PDC ENERGY

WELD COUNTY, COLORADO
NE SW SEC. 21 T4N R67W 6th P.M.
SHARON 21O-404

ORIGINAL WELLBORE
PROPOSAL #2

Anticollision Report

17 May, 2016

total

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**Offset TVD Reference:**	Offset Datum

Reference	PROPOSAL #2		
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** 17/05/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	14,363.6	PROPOSAL #2 (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	13,999.4	6,800.0	615.9	473.1	4.314	CC
ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1	14,000.0	6,800.0	615.9	473.1	4.314	ES
ABDN VERT BROWN 20-2 - Wellbore #1 - Wellbore #1	14,100.0	6,800.0	624.1	479.3	4.312	SF
EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1	13,681.1	7,382.7	1,101.7	901.9	5.514	CC
EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1	13,700.0	7,382.9	1,101.8	901.5	5.500	ES
EXIST DD BROWN 20AD - Wellbore #1 - Wellbore #1	13,900.0	7,385.0	1,123.2	917.3	5.455	SF
EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1	12,545.8	7,383.7	2,375.9	2,212.7	14.557	CC
EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1	12,600.0	7,382.7	2,376.5	2,211.8	14.428	ES
EXIST DD BROWN 20MD - Wellbore #1 - Wellbore #1	13,500.0	7,377.0	2,560.3	2,370.6	13.494	SF
EXIST DD BROWN 20ND - Wellbore #1 - Wellbore #1	12,539.2	7,278.9	1,008.6	848.0	6.282	CC, ES
EXIST DD BROWN 20ND - Wellbore #1 - Wellbore #1	12,700.0	7,278.7	1,021.3	856.3	6.189	SF
EXIST DD BROWN 20OD - Wellbore #1 - Wellbore #1	12,533.0	7,439.8	164.2	1.9	1.012	Level 2, CC, ES, SF
EXIST DD CENTENNIAL 12-21DU - Wellbore #1 - Wellb	9,301.8	7,415.0	299.4	225.4	4.045	CC, ES, SF
EXIST DD CENTENNIAL 21GDU - Wellbore #1 - Wellbo	9,909.4	7,502.1	257.4	166.6	2.833	CC, ES, SF
EXIST DD CENTENNIAL 21KDU - Wellbore #1 - Wellbor	8,645.7	7,591.2	221.0	155.1	3.351	CC, ES, SF
EXIST DD CENTENNIAL 22-21DU - Wellbore #1 - Wellb	8,013.7	7,624.4	344.2	282.8	5.606	CC, ES, SF
EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1	8,639.5	7,467.9	1,002.4	936.9	15.310	CC, ES
EXIST DD EEE 21ADU - Wellbore #1 - Wellbore #1	9,000.0	7,454.3	1,065.1	990.6	14.291	SF
EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1	7,401.3	7,631.3	986.7	921.1	15.044	CC, ES
EXIST DD EEE 21NDU - Wellbore #1 - Wellbore #1	7,450.0	7,656.3	987.6	921.9	15.029	SF
EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1	11,274.3	7,545.9	1,028.3	885.5	7.198	CC
EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1	11,300.0	7,546.3	1,028.7	885.1	7.164	ES
EXIST DD RYLAND 20CD - Wellbore #1 - Wellbore #1	11,500.0	7,549.2	1,052.8	903.7	7.061	SF
EXIST DD RYLAND 20SD - Wellbore #1 - Wellbore #1	11,240.2	7,719.8	347.4	204.8	2.436	CC, ES, SF
EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1	10,091.5	7,335.2	1,030.5	936.6	10.980	CC
EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1	10,100.0	7,335.3	1,030.5	936.4	10.953	ES
EXIST DD RYLAND 20VD - Wellbore #1 - Wellbore #1	10,400.0	7,336.0	1,075.7	973.4	10.519	SF
EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1	11,833.1	7,404.1	1,754.4	1,606.6	11.867	CC
EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1	11,900.0	7,404.4	1,755.7	1,606.0	11.729	ES
EXIST DD RYLAND 31-20D - Wellbore #1 - Wellbore #1	12,400.0	7,406.8	1,843.7	1,680.1	11.271	SF
EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1	11,863.1	7,439.2	384.1	234.9	2.574	CC, ES
EXIST DD RYLAND 32-20D - Wellbore #1 - Wellbore #1	11,900.0	7,440.8	385.9	235.6	2.569	SF
EXIST DD RYLAND 42-20D - Wellbore #1 - Wellbore #1	10,614.7	7,464.1	363.2	248.8	3.175	CC, ES, SF
EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1	14,209.9	7,268.5	1,855.7	1,519.6	5.522	CC
EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1	14,300.0	7,268.5	1,857.9	1,519.3	5.487	ES
EXIST VERT BROWN 20-1 - Wellbore #1 - Design #1	14,363.6	7,268.5	1,862.1	1,521.7	5.471	SF
EXIST VERT BROWN 22-20 - Wellbore #1 - Design #1	13,097.9	7,256.5	366.5	61.6	1.202	Level 2, CC

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-404
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-404	**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 #2	**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.						
EXIST VERT BROWN 22-20 - Wellbore #1 - Design #1	13,100.0	7,256.5	366.5	61.6	1.202	Level 2, ES, SF
EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1	12,949.8	7,263.5	1,738.8	1,438.0	5.780	CC
EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1	13,000.0	7,263.5	1,739.6	1,437.3	5.755	ES
EXIST VERT CYPRUS 1 - Wellbore #1 - Design #1	13,200.0	7,263.5	1,756.7	1,448.9	5.707	SF
SHARON 21N-234 - ORIGINAL WELLBORE - PROPOS	366.3	367.3	45.2	43.8	32.412	CC
SHARON 21N-234 - ORIGINAL WELLBORE - PROPOS	400.0	401.0	45.2	43.6	29.238	ES
SHARON 21N-234 - ORIGINAL WELLBORE - PROPOS	14,363.6	14,221.1	681.2	308.6	1.828	SF
SHARON 21N-334 - ORIGINAL WELLBORE - PROPOS	266.0	268.0	60.1	59.2	63.610	CC
SHARON 21N-334 - ORIGINAL WELLBORE - PROPOS	300.0	302.0	60.1	59.0	54.757	ES
SHARON 21N-334 - ORIGINAL WELLBORE - PROPOS	14,363.6	14,369.1	856.1	469.2	2.213	SF
SHARON 21O-204 - ORIGINAL WELLBORE - PROPOS	700.0	700.0	14.9	12.0	5.164	CC, ES
SHARON 21O-204 - ORIGINAL WELLBORE - PROPOS	11,900.0	11,675.7	317.9	129.0	1.683	SF
SHARON 21O-214 - ORIGINAL WELLBORE - PROPOS	566.3	567.3	14.9	12.6	6.516	CC
SHARON 21O-214 - ORIGINAL WELLBORE - PROPOS	600.0	601.0	14.9	12.5	6.113	ES
SHARON 21O-214 - ORIGINAL WELLBORE - PROPOS	14,363.6	14,154.1	307.1	35.4	1.130	Level 2, SF
SHARON 21O-234 - ORIGINAL WELLBORE - PROPOS	500.0	500.0	44.8	42.8	22.483	CC
SHARON 21O-234 - ORIGINAL WELLBORE - PROPOS	600.0	599.8	45.0	42.6	18.528	ES
SHARON 21O-234 - ORIGINAL WELLBORE - PROPOS	12,000.0	11,692.6	796.0	546.0	3.184	SF
SHARON 21O-314 - ORIGINAL WELLBORE - PROPOS	466.3	467.3	30.2	28.4	16.406	CC
SHARON 21O-314 - ORIGINAL WELLBORE - PROPOS	500.0	501.0	30.2	28.2	15.161	ES
SHARON 21O-314 - ORIGINAL WELLBORE - PROPOS	14,363.6	14,294.5	461.2	83.7	1.222	Level 2, SF
SHARON 21O-334 - ORIGINAL WELLBORE - PROPOS	700.0	700.0	29.9	27.0	10.330	CC, ES
SHARON 21O-334 - ORIGINAL WELLBORE - PROPOS	12,000.0	11,797.6	514.9	264.3	2.055	SF
SE SW SEC. 21 T4N R67W 6th P.M.						
EXIST DD RYLAND 33-20D - Wellbore #1 - Wellbore #1	11,837.4	7,381.1	909.4	767.3	6.402	CC, ES
EXIST DD RYLAND 33-20D - Wellbore #1 - Wellbore #1	12,000.0	7,378.2	923.8	777.3	6.304	SF
EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1	10,575.9	7,482.0	911.9	794.1	7.737	CC
EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1	10,600.0	7,482.0	912.3	793.7	7.697	ES
EXIST DD RYLAND 43-20D - Wellbore #1 - Wellbore #1	10,800.0	7,481.9	939.1	815.0	7.572	SF
EXIST DD WALTERS #21ODU - Wellbore #1 - Wellbore	7,352.8	7,367.6	400.8	358.7	9.517	CC, ES
EXIST DD WALTERS #21ODU - Wellbore #1 - Wellbore	7,400.0	7,394.4	402.7	359.9	9.411	SF
EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore	7,842.4	7,382.7	849.3	808.7	20.914	CC, ES
EXIST DD WALTERS 23-21DU - Wellbore #1 - Wellbore	8,200.0	7,381.0	921.5	874.3	19.541	SF
EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore	0.0	0.0	901.9			
EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore	200.0	200.1	902.3	901.7	1,699.003	ES
EXIST DD WEDCO #13-21DU - Wellbore #1 - Wellbore	9,600.0	7,446.1	1,022.7	934.0	11.523	SF
EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1	116.9	105.5	753.0	752.8	3,671.182	CC
EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1	200.0	184.1	753.2	752.8	1,613.434	ES
EXIST VERT BUNYAN #1 - Wellbore #1 - Wellbore #1	9,500.0	7,200.0	1,642.4	1,578.4	25.660	SF
WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOS	1,265.4	1,417.0	1,132.5	1,125.6	164.793	CC
WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOS	12,000.0	11,802.2	1,261.4	1,003.9	4.899	ES
WALTERS 21P-314 - ORIGINAL WELLBORE - PROPOS	12,100.0	11,802.2	1,271.7	1,011.4	4.886	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	-79.93	1,102.4	-6,208.7	6,306.0				
100.0	100.0	48.0	48.0	0.1	0.0	-79.93	1,102.4	-6,208.8	6,305.9	6,305.8	0.10	N/A	

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-404
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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-404	**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 #2	**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
200.0	200.0	140.2	140.2	0.3	0.0	-79.94	1,102.1	-6,208.9	6,305.9	6,305.6	0.37	N/A	
300.0	300.0	244.1	244.1	0.5	0.2	-79.94	1,101.7	-6,209.2	6,306.2	6,305.4	0.75	8,374.225	
400.0	400.0	387.6	387.6	0.8	0.5	-79.95	1,100.6	-6,209.0	6,305.9	6,304.7	1.29	4,901.472	
500.0	500.0	499.1	499.1	1.0	0.8	-79.96	1,099.5	-6,208.4	6,305.2	6,303.5	1.75	3,604.957	
600.0	600.0	597.9	597.9	1.2	1.0	-79.96	1,098.7	-6,207.8	6,304.5	6,302.3	2.18	2,898.113	
700.0	700.0	710.0	710.0	1.4	1.2	-79.97	1,097.9	-6,207.0	6,303.6	6,301.0	2.64	2,391.848	
741.3	741.3	745.7	745.7	1.5	1.3	-126.33	1,097.5	-6,206.7	6,303.4	6,300.6	2.80	2,250.262	
800.0	800.0	800.0	800.0	1.7	1.4	-126.34	1,096.9	-6,206.4	6,303.8	6,300.8	3.04	2,070.598	
900.0	899.8	864.6	864.5	1.9	1.5	-126.33	1,096.3	-6,206.2	6,306.4	6,303.0	3.39	1,857.610	
1,000.0	999.5	1,000.0	1,000.0	2.1	1.8	-126.35	1,095.0	-6,206.0	6,311.4	6,307.5	3.90	1,617.667	
1,100.0	1,098.7	1,063.7	1,063.7	2.4	1.9	-126.30	1,094.4	-6,205.8	6,318.1	6,313.8	4.27	1,478.305	
1,200.0	1,197.5	1,179.2	1,179.1	2.7	2.2	-126.30	1,093.5	-6,205.7	6,327.3	6,322.6	4.77	1,325.328	
1,299.9	1,295.5	1,276.0	1,275.9	3.0	2.4	-126.26	1,092.6	-6,205.4	6,338.2	6,332.9	5.26	1,204.139	
1,300.0	1,295.6	1,276.1	1,276.1	3.0	2.4	-126.26	1,092.6	-6,205.4	6,338.2	6,332.9	5.26	1,203.994	
1,400.0	1,393.4	1,369.8	1,369.8	3.4	2.6	-126.41	1,091.6	-6,205.1	6,350.3	6,344.5	5.78	1,099.124	
1,500.0	1,491.3	1,447.7	1,447.6	3.7	2.7	-126.54	1,090.9	-6,205.0	6,362.5	6,356.2	6.27	1,014.358	
1,600.0	1,589.1	1,533.1	1,533.0	4.1	2.9	-126.67	1,090.6	-6,205.1	6,375.2	6,368.4	6.79	938.478	
1,700.0	1,686.9	1,636.5	1,636.5	4.5	3.1	-126.83	1,089.7	-6,205.2	6,387.7	6,380.4	7.36	868.047	
1,800.0	1,784.7	1,715.2	1,715.1	5.0	3.3	-126.96	1,089.1	-6,205.5	6,400.6	6,392.7	7.88	812.334	
1,900.0	1,882.5	1,824.5	1,824.4	5.4	3.5	-127.13	1,088.3	-6,205.8	6,413.4	6,405.0	8.47	757.601	
2,000.0	1,980.3	1,900.0	1,899.9	5.8	3.7	-127.25	1,087.8	-6,206.1	6,426.5	6,417.5	8.99	715.128	
2,100.0	2,078.1	1,989.1	1,989.0	6.2	3.9	-127.38	1,087.4	-6,206.6	6,439.8	6,430.2	9.54	675.243	
2,200.0	2,176.0	2,060.6	2,060.5	6.7	4.0	-127.49	1,087.3	-6,207.2	6,453.4	6,443.3	10.05	641.815	
2,300.0	2,273.8	2,151.3	2,151.2	7.1	4.2	-127.63	1,087.4	-6,208.2	6,467.4	6,456.8	10.61	609.380	
2,400.0	2,371.6	2,289.3	2,289.2	7.5	4.5	-127.82	1,088.2	-6,209.3	6,481.2	6,469.9	11.26	575.356	
2,500.0	2,469.4	2,416.3	2,416.3	8.0	4.8	-128.00	1,088.6	-6,209.6	6,494.3	6,482.5	11.90	545.965	
2,600.0	2,567.2	2,509.2	2,509.1	8.4	4.9	-128.14	1,089.0	-6,209.6	6,507.4	6,495.0	12.46	522.298	
2,700.0	2,665.0	2,600.0	2,599.9	8.8	5.1	-128.27	1,089.3	-6,209.6	6,520.6	6,507.5	13.02	500.807	
2,800.0	2,762.9	2,681.2	2,681.1	9.3	5.3	-128.38	1,089.7	-6,209.8	6,533.9	6,520.3	13.56	481.766	
2,900.0	2,860.7	2,774.6	2,774.5	9.7	5.5	-128.51	1,090.3	-6,210.3	6,547.6	6,533.4	14.13	463.408	
3,000.0	2,958.5	2,886.4	2,886.3	10.2	5.7	-128.66	1,091.1	-6,210.7	6,561.2	6,546.4	14.73	445.362	
3,100.0	3,056.3	2,985.6	2,985.5	10.6	5.9	-128.80	1,091.7	-6,210.9	6,574.7	6,559.4	15.31	429.422	
3,200.0	3,154.1	3,082.4	3,082.2	11.1	6.1	-128.94	1,092.0	-6,211.2	6,588.2	6,572.3	15.88	414.759	
3,300.0	3,251.9	3,175.1	3,175.0	11.5	6.3	-129.07	1,091.7	-6,211.6	6,601.9	6,585.4	16.45	401.305	
3,400.0	3,349.8	3,282.0	3,281.9	12.0	6.6	-129.22	1,091.4	-6,212.0	6,615.5	6,598.5	17.04	388.147	
3,500.0	3,447.6	3,383.1	3,383.0	12.4	6.8	-129.37	1,091.2	-6,212.3	6,629.1	6,611.5	17.62	376.125	
3,600.0	3,545.4	3,510.6	3,510.4	12.8	7.0	-129.55	1,090.5	-6,212.4	6,642.5	6,624.3	18.26	363.806	
3,700.0	3,643.2	3,621.3	3,621.1	13.3	7.3	-129.71	1,089.8	-6,212.1	6,655.6	6,636.7	18.86	352.913	
3,800.0	3,741.0	3,706.6	3,706.4	13.7	7.5	-129.84	1,088.9	-6,211.9	6,668.7	6,649.3	19.41	343.588	
3,900.0	3,838.8	3,800.0	3,799.9	14.2	7.7	-129.97	1,087.9	-6,211.8	6,682.1	6,662.1	19.97	334.530	
4,000.0	3,936.6	3,890.8	3,890.7	14.6	7.9	-130.11	1,086.7	-6,211.9	6,695.5	6,675.0	20.53	326.056	
4,100.0	4,034.5	3,984.3	3,984.1	15.1	8.1	-130.25	1,085.4	-6,212.0	6,709.1	6,688.0	21.10	317.948	
4,200.0	4,132.3	4,068.1	4,067.9	15.5	8.2	-130.37	1,084.1	-6,212.2	6,722.8	6,701.1	21.65	310.554	
4,300.0	4,230.1	4,167.2	4,167.0	16.0	8.4	-130.52	1,082.5	-6,212.6	6,736.7	6,714.5	22.22	303.168	
4,400.0	4,327.9	4,251.3	4,251.1	16.4	8.6	-130.65	1,081.2	-6,212.9	6,750.7	6,727.9	22.76	296.587	
4,500.0	4,425.7	4,334.9	4,334.7	16.9	8.8	-130.77	1,080.3	-6,213.5	6,764.9	6,741.6	23.30	290.340	
4,600.0	4,523.5	4,487.8	4,487.6	17.3	9.1	-130.99	1,078.6	-6,214.1	6,779.1	6,755.2	23.98	282.740	
4,700.0	4,621.4	4,608.6	4,608.4	17.8	9.4	-131.16	1,076.9	-6,213.8	6,792.5	6,768.0	24.59	276.265	
4,800.0	4,719.2	4,691.4	4,691.2	18.2	9.5	-131.28	1,076.1	-6,213.5	6,806.0	6,780.9	25.12	270.924	
4,900.0	4,817.0	4,792.6	4,792.4	18.7	9.7	-131.42	1,075.2	-6,213.2	6,819.6	6,793.9	25.69	265.427	
5,000.0	4,914.8	4,870.5	4,870.3	19.1	9.9	-131.53	1,074.6	-6,213.1	6,833.3	6,807.0	26.22	260.611	
5,100.0	5,012.6	5,000.0	4,999.8	19.6	10.2	-131.71	1,073.2	-6,212.9	6,847.1	6,820.2	26.85	255.041	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,200.0	5,110.4	5,074.8	5,074.6	20.0	10.3	-131.82	1,072.3	-6,212.7	6,860.7	6,833.3	27.37	250.685	
5,221.3	5,131.3	5,100.0	5,099.8	20.1	10.4	-131.85	1,071.9	-6,212.7	6,863.7	6,836.2	27.50	249.619	
5,300.0	5,208.5	5,142.7	5,142.5	20.4	10.5	-132.06	1,071.4	-6,212.8	6,874.0	6,846.2	27.84	246.913	
5,400.0	5,307.1	5,217.6	5,217.3	20.7	10.6	-132.32	1,070.5	-6,213.2	6,885.6	6,857.3	28.25	243.721	
5,500.0	5,406.3	5,346.3	5,346.0	21.0	10.9	-132.57	1,068.6	-6,213.7	6,894.7	6,865.9	28.74	239.910	
5,600.0	5,505.8	5,458.3	5,458.0	21.2	11.1	-132.74	1,067.4	-6,213.9	6,901.2	6,872.0	29.16	236.669	
5,700.0	5,605.6	5,534.1	5,533.8	21.4	11.3	-132.84	1,066.4	-6,213.9	6,905.3	6,875.8	29.47	234.281	
5,800.0	5,705.6	5,600.0	5,599.7	21.5	11.4	-132.89	1,065.7	-6,214.5	6,907.6	6,877.9	29.73	232.308	
5,821.2	5,726.8	5,600.0	5,599.7	21.5	11.4	-86.54	1,065.7	-6,214.5	6,907.9	6,878.5	29.44	234.608	
5,900.0	5,805.6	5,700.0	5,699.7	21.6	11.7	-86.55	1,065.1	-6,215.5	6,908.6	6,878.9	29.76	232.144	
6,000.0	5,905.6	5,781.7	5,781.4	21.7	11.8	-86.55	1,064.6	-6,216.3	6,909.6	6,879.5	30.09	229.661	
6,100.0	6,005.6	5,845.2	5,844.9	21.9	12.0	-86.56	1,063.5	-6,217.2	6,910.9	6,880.5	30.38	227.505	
6,200.0	6,105.6	6,017.4	6,017.1	22.0	12.3	-86.58	1,061.0	-6,219.7	6,912.5	6,881.6	30.90	223.716	
6,300.0	6,205.6	6,100.0	6,099.6	22.1	12.5	-86.58	1,060.9	-6,220.4	6,913.3	6,882.1	31.23	221.374	
