309.2	7,165.8	115.5	115.1	-89.51	-572.0	-3,653.4	760.3	529.9	230.46	3.299	
11,400.0	7,171.6	11,409.2	7,165.4	118.3	117.9	-89.53	-572.0	-3,753.4	760.3	524.3	236.00	3.222	
11,500.0	7,171.0	11,509.2	7,165.1	121.0	120.6	-89.55	-572.0	-3,853.4	760.3	518.8	241.54	3.148	
11,600.0	7,170.3	11,609.2	7,164.7	123.8	123.4	-89.58	-572.0	-3,953.4	760.3	513.2	247.09	3.077	
11,700.0	7,169.6	11,709.2	7,164.3	126.6	126.2	-89.60	-572.0	-4,053.4	760.3	507.7	252.64	3.010	
11,768.6	7,169.2	11,777.8	7,164.1	128.5	128.1	-89.62	-572.0	-4,121.9	760.3	503.9	256.44	2.965	
11,797.6	7,169.0	11,802.2	7,164.0	129.3	128.8	-89.62	-572.0	-4,146.3	760.3	502.4	257.93	2.948	ES, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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

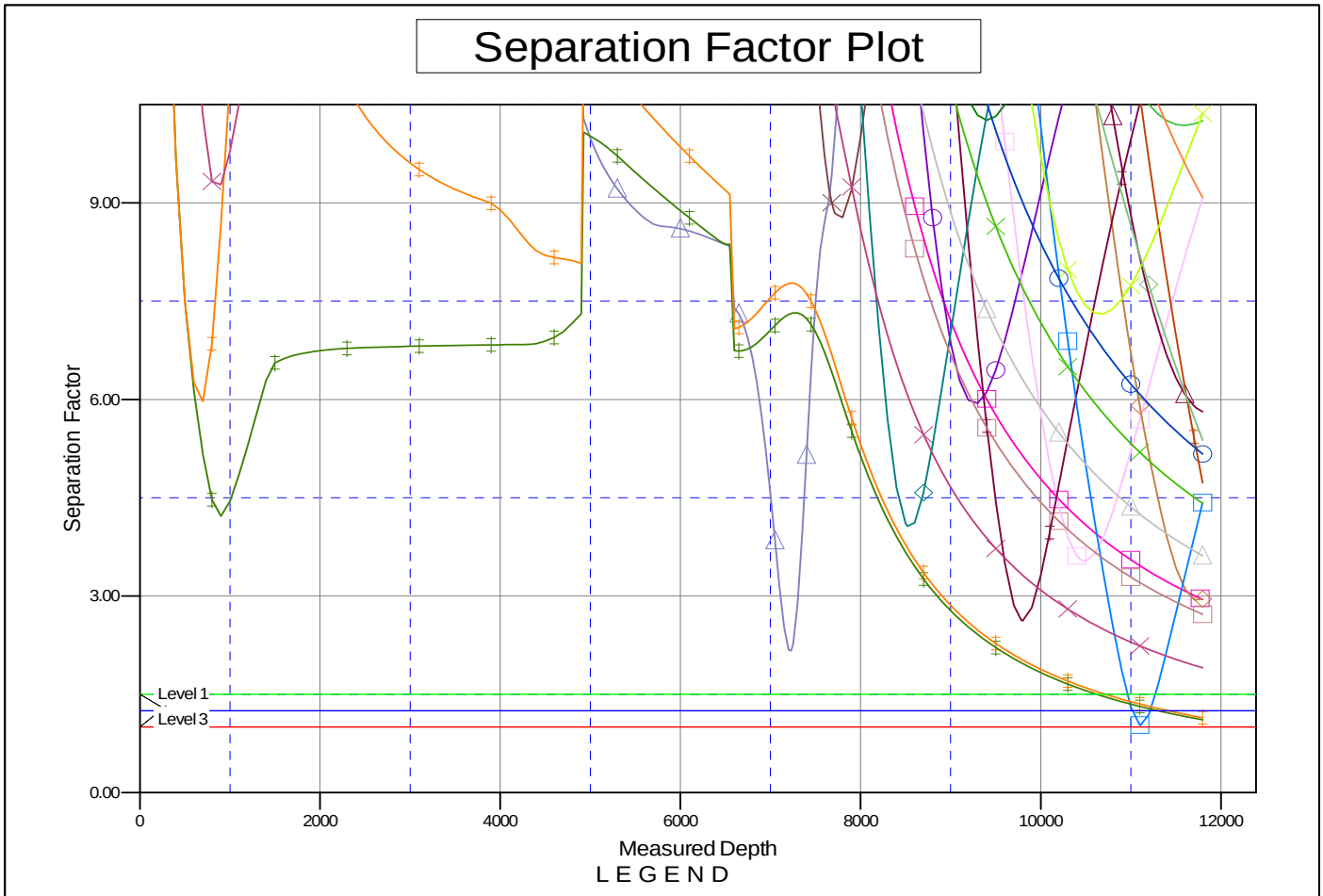
Reference Depths are relative to KB-EST @ 4950.5usft (Original Well E
Coordinates are relative to: SHARON 21O-334
Offset Depths are relative to Offset Datum
Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000
Grid Convergence at Surface is: 0.39°



Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-334
Project:	WELD COUNTY, COLORADO	**TVD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Reference Site:	NE SW SEC. 21 T4N R67W 6th P.M.	**MD Reference:**	KB-EST @ 4950.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	SHARON 21O-334	**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 Depths are relative to KB-EST @ 4950.5usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: SHARON 21O-334
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.39°



RIGINAL WELLBORE, PROPOSAL #1 V0
#21ODU, Wellbore #1, Wellbore #1 V0
3-21DU, Wellbore #1, Wellbore #1 V0
J #1, Wellbore #1, Wellbore #1 V0
3-20D, Wellbore #1, Wellbore #1 V0
3-20D, Wellbore #1, Wellbore #1 V0
23-21DU, Wellbore #1, Wellbore #1 V0
20-2, Wellbore #1, Wellbore #1 V0
AD, Wellbore #1, Wellbore #1 V0
MD, Wellbore #1, Wellbore #1 V0
EXIST DD CENTENNIAL 12-21DU, Wellbore #1, Wellbore #1 V0
EXIST DD CENTENNIAL 21GDU, Wellbore #1, Wellbore #1 V0
EXIST DD CENTENNIAL 21KDU, Wellbore #1, Wellbore #1 V0
EXIST DD CENTENNIAL 22-21DU, Wellbore #1, Wellbore #1 V0
EXIST DD EEE 21ADU, Wellbore #1, Wellbore #1 V0
EXIST DD EEE 21NDU, Wellbore #1, Wellbore #1 V0
EXIST DD RYLAND 20CD, Wellbore #1, Wellbore #1 V0
EXIST DD RYLAND 20SD, Wellbore #1, Wellbore #1 V0
EXIST DD RYLAND 20VD, Wellbore #1, Wellbore #1 V0
EXIST DD RYLAND 31-20D, Wellbore #1, Wellbore #1 V0
EXIST VERT BROWN 20-1, Wellbo
EXIST VERT BROWN 22-20, Wellb
EXIST VERT CYPRUS 1, Wellbore
SHARON 21N-234, ORIGINAL WEL
SHARON 21N-334, ORIGINAL WEL
SHARON 21O-204, ORIGINAL WEL
SHARON 21O-214, ORIGINAL WEL
SHARON 21O-234, ORIGINAL WEL
SHARON 21O-304, ORIGINAL WEL
SHARON 21O-314, ORIGINAL WEL