6,400.0	6,305.6	6,147.3	6,146.9	22.3	12.6	-86.59	1,060.7	-6,221.1	6,914.6	6,883.1	31.49	219.592	
6,500.0	6,405.6	6,216.3	6,215.9	22.4	12.7	-86.59	1,060.6	-6,222.4	6,916.5	6,884.7	31.79	217.539	
6,600.0	6,505.6	6,427.8	6,427.4	22.5	13.2	-86.59	1,061.1	-6,224.9	6,917.6	6,885.2	32.40	213.531	
6,684.2	6,589.8	6,500.7	6,500.3	22.6	13.3	-86.58	1,061.4	-6,225.2	6,918.0	6,885.4	32.68	211.659	
6,700.0	6,605.6	6,533.8	6,533.4	22.7	13.4	3.42	1,061.6	-6,225.4	6,917.9	6,885.0	32.98	209.752	
6,750.0	6,655.5	6,600.0	6,599.6	22.7	13.5	3.44	1,061.8	-6,225.4	6,915.1	6,882.1	33.01	209.505	
6,800.0	6,705.1	6,647.1	6,646.7	22.7	13.6	3.47	1,061.9	-6,225.4	6,908.8	6,875.9	32.86	210.252	
6,850.0	6,754.1	6,681.1	6,680.7	22.7	13.7	3.52	1,062.0	-6,225.5	6,899.2	6,866.6	32.55	211.926	
6,900.0	6,802.3	6,721.8	6,721.4	22.7	13.8	3.60	1,062.2	-6,225.6	6,886.2	6,854.1	32.14	214.278	
6,950.0	6,849.5	6,770.5	6,770.1	22.6	13.9	3.69	1,062.2	-6,225.9	6,870.0	6,838.4	31.61	217.305	
7,000.0	6,895.5	6,800.0	6,799.6	22.5	14.0	3.81	1,062.0	-6,226.0	6,850.5	6,819.6	30.94	221.429	
7,050.0	6,939.9	6,800.0	6,799.6	22.4	14.0	3.94	1,062.0	-6,226.0	6,828.1	6,798.0	30.10	226.881	
7,100.0	6,982.6	6,800.0	6,799.6	22.3	14.0	4.11	1,062.0	-6,226.0	6,802.9	6,773.7	29.16	233.298	
7,150.0	7,023.4	6,800.0	6,799.6	22.2	14.0	4.31	1,062.0	-6,226.0	6,775.0	6,746.9	28.14	240.735	
7,200.0	7,062.2	6,800.0	6,799.6	22.1	14.0	4.54	1,062.0	-6,226.0	6,744.6	6,717.5	27.06	249.232	
7,250.0	7,098.6	6,800.0	6,799.6	22.0	14.0	4.83	1,062.0	-6,226.0	6,711.6	6,685.7	25.93	258.804	
7,300.0	7,132.5	6,800.0	6,799.6	21.9	14.0	5.18	1,062.0	-6,226.0	6,676.4	6,651.6	24.78	269.411	
7,350.0	7,163.8	6,800.0	6,799.6	21.8	14.0	5.60	1,062.0	-6,226.0	6,638.9	6,615.3	23.63	280.915	
7,400.0	7,192.2	6,800.0	6,799.6	21.7	14.0	6.13	1,062.0	-6,226.0	6,599.4	6,576.8	22.52	293.014	
7,450.0	7,217.8	6,800.0	6,799.6	21.6	14.0	6.80	1,062.0	-6,226.0	6,557.9	6,536.4	21.49	305.149	
7,500.0	7,240.3	6,800.0	6,799.6	21.6	14.0	7.66	1,062.0	-6,226.0	6,514.8	6,494.2	20.59	316.377	
7,550.0	7,259.6	6,800.0	6,799.6	21.6	14.0	8.81	1,062.0	-6,226.0	6,470.0	6,450.1	19.89	325.241	
7,600.0	7,275.7	6,800.0	6,799.6	21.6	14.0	10.40	1,062.0	-6,226.0	6,423.9	6,404.4	19.49	329.636	
7,650.0	7,288.4	6,800.0	6,799.6	21.8	14.0	12.73	1,062.0	-6,226.0	6,376.7	6,357.1	19.52	326.694	
7,700.0	7,297.7	6,800.0	6,799.6	22.0	14.0	16.44	1,062.0	-6,226.0	6,328.4	6,308.2	20.25	312.499	
7,750.0	7,303.6	6,800.0	6,799.6	22.4	14.0	23.09	1,062.0	-6,226.0	6,279.4	6,257.1	22.32	281.340	
7,800.0	7,305.9	6,800.0	6,799.6	22.9	14.0	37.59	1,062.0	-6,226.0	6,229.9	6,202.4	27.52	226.351	
7,809.2	7,306.0	6,800.0	6,799.6	23.0	14.0	42.11	1,062.0	-6,226.0	6,220.8	6,191.7	29.09	213.837	
7,900.0	7,306.0	6,800.0	6,799.6	24.3	14.0	42.11	1,062.0	-6,226.0	6,130.4	6,100.3	30.07	203.854	
8,000.0	7,306.0	6,800.0	6,799.6	26.0	14.0	42.11	1,062.0	-6,226.0	6,030.9	5,999.6	31.28	192.809	
8,100.0	7,306.0	6,800.0	6,799.6	27.9	14.0	42.11	1,062.0	-6,226.0	5,931.5	5,898.9	32.60	181.967	
8,200.0	7,306.0	6,800.0	6,799.6	30.0	14.0	42.11	1,062.0	-6,226.0	5,832.0	5,798.0	34.01	171.504	
8,300.0	7,306.0	6,800.0	6,799.6	32.2	14.0	42.11	1,062.0	-6,226.0	5,732.6	5,697.1	35.49	161.527	
8,400.0	7,306.0	6,800.0	6,799.6	34.4	14.0	42.11	1,062.0	-6,226.0	5,633.2	5,596.1	37.04	152.093	
8,500.0	7,306.0	6,800.0	6,799.6	36.8	14.0	42.11	1,062.0	-6,226.0	5,533.8	5,495.1	38.64	143.221	
8,600.0	7,306.0	6,800.0	6,799.6	39.2	14.0	42.11	1,062.0	-6,226.0	5,434.4	5,394.1	40.28	134.907	
8,700.0	7,306.0	6,800.0	6,799.6	41.7	14.0	42.11	1,062.0	-6,226.0	5,335.1	5,293.1	41.96	127.134	
8,800.0	7,306.0	6,800.0	6,799.6	44.1	14.0	42.11	1,062.0	-6,226.0	5,235.7	5,192.1	43.68	119.874	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,900.0	7,306.0	6,800.0	6,799.6	46.7	14.0	42.11	1,062.0	-6,226.0	5,136.5	5,091.0	45.42	113.097	
9,000.0	7,306.0	6,800.0	6,799.6	49.2	14.0	42.11	1,062.0	-6,226.0	5,037.2	4,990.0	47.18	106.768	
9,100.0	7,306.0	6,800.0	6,799.6	51.8	14.0	42.11	1,062.0	-6,226.0	4,938.0	4,889.0	48.96	100.855	
9,200.0	7,306.0	6,800.0	6,799.6	54.4	14.0	42.11	1,062.0	-6,226.0	4,838.8	4,788.0	50.76	95.325	
9,300.0	7,306.0	6,800.0	6,799.6	57.1	14.0	42.11	1,062.0	-6,226.0	4,739.6	4,687.0	52.57	90.150	
9,400.0	7,306.0	6,800.0	6,799.6	59.7	14.0	42.11	1,062.0	-6,226.0	4,640.4	4,586.0	54.40	85.300	
9,500.0	7,306.0	6,800.0	6,799.6	62.4	14.0	42.11	1,062.0	-6,226.0	4,541.4	4,485.1	56.24	80.749	
9,600.0	7,306.0	6,800.0	6,799.6	65.0	14.0	42.11	1,062.0	-6,226.0	4,442.3	4,384.2	58.09	76.474	
9,700.0	7,306.0	6,800.0	6,799.6	67.7	14.0	42.11	1,062.0	-6,226.0	4,343.3	4,283.3	59.95	72.453	
9,800.0	7,306.0	6,800.0	6,799.6	70.4	14.0	42.11	1,062.0	-6,226.0	4,244.3	4,182.5	61.81	68.665	
9,900.0	7,306.0	6,800.0	6,799.6	73.1	14.0	42.11	1,062.0	-6,226.0	4,145.4	4,081.7	63.68	65.092	
10,000.0	7,306.0	6,800.0	6,799.6	75.8	14.0	42.11	1,062.0	-6,226.0	4,046.5	3,981.0	65.56	61.719	
10,100.0	7,306.0	6,800.0	6,799.6	78.5	14.0	42.11	1,062.0	-6,226.0	3,947.7	3,880.3	67.45	58.529	
10,200.0	7,306.0	6,800.0	6,799.6	81.2	14.0	42.11	1,062.0	-6,226.0	3,849.0	3,779.7	69.34	55.509	
10,300.0	7,306.0	6,800.0	6,799.6	84.0	14.0	42.11	1,062.0	-6,226.0	3,750.3	3,679.1	71.23	52.648	
10,400.0	7,306.0	6,800.0	6,799.6	86.7	14.0	42.11	1,062.0	-6,226.0	3,651.7	3,578.6	73.13	49.932	
10,500.0	7,306.0	6,800.0	6,799.6	89.4	14.0	42.11	1,062.0	-6,226.0	3,553.2	3,478.1	75.04	47.353	
10,600.0	7,306.0	6,800.0	6,799.6	92.2	14.0	42.11	1,062.0	-6,226.0	3,454.7	3,377.8	76.94	44.900	
10,700.0	7,306.0	6,800.0	6,799.6	94.9	14.0	42.11	1,062.0	-6,226.0	3,356.4	3,277.5	78.85	42.565	
10,800.0	7,306.0	6,800.0	6,799.6	97.6	14.0	42.11	1,062.0	-6,226.0	3,258.1	3,177.4	80.77	40.340	
10,900.0	7,306.0	6,800.0	6,799.6	100.4	14.0	42.11	1,062.0	-6,226.0	3,160.0	3,077.3	82.68	38.219	
11,000.0	7,306.0	6,800.0	6,799.6	103.2	14.0	42.11	1,062.0	-6,226.0	3,062.0	2,977.4	84.60	36.193	
11,100.0	7,306.0	6,800.0	6,799.6	105.9	14.0	42.11	1,062.0	-6,226.0	2,964.1	2,877.6	86.52	34.259	
11,200.0	7,306.0	6,800.0	6,799.6	108.7	14.0	42.11	1,062.0	-6,226.0	2,866.3	2,777.9	88.44	32.409	
11,300.0	7,306.0	6,800.0	6,799.6	111.4	14.0	42.11	1,062.0	-6,226.0	2,768.8	2,678.4	90.37	30.639	
11,400.0	7,306.0	6,800.0	6,799.6	114.2	14.0	42.11	1,062.0	-6,226.0	2,671.4	2,579.1	92.30	28.944	
11,500.0	7,306.0	6,800.0	6,799.6	117.0	14.0	42.11	1,062.0	-6,226.0	2,574.2	2,479.9	94.22	27.320	
11,600.0	7,306.0	6,800.0	6,799.6	119.7	14.0	42.11	1,062.0	-6,226.0	2,477.2	2,381.0	96.15	25.763	
11,700.0	7,306.0	6,800.0	6,799.6	122.5	14.0	42.11	1,062.0	-6,226.0	2,380.5	2,282.4	98.09	24.269	
11,800.0	7,306.0	6,800.0	6,799.6	125.3	14.0	42.11	1,062.0	-6,226.0	2,284.0	2,184.0	100.02	22.836	
11,900.0	7,306.0	6,800.0	6,799.6	128.0	14.0	42.11	1,062.0	-6,226.0	2,187.9	2,085.9	101.95	21.460	
12,000.0	7,306.0	6,800.0	6,799.6	130.8	14.0	42.11	1,062.0	-6,226.0	2,092.1	1,988.2	103.89	20.138	
12,100.0	7,306.0	6,800.0	6,799.6	133.6	14.0	42.11	1,062.0	-6,226.0	1,996.8	1,890.9	105.83	18.868	
12,200.0	7,306.0	6,800.0	6,799.6	136.4	14.0	42.11	1,062.0	-6,226.0	1,901.9	1,794.1	107.76	17.649	
12,300.0	7,306.0	6,800.0	6,799.6	139.1	14.0	42.11	1,062.0	-6,226.0	1,807.6	1,697.9	109.70	16.477	
12,400.0	7,306.0	6,800.0	6,799.6	141.9	14.0	42.11	1,062.0	-6,226.0	1,713.9	1,602.2	111.64	15.351	
12,500.0	7,306.0	6,800.0	6,799.6	144.7	14.0	42.11	1,062.0	-6,226.0	1,621.0	1,507.4	113.58	14.271	
12,600.0	7,306.0	6,800.0	6,799.6	147.5	14.0	42.11	1,062.0	-6,226.0	1,528.9	1,413.4	115.53	13.235	
12,700.0	7,306.0	6,800.0	6,799.6	150.3	14.0	42.11	1,062.0	-6,226.0	1,438.0	1,320.5	117.47	12.241	
12,800.0	7,306.0	6,800.0	6,799.6	153.0	14.0	42.11	1,062.0	-6,226.0	1,348.3	1,228.9	119.41	11.291	
12,900.0	7,306.0	6,800.0	6,799.6	155.8	14.0	42.11	1,062.0	-6,226.0	1,260.2	1,138.8	121.36	10.384	
13,000.0	7,306.0	6,800.0	6,799.6	158.6	14.0	42.11	1,062.0	-6,226.0	1,173.9	1,050.6	123.30	9.521	
13,100.0	7,306.0	6,800.0	6,799.6	161.4	14.0	42.11	1,062.0	-6,226.0	1,090.1	964.8	125.25	8.703	
13,200.0	7,306.0	6,800.0	6,799.6	164.2	14.0	42.11	1,062.0	-6,226.0	1,009.1	882.0	127.19	7.934	
13,300.0	7,306.0	6,800.0	6,799.6	167.0	14.0	42.11	1,062.0	-6,226.0	931.9	802.8	129.14	7.217	
13,400.0	7,306.0	6,800.0	6,799.6	169.8	14.0	42.11	1,062.0	-6,226.0	859.4	728.3	131.09	6.556	
13,500.0	7,306.0	6,800.0	6,799.6	172.6	14.0	42.11	1,062.0	-6,226.0	792.9	659.9	133.03	5.960	
13,600.0	7,306.0	6,800.0	6,799.6	175.3	14.0	42.11	1,062.0	-6,226.0	734.1	599.1	134.98	5.438	
13,700.0	7,306.0	6,800.0	6,799.6	178.1	14.0	42.11	1,062.0	-6,226.0	684.8	547.9	136.93	5.001	
13,800.0	7,306.0	6,800.0	6,799.6	180.9	14.0	42.11	1,062.0	-6,226.0	647.4	508.5	138.88	4.661	
13,900.0	7,306.0	6,800.0	6,799.6	183.7	14.0	42.11	1,062.0	-6,226.0	623.9	483.0	140.83	4.430	
13,999.4	7,306.0	6,800.0	6,799.6	186.5	14.0	42.11	1,062.0	-6,226.0	615.9	473.1	142.77	4.314	CC

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-404
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-404	**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 #2	**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
14,000.0	7,306.0	6,800.0	6,799.6	186.5	14.0	42.11	1,062.0	-6,226.0	615.9	473.1	142.78	4.314	ES
14,100.0	7,306.0	6,800.0	6,799.6	189.3	14.0	42.11	1,062.0	-6,226.0	624.1	479.3	144.73	4.312	SF
14,200.0	7,306.0	6,800.0	6,799.6	192.1	14.0	42.11	1,062.0	-6,226.0	647.8	501.1	146.68	4.416	
14,300.0	7,306.0	6,800.0	6,799.6	194.9	14.0	42.11	1,062.0	-6,226.0	685.4	536.7	148.63	4.611	
14,363.6	7,306.0	6,800.0	6,799.6	196.7	14.0	42.11	1,062.0	-6,226.0	715.5	565.7	149.88	4.774	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-72.33	1,592.5	-4,999.5	5,247.1				
100.0	100.0	61.9	61.9	0.1	0.1	-72.33	1,592.5	-4,999.5	5,247.0	5,246.8	0.15	N/A	
200.0	200.0	159.4	159.4	0.3	0.1	-72.33	1,592.4	-4,999.6	5,247.0	5,246.6	0.46	N/A	
300.0	300.0	257.0	257.0	0.5	0.2	-72.34	1,592.1	-4,999.8	5,247.1	5,246.4	0.78	6,764.669	
400.0	400.0	354.5	354.5	0.8	0.3	-72.34	1,591.7	-5,000.0	5,247.3	5,246.2	1.09	4,825.930	
500.0	500.0	452.0	452.0	1.0	0.4	-72.35	1,591.2	-5,000.4	5,247.5	5,246.1	1.40	3,751.010	
600.0	600.0	550.1	550.1	1.2	0.5	-72.36	1,590.5	-5,000.9	5,247.7	5,246.0	1.72	3,056.888	
700.0	700.0	654.9	654.9	1.4	0.7	-72.36	1,590.1	-5,001.2	5,247.9	5,245.7	2.15	2,439.972	
800.0	800.0	732.0	732.0	1.7	0.9	-118.71	1,589.6	-5,001.6	5,249.1	5,246.5	2.53	2,074.319	
900.0	899.8	807.6	807.6	1.9	1.0	-118.70	1,589.3	-5,002.3	5,252.4	5,249.4	2.91	1,804.008	
1,000.0	999.5	907.8	907.8	2.1	1.2	-118.69	1,589.3	-5,003.5	5,257.7	5,254.3	3.35	1,569.019	
1,100.0	1,098.7	960.4	960.4	2.4	1.3	-118.63	1,589.2	-5,004.3	5,265.0	5,261.3	3.71	1,418.901	
1,200.0	1,197.5	1,012.0	1,012.0	2.7	1.5	-118.53	1,589.2	-5,005.6	5,275.0	5,270.9	4.09	1,288.419	
1,299.9	1,295.5	1,048.0	1,047.9	3.0	1.5	-118.38	1,589.3	-5,006.9	5,287.7	5,283.2	4.48	1,180.320	
1,300.0	1,295.6	1,048.0	1,048.0	3.0	1.5	-118.38	1,589.3	-5,006.9	5,287.7	5,283.2	4.48	1,180.179	
1,400.0	1,393.4	1,106.0	1,105.9	3.4	1.7	-118.50	1,589.6	-5,009.7	5,302.4	5,297.5	4.94	1,072.660	
1,500.0	1,491.3	1,106.0	1,105.9	3.7	1.7	-118.50	1,589.6	-5,009.7	5,318.2	5,312.9	5.29	1,004.585	
1,600.0	1,589.1	1,158.2	1,158.0	4.1	1.8	-118.61	1,590.2	-5,013.1	5,335.1	5,329.3	5.78	923.798	
1,700.0	1,686.9	1,199.0	1,198.6	4.5	1.9	-118.69	1,590.8	-5,016.3	5,353.3	5,347.0	6.24	857.981	
1,800.0	1,784.7	1,230.6	1,230.1	5.0	2.0	-118.76	1,591.3	-5,019.2	5,372.6	5,365.9	6.69	803.015	
1,900.0	1,882.5	1,293.0	1,292.1	5.4	2.1	-118.89	1,592.3	-5,025.7	5,393.1	5,385.9	7.22	747.238	
2,000.0	1,980.3	1,293.0	1,292.1	5.8	2.1	-118.89	1,592.3	-5,025.7	5,414.6	5,407.0	7.61	711.932	
2,100.0	2,078.1	1,348.4	1,347.1	6.2	2.3	-119.01	1,593.3	-5,032.3	5,437.0	5,428.9	8.12	669.269	
2,200.0	2,176.0	1,386.0	1,384.4	6.7	2.4	-119.09	1,594.1	-5,037.3	5,460.7	5,452.1	8.60	634.677	
2,300.0	2,273.8	1,386.0	1,384.4	7.1	2.4	-119.09	1,594.1	-5,037.3	5,485.7	5,476.7	9.00	609.522	
2,400.0	2,371.6	1,443.7	1,441.4	7.5	2.5	-119.21	1,595.6	-5,045.9	5,511.4	5,501.9	9.53	578.257	
2,500.0	2,469.4	1,480.0	1,477.2	8.0	2.7	-119.29	1,597.1	-5,051.9	5,538.6	5,528.6	10.02	553.003	
2,600.0	2,567.2	1,480.0	1,477.2	8.4	2.7	-119.29	1,597.1	-5,051.9	5,567.1	5,556.6	10.42	534.470	
2,700.0	2,665.0	1,543.4	1,539.5	8.8	2.9	-119.41	1,599.9	-5,063.3	5,596.2	5,585.3	10.97	510.261	
2,800.0	2,762.9	1,573.0	1,568.5	9.3	3.0	-119.47	1,601.3	-5,069.0	5,626.6	5,615.2	11.44	491.931	
2,900.0	2,860.7	1,607.5	1,602.3	9.7	3.1	-119.54	1,603.1	-5,076.0	5,658.0	5,646.1	11.92	474.513	
3,000.0	2,958.5	1,667.0	1,660.2	10.2	3.3	-119.66	1,606.2	-5,089.2	5,690.9	5,678.4	12.47	456.421	
3,100.0	3,056.3	1,667.0	1,660.2	10.6	3.3	-119.66	1,606.2	-5,089.2	5,724.3	5,711.4	12.87	444.687	
3,200.0	3,154.1	1,727.8	1,719.2	11.1	3.6	-119.78	1,609.5	-5,103.4	5,758.7	5,745.3	13.42	429.098	
3,300.0	3,251.9	1,790.1	1,779.6	11.5	3.9	-119.91	1,612.6	-5,118.4	5,793.7	5,779.7	13.97	414.708	
3,400.0	3,349.8	1,854.0	1,841.4	12.0	4.2	-120.04	1,615.7	-5,134.1	5,829.3	5,814.7	14.52	401.362	
3,500.0	3,447.6	1,854.0	1,841.4	12.4	4.2	-120.04	1,615.7	-5,134.1	5,865.7	5,850.8	14.93	392.914	
3,600.0	3,545.4	1,907.5	1,893.0	12.8	4.5	-120.15	1,618.3	-5,148.0	5,902.9	5,887.4	15.46	381.722	
3,700.0	3,643.2	1,948.0	1,931.9	13.3	4.7	-120.23	1,620.4	-5,159.2	5,941.3	5,925.4	15.97	372.024	
3,800.0	3,741.0	2,081.5	2,060.1	13.7	5.3	-120.51	1,626.7	-5,196.0	5,979.8	5,963.1	16.68	358.583	
3,900.0	3,838.8	2,159.7	2,135.3	14.2	5.7	-120.67	1,630.1	-5,217.3	6,018.0	6,000.8	17.26	348.731	
4,000.0	3,936.6	2,228.0	2,200.9	14.6	6.1	-120.81	1,633.5	-5,235.9	6,056.5	6,038.6	17.82	339.867	
4,100.0	4,034.5	2,290.7	2,261.1	15.1	6.4	-120.93	1,636.7	-5,253.3	6,095.3	6,076.9	18.37	331.749	
4,200.0	4,132.3	2,361.0	2,328.3	15.5	6.8	-121.08	1,640.0	-5,273.3	6,134.7	6,115.8	18.94	323.866	
4,300.0	4,230.1	2,415.0	2,380.1	16.0	7.1	-121.18	1,642.5	-5,288.6	6,174.4	6,154.9	19.47	317.088	
4,400.0	4,327.9	2,473.4	2,435.9	16.4	7.4	-121.30	1,645.6	-5,305.4	6,214.5	6,194.5	20.01	310.539	
4,500.0	4,425.7	2,509.0	2,469.8	16.9	7.6	-121.36	1,648.0	-5,315.9	6,255.5	6,235.0	20.50	305.162	
4,600.0	4,523.5	2,575.9	2,533.4	17.3	8.0	-121.48	1,652.7	-5,336.0	6,297.1	6,276.0	21.07	298.851	
4,700.0	4,621.4	2,790.0	2,737.5	17.8	9.2	-121.85	1,666.9	-5,399.3	6,338.5	6,316.5	21.97	288.476	
4,800.0	4,719.2	2,860.4	2,804.8	18.2	9.6	-121.98	1,670.9	-5,419.5	6,378.7	6,356.2	22.54	282.970	
4,900.0	4,817.0	3,062.8	2,998.9	18.7	10.7	-122.34	1,682.1	-5,476.1	6,418.1	6,394.7	23.41	274.118	
5,000.0	4,914.8	3,133.3	3,066.5	19.1	11.1	-122.46	1,685.6	-5,495.4	6,457.1	6,433.2	23.98	269.235	

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-404
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-404	**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 #2	**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
5,100.0	5,012.6	3,227.7	3,157.1	19.6	11.6	-122.62	1,691.0	-5,521.4	6,496.4	6,471.8	24.61	263.983	
5,200.0	5,110.4	3,376.7	3,300.4	20.0	12.4	-122.87	1,698.6	-5,561.7	6,535.1	6,509.7	25.36	257.712	
5,221.3	5,131.3	3,392.7	3,315.7	20.1	12.5	-122.90	1,699.3	-5,566.0	6,543.3	6,517.8	25.48	256.784	
5,300.0	5,208.5	3,453.4	3,374.2	20.4	12.8	-123.54	1,701.5	-5,582.4	6,573.1	6,547.2	25.86	254.159	
5,400.0	5,307.1	3,554.2	3,471.1	20.7	13.4	-124.33	1,705.8	-5,609.6	6,609.4	6,583.0	26.34	250.896	
5,500.0	5,406.3	5,393.6	5,279.4	21.0	19.5	-126.39	1,756.6	-5,871.3	6,634.5	6,604.1	30.44	217.985	
5,600.0	5,505.8	5,463.4	5,349.2	21.2	19.6	-126.56	1,755.8	-5,872.5	6,641.7	6,610.9	30.80	215.635	
5,700.0	5,605.6	5,556.6	5,442.4	21.4	19.7	-126.70	1,754.9	-5,874.5	6,647.3	6,616.1	31.17	213.239	
5,800.0	5,705.6	5,690.0	5,575.7	21.5	19.9	-126.78	1,754.0	-5,876.9	6,650.4	6,618.8	31.58	210.568	
5,821.2	5,726.8	5,690.0	5,575.7	21.5	19.9	-80.43	1,754.0	-5,876.9	6,650.8	6,613.6	37.12	179.174	
5,900.0	5,805.6	5,752.0	5,637.8	21.6	20.0	-80.44	1,754.1	-5,878.0	6,652.1	6,614.8	37.32	178.247	
6,000.0	5,905.6	5,839.8	5,725.5	21.7	20.1	-80.44	1,754.5	-5,879.8	6,654.3	6,616.7	37.61	176.940	
6,100.0	6,005.6	5,930.9	5,816.6	21.9	20.3	-80.43	1,754.9	-5,881.8	6,656.5	6,618.5	37.91	175.608	
6,200.0	6,105.6	6,019.3	5,904.9	22.0	20.4	-80.43	1,755.2	-5,883.9	6,658.9	6,620.7	38.20	174.299	
6,300.0	6,205.6	6,251.0	6,136.6	22.1	20.7	-80.45	1,754.0	-5,886.9	6,659.7	6,621.0	38.69	172.130	
6,400.0	6,305.6	6,322.6	6,208.2	22.3	20.8	-80.45	1,753.9	-5,887.5	6,660.4	6,621.5	38.95	170.989	
6,500.0	6,405.6	6,396.8	6,282.4	22.4	20.9	-80.45	1,754.2	-5,888.2	6,661.5	6,622.3	39.22	169.836	
6,600.0	6,505.6	6,476.1	6,361.7	22.5	21.0	-80.45	1,754.5	-5,889.4	6,663.0	6,623.5	39.51	168.654	
6,684.2	6,589.8	6,550.2	6,435.8	22.6	21.1	-80.45	1,754.5	-5,890.7	6,664.4	6,624.7	39.76	167.610	
6,700.0	6,605.6	6,562.5	6,448.1	22.7	21.2	9.55	1,754.5	-5,890.9	6,664.5	6,630.0	34.54	192.960	
6,750.0	6,655.5	6,601.3	6,486.9	22.7	21.2	9.57	1,754.5	-5,891.6	6,662.7	6,628.0	34.65	192.313	
6,800.0	6,705.1	6,645.4	6,531.0	22.7	21.3	9.65	1,754.6	-5,892.5	6,657.5	6,622.8	34.63	192.268	
6,850.0	6,754.1	6,698.7	6,584.2	22.7	21.4	9.78	1,754.5	-5,893.6	6,648.8	6,614.4	34.49	192.771	
6,900.0	6,802.3	6,762.5	6,648.0	22.7	21.5	9.98	1,754.3	-5,894.9	6,636.8	6,602.6	34.25	193.798	
6,950.0	6,849.5	6,823.6	6,709.2	22.6	21.6	10.23	1,754.0	-5,896.0	6,621.3	6,587.4	33.87	195.480	
7,000.0	6,895.5	6,861.8	6,747.3	22.5	21.6	10.55	1,753.8	-5,896.6	6,602.6	6,569.3	33.34	198.050	
7,050.0	6,939.9	6,898.7	6,784.3	22.4	21.7	10.94	1,753.7	-5,897.3	6,580.8	6,548.1	32.70	201.261	
7,100.0	6,982.6	6,937.5	6,823.0	22.3	21.7	11.42	1,753.6	-5,898.1	6,556.0	6,524.0	31.97	205.054	
7,150.0	7,023.4	6,975.6	6,861.1	22.2	21.8	12.00	1,753.5	-5,898.8	6,528.4	6,497.2	31.17	209.416	
7,200.0	7,062.2	7,010.3	6,895.8	22.1	21.8	12.71	1,753.3	-5,899.5	6,497.9	6,467.6	30.32	214.296	
7,250.0	7,098.6	7,040.3	6,925.8	22.0	21.9	13.56	1,753.1	-5,900.2	6,464.9	6,435.5	29.44	219.563	
7,300.0	7,132.5	7,068.3	6,953.8	21.9	21.9	14.59	1,752.9	-5,900.9	6,429.5	6,400.9	28.59	224.912	
7,350.0	7,163.8	7,093.0	6,978.5	21.8	22.0	15.86	1,752.6	-5,901.5	6,391.8	6,364.0	27.80	229.931	
7,400.0	7,192.2	7,116.3	7,001.7	21.7	22.0	17.44	1,752.4	-5,902.1	6,352.0	6,324.9	27.16	233.885	
7,450.0	7,217.8	7,136.2	7,021.6	21.6	22.0	19.44	1,752.2	-5,902.6	6,310.4	6,283.6	26.76	235.811	
7,500.0	7,240.3	7,153.9	7,039.3	21.6	22.1	22.00	1,752.0	-5,903.1	6,267.0	6,240.3	26.74	234.348	
7,550.0	7,259.6	7,169.3	7,054.7	21.6	22.1	25.38	1,751.8	-5,903.5	6,222.2	6,194.9	27.29	227.994	
7,600.0	7,275.7	7,187.0	7,072.4	21.6	22.1	30.01	1,751.7	-5,904.1	6,176.0	6,147.3	28.68	215.308	
7,650.0	7,288.4	7,220.2	7,105.7	21.8	22.2	36.84	1,751.4	-5,905.0	6,128.8	6,097.4	31.38	195.313	
7,700.0	7,297.7	7,263.1	7,148.6	22.0	22.3	47.23	1,751.1	-5,906.0	6,080.7	6,045.0	35.73	170.199	
7,750.0	7,303.6	7,284.2	7,169.6	22.4	22.3	61.97	1,750.9	-5,906.4	6,032.0	5,991.1	40.97	147.241	
7,800.0	7,305.9	7,289.5	7,174.9	22.9	22.3	81.22	1,750.9	-5,906.5	5,983.0	5,938.2	44.80	133.561	
7,809.2	7,306.0	7,289.8	7,175.2	23.0	22.3	85.11	1,750.9	-5,906.5	5,973.9	5,928.9	45.08	132.533	
7,900.0	7,306.0	7,292.3	7,177.7	24.3	22.3	85.24	1,750.9	-5,906.5	5,884.7	5,838.3	46.46	126.660	
8,000.0	7,306.0	7,295.0	7,180.4	26.0	22.3	85.38	1,750.8	-5,906.6	5,786.5	5,738.4	48.19	120.078	
8,100.0	7,306.0	7,297.6	7,183.0	27.9	22.3	85.51	1,750.8	-5,906.6	5,688.4	5,638.3	50.09	113.555	
8,200.0	7,306.0	7,300.1	7,185.5	30.0	22.3	85.64	1,750.8	-5,906.6	5,590.4	5,538.2	52.14	107.218	
8,300.0	7,306.0	7,302.6	7,188.0	32.2	22.3	85.77	1,750.8	-5,906.7	5,492.4	5,438.1	54.30	101.146	
8,400.0	7,306.0	7,305.0	7,190.4	34.4	22.3	85.90	1,750.8	-5,906.7	5,394.4	5,337.9	56.56	95.382	
8,500.0	7,306.0	7,307.4	7,192.8	36.8	22.3	86.02	1,750.8	-5,906.8	5,296.6	5,237.7	58.89	89.944	
8,600.0	7,306.0	7,309.7	7,195.1	39.2	22.3	86.14	1,750.8	-5,906.8	5,198.8	5,137.6	61.28	84.835	
8,700.0	7,306.0	7,311.9	7,197.3	41.7	22.3	86.25	1,750.8	-5,906.8	5,101.2	5,037.4	63.73	80.045	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,314.1	7,199.5	44.1	22.3	86.37	1,750.8	-5,906.9	5,003.6	4,937.4	66.22	75.562	
8,900.0	7,306.0	7,316.3	7,201.7	46.7	22.3	86.48	1,750.7	-5,906.9	4,906.1	4,837.4	68.75	71.366	
9,000.0	7,306.0	7,318.4	7,203.8	49.2	22.3	86.59	1,750.7	-5,906.9	4,808.7	4,737.4	71.30	67.441	
9,100.0	7,306.0	7,320.4	7,205.8	51.8	22.3	86.69	1,750.7	-5,907.0	4,711.4	4,637.6	73.89	63.766	
9,200.0	7,306.0	7,322.4	7,207.9	54.4	22.3	86.80	1,750.7	-5,907.0	4,614.3	4,537.8	76.49	60.322	
9,300.0	7,306.0	7,324.4	7,209.8	57.1	22.4	86.90	1,750.7	-5,907.0	4,517.2	4,438.1	79.12	57.094	
9,400.0	7,306.0	7,326.3	7,211.7	59.7	22.4	87.00	1,750.7	-5,907.0	4,420.3	4,338.6	81.76	54.063	
9,500.0	7,306.0	7,328.2	7,213.6	62.4	22.4	87.10	1,750.7	-5,907.1	4,323.6	4,239.2	84.42	51.214	
9,600.0	7,306.0	7,330.1	7,215.5	65.0	22.4	87.19	1,750.7	-5,907.1	4,227.0	4,139.9	87.09	48.534	
9,700.0	7,306.0	7,331.9	7,217.3	67.7	22.4	87.29	1,750.7	-5,907.1	4,130.5	4,040.7	89.77	46.010	
9,800.0	7,306.0	7,333.6	7,219.0	70.4	22.4	87.38	1,750.7	-5,907.2	4,034.2	3,941.8	92.47	43.629	
9,900.0	7,306.0	7,335.4	7,220.8	73.1	22.4	87.47	1,750.7	-5,907.2	3,938.1	3,843.0	95.17	41.380	
10,000.0	7,306.0	7,337.1	7,222.5	75.8	22.4	87.56	1,750.7	-5,907.2	3,842.2	3,744.4	97.88	39.255	
10,100.0	7,306.0	7,338.7	7,224.1	78.5	22.4	87.64	1,750.7	-5,907.2	3,746.5	3,646.0	100.60	37.244	
10,200.0	7,306.0	7,340.4	7,225.8	81.2	22.4	87.73	1,750.7	-5,907.2	3,651.1	3,547.8	103.32	35.338	
10,300.0	7,306.0	7,342.0	7,227.4	84.0	22.4	87.81	1,750.7	-5,907.3	3,555.9	3,449.8	106.05	33.531	
10,400.0	7,306.0	7,343.5	7,228.9	86.7	22.4	87.89	1,750.7	-5,907.3	3,461.0	3,352.2	108.78	31.815	
10,500.0	7,306.0	7,345.1	7,230.5	89.4	22.4	87.97	1,750.7	-5,907.3	3,366.3	3,254.8	111.52	30.185	
10,600.0	7,306.0	7,346.6	7,232.0	92.2	22.4	88.05	1,750.7	-5,907.3	3,272.0	3,157.7	114.27	28.635	
10,700.0	7,306.0	7,348.0	7,233.5	94.9	22.4	88.13	1,750.7	-5,907.3	3,178.0	3,061.0	117.01	27.159	
10,800.0	7,306.0	7,349.5	7,234.9	97.6	22.4	88.20	1,750.7	-5,907.4	3,084.4	2,964.7	119.76	25.754	
10,900.0	7,306.0	7,350.9	7,236.3	100.4	22.4	88.28	1,750.7	-5,907.4	2,991.2	2,868.7	122.52	24.414	
11,000.0	7,306.0	7,352.3	7,237.7	103.2	22.4	88.35	1,750.7	-5,907.4	2,898.5	2,773.2	125.28	23.137	
11,100.0	7,306.0	7,353.7	7,239.1	105.9	22.4	88.42	1,750.7	-5,907.4	2,806.3	2,678.2	128.04	21.918	
11,200.0	7,306.0	7,355.0	7,240.5	108.7	22.4	88.49	1,750.7	-5,907.4	2,714.6	2,583.8	130.80	20.754	
11,300.0	7,306.0	7,356.4	7,241.8	111.4	22.4	88.56	1,750.7	-5,907.4	2,623.5	2,490.0	133.57	19.642	
11,400.0	7,306.0	7,357.7	7,243.1	114.2	22.4	88.63	1,750.7	-5,907.5	2,533.1	2,396.8	136.33	18.580	
11,500.0	7,306.0	7,359.0	7,244.4	117.0	22.4	88.69	1,750.7	-5,907.5	2,443.5	2,304.4	139.10	17.566	
11,600.0	7,306.0	7,360.2	7,245.6	119.7	22.4	88.76	1,750.7	-5,907.5	2,354.6	2,212.8	141.87	16.597	
11,700.0	7,306.0	7,361.4	7,246.8	122.5	22.4	88.82	1,750.7	-5,907.5	2,266.7	2,122.1	144.65	15.671	
11,800.0	7,306.0	7,362.7	7,248.1	125.3	22.4	88.89	1,750.7	-5,907.5	2,179.9	2,032.5	147.42	14.787	
11,900.0	7,306.0	7,363.9	7,249.3	128.0	22.4	88.95	1,750.7	-5,907.5	2,094.2	1,944.0	150.20	13.943	
12,000.0	7,306.0	7,365.0	7,250.4	130.8	22.4	89.01	1,750.7	-5,907.5	2,009.9	1,856.9	152.97	13.139	
12,100.0	7,306.0	7,366.2	7,251.6	133.6	22.4	89.07	1,750.7	-5,907.6	1,927.0	1,771.3	155.75	12.372	
12,200.0	7,306.0	7,367.3	7,252.7	136.4	22.4	89.13	1,750.7	-5,907.6	1,845.9	1,687.3	158.53	11.643	
12,300.0	7,306.0	7,368.4	7,253.8	139.1	22.4	89.19	1,750.7	-5,907.6	1,766.6	1,605.3	161.31	10.952	
12,400.0	7,306.0	7,369.5	7,254.9	141.9	22.4	89.24	1,750.7	-5,907.6	1,689.6	1,525.5	164.10	10.297	
12,500.0	7,306.0	7,370.6	7,256.0	144.7	22.4	89.30	1,750.7	-5,907.6	1,615.1	1,448.2	166.88	9.678	
12,600.0	7,306.0	7,371.7	7,257.1	147.5	22.4	89.35	1,750.7	-5,907.6	1,543.5	1,373.8	169.66	9.097	
12,700.0	7,306.0	7,372.7	7,258.1	150.3	22.4	89.41	1,750.7	-5,907.6	1,475.2	1,302.7	172.45	8.554	
12,800.0	7,306.0	7,374.0	7,259.4	153.0	22.4	89.48	1,750.7	-5,907.6	1,410.7	1,235.4	175.23	8.050	
12,900.0	7,306.0	7,374.0	7,259.4	155.8	22.4	89.48	1,750.7	-5,907.6	1,350.5	1,172.5	178.02	7.586	
13,000.0	7,306.0	7,375.8	7,261.2	158.6	22.4	89.57	1,750.7	-5,907.7	1,295.2	1,114.4	180.81	7.164	
13,100.0	7,306.0	7,376.8	7,262.2	161.4	22.4	89.62	1,750.7	-5,907.7	1,245.5	1,061.9	183.59	6.784	
13,200.0	7,306.0	7,377.8	7,263.2	164.2	22.4	89.67	1,750.7	-5,907.7	1,202.1	1,015.8	186.38	6.450	
13,300.0	7,306.0	7,378.8	7,264.2	167.0	22.4	89.73	1,750.7	-5,907.7	1,165.7	976.6	189.17	6.162	
13,400.0	7,306.0	7,379.8	7,265.2	169.8	22.4	89.78	1,750.7	-5,907.7	1,137.0	945.0	191.96	5.923	
13,500.0	7,306.0	7,380.9	7,266.3	172.6	22.4	89.83	1,750.7	-5,907.7	1,116.5	921.7	194.75	5.733	
13,600.0	7,306.0	7,381.9	7,267.3	175.3	22.4	89.89	1,750.7	-5,907.7	1,104.7	907.1	197.54	5.592	
13,681.1	7,306.0	7,382.7	7,268.1	177.6	22.4	89.93	1,750.7	-5,907.7	1,101.7	901.9	199.81	5.514	CC
13,700.0	7,306.0	7,382.9	7,268.3	178.1	22.4	89.94	1,750.7	-5,907.7	1,101.8	901.5	200.33	5.500	ES
13,800.0	7,306.0	7,383.9	7,269.4	180.9	22.4	89.99	1,750.7	-5,907.7	1,108.1	904.9	203.12	5.455	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,385.0	7,270.4	183.7	22.4	90.05	1,750.7	-5,907.8	1,123.2	917.3	205.92	5.455	SF
14,000.0	7,306.0	7,386.0	7,271.4	186.5	22.4	90.10	1,750.7	-5,907.8	1,146.9	938.2	208.71	5.495	
14,100.0	7,306.0	7,387.1	7,272.5	189.3	22.4	90.15	1,750.7	-5,907.8	1,178.6	967.1	211.50	5.573	
14,200.0	7,306.0	7,388.1	7,273.5	192.1	22.4	90.21	1,750.7	-5,907.8	1,217.7	1,003.4	214.29	5.683	
14,300.0	7,306.0	7,389.2	7,274.6	194.9	22.4	90.26	1,750.7	-5,907.8	1,263.6	1,046.5	217.08	5.821	
14,363.6	7,306.0	7,389.8	7,275.2	196.7	22.5	90.30	1,750.7	-5,907.8	1,295.9	1,077.0	218.86	5.921	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-71.89	1,616.6	-4,943.1	5,200.9				
100.0	100.0	60.5	60.5	0.1	0.1	-71.89	1,616.6	-4,943.1	5,200.8	5,200.6	0.15	N/A	
200.0	200.0	155.8	155.8	0.3	0.1	-71.89	1,616.6	-4,943.2	5,200.9	5,200.4	0.46	N/A	
300.0	300.0	251.1	251.1	0.5	0.2	-71.89	1,616.7	-4,943.4	5,201.1	5,200.3	0.77	6,756.059	
400.0	400.0	346.4	346.4	0.8	0.3	-71.89	1,616.8	-4,943.6	5,201.3	5,200.3	1.08	4,819.329	
500.0	500.0	441.7	441.7	1.0	0.4	-71.89	1,617.0	-4,944.0	5,201.7	5,200.3	1.39	3,745.754	
600.0	600.0	545.0	545.0	1.2	0.5	-71.89	1,617.2	-4,944.4	5,202.2	5,200.5	1.71	3,050.624	
700.0	700.0	619.0	619.0	1.4	0.6	-71.89	1,617.5	-4,944.8	5,202.8	5,200.8	2.09	2,483.804	
800.0	800.0	711.2	711.2	1.7	0.8	-118.22	1,618.1	-4,945.6	5,204.6	5,202.1	2.51	2,070.675	
900.0	899.8	801.3	801.3	1.9	1.0	-118.20	1,619.1	-4,946.3	5,208.2	5,205.3	2.92	1,783.036	
1,000.0	999.5	876.8	876.8	2.1	1.2	-118.14	1,621.4	-4,946.6	5,213.7	5,210.4	3.31	1,574.867	
1,100.0	1,098.7	948.2	948.0	2.4	1.4	-118.04	1,625.7	-4,946.7	5,221.4	5,217.7	3.71	1,405.562	
1,200.0	1,197.5	1,021.8	1,021.3	2.7	1.5	-117.91	1,632.4	-4,946.4	5,231.3	5,227.1	4.16	1,258.198	
1,299.9	1,295.5	1,106.0	1,104.9	3.0	1.7	-117.74	1,642.6	-4,945.5	5,243.1	5,238.4	4.68	1,121.494	
1,300.0	1,295.6	1,106.0	1,104.9	3.0	1.7	-117.74	1,642.6	-4,945.5	5,243.1	5,238.5	4.68	1,121.392	
1,400.0	1,393.4	1,169.8	1,168.0	3.4	1.9	-117.77	1,651.9	-4,944.7	5,256.3	5,251.1	5.19	1,012.600	
1,500.0	1,491.3	1,228.1	1,225.6	3.7	2.1	-117.79	1,661.1	-4,944.2	5,270.1	5,264.4	5.72	921.826	
1,600.0	1,589.1	1,293.0	1,289.4	4.1	2.3	-117.80	1,672.5	-4,943.8	5,284.8	5,278.5	6.29	840.735	
1,700.0	1,686.9	1,480.0	1,471.9	4.5	3.0	-117.74	1,713.0	-4,939.4	5,299.3	5,291.9	7.36	720.426	
1,800.0	1,784.7	1,564.0	1,553.1	5.0	3.4	-117.68	1,734.1	-4,935.7	5,312.7	5,304.6	8.11	655.273	
1,900.0	1,882.5	1,615.9	1,603.0	5.4	3.7	-117.63	1,748.3	-4,933.2	5,326.6	5,317.9	8.75	608.810	
2,000.0	1,980.3	1,668.0	1,652.7	5.8	3.9	-117.56	1,763.6	-4,931.0	5,341.5	5,332.1	9.40	568.054	
2,100.0	2,078.1	1,773.9	1,753.3	6.2	4.5	-117.42	1,796.4	-4,926.3	5,356.8	5,346.4	10.38	516.199	
2,200.0	2,176.0	1,855.0	1,829.9	6.7	5.0	-117.29	1,822.9	-4,922.1	5,372.0	5,360.8	11.25	477.643	
2,300.0	2,273.8	1,902.5	1,874.4	7.1	5.3	-117.20	1,839.2	-4,919.7	5,388.0	5,376.0	11.94	451.104	
2,400.0	2,371.6	1,948.0	1,916.8	7.5	5.6	-117.12	1,855.6	-4,917.7	5,405.0	5,392.3	12.63	427.923	
2,500.0	2,469.4	2,042.0	2,004.2	8.0	6.2	-116.94	1,889.9	-4,913.7	5,422.4	5,408.8	13.61	398.418	
2,600.0	2,567.2	2,119.7	2,076.5	8.4	6.7	-116.79	1,918.2	-4,910.5	5,440.0	5,425.6	14.48	375.777	
2,700.0	2,665.0	2,364.4	2,303.7	8.8	8.3	-116.30	2,008.0	-4,897.3	5,456.4	5,440.0	16.44	331.869	
2,800.0	2,762.9	2,443.5	2,376.2	9.3	8.8	-116.12	2,039.2	-4,891.2	5,471.8	5,454.4	17.41	314.309	
2,900.0	2,860.7	2,511.0	2,437.5	9.7	9.3	-115.95	2,066.9	-4,886.3	5,488.2	5,469.9	18.32	299.517	
3,000.0	2,958.5	2,539.7	2,463.5	10.2	9.6	-115.88	2,079.0	-4,884.3	5,505.3	5,486.4	18.95	290.509	
3,100.0	3,056.3	2,604.0	2,521.6	10.6	10.1	-115.71	2,106.2	-4,880.3	5,523.4	5,503.5	19.85	278.323	
3,200.0	3,154.1	2,681.9	2,592.4	11.1	10.6	-115.53	2,138.4	-4,876.2	5,542.0	5,521.2	20.79	266.521	
3,300.0	3,251.9	2,781.1	2,683.5	11.5	11.3	-115.31	2,177.4	-4,871.7	5,560.7	5,538.8	21.86	254.326	
3,400.0	3,349.8	2,914.6	2,805.8	12.0	12.2	-115.02	2,230.5	-4,865.1	5,579.3	5,556.0	23.23	240.218	
3,500.0	3,447.6	3,166.0	3,037.7	12.4	14.0	-114.50	2,326.1	-4,848.8	5,595.5	5,570.2	25.32	220.961	
3,600.0	3,545.4	3,260.0	3,125.0	12.8	14.6	-114.32	2,360.4	-4,842.1	5,611.1	5,584.7	26.36	212.882	
3,700.0	3,643.2	3,324.8	3,185.2	13.3	15.0	-114.20	2,383.9	-4,838.0	5,627.2	5,600.1	27.18	207.032	
3,800.0	3,741.0	3,388.6	3,244.7	13.7	15.4	-114.09	2,406.8	-4,834.2	5,643.7	5,615.7	27.99	201.600	
3,900.0	3,838.8	3,447.0	3,299.2	14.2	15.8	-113.99	2,427.5	-4,831.4	5,661.0	5,632.3	28.77	196.752	
4,000.0	3,936.6	3,524.4	3,371.5	14.6	16.3	-113.87	2,454.8	-4,828.1	5,678.9	5,649.3	29.67	191.415	
4,100.0	4,034.5	3,613.5	3,454.9	15.1	16.8	-113.72	2,486.1	-4,824.5	5,697.0	5,666.4	30.63	185.979	
4,200.0	4,132.3	3,727.0	3,560.7	15.5	17.6	-113.53	2,526.9	-4,819.2	5,714.8	5,683.0	31.78	179.828	
4,300.0	4,230.1	3,792.8	3,621.1	16.0	18.1	-113.40	2,552.5	-4,815.2	5,732.7	5,700.0	32.67	175.465	
4,400.0	4,327.9	3,821.0	3,646.9	16.4	18.3	-113.34	2,563.9	-4,813.6	5,751.7	5,718.4	33.30	172.745	
4,500.0	4,425.7	3,915.0	3,732.3	16.9	19.0	-113.12	2,602.9	-4,808.7	5,771.5	5,737.1	34.42	167.693	
4,600.0	4,523.5	3,948.5	3,762.6	17.3	19.3	-113.05	2,617.1	-4,807.2	5,792.0	5,756.9	35.09	165.081	
4,700.0	4,621.4	4,215.9	4,008.9	17.8	21.1	-112.54	2,720.4	-4,796.9	5,812.5	5,775.3	37.28	155.908	
4,800.0	4,719.2	4,289.0	4,077.1	18.2	21.6	-112.43	2,746.4	-4,793.7	5,830.9	5,792.8	38.17	152.781	
4,900.0	4,817.0	4,351.7	4,135.7	18.7	22.0	-112.33	2,768.5	-4,791.5	5,849.8	5,810.8	38.98	150.086	
5,000.0	4,914.8	4,620.4	4,390.8	19.1	23.5	-112.04	2,852.6	-4,784.0	5,868.2	5,827.4	40.87	143.575	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	4,810.3	4,574.1	19.6	24.5	-111.93	2,901.7	-4,777.2	5,882.9	5,840.7	42.20	139.390	
5,200.0	5,110.4	4,917.5	4,678.2	20.0	25.0	-111.89	2,926.9	-4,774.5	5,898.1	5,855.0	43.10	136.845	
5,221.3	5,131.3	4,976.4	4,735.8	20.1	25.2	-111.89	2,939.3	-4,773.1	5,901.1	5,857.7	43.43	135.890	
5,300.0	5,208.5	5,225.0	4,981.5	20.4	26.0	-112.15	2,976.5	-4,768.7	5,910.0	5,865.4	44.53	132.720	
5,400.0	5,307.1	5,318.0	5,074.0	20.7	26.2	-112.39	2,985.5	-4,768.1	5,919.6	5,874.5	45.07	131.328	
5,500.0	5,406.3	5,611.5	5,367.3	21.0	26.6	-112.79	2,992.6	-4,769.6	5,925.5	5,879.8	45.71	129.646	
5,600.0	5,505.8	5,693.7	5,449.5	21.2	26.7	-112.94	2,992.5	-4,769.8	5,929.4	5,883.4	46.01	128.866	
5,700.0	5,605.6	5,794.0	5,549.8	21.4	26.7	-113.04	2,992.2	-4,770.3	5,932.0	5,885.7	46.29	128.161	
5,800.0	5,705.6	5,890.4	5,646.2	21.5	26.8	-113.09	2,992.0	-4,770.7	5,933.3	5,886.8	46.51	127.564	
5,821.2	5,726.8	5,908.1	5,663.9	21.5	26.8	-66.74	2,992.0	-4,770.8	5,933.5	5,902.2	31.29	189.627	
5,900.0	5,805.6	5,974.2	5,730.0	21.6	26.9	-66.74	2,992.3	-4,771.1	5,933.9	5,902.4	31.51	188.299	
6,000.0	5,905.6	6,077.6	5,833.4	21.7	27.0	-66.74	2,992.8	-4,771.6	5,934.6	5,902.7	31.85	186.348	
6,100.0	6,005.6	6,199.7	5,955.5	21.9	27.1	-66.73	2,993.3	-4,771.8	5,934.9	5,902.6	32.21	184.268	
6,200.0	6,105.6	6,294.2	6,050.0	22.0	27.2	-66.73	2,994.0	-4,771.8	5,935.1	5,902.6	32.53	182.444	
6,300.0	6,205.6	6,392.1	6,147.8	22.1	27.3	-66.72	2,995.0	-4,771.7	5,935.5	5,902.6	32.86	180.603	
6,400.0	6,305.6	6,475.5	6,231.2	22.3	27.4	-66.71	2,995.9	-4,771.7	5,935.9	5,902.7	33.18	178.905	
6,500.0	6,405.6	6,556.9	6,312.6	22.4	27.5	-66.70	2,997.1	-4,772.0	5,936.8	5,903.3	33.49	177.249	
6,600.0	6,505.6	6,671.7	6,427.4	22.5	27.6	-66.68	2,999.0	-4,772.1	5,937.5	5,903.7	33.87	175.318	
6,684.2	6,589.8	6,748.5	6,504.3	22.6	27.7	-66.67	3,000.5	-4,772.1	5,938.2	5,904.0	34.15	173.877	
6,700.0	6,605.6	6,762.4	6,518.2	22.7	27.8	23.33	3,000.8	-4,772.1	5,938.1	5,889.5	48.67	122.006	
6,750.0	6,655.5	6,806.4	6,562.1	22.7	27.8	23.42	3,001.7	-4,772.2	5,936.0	5,887.4	48.64	122.046	
6,800.0	6,705.1	6,864.7	6,620.4	22.7	27.9	23.63	3,003.0	-4,772.2	5,930.6	5,882.2	48.43	122.461	
6,850.0	6,754.1	6,908.0	6,663.7	22.7	28.0	23.95	3,003.9	-4,772.1	5,922.0	5,874.0	48.01	123.342	
6,900.0	6,802.3	6,955.5	6,711.2	22.7	28.0	24.41	3,005.0	-4,772.1	5,910.4	5,862.9	47.43	124.621	
6,950.0	6,849.5	7,002.0	6,757.7	22.6	28.1	25.00	3,006.2	-4,772.1	5,895.7	5,849.1	46.67	126.317	
7,000.0	6,895.5	7,021.0	6,776.6	22.5	28.1	25.68	3,006.7	-4,772.1	5,878.2	5,832.5	45.74	128.522	
7,050.0	6,939.9	7,047.3	6,803.0	22.4	28.2	26.52	3,007.4	-4,772.3	5,857.9	5,813.2	44.68	131.103	
7,100.0	6,982.6	7,072.8	6,828.4	22.3	28.2	27.53	3,008.3	-4,772.4	5,835.0	5,791.5	43.52	134.068	
7,150.0	7,023.4	7,099.4	6,855.0	22.2	28.2	28.74	3,009.2	-4,772.6	5,809.5	5,767.2	42.29	137.359	
7,200.0	7,062.2	7,147.2	6,902.8	22.1	28.3	30.27	3,010.9	-4,773.0	5,781.5	5,740.4	41.07	140.760	
7,250.0	7,098.6	7,192.5	6,948.1	22.0	28.4	32.08	3,012.6	-4,773.3	5,751.0	5,711.1	39.87	144.245	
7,300.0	7,132.5	7,239.4	6,994.9	21.9	28.5	34.26	3,014.5	-4,773.4	5,718.2	5,679.4	38.76	147.544	
7,350.0	7,163.8	7,282.2	7,037.7	21.8	28.5	36.82	3,016.3	-4,773.4	5,683.2	5,645.4	37.79	150.393	
7,400.0	7,192.2	7,329.6	7,085.1	21.7	28.6	39.93	3,018.5	-4,773.1	5,646.3	5,609.2	37.08	152.280	
7,450.0	7,217.8	7,371.4	7,126.7	21.6	28.7	43.60	3,020.7	-4,772.6	5,607.6	5,570.9	36.67	152.912	
7,500.0	7,240.3	7,392.0	7,147.3	21.6	28.7	47.71	3,021.8	-4,772.3	5,567.4	5,530.8	36.57	152.225	
7,550.0	7,259.6	7,407.2	7,162.5	21.6	28.8	52.47	3,022.6	-4,772.1	5,526.0	5,489.1	36.85	149.949	
7,600.0	7,275.7	7,419.8	7,175.1	21.6	28.8	57.98	3,023.3	-4,771.9	5,483.4	5,445.9	37.48	146.284	
7,650.0	7,288.4	7,429.8	7,185.1	21.8	28.8	64.28	3,023.8	-4,771.8	5,440.0	5,401.7	38.36	141.818	
7,700.0	7,297.7	7,437.0	7,192.3	22.0	28.8	71.30	3,024.1	-4,771.7	5,396.0	5,356.7	39.29	137.355	
7,750.0	7,303.6	7,441.4	7,196.7	22.4	28.8	78.90	3,024.4	-4,771.7	5,351.6	5,311.5	40.03	133.689	
7,800.0	7,305.9	7,443.0	7,198.3	22.9	28.8	86.82	3,024.4	-4,771.6	5,306.9	5,266.5	40.39	131.378	
7,809.2	7,306.0	7,443.0	7,198.2	23.0	28.8	88.28	3,024.4	-4,771.6	5,298.7	5,258.3	40.41	131.121	
7,900.0	7,306.0	7,442.2	7,197.5	24.3	28.8	88.26	3,024.4	-4,771.7	5,217.7	5,175.9	41.79	124.845	
8,000.0	7,306.0	7,441.3	7,196.6	26.0	28.8	88.24	3,024.4	-4,771.7	5,128.9	5,085.3	43.52	117.849	
8,100.0	7,306.0	7,440.5	7,195.7	27.9	28.8	88.22	3,024.3	-4,771.7	5,040.5	4,995.0	45.42	110.965	
8,200.0	7,306.0	7,439.6	7,194.8	30.0	28.8	88.20	3,024.3	-4,771.7	4,952.5	4,905.0	47.47	104.331	
8,300.0	7,306.0	7,438.7	7,193.9	32.2	28.8	88.18	3,024.2	-4,771.7	4,865.0	4,815.4	49.63	98.026	
8,400.0	7,306.0	7,437.8	7,193.0	34.4	28.8	88.16	3,024.2	-4,771.7	4,778.0	4,726.1	51.88	92.090	
8,500.0	7,306.0	7,436.8	7,192.1	36.8	28.8	88.13	3,024.1	-4,771.7	4,691.5	4,637.3	54.21	86.537	
8,600.0	7,306.0	7,435.9	7,191.2	39.2	28.8	88.11	3,024.1	-4,771.7	4,605.6	4,549.0	56.61	81.360	
8,700.0	7,306.0	7,434.9	7,190.2	41.7	28.8	88.09	3,024.0	-4,771.7	4,520.2	4,461.1	59.05	76.547	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,434.0	7,189.2	44.1	28.8	88.06	3,024.0	-4,771.7	4,435.4	4,373.9	61.54	72.075	
8,900.0	7,306.0	7,433.0	7,188.3	46.7	28.8	88.04	3,023.9	-4,771.7	4,351.3	4,287.3	64.06	67.923	
9,000.0	7,306.0	7,432.0	7,187.3	49.2	28.8	88.02	3,023.9	-4,771.8	4,267.9	4,201.3	66.62	64.066	
9,100.0	7,306.0	7,431.0	7,186.2	51.8	28.8	87.99	3,023.8	-4,771.8	4,185.2	4,116.0	69.20	60.482	
9,200.0	7,306.0	7,429.9	7,185.2	54.4	28.8	87.97	3,023.8	-4,771.8	4,103.3	4,031.5	71.80	57.148	
9,300.0	7,306.0	7,428.9	7,184.2	57.1	28.8	87.94	3,023.7	-4,771.8	4,022.2	3,947.8	74.42	54.045	
9,400.0	7,306.0	7,427.8	7,183.1	59.7	28.8	87.92	3,023.7	-4,771.8	3,941.9	3,864.9	77.06	51.153	
9,500.0	7,306.0	7,426.8	7,182.0	62.4	28.8	87.89	3,023.6	-4,771.8	3,862.6	3,782.9	79.72	48.455	
9,600.0	7,306.0	7,425.7	7,181.0	65.0	28.8	87.86	3,023.6	-4,771.8	3,784.3	3,701.9	82.38	45.936	
9,700.0	7,306.0	7,424.6	7,179.9	67.7	28.8	87.84	3,023.5	-4,771.8	3,707.0	3,621.9	85.06	43.582	
9,800.0	7,306.0	7,423.4	7,178.7	70.4	28.8	87.81	3,023.5	-4,771.9	3,630.8	3,543.1	87.75	41.379	
9,900.0	7,306.0	7,422.3	7,177.6	73.1	28.8	87.78	3,023.4	-4,771.9	3,555.8	3,465.4	90.44	39.316	
10,000.0	7,306.0	7,421.1	7,176.4	75.8	28.8	87.76	3,023.3	-4,771.9	3,482.0	3,388.9	93.15	37.383	
10,100.0	7,306.0	7,420.0	7,175.2	78.5	28.8	87.73	3,023.3	-4,771.9	3,409.6	3,313.8	95.86	35.570	
10,200.0	7,306.0	7,418.8	7,174.0	81.2	28.8	87.70	3,023.2	-4,771.9	3,338.6	3,240.1	98.57	33.869	
10,300.0	7,306.0	7,417.5	7,172.8	84.0	28.8	87.67	3,023.1	-4,771.9	3,269.2	3,167.9	101.30	32.273	
10,400.0	7,306.0	7,416.3	7,171.6	86.7	28.8	87.64	3,023.1	-4,771.9	3,201.3	3,097.3	104.02	30.775	
10,500.0	7,306.0	7,415.0	7,170.3	89.4	28.8	87.61	3,023.0	-4,772.0	3,135.2	3,028.4	106.76	29.367	
10,600.0	7,306.0	7,413.8	7,169.1	92.2	28.8	87.58	3,022.9	-4,772.0	3,070.9	2,961.4	109.49	28.046	
10,700.0	7,306.0	7,412.5	7,167.8	94.9	28.8	87.55	3,022.9	-4,772.0	3,008.5	2,896.3	112.23	26.806	
10,800.0	7,306.0	7,411.1	7,166.4	97.6	28.8	87.51	3,022.8	-4,772.0	2,948.2	2,833.2	114.98	25.642	
10,900.0	7,306.0	7,409.8	7,165.1	100.4	28.8	87.48	3,022.7	-4,772.0	2,890.1	2,772.4	117.73	24.550	
11,000.0	7,306.0	7,408.4	7,163.7	103.2	28.8	87.45	3,022.7	-4,772.0	2,834.4	2,713.9	120.48	23.527	
11,100.0	7,306.0	7,407.0	7,162.3	105.9	28.8	87.41	3,022.6	-4,772.1	2,781.1	2,657.9	123.23	22.569	
11,200.0	7,306.0	7,405.6	7,160.9	108.7	28.7	87.38	3,022.5	-4,772.1	2,730.5	2,604.5	125.98	21.674	
11,300.0	7,306.0	7,404.2	7,159.5	111.4	28.7	87.35	3,022.4	-4,772.1	2,682.6	2,553.9	128.74	20.838	
11,400.0	7,306.0	7,402.7	7,158.0	114.2	28.7	87.31	3,022.4	-4,772.1	2,637.7	2,506.2	131.50	20.059	
11,500.0	7,306.0	7,401.2	7,156.5	117.0	28.7	87.27	3,022.3	-4,772.1	2,595.8	2,461.6	134.26	19.334	
11,600.0	7,306.0	7,399.7	7,155.0	119.7	28.7	87.24	3,022.2	-4,772.2	2,557.2	2,420.2	137.02	18.662	
11,700.0	7,306.0	7,398.1	7,153.4	122.5	28.7	87.20	3,022.1	-4,772.2	2,521.9	2,382.1	139.79	18.041	
11,800.0	7,306.0	7,396.5	7,151.8	125.3	28.7	87.16	3,022.0	-4,772.2	2,490.2	2,347.6	142.55	17.468	
11,900.0	7,306.0	7,394.9	7,150.2	128.0	28.7	87.12	3,021.9	-4,772.2	2,462.1	2,316.8	145.32	16.943	
12,000.0	7,306.0	7,393.3	7,148.6	130.8	28.7	87.08	3,021.9	-4,772.3	2,437.8	2,289.7	148.09	16.462	
12,100.0	7,306.0	7,391.6	7,146.9	133.6	28.7	87.04	3,021.8	-4,772.3	2,417.4	2,266.5	150.86	16.024	
12,200.0	7,306.0	7,389.9	7,145.2	136.4	28.7	87.00	3,021.7	-4,772.3	2,400.9	2,247.3	153.63	15.628	
12,300.0	7,306.0	7,388.1	7,143.5	139.1	28.7	86.96	3,021.6	-4,772.3	2,388.6	2,232.2	156.40	15.272	
12,400.0	7,306.0	7,386.4	7,141.7	141.9	28.7	86.92	3,021.5	-4,772.4	2,380.4	2,221.2	159.17	14.955	
12,500.0	7,306.0	7,384.6	7,139.9	144.7	28.7	86.87	3,021.4	-4,772.4	2,376.4	2,214.4	161.94	14.674	
12,545.8	7,306.0	7,383.7	7,139.1	146.0	28.7	86.85	3,021.3	-4,772.4	2,375.9	2,212.7	163.21	14.557	CC
12,600.0	7,306.0	7,382.7	7,138.1	147.5	28.7	86.83	3,021.3	-4,772.4	2,376.5	2,211.8	164.72	14.428	ES
12,700.0	7,306.0	7,380.8	7,136.2	150.3	28.7	86.78	3,021.2	-4,772.4	2,380.9	2,213.4	167.49	14.215	
12,800.0	7,306.0	7,378.9	7,134.3	153.0	28.7	86.74	3,021.1	-4,772.5	2,389.5	2,219.2	170.26	14.034	
12,900.0	7,306.0	7,377.0	7,132.4	155.8	28.7	86.69	3,021.0	-4,772.5	2,402.2	2,229.1	173.04	13.882	
13,000.0	7,306.0	7,377.0	7,132.4	158.6	28.7	86.69	3,021.0	-4,772.5	2,418.9	2,243.1	175.82	13.758	
13,100.0	7,306.0	7,377.0	7,132.4	161.4	28.7	86.69	3,021.0	-4,772.5	2,439.7	2,261.1	178.60	13.660	
13,200.0	7,306.0	7,377.0	7,132.4	164.2	28.7	86.69	3,021.0	-4,772.5	2,464.3	2,282.9	181.39	13.586	
13,300.0	7,306.0	7,377.0	7,132.4	167.0	28.7	86.69	3,021.0	-4,772.5	2,492.7	2,308.5	184.17	13.535	
13,400.0	7,306.0	7,377.0	7,132.4	169.8	28.7	86.69	3,021.0	-4,772.5	2,524.8	2,337.8	186.96	13.505	
13,500.0	7,306.0	7,377.0	7,132.4	172.6	28.7	86.69	3,021.0	-4,772.5	2,560.3	2,370.6	189.74	13.494	SF
13,600.0	7,306.0	7,377.0	7,132.4	175.3	28.7	86.69	3,021.0	-4,772.5	2,599.3	2,406.7	192.53	13.501	
13,700.0	7,306.0	7,377.0	7,132.4	178.1	28.7	86.69	3,021.0	-4,772.5	2,641.4	2,446.1	195.31	13.524	
13,800.0	7,306.0	7,377.0	7,132.4	180.9	28.7	86.69	3,021.0	-4,772.5	2,686.6	2,488.5	198.10	13.562	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,377.0	7,132.4	183.7	28.7	86.69	3,021.0	-4,772.5	2,734.7	2,533.8	200.89	13.613	
14,000.0	7,306.0	7,377.0	7,132.4	186.5	28.7	86.69	3,021.0	-4,772.5	2,785.6	2,581.9	203.68	13.676	
14,100.0	7,306.0	7,377.0	7,132.4	189.3	28.7	86.69	3,021.0	-4,772.5	2,839.1	2,632.6	206.47	13.751	
14,200.0	7,306.0	7,377.0	7,132.4	192.1	28.7	86.69	3,021.0	-4,772.5	2,895.0	2,685.7	209.26	13.835	
14,300.0	7,306.0	7,377.0	7,132.4	194.9	28.7	86.69	3,021.0	-4,772.5	2,953.3	2,741.2	212.05	13.928	
14,363.6	7,306.0	7,377.0	7,132.4	196.7	28.7	86.69	3,021.0	-4,772.5	2,991.5	2,777.7	213.82	13.991	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-71.74	1,624.2	-4,923.9	5,185.0				
100.0	100.0	59.9	59.9	0.1	0.1	-71.74	1,624.2	-4,923.9	5,184.9	5,184.7	0.15	N/A	
200.0	200.0	154.2	154.2	0.3	0.1	-71.74	1,624.2	-4,924.0	5,185.0	5,184.5	0.46	N/A	
300.0	300.0	248.6	248.6	0.5	0.2	-71.75	1,624.2	-4,924.3	5,185.2	5,184.4	0.77	6,754.146	
400.0	400.0	342.9	342.9	0.8	0.3	-71.75	1,624.1	-4,924.6	5,185.6	5,184.5	1.08	4,817.808	
500.0	500.0	437.2	437.2	1.0	0.4	-71.75	1,624.1	-4,925.1	5,186.0	5,184.6	1.38	3,744.538	
600.0	600.0	545.0	545.0	1.2	0.5	-71.75	1,624.0	-4,925.8	5,186.6	5,184.9	1.71	3,041.016	
700.0	700.0	614.0	614.0	1.4	0.6	-71.76	1,623.9	-4,926.4	5,187.3	5,185.3	2.09	2,487.575	
800.0	800.0	709.7	709.7	1.7	0.8	-118.10	1,623.7	-4,927.5	5,189.2	5,186.7	2.51	2,064.245	
900.0	899.8	806.4	806.4	1.9	1.1	-118.09	1,623.3	-4,928.7	5,192.7	5,189.8	2.94	1,766.102	
1,000.0	999.5	907.3	907.2	2.1	1.3	-118.10	1,622.8	-4,930.0	5,197.9	5,194.6	3.39	1,535.440	
1,100.0	1,098.7	1,010.0	1,010.0	2.4	1.5	-118.11	1,622.4	-4,931.3	5,204.8	5,200.9	3.83	1,358.035	
1,200.0	1,197.5	1,093.9	1,093.9	2.7	1.6	-118.09	1,622.2	-4,932.3	5,213.4	5,209.1	4.27	1,221.725	
1,299.9	1,295.5	1,330.3	1,330.2	3.0	2.1	-118.38	1,621.0	-4,933.0	5,222.8	5,217.8	5.04	1,035.711	
1,300.0	1,295.6	1,330.6	1,330.5	3.0	2.1	-118.38	1,621.0	-4,933.0	5,222.8	5,217.8	5.04	1,035.497	
1,400.0	1,393.4	1,442.4	1,442.3	3.4	2.3	-118.58	1,622.7	-4,930.4	5,231.1	5,225.5	5.60	934.351	
1,500.0	1,491.3	1,514.9	1,514.8	3.7	2.5	-118.71	1,623.9	-4,928.9	5,239.8	5,233.7	6.10	858.986	
1,600.0	1,589.1	1,590.4	1,590.2	4.1	2.7	-118.84	1,625.3	-4,927.8	5,249.1	5,242.4	6.62	792.501	
1,700.0	1,686.9	1,667.0	1,666.8	4.5	2.8	-118.98	1,626.6	-4,926.9	5,258.7	5,251.5	7.16	734.590	
1,800.0	1,784.7	1,868.9	1,868.7	5.0	3.2	-119.33	1,630.6	-4,923.9	5,268.5	5,260.6	7.95	662.607	
1,900.0	1,882.5	2,634.6	2,629.4	5.4	5.0	-120.43	1,647.6	-4,849.6	5,269.8	5,259.8	9.97	528.732	
2,000.0	1,980.3	2,697.0	2,691.0	5.8	5.2	-120.50	1,649.6	-4,839.9	5,266.0	5,255.5	10.50	501.733	
2,100.0	2,078.1	2,827.3	2,819.6	6.2	5.6	-120.65	1,653.5	-4,819.3	5,262.3	5,251.1	11.19	470.316	
2,200.0	2,176.0	2,912.9	2,904.0	6.7	5.8	-120.75	1,656.4	-4,805.4	5,258.1	5,246.3	11.78	446.242	
2,300.0	2,273.8	2,977.0	2,967.3	7.1	6.0	-120.82	1,658.4	-4,795.2	5,254.4	5,242.0	12.33	426.207	
2,400.0	2,371.6	3,033.6	3,023.2	7.5	6.2	-120.89	1,659.7	-4,786.9	5,251.4	5,238.6	12.85	408.560	
2,500.0	2,469.4	3,071.0	3,060.3	8.0	6.3	-120.95	1,660.3	-4,781.7	5,249.4	5,236.1	13.34	393.642	
2,600.0	2,567.2	3,165.0	3,153.5	8.4	6.6	-121.08	1,661.3	-4,769.8	5,248.2	5,234.3	13.95	376.345	
2,687.1	2,652.4	3,191.4	3,179.7	8.8	6.6	-121.12	1,661.6	-4,766.7	5,247.8	5,233.5	14.35	365.682	
2,700.0	2,665.0	3,197.7	3,185.9	8.8	6.7	-121.13	1,661.7	-4,766.0	5,247.8	5,233.4	14.42	364.022	
2,800.0	2,762.9	3,258.0	3,245.9	9.3	6.8	-121.22	1,662.6	-4,759.5	5,248.5	5,233.5	14.95	351.064	
2,900.0	2,860.7	3,258.0	3,245.9	9.7	6.8	-121.22	1,662.6	-4,759.5	5,250.3	5,235.0	15.35	342.062	
3,000.0	2,958.5	3,319.9	3,307.5	10.2	7.0	-121.31	1,663.8	-4,753.8	5,253.1	5,237.2	15.89	330.669	
3,100.0	3,056.3	3,352.0	3,339.5	10.6	7.1	-121.36	1,664.4	-4,751.3	5,257.2	5,240.9	16.36	321.399	
3,200.0	3,154.1	3,396.0	3,383.4	11.1	7.2	-121.43	1,665.3	-4,748.5	5,262.5	5,245.7	16.85	312.272	
3,300.0	3,251.9	3,446.0	3,433.4	11.5	7.3	-121.51	1,666.2	-4,746.1	5,269.0	5,251.7	17.36	303.505	
3,400.0	3,349.8	3,446.0	3,433.4	12.0	7.3	-121.51	1,666.2	-4,746.1	5,276.8	5,259.1	17.76	297.091	
3,500.0	3,447.6	3,503.0	3,490.3	12.4	7.4	-121.61	1,666.7	-4,744.4	5,285.6	5,267.3	18.28	289.182	
3,600.0	3,545.4	3,540.0	3,527.3	12.8	7.5	-121.68	1,666.6	-4,744.1	5,295.8	5,277.0	18.75	282.395	
3,700.0	3,643.2	3,609.5	3,596.8	13.3	7.6	-121.82	1,666.2	-4,744.3	5,306.9	5,287.6	19.29	275.163	
3,800.0	3,741.0	3,701.0	3,688.3	13.7	7.8	-122.00	1,665.8	-4,744.6	5,318.3	5,298.5	19.86	267.811	
3,900.0	3,838.8	3,787.4	3,774.8	14.2	8.0	-122.17	1,665.5	-4,745.0	5,329.9	5,309.5	20.42	261.025	
4,000.0	3,936.6	3,897.2	3,884.5	14.6	8.2	-122.39	1,664.8	-4,745.8	5,341.7	5,320.7	21.02	254.130	
4,100.0	4,034.5	3,983.2	3,970.5	15.1	8.3	-122.56	1,664.2	-4,746.2	5,353.4	5,331.8	21.58	248.114	
4,200.0	4,132.3	4,101.0	4,088.3	15.5	8.5	-122.80	1,662.6	-4,747.0	5,365.2	5,343.0	22.19	241.795	
4,300.0	4,230.1	4,170.9	4,158.2	16.0	8.7	-122.94	1,661.4	-4,747.5	5,377.0	5,354.3	22.71	236.719	
4,400.0	4,327.9	4,240.5	4,227.8	16.4	8.8	-123.09	1,660.2	-4,748.4	5,389.4	5,366.2	23.24	231.892	
4,500.0	4,425.7	4,373.4	4,360.7	16.9	9.0	-123.37	1,657.7	-4,750.5	5,402.2	5,378.3	23.88	226.241	
4,600.0	4,523.5	4,475.0	4,462.2	17.3	9.2	-123.57	1,656.1	-4,751.2	5,414.2	5,389.8	24.45	221.405	
4,700.0	4,621.4	4,557.3	4,544.5	17.8	9.4	-123.73	1,655.5	-4,751.8	5,426.4	5,401.4	25.00	217.044	
4,800.0	4,719.2	4,662.0	4,649.2	18.2	9.6	-123.92	1,655.5	-4,752.4	5,438.8	5,413.2	25.59	212.522	
4,900.0	4,817.0	4,739.0	4,726.2	18.7	9.7	-124.06	1,655.8	-4,752.8	5,451.2	5,425.1	26.13	208.598	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,833.0	4,820.2	19.1	9.9	-124.23	1,656.3	-4,753.8	5,464.2	5,437.5	26.71	204.606	
5,100.0	5,012.6	4,924.0	4,911.2	19.6	10.1	-124.40	1,656.5	-4,754.8	5,477.2	5,449.9	27.27	200.837	
5,200.0	5,110.4	5,019.8	5,007.0	20.0	10.3	-124.57	1,656.7	-4,755.9	5,490.4	5,462.5	27.85	197.168	
5,221.3	5,131.3	5,040.8	5,028.0	20.1	10.3	-124.61	1,656.8	-4,756.2	5,493.2	5,465.2	27.97	196.399	
5,300.0	5,208.5	5,119.5	5,106.7	20.4	10.5	-124.90	1,656.9	-4,757.1	5,503.0	5,474.6	28.38	193.926	
5,400.0	5,307.1	5,208.8	5,196.0	20.7	10.7	-125.21	1,656.9	-4,758.3	5,513.7	5,484.9	28.81	191.387	
5,500.0	5,406.3	5,310.8	5,298.0	21.0	10.9	-125.47	1,656.8	-4,759.7	5,522.6	5,493.4	29.23	188.912	
5,600.0	5,505.8	5,406.0	5,393.2	21.2	11.0	-125.66	1,656.7	-4,761.0	5,529.4	5,499.8	29.61	186.739	
5,700.0	5,605.6	5,490.7	5,477.8	21.4	11.2	-125.79	1,656.5	-4,762.3	5,534.4	5,504.5	29.93	184.886	
5,800.0	5,705.6	5,580.2	5,567.3	21.5	11.4	-125.87	1,656.0	-4,764.0	5,537.6	5,507.4	30.24	183.150	
5,821.2	5,726.8	5,691.2	5,678.3	21.5	11.6	-79.54	1,654.8	-4,765.6	5,538.1	5,509.4	28.66	193.206	
5,900.0	5,805.6	5,824.8	5,812.0	21.6	11.9	-79.54	1,653.9	-4,765.0	5,537.5	5,508.4	29.05	190.624	
6,000.0	5,905.6	5,905.0	5,892.1	21.7	12.0	-79.54	1,654.0	-4,764.5	5,536.9	5,507.6	29.38	188.480	
6,100.0	6,005.6	6,001.1	5,988.2	21.9	12.2	-79.55	1,653.6	-4,764.2	5,536.5	5,506.8	29.74	186.167	
6,200.0	6,105.6	6,093.6	6,080.7	22.0	12.4	-79.55	1,652.9	-4,764.1	5,536.3	5,506.2	30.10	183.950	
6,300.0	6,205.6	6,188.8	6,175.9	22.1	12.6	-79.56	1,652.1	-4,764.0	5,536.1	5,505.6	30.46	181.748	
6,333.2	6,238.8	6,215.6	6,202.7	22.2	12.7	-79.56	1,651.8	-4,764.1	5,536.0	5,505.5	30.57	181.089	
6,400.0	6,305.6	6,276.6	6,263.7	22.3	12.8	-79.57	1,651.5	-4,764.2	5,536.1	5,505.3	30.81	179.702	
6,500.0	6,405.6	6,381.0	6,368.1	22.4	13.0	-79.57	1,651.3	-4,764.2	5,536.1	5,504.9	31.19	177.508	
6,600.0	6,505.6	6,468.0	6,455.1	22.5	13.2	-79.57	1,651.2	-4,764.3	5,536.2	5,504.7	31.54	175.551	
6,684.2	6,589.8	6,541.9	6,529.0	22.6	13.3	-79.57	1,651.1	-4,764.6	5,536.5	5,504.7	31.83	173.922	
6,700.0	6,605.6	6,561.7	6,548.7	22.7	13.4	10.43	1,651.1	-4,764.7	5,536.4	5,502.9	33.51	165.200	
6,750.0	6,655.5	6,624.2	6,611.3	22.7	13.5	10.47	1,651.1	-4,764.9	5,533.8	5,500.2	33.53	165.049	
6,800.0	6,705.1	6,698.7	6,685.8	22.7	13.7	10.59	1,651.2	-4,764.8	5,527.5	5,494.1	33.44	165.297	
6,850.0	6,754.1	6,747.3	6,734.4	22.7	13.8	10.76	1,651.5	-4,764.6	5,517.7	5,484.5	33.18	166.310	
6,900.0	6,802.3	6,784.9	6,772.0	22.7	13.8	10.98	1,651.9	-4,764.4	5,504.7	5,471.9	32.78	167.952	
6,950.0	6,849.5	6,814.0	6,801.1	22.6	13.9	11.27	1,652.3	-4,764.3	5,488.5	5,456.2	32.24	170.212	
7,000.0	6,895.5	6,852.6	6,839.7	22.5	14.0	11.65	1,652.8	-4,764.3	5,469.1	5,437.5	31.64	172.883	
7,050.0	6,939.9	6,883.4	6,870.5	22.4	14.0	12.09	1,653.2	-4,764.4	5,446.9	5,415.9	30.92	176.166	
7,100.0	6,982.6	6,914.8	6,901.9	22.3	14.1	12.64	1,653.6	-4,764.5	5,421.7	5,391.5	30.13	179.946	
7,150.0	7,023.4	6,952.4	6,939.4	22.2	14.2	13.32	1,654.1	-4,764.8	5,393.7	5,364.4	29.30	184.090	
7,200.0	7,062.2	6,988.0	6,975.1	22.1	14.3	14.13	1,654.5	-4,765.0	5,362.9	5,334.5	28.43	188.616	
7,250.0	7,098.6	7,031.0	7,018.0	22.0	14.3	15.15	1,655.0	-4,765.3	5,329.6	5,302.0	27.58	193.214	
7,300.0	7,132.5	7,076.3	7,063.4	21.9	14.4	16.42	1,655.5	-4,765.6	5,293.8	5,267.0	26.78	197.654	
7,350.0	7,163.8	7,114.4	7,101.4	21.8	14.5	17.96	1,656.0	-4,765.7	5,255.7	5,229.6	26.06	201.679	
7,400.0	7,192.2	7,146.5	7,133.5	21.7	14.6	19.88	1,656.4	-4,765.8	5,215.5	5,190.0	25.49	204.646	
7,450.0	7,217.8	7,175.2	7,162.2	21.6	14.6	22.31	1,656.7	-4,765.8	5,173.5	5,148.3	25.16	205.623	
7,500.0	7,240.3	7,202.0	7,189.1	21.6	14.7	25.45	1,657.0	-4,765.8	5,129.8	5,104.5	25.21	203.462	
7,550.0	7,259.6	7,226.5	7,213.5	21.6	14.7	29.62	1,657.3	-4,765.8	5,084.6	5,058.8	25.80	197.051	
7,600.0	7,275.7	7,246.7	7,233.8	21.6	14.8	35.25	1,657.4	-4,765.8	5,038.2	5,011.1	27.12	185.777	
7,650.0	7,288.4	7,262.7	7,249.8	21.8	14.8	43.05	1,657.5	-4,765.8	4,990.9	4,961.6	29.34	170.097	
7,700.0	7,297.7	7,274.4	7,261.4	22.0	14.8	53.93	1,657.6	-4,765.8	4,942.8	4,910.3	32.46	152.294	
7,750.0	7,303.6	7,281.6	7,268.7	22.4	14.9	68.67	1,657.6	-4,765.8	4,894.2	4,858.4	35.79	136.738	
7,800.0	7,305.9	7,284.2	7,271.2	22.9	14.9	86.65	1,657.6	-4,765.8	4,845.4	4,807.7	37.68	128.603	
7,809.2	7,306.0	7,284.2	7,271.3	23.0	14.9	90.10	1,657.6	-4,765.8	4,836.4	4,798.6	37.73	128.191	
7,900.0	7,306.0	7,284.1	7,271.2	24.3	14.9	90.09	1,657.6	-4,765.8	4,747.6	4,708.5	39.11	121.389	
8,000.0	7,306.0	7,284.0	7,271.0	26.0	14.9	90.09	1,657.6	-4,765.8	4,649.9	4,609.1	40.84	113.861	
8,100.0	7,306.0	7,283.9	7,270.9	27.9	14.9	90.08	1,657.6	-4,765.8	4,552.4	4,509.6	42.74	106.506	
8,200.0	7,306.0	7,283.8	7,270.8	30.0	14.9	90.07	1,657.6	-4,765.8	4,454.9	4,410.1	44.79	99.463	
8,300.0	7,306.0	7,283.6	7,270.7	32.2	14.9	90.07	1,657.6	-4,765.8	4,357.6	4,310.6	46.95	92.809	
8,400.0	7,306.0	7,283.5	7,270.6	34.4	14.9	90.06	1,657.6	-4,765.8	4,260.3	4,211.1	49.21	86.578	
8,500.0	7,306.0	7,283.4	7,270.5	36.8	14.9	90.05	1,657.6	-4,765.8	4,163.2	4,111.7	51.54	80.776	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,283.3	7,270.3	39.2	14.9	90.05	1,657.6	-4,765.8	4,066.3	4,012.4	53.94	75.392	
8,700.0	7,306.0	7,283.2	7,270.2	41.7	14.9	90.04	1,657.6	-4,765.8	3,969.5	3,913.1	56.38	70.403	
8,800.0	7,306.0	7,283.1	7,270.1	44.1	14.9	90.03	1,657.6	-4,765.8	3,872.9	3,814.0	58.87	65.784	
8,900.0	7,306.0	7,282.9	7,270.0	46.7	14.9	90.03	1,657.6	-4,765.8	3,776.4	3,715.0	61.40	61.506	
9,000.0	7,306.0	7,282.8	7,269.9	49.2	14.9	90.02	1,657.6	-4,765.8	3,680.1	3,616.2	63.96	57.542	
9,100.0	7,306.0	7,282.7	7,269.8	51.8	14.9	90.02	1,657.6	-4,765.8	3,584.1	3,517.5	66.54	53.865	
9,200.0	7,306.0	7,282.6	7,269.7	54.4	14.9	90.01	1,657.6	-4,765.8	3,488.2	3,419.1	69.14	50.449	
9,300.0	7,306.0	7,282.5	7,269.5	57.1	14.9	90.00	1,657.6	-4,765.8	3,392.6	3,320.8	71.77	47.271	
9,400.0	7,306.0	7,282.4	7,269.4	59.7	14.9	90.00	1,657.6	-4,765.8	3,297.3	3,222.9	74.41	44.312	
9,500.0	7,306.0	7,282.3	7,269.3	62.4	14.9	89.99	1,657.6	-4,765.8	3,202.2	3,125.1	77.07	41.551	
9,600.0	7,306.0	7,282.2	7,269.2	65.0	14.9	89.98	1,657.6	-4,765.8	3,107.5	3,027.7	79.74	38.972	
9,700.0	7,306.0	7,282.0	7,269.1	67.7	14.9	89.98	1,657.6	-4,765.8	3,013.0	2,930.6	82.42	36.559	
9,800.0	7,306.0	7,281.9	7,269.0	70.4	14.9	89.97	1,657.6	-4,765.8	2,919.0	2,833.9	85.11	34.298	
9,900.0	7,306.0	7,281.8	7,268.9	73.1	14.9	89.96	1,657.6	-4,765.8	2,825.4	2,737.6	87.81	32.178	
10,000.0	7,306.0	7,281.7	7,268.8	75.8	14.9	89.96	1,657.6	-4,765.8	2,732.2	2,641.7	90.51	30.186	
10,100.0	7,306.0	7,281.6	7,268.7	78.5	14.9	89.95	1,657.6	-4,765.8	2,639.5	2,546.3	93.23	28.313	
10,200.0	7,306.0	7,281.5	7,268.6	81.2	14.9	89.95	1,657.6	-4,765.8	2,547.4	2,451.5	95.95	26.550	
10,300.0	7,306.0	7,281.4	7,268.4	84.0	14.9	89.94	1,657.6	-4,765.8	2,455.9	2,357.2	98.67	24.889	
10,400.0	7,306.0	7,281.3	7,268.3	86.7	14.9	89.93	1,657.6	-4,765.8	2,365.1	2,263.7	101.41	23.323	
10,500.0	7,306.0	7,281.2	7,268.2	89.4	14.9	89.93	1,657.6	-4,765.8	2,275.0	2,170.9	104.14	21.845	
10,600.0	7,306.0	7,281.1	7,268.1	92.2	14.9	89.92	1,657.6	-4,765.8	2,185.8	2,078.9	106.88	20.451	
10,700.0	7,306.0	7,281.0	7,268.0	94.9	14.9	89.92	1,657.6	-4,765.8	2,097.6	1,988.0	109.63	19.134	
10,800.0	7,306.0	7,280.8	7,267.9	97.6	14.9	89.91	1,657.6	-4,765.8	2,010.5	1,898.1	112.38	17.891	
10,900.0	7,306.0	7,280.7	7,267.8	100.4	14.9	89.90	1,657.6	-4,765.8	1,924.7	1,809.5	115.13	16.718	
11,000.0	7,306.0	7,280.6	7,267.7	103.2	14.9	89.90	1,657.6	-4,765.8	1,840.2	1,722.4	117.88	15.611	
11,100.0	7,306.0	7,280.5	7,267.5	105.9	14.9	89.89	1,657.6	-4,765.8	1,757.4	1,636.8	120.64	14.568	
11,200.0	7,306.0	7,280.4	7,267.4	108.7	14.9	89.88	1,657.6	-4,765.8	1,676.5	1,553.1	123.40	13.586	
11,300.0	7,306.0	7,280.3	7,267.3	111.4	14.9	89.88	1,657.6	-4,765.8	1,597.8	1,471.6	126.16	12.664	
11,400.0	7,306.0	7,280.1	7,267.2	114.2	14.9	89.87	1,657.6	-4,765.8	1,521.5	1,392.6	128.93	11.801	
11,500.0	7,306.0	7,280.0	7,267.1	117.0	14.8	89.86	1,657.6	-4,765.8	1,448.2	1,316.5	131.70	10.996	
11,600.0	7,306.0	7,279.9	7,267.0	119.7	14.8	89.86	1,657.6	-4,765.8	1,378.2	1,243.7	134.46	10.249	
11,700.0	7,306.0	7,279.8	7,266.9	122.5	14.8	89.85	1,657.6	-4,765.8	1,312.1	1,174.8	137.24	9.561	
11,800.0	7,306.0	7,279.7	7,266.7	125.3	14.8	89.84	1,657.6	-4,765.8	1,250.5	1,110.5	140.01	8.932	
11,900.0	7,306.0	7,279.6	7,266.6	128.0	14.8	89.84	1,657.6	-4,765.8	1,194.1	1,051.3	142.78	8.363	
12,000.0	7,306.0	7,279.5	7,266.5	130.8	14.8	89.83	1,657.6	-4,765.8	1,143.7	998.1	145.56	7.857	
12,100.0	7,306.0	7,279.4	7,266.4	133.6	14.8	89.82	1,657.6	-4,765.8	1,100.1	951.7	148.33	7.416	
12,200.0	7,306.0	7,279.2	7,266.3	136.4	14.8	89.82	1,657.6	-4,765.8	1,064.1	913.0	151.11	7.042	
12,300.0	7,306.0	7,279.1	7,266.2	139.1	14.8	89.81	1,657.6	-4,765.8	1,036.6	882.7	153.89	6.736	
12,400.0	7,306.0	7,279.0	7,266.1	141.9	14.8	89.81	1,657.6	-4,765.8	1,018.2	861.5	156.67	6.499	
12,500.0	7,306.0	7,278.9	7,266.0	144.7	14.8	89.80	1,657.6	-4,765.8	1,009.4	849.9	159.45	6.330	
12,539.2	7,306.0	7,278.9	7,265.9	145.8	14.8	89.80	1,657.6	-4,765.8	1,008.6	848.0	160.55	6.282	CC, ES
12,600.0	7,306.0	7,278.8	7,265.9	147.5	14.8	89.79	1,657.6	-4,765.8	1,010.4	848.2	162.24	6.228	
12,700.0	7,306.0	7,278.7	7,265.8	150.3	14.8	89.79	1,657.6	-4,765.8	1,021.3	856.3	165.02	6.189	SF
12,800.0	7,306.0	7,278.6	7,265.6	153.0	14.8	89.78	1,657.6	-4,765.8	1,041.8	873.9	167.80	6.208	
12,900.0	7,306.0	7,278.5	7,265.5	155.8	14.8	89.78	1,657.6	-4,765.8	1,071.2	900.6	170.59	6.279	
13,000.0	7,306.0	7,278.4	7,265.4	158.6	14.8	89.77	1,657.6	-4,765.8	1,108.9	935.5	173.38	6.396	
13,100.0	7,306.0	7,278.3	7,265.3	161.4	14.8	89.76	1,657.6	-4,765.8	1,154.0	977.8	176.16	6.551	
13,200.0	7,306.0	7,278.2	7,265.2	164.2	14.8	89.76	1,657.6	-4,765.8	1,205.8	1,026.8	178.95	6.738	
13,300.0	7,306.0	7,278.1	7,265.1	167.0	14.8	89.75	1,657.6	-4,765.8	1,263.3	1,081.6	181.74	6.951	
13,400.0	7,306.0	7,278.0	7,265.0	169.8	14.8	89.75	1,657.6	-4,765.8	1,326.0	1,141.4	184.53	7.186	
13,500.0	7,306.0	7,277.9	7,264.9	172.6	14.8	89.74	1,657.6	-4,765.8	1,393.0	1,205.6	187.32	7.436	
13,600.0	7,306.0	7,277.8	7,264.8	175.3	14.8	89.73	1,657.6	-4,765.8	1,463.7	1,273.6	190.11	7.699	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,277.7	7,264.7	178.1	14.8	89.73	1,657.6	-4,765.8	1,537.7	1,344.8	192.90	7.972	
13,800.0	7,306.0	7,277.6	7,264.6	180.9	14.8	89.72	1,657.6	-4,765.8	1,614.6	1,418.9	195.69	8.251	
13,900.0	7,306.0	7,277.5	7,264.5	183.7	14.8	89.72	1,657.6	-4,765.8	1,693.8	1,495.3	198.48	8.534	
14,000.0	7,306.0	7,277.4	7,264.4	186.5	14.8	89.71	1,657.6	-4,765.8	1,775.1	1,573.9	201.27	8.819	
14,100.0	7,306.0	7,277.3	7,264.3	189.3	14.8	89.70	1,657.6	-4,765.8	1,858.3	1,654.2	204.07	9.106	
14,200.0	7,306.0	7,277.2	7,264.2	192.1	14.8	89.70	1,657.6	-4,765.8	1,943.0	1,736.2	206.86	9.393	
14,300.0	7,306.0	7,277.1	7,264.1	194.9	14.8	89.69	1,657.6	-4,765.8	2,029.2	1,819.5	209.65	9.679	
14,363.6	7,306.0	7,277.0	7,264.0	196.7	14.8	89.69	1,657.6	-4,765.8	2,084.6	1,873.1	211.43	9.859	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-72.20	1,599.4	-4,981.3	5,231.9				
100.0	100.0	64.7	64.7	0.1	0.1	-72.20	1,599.4	-4,981.3	5,231.8	5,231.7	0.16	N/A	
200.0	200.0	166.6	166.6	0.3	0.2	-72.20	1,599.2	-4,981.3	5,231.8	5,231.3	0.47	N/A	
300.0	300.0	268.5	268.5	0.5	0.2	-72.20	1,598.9	-4,981.4	5,231.7	5,230.9	0.79	6,625.098	
400.0	400.0	370.5	370.5	0.8	0.3	-72.21	1,598.4	-4,981.4	5,231.6	5,230.5	1.11	4,727.455	
500.0	500.0	472.4	472.4	1.0	0.4	-72.22	1,597.8	-4,981.5	5,231.4	5,230.0	1.42	3,674.800	
600.0	600.0	574.3	574.3	1.2	0.5	-72.23	1,596.9	-4,981.5	5,231.2	5,229.5	1.74	3,005.508	
657.7	657.7	621.3	621.2	1.4	0.6	-72.23	1,596.6	-4,981.6	5,231.2	5,229.2	1.97	2,661.564	
700.0	700.0	655.5	655.5	1.4	0.7	-72.23	1,596.3	-4,981.7	5,231.2	5,229.1	2.13	2,455.473	
800.0	800.0	802.3	802.2	1.7	1.0	-118.62	1,594.1	-4,981.7	5,231.5	5,228.8	2.66	1,967.816	
900.0	899.8	967.9	967.8	1.9	1.4	-118.73	1,589.6	-4,981.3	5,233.2	5,229.9	3.24	1,617.304	
1,000.0	999.5	1,364.1	1,362.1	2.1	2.4	-119.42	1,553.9	-4,973.0	5,233.0	5,228.5	4.47	1,170.728	
1,100.0	1,098.7	1,481.3	1,477.9	2.4	2.8	-119.75	1,536.5	-4,968.9	5,231.2	5,226.1	5.07	1,032.279	
1,200.0	1,197.5	1,949.9	1,932.8	2.7	4.9	-121.53	1,429.3	-4,943.5	5,225.3	5,218.1	7.25	720.740	
1,299.9	1,295.5	2,202.7	2,171.9	3.0	6.2	-122.86	1,348.9	-4,926.1	5,220.4	5,211.6	8.80	593.421	
1,300.0	1,295.6	2,202.9	2,172.1	3.0	6.2	-122.86	1,348.8	-4,926.1	5,220.4	5,211.6	8.80	593.313	
1,400.0	1,393.4	2,308.6	2,271.7	3.4	6.9	-123.39	1,314.8	-4,916.3	5,213.9	5,204.2	9.71	536.690	
1,500.0	1,491.3	2,353.0	2,313.4	3.7	7.1	-123.62	1,300.0	-4,912.5	5,208.1	5,197.8	10.31	505.000	
1,600.0	1,589.1	2,417.1	2,373.6	4.1	7.5	-123.95	1,278.5	-4,907.3	5,203.2	5,192.2	11.00	472.813	
1,700.0	1,686.9	2,472.2	2,425.5	4.5	7.8	-124.23	1,260.6	-4,903.3	5,199.4	5,187.8	11.66	445.917	
1,800.0	1,784.7	2,550.5	2,499.1	5.0	8.3	-124.64	1,234.3	-4,898.2	5,196.5	5,184.0	12.46	416.974	
1,900.0	1,882.5	2,675.5	2,615.6	5.4	9.1	-125.32	1,189.7	-4,889.7	5,193.2	5,179.6	13.62	381.305	
2,000.0	1,980.3	2,728.0	2,664.5	5.8	9.5	-125.60	1,171.0	-4,886.3	5,190.9	5,176.6	14.31	362.727	
2,100.0	2,078.1	2,811.2	2,742.3	6.2	9.9	-126.05	1,142.0	-4,881.1	5,189.3	5,174.2	15.14	342.814	
2,200.0	2,176.0	2,890.3	2,816.4	6.7	10.4	-126.47	1,114.8	-4,876.2	5,188.3	5,172.3	15.98	324.711	
2,300.0	2,273.8	3,102.0	3,015.4	7.1	11.7	-127.57	1,044.4	-4,860.9	5,187.5	5,170.0	17.56	295.467	
2,400.0	2,371.6	3,177.1	3,086.5	7.5	12.1	-127.93	1,021.2	-4,853.8	5,185.3	5,166.9	18.35	282.597	
2,500.0	2,469.4	3,235.2	3,141.4	8.0	12.5	-128.22	1,002.9	-4,848.8	5,184.0	5,164.9	19.05	272.185	
2,600.0	2,567.2	3,383.0	3,281.6	8.4	13.3	-128.95	957.7	-4,836.1	5,183.5	5,163.3	20.22	256.359	
2,700.0	2,665.0	3,420.7	3,317.3	8.8	13.6	-129.13	946.3	-4,832.6	5,182.7	5,161.9	20.80	249.134	
2,712.4	2,677.2	3,425.2	3,321.6	8.9	13.6	-129.15	945.0	-4,832.2	5,182.7	5,161.8	20.87	248.284	
2,800.0	2,762.9	3,476.0	3,369.8	9.3	13.9	-129.40	929.5	-4,828.3	5,183.3	5,161.8	21.48	241.278	
2,900.0	2,860.7	3,476.0	3,369.8	9.7	13.9	-129.40	929.5	-4,828.3	5,185.0	5,163.2	21.86	237.202	
3,000.0	2,958.5	3,542.1	3,432.5	10.2	14.3	-129.73	908.8	-4,824.1	5,187.9	5,165.3	22.62	229.400	
3,100.0	3,056.3	3,605.4	3,492.4	10.6	14.7	-130.05	888.6	-4,820.9	5,191.9	5,168.6	23.36	222.283	
3,200.0	3,154.1	3,692.6	3,574.8	11.1	15.2	-130.49	860.7	-4,816.5	5,196.5	5,172.2	24.24	214.349	
3,300.0	3,251.9	3,802.4	3,678.4	11.5	15.9	-131.06	824.5	-4,811.1	5,201.5	5,176.2	25.29	205.687	
3,400.0	3,349.8	3,945.0	3,811.5	12.0	16.9	-131.83	774.1	-4,803.0	5,205.9	5,179.3	26.60	195.741	
3,500.0	3,447.6	4,018.8	3,880.1	12.4	17.3	-132.24	747.4	-4,798.6	5,210.5	5,183.1	27.44	189.877	
3,600.0	3,545.4	4,112.7	3,967.9	12.8	17.9	-132.74	714.5	-4,793.1	5,215.8	5,187.5	28.37	183.845	
3,700.0	3,643.2	4,186.5	4,037.7	13.3	18.4	-133.11	690.8	-4,788.6	5,221.5	5,192.4	29.14	179.184	
3,800.0	3,741.0	4,260.1	4,108.0	13.7	18.8	-133.46	669.3	-4,784.1	5,227.9	5,198.0	29.90	174.862	
3,900.0	3,838.8	4,344.0	4,188.1	14.2	19.2	-133.85	645.0	-4,779.2	5,234.9	5,204.2	30.70	170.523	
4,000.0	3,936.6	4,431.1	4,272.0	14.6	19.7	-134.23	622.3	-4,774.0	5,242.2	5,210.7	31.49	166.494	
4,100.0	4,034.5	4,505.0	4,343.7	15.1	20.0	-134.54	604.9	-4,769.7	5,250.0	5,217.9	32.17	163.206	
4,200.0	4,132.3	4,558.4	4,395.7	15.5	20.2	-134.75	593.1	-4,766.9	5,258.7	5,225.9	32.75	160.593	
4,300.0	4,230.1	4,621.1	4,457.0	16.0	20.5	-134.99	580.2	-4,763.9	5,268.1	5,234.8	33.35	157.967	
4,400.0	4,327.9	4,692.0	4,526.6	16.4	20.8	-135.24	567.0	-4,760.9	5,278.3	5,244.3	33.97	155.393	
4,500.0	4,425.7	4,747.8	4,581.6	16.9	20.9	-135.43	557.7	-4,758.7	5,289.1	5,254.6	34.51	153.275	
4,600.0	4,523.5	4,785.0	4,618.3	17.3	21.1	-135.55	552.0	-4,757.5	5,301.0	5,266.0	34.99	151.505	
4,700.0	4,621.4	4,879.0	4,711.4	17.8	21.4	-135.84	538.8	-4,755.3	5,313.6	5,277.9	35.62	149.173	
4,800.0	4,719.2	4,936.6	4,768.4	18.2	21.5	-136.01	531.4	-4,754.4	5,326.8	5,290.7	36.13	147.414	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
4,900.0	4,817.0	5,043.9	4,875.1	18.7	21.8	-136.30	519.2	-4,752.6	5,340.4	5,303.6	36.76	145.292	
5,000.0	4,914.8	5,126.1	4,957.0	19.1	22.0	-136.50	512.3	-4,751.1	5,353.9	5,316.6	37.29	143.593	
5,100.0	5,012.6	5,205.0	5,035.6	19.6	22.1	-136.68	506.8	-4,750.1	5,367.9	5,330.1	37.79	142.045	
5,200.0	5,110.4	5,287.8	5,118.3	20.0	22.3	-136.86	501.9	-4,749.2	5,382.2	5,343.9	38.29	140.582	
5,221.3	5,131.3	5,304.8	5,135.2	20.1	22.3	-136.90	501.1	-4,749.0	5,385.3	5,346.9	38.39	140.289	
5,300.0	5,208.5	5,348.0	5,178.4	20.4	22.4	-137.13	499.4	-4,748.7	5,396.2	5,357.4	38.75	139.257	
5,400.0	5,307.1	5,441.0	5,271.4	20.7	22.5	-137.43	497.3	-4,748.5	5,408.2	5,369.0	39.17	138.083	
5,500.0	5,406.3	5,516.3	5,346.7	21.0	22.6	-137.64	496.4	-4,748.8	5,418.1	5,378.6	39.50	137.150	
5,600.0	5,505.8	5,603.2	5,433.6	21.2	22.7	-137.81	495.6	-4,749.3	5,425.6	5,385.8	39.81	136.288	
5,700.0	5,605.6	5,685.1	5,515.5	21.4	22.8	-137.92	495.0	-4,749.9	5,430.8	5,390.8	40.07	135.550	
5,800.0	5,705.6	5,772.2	5,602.6	21.5	22.9	-137.98	494.3	-4,750.9	5,433.8	5,393.5	40.28	134.890	
5,821.2	5,726.8	5,791.9	5,622.2	21.5	22.9	-91.63	494.1	-4,751.1	5,434.1	5,401.7	32.46	167.400	
5,900.0	5,805.6	5,914.8	5,745.2	21.6	23.0	-91.64	493.2	-4,752.2	5,434.9	5,402.1	32.77	165.862	
6,000.0	5,905.6	6,026.1	5,856.5	21.7	23.2	-91.65	492.1	-4,752.5	5,435.2	5,402.1	33.10	164.193	
6,100.0	6,005.6	6,144.6	5,975.0	21.9	23.3	-91.67	491.0	-4,752.7	5,435.4	5,402.0	33.45	162.477	
6,200.0	6,105.6	6,261.9	6,092.3	22.0	23.4	-91.67	490.2	-4,752.2	5,435.0	5,401.2	33.81	160.766	
6,300.0	6,205.6	6,405.6	6,235.9	22.1	23.6	-91.69	488.6	-4,751.0	5,434.1	5,399.9	34.21	158.825	
6,400.0	6,305.6	6,518.4	6,348.7	22.3	23.8	-91.70	487.4	-4,749.5	5,432.9	5,398.3	34.57	157.143	
6,500.0	6,405.6	6,564.0	6,394.3	22.4	23.8	-91.71	486.8	-4,748.8	5,431.7	5,396.8	34.81	156.027	
6,600.0	6,505.6	6,657.0	6,487.3	22.5	24.0	-91.72	485.8	-4,748.3	5,431.2	5,396.1	35.14	154.581	
6,618.2	6,523.8	6,657.0	6,487.3	22.6	24.0	-91.72	485.8	-4,748.3	5,431.2	5,396.0	35.16	154.453	
6,684.2	6,589.8	6,657.0	6,487.3	22.6	24.0	-91.72	485.8	-4,748.3	5,431.6	5,396.3	35.27	154.007	
6,700.0	6,605.6	6,678.6	6,509.0	22.7	24.0	-1.72	485.6	-4,748.6	5,431.6	5,388.9	42.71	127.166	
6,750.0	6,655.5	6,712.4	6,542.7	22.7	24.0	-1.73	485.4	-4,749.0	5,429.4	5,386.8	42.57	127.554	
6,800.0	6,705.1	6,751.0	6,581.3	22.7	24.1	-1.75	485.0	-4,749.6	5,423.8	5,381.6	42.24	128.419	
6,850.0	6,754.1	6,796.5	6,626.8	22.7	24.1	-1.78	484.8	-4,750.3	5,414.9	5,373.2	41.72	129.777	
6,900.0	6,802.3	6,844.0	6,674.3	22.7	24.2	-1.81	484.9	-4,751.1	5,402.5	5,361.5	41.04	131.654	
6,950.0	6,849.5	6,889.8	6,720.1	22.6	24.2	-1.86	485.2	-4,751.9	5,386.8	5,346.7	40.17	134.108	
7,000.0	6,895.5	6,930.2	6,760.5	22.5	24.3	-1.91	485.4	-4,752.6	5,367.9	5,328.8	39.13	137.187	
7,050.0	6,939.9	6,974.6	6,804.8	22.4	24.3	-1.99	485.5	-4,753.4	5,345.9	5,307.9	37.94	140.896	
7,100.0	6,982.6	7,018.5	6,848.7	22.3	24.4	-2.08	485.4	-4,754.2	5,320.7	5,284.1	36.61	145.330	
7,150.0	7,023.4	7,075.6	6,905.8	22.2	24.4	-2.20	485.1	-4,755.2	5,292.6	5,257.4	35.17	150.491	
7,200.0	7,062.2	7,125.0	6,955.2	22.1	24.5	-2.35	484.9	-4,755.9	5,261.5	5,227.9	33.61	156.564	
7,250.0	7,098.6	7,158.7	6,989.0	22.0	24.5	-2.52	484.9	-4,756.3	5,227.7	5,195.8	31.93	163.713	
7,300.0	7,132.5	7,185.4	7,015.6	21.9	24.6	-2.73	484.9	-4,756.7	5,191.5	5,161.3	30.18	171.993	
7,350.0	7,163.8	7,218.0	7,048.2	21.8	24.6	-2.99	484.9	-4,757.3	5,153.1	5,124.7	28.41	181.395	
7,400.0	7,192.2	7,250.0	7,080.2	21.7	24.6	-3.32	484.9	-4,757.8	5,112.5	5,085.8	26.63	191.960	
7,450.0	7,217.8	7,294.0	7,124.2	21.6	24.7	-3.78	484.9	-4,758.3	5,069.9	5,044.9	24.92	203.438	
7,500.0	7,240.3	7,325.4	7,155.6	21.6	24.7	-4.38	484.7	-4,758.7	5,025.5	5,002.2	23.30	215.701	
7,550.0	7,259.6	7,347.1	7,177.3	21.6	24.7	-5.20	484.7	-4,758.9	4,979.6	4,957.7	21.84	227.990	
7,600.0	7,275.7	7,365.1	7,195.3	21.6	24.8	-6.42	484.7	-4,759.0	4,932.4	4,911.7	20.66	238.786	
7,650.0	7,288.4	7,379.5	7,209.7	21.8	24.8	-8.37	484.7	-4,759.1	4,884.2	4,864.3	19.90	245.486	
7,700.0	7,297.7	7,390.2	7,220.4	22.0	24.8	-11.98	484.7	-4,759.2	4,835.2	4,815.3	19.90	243.000	
7,750.0	7,303.6	7,397.0	7,227.3	22.4	24.8	-20.71	484.7	-4,759.3	4,785.6	4,763.6	22.02	217.285	
7,800.0	7,305.9	7,400.1	7,230.3	22.9	24.8	-58.69	484.7	-4,759.3	4,735.7	4,700.5	35.21	134.501	
7,809.2	7,306.0	7,400.2	7,230.5	23.0	24.8	-76.63	484.7	-4,759.3	4,726.5	4,687.7	38.82	121.758	
7,900.0	7,306.0	7,401.1	7,231.3	24.3	24.8	-76.91	484.7	-4,759.3	4,635.8	4,595.6	40.20	115.327	
8,000.0	7,306.0	7,402.0	7,232.2	26.0	24.8	-77.21	484.7	-4,759.3	4,535.9	4,494.0	41.92	108.201	
8,100.0	7,306.0	7,402.9	7,233.1	27.9	24.8	-77.51	484.7	-4,759.3	4,435.9	4,392.1	43.82	101.225	
8,200.0	7,306.0	7,403.8	7,234.0	30.0	24.8	-77.81	484.7	-4,759.4	4,336.0	4,290.2	45.87	94.532	
8,300.0	7,306.0	7,404.7	7,234.9	32.2	24.8	-78.11	484.7	-4,759.4	4,236.1	4,188.1	48.03	88.195	
8,400.0	7,306.0	7,405.6	7,235.8	34.4	24.8	-78.41	484.7	-4,759.4	4,136.2	4,085.9	50.29	82.246	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,406.5	7,236.7	36.8	24.8	-78.72	484.7	-4,759.4	4,036.3	3,983.6	52.63	76.695	
8,600.0	7,306.0	7,407.4	7,237.7	39.2	24.8	-79.03	484.7	-4,759.4	3,936.4	3,881.3	55.03	71.531	
8,700.0	7,306.0	7,408.3	7,238.6	41.7	24.8	-79.34	484.7	-4,759.4	3,836.4	3,779.0	57.49	66.737	
8,800.0	7,306.0	7,409.2	7,239.5	44.1	24.8	-79.64	484.7	-4,759.4	3,736.5	3,676.6	59.99	62.289	
8,900.0	7,306.0	7,410.2	7,240.4	46.7	24.8	-79.95	484.8	-4,759.4	3,636.6	3,574.1	62.53	58.161	
9,000.0	7,306.0	7,411.0	7,241.3	49.2	24.8	-80.25	484.8	-4,759.4	3,536.8	3,471.7	65.10	54.329	
9,100.0	7,306.0	7,411.9	7,242.2	51.8	24.8	-80.55	484.8	-4,759.4	3,436.9	3,369.2	67.70	50.767	
9,200.0	7,306.0	7,412.8	7,243.0	54.4	24.8	-80.85	484.8	-4,759.4	3,337.0	3,266.7	70.32	47.452	
9,300.0	7,306.0	7,413.7	7,243.9	57.1	24.8	-81.15	484.8	-4,759.4	3,237.1	3,164.1	72.97	44.363	
9,400.0	7,306.0	7,414.6	7,244.8	59.7	24.8	-81.45	484.8	-4,759.4	3,137.2	3,061.6	75.63	41.480	
9,500.0	7,306.0	7,415.5	7,245.7	62.4	24.8	-81.75	484.8	-4,759.5	3,037.4	2,959.1	78.31	38.786	
9,600.0	7,306.0	7,416.3	7,246.5	65.0	24.8	-82.04	484.8	-4,759.5	2,937.5	2,856.5	81.01	36.263	
9,700.0	7,306.0	7,417.2	7,247.4	67.7	24.8	-82.34	484.8	-4,759.5	2,837.7	2,754.0	83.71	33.898	
9,800.0	7,306.0	7,418.0	7,248.3	70.4	24.8	-82.63	484.8	-4,759.5	2,737.9	2,651.5	86.43	31.678	
9,900.0	7,306.0	7,418.9	7,249.1	73.1	24.8	-82.93	484.8	-4,759.5	2,638.1	2,548.9	89.16	29.589	
10,000.0	7,306.0	7,419.7	7,250.0	75.8	24.8	-83.22	484.8	-4,759.5	2,538.3	2,446.4	91.89	27.622	
10,100.0	7,306.0	7,420.6	7,250.8	78.5	24.8	-83.51	484.8	-4,759.5	2,438.5	2,343.9	94.64	25.767	
10,200.0	7,306.0	7,421.4	7,251.6	81.2	24.8	-83.80	484.8	-4,759.5	2,338.7	2,241.4	97.39	24.015	
10,300.0	7,306.0	7,422.3	7,252.5	84.0	24.8	-84.08	484.8	-4,759.5	2,239.0	2,138.9	100.14	22.358	
10,400.0	7,306.0	7,423.1	7,253.3	86.7	24.8	-84.37	484.8	-4,759.5	2,139.3	2,036.4	102.91	20.789	
10,500.0	7,306.0	7,423.9	7,254.1	89.4	24.8	-84.66	484.8	-4,759.5	2,039.6	1,933.9	105.67	19.301	
10,600.0	7,306.0	7,424.7	7,255.0	92.2	24.8	-84.94	484.8	-4,759.5	1,939.9	1,831.5	108.44	17.889	
10,700.0	7,306.0	7,425.6	7,255.8	94.9	24.8	-85.22	484.8	-4,759.5	1,840.3	1,729.1	111.22	16.547	
10,800.0	7,306.0	7,426.4	7,256.6	97.6	24.8	-85.50	484.8	-4,759.5	1,740.8	1,626.8	114.00	15.270	
10,900.0	7,306.0	7,427.2	7,257.4	100.4	24.8	-85.78	484.8	-4,759.5	1,641.2	1,524.5	116.78	14.054	
11,000.0	7,306.0	7,428.0	7,258.2	103.2	24.8	-86.06	484.8	-4,759.5	1,541.8	1,422.2	119.56	12.895	
11,100.0	7,306.0	7,428.8	7,259.0	105.9	24.8	-86.34	484.8	-4,759.6	1,442.4	1,320.0	122.34	11.790	
11,200.0	7,306.0	7,429.6	7,259.8	108.7	24.8	-86.62	484.8	-4,759.6	1,343.1	1,217.9	125.13	10.734	
11,300.0	7,306.0	7,430.4	7,260.6	111.4	24.8	-86.89	484.8	-4,759.6	1,243.9	1,116.0	127.92	9.724	
11,400.0	7,306.0	7,431.2	7,261.4	114.2	24.8	-87.17	484.8	-4,759.6	1,144.8	1,014.1	130.70	8.759	
11,500.0	7,306.0	7,431.9	7,262.2	117.0	24.8	-87.44	484.8	-4,759.6	1,046.0	912.5	133.49	7.836	
11,600.0	7,306.0	7,432.7	7,262.9	119.7	24.8	-87.71	484.8	-4,759.6	947.4	811.1	136.28	6.952	
11,700.0	7,306.0	7,433.5	7,263.7	122.5	24.8	-87.98	484.8	-4,759.6	849.0	710.0	139.07	6.105	
11,800.0	7,306.0	7,434.3	7,264.5	125.3	24.9	-88.25	484.8	-4,759.6	751.2	609.3	141.86	5.295	
11,900.0	7,306.0	7,435.0	7,265.2	128.0	24.9	-88.52	484.8	-4,759.6	654.0	509.3	144.64	4.521	
12,000.0	7,306.0	7,435.8	7,266.0	130.8	24.9	-88.78	484.8	-4,759.6	557.7	410.3	147.43	3.783	
12,100.0	7,306.0	7,436.5	7,266.8	133.6	24.9	-89.05	484.8	-4,759.6	463.1	312.9	150.22	3.083	
12,200.0	7,306.0	7,437.3	7,267.5	136.4	24.9	-89.31	484.8	-4,759.6	371.3	218.3	153.00	2.427	
12,300.0	7,306.0	7,438.1	7,268.3	139.1	24.9	-89.57	484.8	-4,759.6	285.1	129.3	155.78	1.830	
12,400.0	7,306.0	7,438.8	7,269.0	141.9	24.9	-89.83	484.8	-4,759.6	211.3	52.7	158.56	1.333	Level 3
12,500.0	7,306.0	7,439.5	7,269.8	144.7	24.9	-90.09	484.8	-4,759.6	167.5	6.1	161.34	1.038	Level 2
12,533.0	7,306.0	7,439.8	7,270.0	145.6	24.9	-90.18	484.8	-4,759.6	164.2	1.9	162.26	1.012	Level 2, CC, ES, SF
12,600.0	7,306.0	7,440.3	7,270.5	147.5	24.9	-90.35	484.8	-4,759.6	177.3	13.2	164.12	1.080	Level 2
12,700.0	7,306.0	7,441.0	7,271.2	150.3	24.9	-90.61	484.8	-4,759.6	234.1	67.2	166.90	1.403	Level 3
12,800.0	7,306.0	7,441.8	7,272.0	153.0	24.9	-90.86	484.8	-4,759.7	313.4	143.7	169.67	1.847	
12,900.0	7,306.0	7,442.5	7,272.7	155.8	24.9	-91.12	484.8	-4,759.7	402.0	229.6	172.44	2.331	
13,000.0	7,306.0	7,443.2	7,273.4	158.6	24.9	-91.37	484.8	-4,759.7	495.0	319.7	175.21	2.825	
13,100.0	7,306.0	7,443.9	7,274.2	161.4	24.9	-91.62	484.9	-4,759.7	590.2	412.3	177.98	3.316	
13,200.0	7,306.0	7,444.6	7,274.9	164.2	24.9	-91.87	484.9	-4,759.7	686.8	506.1	180.74	3.800	
13,300.0	7,306.0	7,445.4	7,275.6	167.0	24.9	-92.12	484.9	-4,759.7	784.3	600.8	183.50	4.274	
13,400.0	7,306.0	7,446.1	7,276.3	169.8	24.9	-92.37	484.9	-4,759.7	882.3	696.1	186.26	4.737	
13,500.0	7,306.0	7,446.8	7,277.0	172.6	24.9	-92.62	484.9	-4,759.7	980.8	791.8	189.01	5.189	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,600.0	7,306.0	7,447.5	7,277.7	175.3	24.9	-92.86	484.9	-4,759.7	1,079.5	887.7	191.76	5.629	
13,700.0	7,306.0	7,448.2	7,278.4	178.1	24.9	-93.11	484.9	-4,759.7	1,178.4	983.9	194.50	6.059	
13,800.0	7,306.0	7,448.9	7,279.1	180.9	24.9	-93.35	484.9	-4,759.7	1,277.5	1,080.3	197.25	6.477	
13,900.0	7,306.0	7,449.6	7,279.8	183.7	24.9	-93.59	484.9	-4,759.7	1,376.7	1,176.8	199.99	6.884	
14,000.0	7,306.0	7,450.3	7,280.5	186.5	24.9	-93.83	484.9	-4,759.7	1,476.1	1,273.4	202.72	7.281	
14,100.0	7,306.0	7,451.0	7,281.2	189.3	24.9	-94.07	484.9	-4,759.7	1,575.5	1,370.0	205.45	7.668	
14,200.0	7,306.0	7,451.6	7,281.9	192.1	24.9	-94.31	484.9	-4,759.7	1,675.0	1,466.8	208.18	8.046	
14,300.0	7,306.0	7,452.3	7,282.5	194.9	24.9	-94.54	484.9	-4,759.7	1,774.5	1,563.6	210.91	8.414	
14,363.6	7,306.0	7,452.7	7,283.0	196.7	24.9	-94.69	484.9	-4,759.7	1,837.8	1,625.2	212.63	8.643	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-46.06	1,841.3	-1,910.9	2,653.7				
100.0	100.0	87.4	87.4	0.1	0.1	-46.06	1,841.2	-1,910.9	2,653.6	2,653.4	0.18	N/A	
200.0	200.0	189.7	189.7	0.3	0.2	-46.07	1,841.1	-1,910.9	2,653.5	2,653.0	0.49	5,364.907	
300.0	300.0	291.9	291.9	0.5	0.3	-46.07	1,840.9	-1,910.8	2,653.3	2,652.5	0.81	3,265.888	
400.0	400.0	394.2	394.2	0.8	0.4	-46.07	1,840.5	-1,910.7	2,653.0	2,651.9	1.13	2,347.276	
500.0	500.0	496.4	496.4	1.0	0.5	-46.08	1,840.1	-1,910.6	2,652.6	2,651.2	1.45	1,831.841	
600.0	600.0	598.7	598.7	1.2	0.5	-46.08	1,839.5	-1,910.5	2,652.2	2,650.4	1.77	1,501.893	
700.0	700.0	700.9	700.9	1.4	0.6	-46.09	1,838.9	-1,910.4	2,651.7	2,649.6	2.08	1,272.556	
800.0	800.0	800.2	800.2	1.7	0.8	-92.50	1,838.2	-1,910.2	2,651.2	2,648.7	2.51	1,056.654	
900.0	899.8	896.3	896.3	1.9	1.0	-92.62	1,837.6	-1,910.2	2,650.9	2,648.0	2.93	906.269	
1,000.0	999.5	1,012.3	1,012.3	2.1	1.3	-92.86	1,836.8	-1,910.1	2,650.9	2,647.5	3.39	781.956	
1,100.0	1,098.7	1,238.2	1,238.0	2.4	1.8	-93.65	1,826.8	-1,909.3	2,648.3	2,644.2	4.15	638.204	
1,200.0	1,197.5	1,463.4	1,461.9	2.7	2.4	-94.88	1,803.6	-1,906.1	2,641.5	2,636.5	4.99	529.274	
1,299.9	1,295.5	1,737.6	1,732.2	3.0	3.3	-96.82	1,758.9	-1,895.0	2,629.0	2,622.9	6.08	432.234	
1,300.0	1,295.6	1,737.9	1,732.4	3.0	3.3	-96.82	1,758.8	-1,894.9	2,629.0	2,622.9	6.08	432.141	
1,400.0	1,393.4	2,029.2	2,015.9	3.4	4.5	-98.86	1,696.7	-1,870.8	2,611.8	2,604.5	7.34	355.916	
1,500.0	1,491.3	2,118.2	2,101.9	3.7	4.9	-99.47	1,676.3	-1,859.8	2,590.3	2,582.4	7.98	324.584	
1,600.0	1,589.1	2,210.2	2,190.7	4.1	5.3	-100.10	1,655.5	-1,848.4	2,569.3	2,560.6	8.63	297.731	
1,700.0	1,686.9	2,299.5	2,276.9	4.5	5.6	-100.74	1,635.1	-1,837.6	2,548.7	2,539.4	9.30	273.939	
1,800.0	1,784.7	2,404.7	2,378.4	5.0	6.2	-101.53	1,609.8	-1,825.7	2,528.3	2,518.2	10.07	250.980	
1,900.0	1,882.5	2,558.6	2,526.1	5.4	7.0	-102.74	1,570.7	-1,807.7	2,507.4	2,496.3	11.07	226.456	
2,000.0	1,980.3	2,683.4	2,644.9	5.8	7.7	-103.78	1,536.0	-1,791.8	2,484.5	2,472.5	12.00	206.953	
2,100.0	2,078.1	2,762.0	2,719.7	6.2	8.1	-104.45	1,513.9	-1,781.7	2,461.9	2,449.2	12.74	193.320	
2,200.0	2,176.0	2,824.2	2,779.0	6.7	8.5	-104.99	1,496.6	-1,774.3	2,440.7	2,427.3	13.39	182.280	
2,300.0	2,273.8	2,903.7	2,855.0	7.1	8.9	-105.70	1,474.7	-1,765.6	2,420.8	2,406.7	14.13	171.287	
2,400.0	2,371.6	3,002.8	2,949.5	7.5	9.4	-106.60	1,447.1	-1,754.8	2,401.5	2,386.5	14.98	160.270	
2,500.0	2,469.4	3,087.5	3,030.4	8.0	9.9	-107.36	1,423.9	-1,745.1	2,382.5	2,366.7	15.77	151.118	
2,600.0	2,567.2	3,168.5	3,108.0	8.4	10.3	-108.08	1,402.9	-1,735.7	2,364.6	2,348.1	16.52	143.166	
2,700.0	2,665.0	3,253.8	3,189.9	8.8	10.7	-108.83	1,381.2	-1,725.5	2,347.3	2,330.1	17.28	135.839	
2,800.0	2,762.9	3,323.0	3,256.5	9.3	11.1	-109.43	1,364.2	-1,717.6	2,331.4	2,313.4	17.98	129.666	
2,900.0	2,860.7	3,397.4	3,328.3	9.7	11.4	-110.08	1,346.6	-1,709.4	2,316.7	2,298.1	18.69	123.959	
3,000.0	2,958.5	3,467.5	3,396.2	10.2	11.7	-110.68	1,330.8	-1,701.9	2,303.4	2,284.0	19.38	118.844	
3,100.0	3,056.3	3,535.1	3,461.8	10.6	12.0	-111.27	1,315.9	-1,695.3	2,291.5	2,271.4	20.06	114.210	
3,200.0	3,154.1	3,604.0	3,528.8	11.1	12.3	-111.87	1,301.0	-1,689.3	2,281.2	2,260.5	20.75	109.929	
3,300.0	3,251.9	3,745.1	3,666.2	11.5	13.0	-113.08	1,271.2	-1,676.2	2,271.4	2,249.7	21.73	104.519	
3,400.0	3,349.8	3,887.3	3,803.2	12.0	13.7	-114.40	1,236.8	-1,661.0	2,259.3	2,236.5	22.79	99.145	
3,500.0	3,447.6	3,997.7	3,909.1	12.4	14.3	-115.48	1,208.0	-1,648.4	2,246.5	2,222.7	23.73	94.650	
3,600.0	3,545.4	4,071.0	3,979.4	12.8	14.7	-116.20	1,189.0	-1,640.3	2,234.7	2,210.2	24.50	91.226	
3,700.0	3,643.2	4,136.6	4,042.6	13.3	15.1	-116.83	1,172.8	-1,633.3	2,224.4	2,199.2	25.20	88.287	
3,800.0	3,741.0	4,221.0	4,124.2	13.7	15.5	-117.63	1,153.2	-1,624.6	2,215.5	2,189.5	25.98	85.294	
3,900.0	3,838.8	4,331.5	4,230.9	14.2	16.0	-118.69	1,126.8	-1,613.2	2,207.1	2,180.2	26.89	82.074	
4,000.0	3,936.6	4,409.3	4,305.9	14.6	16.4	-119.45	1,108.0	-1,605.0	2,198.9	2,171.2	27.65	79.511	
4,100.0	4,034.5	4,488.1	4,382.2	15.1	16.8	-120.20	1,089.8	-1,597.1	2,192.1	2,163.7	28.41	77.170	
4,200.0	4,132.3	4,564.1	4,455.9	15.5	17.2	-120.92	1,072.7	-1,589.7	2,186.4	2,157.3	29.13	75.061	
4,300.0	4,230.1	4,633.0	4,523.1	16.0	17.5	-121.54	1,058.7	-1,583.6	2,182.6	2,152.8	29.81	73.220	
4,400.0	4,327.9	4,696.6	4,585.3	16.4	17.7	-122.10	1,046.9	-1,578.4	2,180.4	2,150.0	30.44	71.620	
4,500.0	4,425.7	4,768.5	4,655.9	16.9	18.0	-122.70	1,034.6	-1,572.8	2,179.7	2,148.6	31.10	70.093	
4,500.0	4,425.7	4,768.5	4,656.0	16.9	18.0	-122.70	1,034.6	-1,572.8	2,179.7	2,148.6	31.10	70.092	
4,600.0	4,523.5	4,848.3	4,734.6	17.3	18.3	-123.34	1,022.3	-1,567.2	2,180.4	2,148.6	31.76	68.652	
4,700.0	4,621.4	4,936.3	4,821.5	17.8	18.6	-124.01	1,010.0	-1,560.8	2,181.6	2,149.1	32.43	67.278	
4,800.0	4,719.2	5,007.0	4,891.6	18.2	18.8	-124.51	1,002.0	-1,556.3	2,184.5	2,151.5	33.02	66.159	
4,900.0	4,817.0	5,068.3	4,952.6	18.7	19.0	-124.91	996.1	-1,553.0	2,189.0	2,155.5	33.56	65.221	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	5,145.1	5,029.0	19.1	19.2	-125.40	989.6	-1,549.3	2,194.7	2,160.6	34.13	64.305	
5,100.0	5,012.6	5,218.3	5,101.9	19.6	19.3	-125.82	985.3	-1,546.2	2,201.6	2,167.0	34.67	63.505	
5,200.0	5,110.4	5,288.0	5,171.6	20.0	19.4	-126.19	982.1	-1,543.9	2,209.9	2,174.7	35.18	62.812	
5,221.3	5,131.3	5,288.0	5,171.6	20.1	19.4	-126.19	982.1	-1,543.9	2,211.9	2,176.7	35.27	62.720	
5,300.0	5,208.5	5,341.4	5,224.9	20.4	19.5	-126.57	980.6	-1,542.8	2,219.3	2,183.7	35.64	62.267	
5,400.0	5,307.1	5,403.9	5,287.4	20.7	19.6	-126.93	980.3	-1,542.7	2,228.8	2,192.7	36.03	61.861	
5,500.0	5,406.3	5,496.8	5,380.4	21.0	19.7	-127.31	980.5	-1,543.0	2,237.0	2,200.6	36.39	61.468	
5,600.0	5,505.8	5,596.1	5,479.7	21.2	19.8	-127.60	980.7	-1,543.5	2,243.3	2,206.6	36.72	61.092	
5,700.0	5,605.6	5,696.8	5,580.4	21.4	19.9	-127.79	980.6	-1,544.1	2,247.5	2,210.5	37.01	60.733	
5,800.0	5,705.6	5,807.3	5,690.8	21.5	20.0	-127.88	980.3	-1,544.4	2,249.3	2,212.0	37.27	60.357	
5,821.2	5,726.8	5,830.6	5,714.1	21.5	20.1	-81.54	980.1	-1,544.4	2,249.3	2,216.8	32.50	69.211	
5,900.0	5,805.6	5,913.7	5,797.3	21.6	20.2	-81.55	979.4	-1,544.4	2,249.2	2,216.4	32.74	68.694	
6,000.0	5,905.6	6,017.6	5,901.1	21.7	20.3	-81.58	978.3	-1,544.1	2,248.8	2,215.7	33.07	68.006	
6,100.0	6,005.6	6,119.1	6,002.6	21.9	20.5	-81.61	977.1	-1,543.8	2,248.3	2,214.9	33.39	67.327	
6,200.0	6,105.6	6,222.1	6,105.7	22.0	20.6	-81.64	975.8	-1,543.4	2,247.7	2,214.0	33.73	66.646	
6,300.0	6,205.6	6,323.9	6,207.4	22.1	20.8	-81.67	974.5	-1,542.9	2,247.0	2,213.0	34.06	65.971	
6,400.0	6,305.6	6,426.4	6,309.9	22.3	20.9	-81.71	973.0	-1,542.3	2,246.3	2,211.9	34.40	65.298	
6,500.0	6,405.6	6,528.9	6,412.4	22.4	21.1	-81.74	971.6	-1,541.6	2,245.4	2,210.6	34.74	64.628	
6,600.0	6,505.6	6,631.4	6,514.9	22.5	21.2	-81.78	970.0	-1,540.8	2,244.4	2,209.3	35.09	63.962	
6,684.2	6,589.8	6,721.4	6,604.8	22.6	21.3	-81.81	968.5	-1,539.9	2,243.4	2,208.0	35.39	63.387	
6,700.0	6,605.6	6,738.8	6,622.2	22.7	21.4	8.19	968.2	-1,539.7	2,243.0	2,203.1	39.90	56.217	
6,750.0	6,655.5	6,793.4	6,676.8	22.7	21.5	8.22	967.3	-1,539.0	2,239.4	2,199.7	39.80	56.273	
6,800.0	6,705.1	6,846.5	6,729.9	22.7	21.6	8.30	966.2	-1,538.3	2,232.4	2,192.8	39.52	56.485	
6,850.0	6,754.1	6,899.5	6,782.9	22.7	21.6	8.44	965.0	-1,537.5	2,221.8	2,182.7	39.08	56.854	
6,900.0	6,802.3	6,952.4	6,835.8	22.7	21.7	8.63	963.6	-1,536.6	2,207.8	2,169.3	38.47	57.382	
6,950.0	6,849.5	7,006.2	6,889.5	22.6	21.8	8.89	961.9	-1,535.6	2,190.4	2,152.6	37.72	58.072	
7,000.0	6,895.5	7,059.5	6,942.8	22.5	21.9	9.23	960.1	-1,534.4	2,169.6	2,132.8	36.81	58.935	
7,050.0	6,939.9	7,101.7	6,984.9	22.4	22.0	9.64	958.6	-1,533.4	2,145.7	2,109.9	35.75	60.019	
7,100.0	6,982.6	7,140.9	7,024.1	22.3	22.1	10.16	957.4	-1,532.5	2,118.9	2,084.3	34.56	61.312	
7,150.0	7,023.4	7,178.0	7,061.2	22.2	22.2	10.79	956.3	-1,531.7	2,089.3	2,056.0	33.26	62.818	
7,200.0	7,062.2	7,212.9	7,096.0	22.1	22.2	11.56	955.2	-1,531.0	2,057.1	2,025.2	31.87	64.539	
7,250.0	7,098.6	7,245.6	7,128.8	22.0	22.3	12.51	954.1	-1,530.4	2,022.4	1,991.9	30.43	66.453	
7,300.0	7,132.5	7,276.2	7,159.3	21.9	22.3	13.68	953.0	-1,529.9	1,985.4	1,956.4	28.98	68.509	
7,350.0	7,163.8	7,304.3	7,187.4	21.8	22.4	15.15	952.0	-1,529.5	1,946.2	1,918.6	27.57	70.598	
7,400.0	7,192.2	7,330.0	7,213.1	21.7	22.4	17.01	951.0	-1,529.2	1,905.1	1,878.8	26.28	72.503	
7,450.0	7,217.8	7,346.0	7,229.1	21.6	22.5	19.30	950.4	-1,529.0	1,862.2	1,837.1	25.19	73.913	
7,500.0	7,240.3	7,369.1	7,252.1	21.6	22.5	22.49	949.6	-1,528.7	1,817.8	1,793.3	24.57	73.995	
7,550.0	7,259.6	7,383.9	7,266.9	21.6	22.5	26.65	949.1	-1,528.6	1,772.1	1,747.5	24.59	72.058	
7,600.0	7,275.7	7,396.2	7,279.3	21.6	22.5	32.43	948.8	-1,528.5	1,725.3	1,699.6	25.67	67.214	
7,650.0	7,288.4	7,406.1	7,289.1	21.8	22.6	40.64	948.6	-1,528.5	1,677.6	1,649.4	28.20	59.482	
7,700.0	7,297.7	7,413.3	7,296.3	22.0	22.6	52.43	948.4	-1,528.4	1,629.2	1,596.9	32.32	50.409	
7,750.0	7,303.6	7,417.8	7,300.8	22.4	22.6	68.75	948.3	-1,528.4	1,580.4	1,543.3	37.06	42.648	
7,800.0	7,305.9	7,419.5	7,302.6	22.9	22.6	88.44	948.3	-1,528.4	1,531.4	1,491.6	39.82	38.455	
7,809.2	7,306.0	7,419.6	7,302.6	23.0	22.6	92.13	948.3	-1,528.4	1,522.4	1,482.4	39.92	38.133	
7,900.0	7,306.0	7,419.3	7,302.4	24.3	22.6	92.08	948.3	-1,528.4	1,433.5	1,392.1	41.30	34.704	
8,000.0	7,306.0	7,419.1	7,302.1	26.0	22.6	92.03	948.3	-1,528.4	1,335.8	1,292.8	43.03	31.042	
8,100.0	7,306.0	7,418.8	7,301.8	27.9	22.6	91.97	948.3	-1,528.4	1,238.6	1,193.6	44.94	27.562	
8,200.0	7,306.0	7,418.5	7,301.5	30.0	22.6	91.92	948.3	-1,528.4	1,141.8	1,094.8	46.98	24.302	
8,300.0	7,306.0	7,418.2	7,301.2	32.2	22.6	91.86	948.3	-1,528.4	1,045.6	996.5	49.15	21.275	
8,400.0	7,306.0	7,417.9	7,300.9	34.4	22.6	91.81	948.3	-1,528.4	950.2	898.8	51.40	18.486	
8,500.0	7,306.0	7,417.6	7,300.6	36.8	22.6	91.75	948.3	-1,528.4	855.9	802.2	53.74	15.928	
8,600.0	7,306.0	7,417.3	7,300.3	39.2	22.6	91.69	948.3	-1,528.4	763.0	706.9	56.13	13.593	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,700.0	7,306.0	7,417.0	7,300.0	41.7	22.6	91.63	948.3	-1,528.4	672.2	613.6	58.58	11.475	
8,800.0	7,306.0	7,416.7	7,299.7	44.1	22.6	91.57	948.3	-1,528.4	584.4	523.3	61.07	9.569	
8,900.0	7,306.0	7,416.3	7,299.4	46.7	22.6	91.51	948.3	-1,528.4	501.1	437.5	63.60	7.880	
9,000.0	7,306.0	7,416.0	7,299.0	49.2	22.6	91.44	948.3	-1,528.4	425.2	359.0	66.16	6.427	
9,100.0	7,306.0	7,415.7	7,298.7	51.8	22.6	91.38	948.3	-1,528.4	361.1	292.4	68.74	5.253	
9,200.0	7,306.0	7,415.3	7,298.4	54.4	22.6	91.31	948.3	-1,528.4	316.3	244.9	71.35	4.433	
9,300.0	7,306.0	7,415.0	7,298.0	57.1	22.6	91.25	948.4	-1,528.4	299.4	225.5	73.97	4.048	
9,301.8	7,306.0	7,415.0	7,298.0	57.1	22.6	91.24	948.4	-1,528.4	299.4	225.4	74.02	4.045	CC, ES, SF
9,400.0	7,306.0	7,414.6	7,297.6	59.7	22.6	91.18	948.4	-1,528.4	315.1	238.5	76.61	4.113	
9,500.0	7,306.0	7,414.2	7,297.3	62.4	22.6	91.11	948.4	-1,528.4	359.1	279.8	79.27	4.529	
9,600.0	7,306.0	7,413.9	7,296.9	65.0	22.6	91.03	948.4	-1,528.4	422.6	340.6	81.94	5.157	
9,700.0	7,306.0	7,413.5	7,296.5	67.7	22.6	90.96	948.4	-1,528.4	498.2	413.6	84.62	5.887	
9,800.0	7,306.0	7,413.1	7,296.1	70.4	22.6	90.88	948.4	-1,528.4	581.2	493.9	87.31	6.657	
9,900.0	7,306.0	7,412.7	7,295.7	73.1	22.6	90.81	948.4	-1,528.4	668.9	578.9	90.01	7.431	
10,000.0	7,306.0	7,412.3	7,295.3	75.8	22.6	90.73	948.4	-1,528.4	759.7	666.9	92.72	8.193	
10,100.0	7,306.0	7,411.8	7,294.9	78.5	22.6	90.65	948.4	-1,528.4	852.5	757.0	95.44	8.932	
10,200.0	7,306.0	7,411.4	7,294.4	81.2	22.6	90.56	948.4	-1,528.4	946.7	848.6	98.16	9.645	
10,300.0	7,306.0	7,411.0	7,294.0	84.0	22.6	90.48	948.4	-1,528.5	1,042.1	941.2	100.88	10.330	
10,400.0	7,306.0	7,410.5	7,293.5	86.7	22.6	90.39	948.5	-1,528.5	1,138.2	1,034.6	103.62	10.985	
10,500.0	7,306.0	7,410.0	7,293.1	89.4	22.6	90.30	948.5	-1,528.5	1,235.0	1,128.6	106.35	11.612	
10,600.0	7,306.0	7,409.6	7,292.6	92.2	22.6	90.21	948.5	-1,528.5	1,332.2	1,223.1	109.09	12.212	
10,700.0	7,306.0	7,409.1	7,292.1	94.9	22.6	90.11	948.5	-1,528.5	1,429.8	1,318.0	111.84	12.785	
10,800.0	7,306.0	7,408.6	7,291.6	97.6	22.6	90.02	948.5	-1,528.5	1,527.8	1,413.2	114.59	13.333	
10,900.0	7,306.0	7,408.0	7,291.1	100.4	22.6	89.92	948.5	-1,528.5	1,626.0	1,508.6	117.34	13.857	
11,000.0	7,306.0	7,407.5	7,290.5	103.2	22.6	89.82	948.5	-1,528.5	1,724.3	1,604.3	120.09	14.359	
11,100.0	7,306.0	7,407.0	7,290.0	105.9	22.6	89.71	948.5	-1,528.5	1,822.9	1,700.1	122.85	14.839	
11,200.0	7,306.0	7,406.4	7,289.4	108.7	22.6	89.61	948.5	-1,528.5	1,921.6	1,796.0	125.60	15.299	
11,300.0	7,306.0	7,405.8	7,288.9	111.4	22.6	89.50	948.6	-1,528.5	2,020.5	1,892.1	128.36	15.740	
11,400.0	7,306.0	7,405.2	7,288.3	114.2	22.6	89.38	948.6	-1,528.5	2,119.4	1,988.3	131.13	16.163	
11,500.0	7,306.0	7,404.6	7,287.7	117.0	22.6	89.27	948.6	-1,528.5	2,218.4	2,084.6	133.89	16.569	
11,600.0	7,306.0	7,404.0	7,287.0	119.7	22.6	89.15	948.6	-1,528.5	2,317.6	2,180.9	136.65	16.960	
11,700.0	7,306.0	7,403.4	7,286.4	122.5	22.6	89.02	948.6	-1,528.5	2,416.8	2,277.3	139.42	17.335	
11,800.0	7,306.0	7,402.7	7,285.7	125.3	22.6	88.90	948.6	-1,528.5	2,516.0	2,373.8	142.18	17.696	
11,900.0	7,306.0	7,402.0	7,285.0	128.0	22.6	88.77	948.7	-1,528.5	2,615.3	2,470.4	144.95	18.043	
12,000.0	7,306.0	7,401.3	7,284.3	130.8	22.5	88.63	948.7	-1,528.5	2,714.7	2,567.0	147.72	18.378	
12,100.0	7,306.0	7,400.6	7,283.6	133.6	22.5	88.49	948.7	-1,528.5	2,814.1	2,663.6	150.48	18.701	
12,200.0	7,306.0	7,399.8	7,282.9	136.4	22.5	88.35	948.7	-1,528.5	2,913.6	2,760.3	153.25	19.012	
12,300.0	7,306.0	7,399.0	7,282.1	139.1	22.5	88.20	948.7	-1,528.5	3,013.0	2,857.0	156.01	19.313	
12,400.0	7,306.0	7,398.2	7,281.3	141.9	22.5	88.05	948.7	-1,528.5	3,112.6	2,953.8	158.78	19.603	
12,500.0	7,306.0	7,397.4	7,280.5	144.7	22.5	87.89	948.8	-1,528.5	3,212.1	3,050.6	161.54	19.884	
12,600.0	7,306.0	7,396.6	7,279.6	147.5	22.5	87.73	948.8	-1,528.5	3,311.7	3,147.4	164.31	20.155	
12,700.0	7,306.0	7,395.7	7,278.7	150.3	22.5	87.56	948.8	-1,528.5	3,411.3	3,244.2	167.07	20.418	
12,800.0	7,306.0	7,394.8	7,277.8	153.0	22.5	87.38	948.8	-1,528.5	3,510.9	3,341.1	169.83	20.673	
12,900.0	7,306.0	7,393.8	7,276.9	155.8	22.5	87.20	948.9	-1,528.5	3,610.6	3,438.0	172.59	20.920	
13,000.0	7,306.0	7,392.8	7,275.9	158.6	22.5	87.02	948.9	-1,528.5	3,710.2	3,534.9	175.34	21.160	
13,100.0	7,306.0	7,391.8	7,274.9	161.4	22.5	86.82	948.9	-1,528.6	3,809.9	3,631.8	178.10	21.392	
13,200.0	7,306.0	7,390.8	7,273.8	164.2	22.5	86.62	948.9	-1,528.6	3,909.6	3,728.8	180.84	21.619	
13,300.0	7,306.0	7,389.7	7,272.7	167.0	22.5	86.42	949.0	-1,528.6	4,009.3	3,825.7	183.59	21.838	
13,400.0	7,306.0	7,388.5	7,271.6	169.8	22.5	86.20	949.0	-1,528.6	4,109.0	3,922.7	186.33	22.052	
13,500.0	7,306.0	7,387.3	7,270.4	172.6	22.5	85.97	949.0	-1,528.6	4,208.8	4,019.7	189.07	22.261	
13,600.0	7,306.0	7,386.1	7,269.1	175.3	22.5	85.74	949.1	-1,528.6	4,308.5	4,116.7	191.80	22.464	
13,700.0	7,306.0	7,384.8	7,267.9	178.1	22.5	85.50	949.1	-1,528.6	4,408.3	4,213.8	194.52	22.662	

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-404
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-404	**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 #2	**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
13,800.0	7,306.0	7,383.5	7,266.5	180.9	22.5	85.24	949.2	-1,528.6	4,508.1	4,310.8	197.24	22.856	
13,900.0	7,306.0	7,382.1	7,265.1	183.7	22.5	84.98	949.2	-1,528.6	4,607.8	4,407.9	199.95	23.045	
14,000.0	7,306.0	7,380.6	7,263.7	186.5	22.5	84.71	949.2	-1,528.6	4,707.6	4,505.0	202.65	23.230	
14,100.0	7,306.0	7,379.1	7,262.1	189.3	22.5	84.42	949.3	-1,528.6	4,807.4	4,602.1	205.34	23.412	
14,200.0	7,306.0	7,377.5	7,260.6	192.1	22.5	84.12	949.3	-1,528.7	4,907.2	4,699.2	208.02	23.590	
14,300.0	7,306.0	7,375.8	7,258.9	194.9	22.5	83.80	949.4	-1,528.7	5,007.0	4,796.4	210.69	23.765	
14,363.6	7,306.0	7,374.7	7,257.8	196.7	22.5	83.60	949.4	-1,528.7	5,070.5	4,858.1	212.37	23.875	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-46.44	1,838.4	-1,933.5	2,668.0				
100.0	100.0	84.9	84.9	0.1	0.1	-46.44	1,838.5	-1,933.4	2,668.0	2,667.8	0.17	N/A	
200.0	200.0	184.3	184.3	0.3	0.2	-46.43	1,838.8	-1,933.1	2,668.0	2,667.5	0.49	5,439.153	
300.0	300.0	283.6	283.6	0.5	0.3	-46.41	1,839.4	-1,932.6	2,668.1	2,667.3	0.81	3,309.686	
400.0	400.0	382.9	382.9	0.8	0.4	-46.39	1,840.3	-1,931.9	2,668.1	2,667.0	1.12	2,378.554	
500.0	500.0	482.2	482.2	1.0	0.4	-46.36	1,841.5	-1,930.9	2,668.3	2,666.8	1.44	1,856.362	
600.0	600.0	581.5	581.5	1.2	0.5	-46.32	1,842.9	-1,929.8	2,668.4	2,666.6	1.75	1,522.226	
700.0	700.0	680.8	680.7	1.4	0.6	-46.27	1,844.6	-1,928.4	2,668.6	2,666.5	2.07	1,290.067	
800.0	800.0	779.1	779.0	1.7	0.8	-92.61	1,846.3	-1,927.0	2,668.8	2,666.4	2.47	1,081.644	
900.0	899.8	872.1	872.0	1.9	1.0	-92.68	1,847.2	-1,926.6	2,669.4	2,666.6	2.86	931.835	
1,000.0	999.5	1,018.4	1,018.3	2.1	1.3	-93.05	1,843.9	-1,929.4	2,669.8	2,666.4	3.38	789.439	
1,100.0	1,098.7	1,281.0	1,279.3	2.4	1.9	-94.34	1,818.5	-1,939.3	2,667.4	2,663.2	4.24	628.657	
1,200.0	1,197.5	1,411.1	1,407.4	2.7	2.3	-95.33	1,796.7	-1,945.0	2,660.4	2,655.5	4.92	541.113	
1,299.9	1,295.5	1,678.4	1,666.5	3.0	3.4	-97.84	1,733.6	-1,961.0	2,651.7	2,645.4	6.31	420.394	
1,300.0	1,295.6	1,678.6	1,666.7	3.0	3.4	-97.84	1,733.6	-1,961.0	2,651.7	2,645.4	6.31	420.305	
1,400.0	1,393.4	1,843.4	1,823.6	3.4	4.3	-99.50	1,684.0	-1,969.6	2,638.9	2,631.4	7.49	352.374	
1,500.0	1,491.3	1,969.9	1,943.6	3.7	5.0	-100.79	1,644.1	-1,974.4	2,625.2	2,616.7	8.49	309.188	
1,600.0	1,589.1	2,074.9	2,043.0	4.1	5.6	-101.87	1,610.4	-1,976.8	2,610.7	2,601.3	9.42	277.243	
1,700.0	1,686.9	2,139.9	2,104.5	4.5	5.9	-102.54	1,589.5	-1,978.5	2,597.4	2,587.2	10.14	256.093	
1,800.0	1,784.7	2,199.0	2,160.7	5.0	6.2	-103.15	1,571.2	-1,980.4	2,585.9	2,575.1	10.84	238.644	
1,900.0	1,882.5	2,274.1	2,232.1	5.4	6.6	-103.93	1,548.1	-1,983.5	2,576.0	2,564.4	11.63	221.534	
2,000.0	1,980.3	2,401.2	2,352.8	5.8	7.3	-105.27	1,508.7	-1,988.1	2,566.5	2,553.8	12.72	201.762	
2,100.0	2,078.1	2,506.3	2,452.6	6.2	7.9	-106.37	1,475.9	-1,990.5	2,556.8	2,543.1	13.70	186.565	
2,200.0	2,176.0	2,612.9	2,553.5	6.7	8.6	-107.51	1,441.4	-1,993.0	2,547.3	2,532.6	14.74	172.781	
2,300.0	2,273.8	2,729.1	2,662.9	7.1	9.3	-108.80	1,402.2	-1,995.4	2,538.0	2,522.2	15.87	159.919	
2,400.0	2,371.6	2,811.3	2,740.2	7.5	9.8	-109.71	1,374.4	-1,996.5	2,528.9	2,512.2	16.76	150.881	
2,500.0	2,469.4	2,883.3	2,808.2	8.0	10.2	-110.49	1,350.9	-1,997.5	2,521.4	2,503.8	17.58	143.434	
2,600.0	2,567.2	2,948.0	2,869.2	8.4	10.6	-111.21	1,329.3	-1,998.9	2,515.1	2,496.8	18.36	137.004	
2,700.0	2,665.0	3,013.9	2,931.3	8.8	11.0	-111.96	1,307.1	-2,001.1	2,510.6	2,491.4	19.17	130.987	
2,800.0	2,762.9	3,069.1	2,983.2	9.3	11.3	-112.58	1,288.9	-2,003.7	2,508.1	2,488.2	19.90	126.056	
2,868.2	2,829.5	3,106.5	3,018.7	9.6	11.5	-113.00	1,277.0	-2,005.5	2,507.6	2,487.3	20.38	123.021	
2,900.0	2,860.7	3,135.0	3,045.8	9.7	11.7	-113.31	1,268.3	-2,007.1	2,507.8	2,487.1	20.67	121.324	
3,000.0	2,958.5	3,206.4	3,113.7	10.2	12.1	-114.09	1,246.4	-2,011.2	2,509.0	2,487.5	21.49	116.779	
3,100.0	3,056.3	3,274.3	3,177.9	10.6	12.5	-114.86	1,225.0	-2,015.5	2,511.5	2,489.2	22.29	112.685	
3,200.0	3,154.1	3,364.9	3,263.7	11.1	13.0	-115.87	1,196.8	-2,022.0	2,515.7	2,492.5	23.21	108.380	
3,300.0	3,251.9	3,509.0	3,400.4	11.5	13.9	-117.45	1,151.6	-2,029.5	2,518.9	2,494.5	24.43	103.123	
3,400.0	3,349.8	3,554.0	3,443.0	12.0	14.1	-117.95	1,137.5	-2,031.7	2,523.2	2,498.1	25.08	100.590	
3,500.0	3,447.6	3,603.0	3,489.6	12.4	14.4	-118.48	1,122.6	-2,035.2	2,530.1	2,504.3	25.76	98.216	
3,600.0	3,545.4	3,643.3	3,527.9	12.8	14.6	-118.92	1,110.6	-2,038.7	2,539.4	2,513.0	26.38	96.248	
3,700.0	3,643.2	3,698.6	3,580.4	13.3	15.0	-119.52	1,094.1	-2,044.1	2,550.7	2,523.6	27.08	94.183	
3,800.0	3,741.0	3,850.5	3,723.5	13.7	15.9	-121.23	1,045.3	-2,058.8	2,562.2	2,533.9	28.38	90.290	
3,900.0	3,838.8	3,986.8	3,850.2	14.2	16.9	-122.84	996.4	-2,070.2	2,573.0	2,543.4	29.63	86.824	
4,000.0	3,936.6	4,107.8	3,962.4	14.6	17.7	-124.27	951.8	-2,078.4	2,583.3	2,552.5	30.75	83.997	
4,100.0	4,034.5	4,190.1	4,038.9	15.1	18.2	-125.23	921.8	-2,083.2	2,594.0	2,562.4	31.61	82.070	
4,200.0	4,132.3	4,258.0	4,102.4	15.5	18.6	-126.00	898.1	-2,087.6	2,606.4	2,574.0	32.36	80.543	
4,300.0	4,230.1	4,355.6	4,193.5	16.0	19.3	-127.10	863.8	-2,094.0	2,619.9	2,586.6	33.29	78.706	
4,400.0	4,327.9	4,447.0	4,278.4	16.4	19.9	-128.14	830.4	-2,099.7	2,633.8	2,599.6	34.22	76.977	
4,500.0	4,425.7	4,548.9	4,372.8	16.9	20.7	-129.31	792.5	-2,105.5	2,648.3	2,613.1	35.20	75.234	
4,600.0	4,523.5	4,618.8	4,437.3	17.3	21.2	-130.11	765.8	-2,109.6	2,663.9	2,627.9	35.99	74.010	
4,700.0	4,621.4	4,696.4	4,508.8	17.8	21.7	-131.00	736.2	-2,114.4	2,680.8	2,644.0	36.79	72.867	
4,800.0	4,719.2	4,819.0	4,622.7	18.2	22.5	-132.35	691.4	-2,121.4	2,698.3	2,660.5	37.79	71.402	
4,900.0	4,817.0	4,902.0	4,700.0	18.7	23.1	-133.24	661.5	-2,125.4	2,716.0	2,677.4	38.57	70.419	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,977.2	4,770.4	19.1	23.5	-134.03	635.1	-2,129.1	2,734.7	2,695.5	39.29	69.609	
5,100.0	5,012.6	5,104.1	4,889.9	19.6	24.3	-135.29	592.9	-2,135.2	2,754.2	2,714.0	40.19	68.521	
5,200.0	5,110.4	5,227.1	5,008.5	20.0	24.9	-136.33	560.6	-2,139.3	2,772.9	2,731.9	40.95	67.709	
5,221.3	5,131.3	5,260.1	5,040.6	20.1	25.0	-136.58	553.3	-2,140.1	2,776.8	2,735.6	41.12	67.526	
5,300.0	5,208.5	5,355.4	5,134.1	20.4	25.4	-137.40	534.7	-2,141.9	2,789.9	2,748.2	41.64	66.996	
5,400.0	5,307.1	5,455.7	5,232.9	20.7	25.7	-138.17	517.9	-2,143.4	2,804.2	2,762.0	42.16	66.511	
5,500.0	5,406.3	5,553.8	5,330.1	21.0	26.0	-138.77	504.5	-2,144.9	2,816.0	2,773.4	42.61	66.086	
5,600.0	5,505.8	5,628.4	5,404.1	21.2	26.2	-139.17	495.8	-2,146.4	2,825.8	2,782.8	42.96	65.770	
5,700.0	5,605.6	5,762.4	5,537.4	21.4	26.6	-139.65	481.7	-2,149.4	2,833.2	2,789.9	43.39	65.300	
5,800.0	5,705.6	5,886.5	5,661.0	21.5	26.8	-139.95	470.9	-2,150.5	2,836.6	2,792.8	43.74	64.848	
5,821.2	5,726.8	5,910.6	5,685.0	21.5	26.9	-93.64	469.0	-2,150.6	2,836.8	2,802.6	34.21	82.935	
5,900.0	5,805.6	5,994.1	5,768.3	21.6	27.0	-93.75	463.2	-2,150.9	2,837.5	2,803.0	34.49	82.273	
6,000.0	5,905.6	6,119.2	5,893.3	21.7	27.3	-93.90	456.0	-2,151.1	2,838.0	2,803.1	34.89	81.343	
6,100.0	6,005.6	6,225.1	5,999.0	21.9	27.4	-94.00	451.1	-2,150.5	2,837.8	2,802.6	35.24	80.529	
6,200.0	6,105.6	6,343.1	6,117.0	22.0	27.6	-94.07	447.5	-2,149.4	2,837.1	2,801.5	35.59	79.706	
6,300.0	6,205.6	6,437.2	6,211.1	22.1	27.7	-94.12	445.2	-2,148.5	2,836.3	2,800.4	35.90	78.995	
6,400.0	6,305.6	6,528.4	6,302.2	22.3	27.8	-94.17	442.7	-2,147.8	2,835.8	2,799.5	36.22	78.302	
6,500.0	6,405.6	6,627.4	6,401.1	22.4	28.0	-94.24	439.5	-2,147.2	2,835.4	2,798.9	36.55	77.579	
6,600.0	6,505.6	6,725.9	6,499.6	22.5	28.1	-94.31	435.9	-2,146.6	2,835.1	2,798.2	36.89	76.856	
6,684.2	6,589.8	6,817.0	6,590.6	22.6	28.3	-94.39	432.0	-2,146.1	2,834.8	2,797.6	37.19	76.218	
6,700.0	6,605.6	6,839.1	6,612.7	22.7	28.3	-4.41	431.1	-2,145.8	2,834.5	2,788.1	46.45	61.025	
6,750.0	6,655.5	6,899.7	6,673.2	22.7	28.4	-4.49	428.6	-2,145.0	2,831.2	2,784.8	46.38	61.042	
6,800.0	6,705.1	6,948.9	6,722.3	22.7	28.5	-4.59	426.4	-2,144.3	2,824.3	2,778.2	46.08	61.287	
6,850.0	6,754.1	6,997.2	6,770.6	22.7	28.6	-4.72	424.0	-2,143.6	2,814.0	2,768.5	45.58	61.742	
6,900.0	6,802.3	7,044.4	6,817.7	22.7	28.6	-4.89	421.6	-2,142.9	2,800.4	2,755.5	44.86	62.419	
6,950.0	6,849.5	7,087.8	6,861.0	22.6	28.7	-5.10	419.2	-2,142.2	2,783.5	2,739.5	43.95	63.336	
7,000.0	6,895.5	7,128.0	6,901.2	22.5	28.8	-5.35	416.8	-2,141.7	2,763.4	2,720.6	42.84	64.513	
7,050.0	6,939.9	7,168.6	6,941.7	22.4	28.9	-5.65	414.3	-2,141.2	2,740.3	2,698.8	41.54	65.965	
7,100.0	6,982.6	7,212.9	6,985.9	22.3	29.0	-6.02	411.5	-2,140.7	2,714.2	2,674.1	40.09	67.710	
7,150.0	7,023.4	7,255.2	7,028.2	22.2	29.1	-6.47	408.8	-2,140.2	2,685.2	2,646.7	38.47	69.795	
7,200.0	7,062.2	7,297.2	7,070.0	22.1	29.1	-7.03	406.0	-2,139.6	2,653.4	2,616.7	36.73	72.247	
7,250.0	7,098.6	7,336.4	7,109.2	22.0	29.2	-7.70	403.4	-2,139.0	2,618.9	2,584.1	34.87	75.113	
7,300.0	7,132.5	7,372.5	7,145.1	21.9	29.3	-8.52	401.0	-2,138.4	2,582.0	2,549.1	32.93	78.417	
7,350.0	7,163.8	7,405.5	7,178.0	21.8	29.4	-9.53	398.7	-2,137.8	2,542.9	2,511.9	30.95	82.156	
7,400.0	7,192.2	7,435.3	7,207.8	21.7	29.4	-10.82	396.7	-2,137.3	2,501.7	2,472.7	29.00	86.256	
7,450.0	7,217.8	7,461.0	7,233.4	21.6	29.5	-12.47	394.9	-2,136.8	2,458.6	2,431.5	27.17	90.488	
7,500.0	7,240.3	7,483.4	7,255.7	21.6	29.5	-14.66	393.4	-2,136.3	2,414.0	2,388.4	25.60	94.297	
7,550.0	7,259.6	7,502.4	7,274.7	21.6	29.6	-17.68	392.1	-2,135.9	2,367.9	2,343.4	24.52	96.563	
7,600.0	7,275.7	7,518.1	7,290.3	21.6	29.6	-22.07	391.1	-2,135.6	2,320.6	2,296.3	24.33	95.391	
7,650.0	7,288.4	7,530.2	7,302.5	21.8	29.6	-28.84	390.3	-2,135.4	2,272.4	2,246.8	25.67	88.532	
7,700.0	7,297.7	7,538.2	7,310.4	22.0	29.6	-40.04	389.8	-2,135.2	2,223.5	2,194.1	29.47	75.440	
7,750.0	7,303.6	7,542.8	7,315.0	22.4	29.6	-59.59	389.5	-2,135.1	2,174.2	2,138.1	36.08	60.261	
7,800.0	7,305.9	7,544.1	7,316.3	22.9	29.6	-89.52	389.4	-2,135.1	2,124.6	2,084.0	40.56	52.386	
7,809.2	7,306.0	7,544.0	7,316.2	23.0	29.6	-95.44	389.4	-2,135.1	2,115.5	2,075.1	40.40	52.368	
7,900.0	7,306.0	7,542.3	7,314.5	24.3	29.6	-95.07	389.5	-2,135.2	2,025.4	1,983.6	41.80	48.454	
8,000.0	7,306.0	7,540.4	7,312.7	26.0	29.6	-94.66	389.6	-2,135.2	1,926.3	1,882.7	43.55	44.231	
8,100.0	7,306.0	7,538.5	7,310.8	27.9	29.6	-94.25	389.8	-2,135.2	1,827.2	1,781.7	45.47	40.181	
8,200.0	7,306.0	7,536.6	7,308.9	30.0	29.6	-93.84	389.9	-2,135.3	1,728.3	1,680.8	47.54	36.353	
8,300.0	7,306.0	7,534.7	7,307.0	32.2	29.6	-93.41	390.0	-2,135.3	1,629.5	1,579.8	49.72	32.771	
8,400.0	7,306.0	7,532.0	7,304.3	34.4	29.6	-92.82	390.2	-2,135.4	1,530.9	1,478.8	52.01	29.434	
8,500.0	7,306.0	7,530.8	7,303.0	36.8	29.6	-92.55	390.3	-2,135.4	1,432.4	1,378.0	54.35	26.354	
8,600.0	7,306.0	7,528.7	7,301.0	39.2	29.6	-92.09	390.4	-2,135.4	1,334.2	1,277.4	56.77	23.502	

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-404
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-404	**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 #2	**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
8,700.0	7,306.0	7,526.6	7,298.9	41.7	29.6	-91.64	390.5	-2,135.5	1,236.2	1,177.0	59.23	20.870	
8,800.0	7,306.0	7,524.6	7,296.9	44.1	29.6	-91.19	390.7	-2,135.5	1,138.6	1,076.9	61.74	18.442	
8,900.0	7,306.0	7,522.5	7,294.8	46.7	29.6	-90.74	390.8	-2,135.5	1,041.5	977.2	64.28	16.202	
9,000.0	7,306.0	7,520.5	7,292.8	49.2	29.6	-90.28	390.9	-2,135.6	944.9	878.1	66.85	14.135	
9,100.0	7,306.0	7,518.5	7,290.7	51.8	29.6	-89.83	391.1	-2,135.6	849.2	779.7	69.44	12.228	
9,200.0	7,306.0	7,516.4	7,288.7	54.4	29.6	-89.38	391.2	-2,135.7	754.5	682.4	72.05	10.471	
9,300.0	7,306.0	7,514.4	7,286.7	57.1	29.6	-88.93	391.3	-2,135.7	661.4	586.7	74.68	8.856	
9,400.0	7,306.0	7,512.4	7,284.7	59.7	29.6	-88.48	391.5	-2,135.7	570.6	493.3	77.32	7.380	
9,500.0	7,306.0	7,510.4	7,282.7	62.4	29.6	-88.03	391.6	-2,135.8	483.5	403.5	79.97	6.046	
9,600.0	7,306.0	7,508.3	7,280.6	65.0	29.6	-87.58	391.7	-2,135.8	402.4	319.8	82.62	4.870	
9,700.0	7,306.0	7,506.3	7,278.6	67.7	29.6	-87.14	391.9	-2,135.9	331.8	246.5	85.28	3.890	
9,800.0	7,306.0	7,504.3	7,276.6	70.4	29.6	-86.69	392.0	-2,135.9	279.7	191.7	87.95	3.180	
9,900.0	7,306.0	7,502.3	7,274.6	73.1	29.6	-86.24	392.1	-2,135.9	257.6	167.0	90.61	2.843	
9,909.4	7,306.0	7,502.1	7,274.4	73.3	29.6	-86.20	392.1	-2,136.0	257.4	166.6	90.86	2.833	CC, ES, SF
10,000.0	7,306.0	7,500.3	7,272.6	75.8	29.6	-85.80	392.3	-2,136.0	272.9	179.6	93.28	2.926	
10,100.0	7,306.0	7,498.3	7,270.7	78.5	29.5	-85.36	392.4	-2,136.0	320.3	224.4	95.95	3.338	
10,200.0	7,306.0	7,496.3	7,268.7	81.2	29.5	-84.91	392.5	-2,136.1	388.2	289.6	98.61	3.937	
10,300.0	7,306.0	7,494.3	7,266.7	84.0	29.5	-84.47	392.7	-2,136.1	467.8	366.5	101.28	4.619	
10,400.0	7,306.0	7,492.4	7,264.7	86.7	29.5	-84.03	392.8	-2,136.1	554.0	450.0	103.94	5.330	
10,500.0	7,306.0	7,490.4	7,262.7	89.4	29.5	-83.59	392.9	-2,136.2	644.2	537.6	106.59	6.044	
10,600.0	7,306.0	7,488.4	7,260.8	92.2	29.5	-83.15	393.1	-2,136.2	736.9	627.7	109.24	6.746	
10,700.0	7,306.0	7,486.4	7,258.8	94.9	29.5	-82.72	393.2	-2,136.3	831.3	719.5	111.88	7.431	
10,800.0	7,306.0	7,484.5	7,256.8	97.6	29.5	-82.28	393.3	-2,136.3	926.9	812.4	114.52	8.094	
10,900.0	7,306.0	7,482.5	7,254.9	100.4	29.5	-81.85	393.5	-2,136.3	1,023.4	906.2	117.14	8.736	
11,000.0	7,306.0	7,480.6	7,252.9	103.2	29.5	-81.41	393.6	-2,136.4	1,120.4	1,000.6	119.76	9.355	
11,100.0	7,306.0	7,478.6	7,251.0	105.9	29.5	-80.98	393.7	-2,136.4	1,217.9	1,095.5	122.38	9.952	
11,200.0	7,306.0	7,476.7	7,249.0	108.7	29.5	-80.55	393.8	-2,136.5	1,315.8	1,190.8	124.98	10.528	
11,300.0	7,306.0	7,474.7	7,247.1	111.4	29.5	-80.13	394.0	-2,136.5	1,414.0	1,286.4	127.57	11.084	
11,400.0	7,306.0	7,472.8	7,245.2	114.2	29.5	-79.70	394.1	-2,136.5	1,512.4	1,382.3	130.15	11.620	
11,500.0	7,306.0	7,470.8	7,243.2	117.0	29.5	-79.27	394.2	-2,136.6	1,611.0	1,478.3	132.72	12.138	
11,600.0	7,306.0	7,468.9	7,241.3	119.7	29.5	-78.85	394.4	-2,136.6	1,709.8	1,574.5	135.28	12.639	
11,700.0	7,306.0	7,467.0	7,239.4	122.5	29.5	-78.43	394.5	-2,136.6	1,808.7	1,670.9	137.83	13.123	
11,800.0	7,306.0	7,465.1	7,237.5	125.3	29.5	-78.01	394.6	-2,136.7	1,907.7	1,767.4	140.37	13.591	
11,900.0	7,306.0	7,463.1	7,235.6	128.0	29.5	-77.59	394.8	-2,136.7	2,006.8	1,863.9	142.89	14.044	
12,000.0	7,306.0	7,461.2	7,233.7	130.8	29.5	-77.18	394.9	-2,136.8	2,106.0	1,960.6	145.40	14.484	
12,100.0	7,306.0	7,459.3	7,231.7	133.6	29.5	-76.76	395.0	-2,136.8	2,205.3	2,057.4	147.90	14.910	
12,200.0	7,306.0	7,457.4	7,229.8	136.4	29.5	-76.35	395.2	-2,136.8	2,304.6	2,154.2	150.39	15.324	
12,300.0	7,306.0	7,455.5	7,227.9	139.1	29.5	-75.94	395.3	-2,136.9	2,404.0	2,251.1	152.86	15.727	
12,400.0	7,306.0	7,453.6	7,226.1	141.9	29.5	-75.53	395.4	-2,136.9	2,503.4	2,348.1	155.32	16.118	
12,500.0	7,306.0	7,451.7	7,224.2	144.7	29.5	-75.12	395.5	-2,136.9	2,602.9	2,445.1	157.76	16.499	
12,600.0	7,306.0	7,449.8	7,222.3	147.5	29.5	-74.72	395.7	-2,137.0	2,702.4	2,542.2	160.19	16.870	
12,700.0	7,306.0	7,447.9	7,220.4	150.3	29.4	-74.31	395.8	-2,137.0	2,802.0	2,639.3	162.61	17.231	
12,800.0	7,306.0	7,446.1	7,218.5	153.0	29.4	-73.91	395.9	-2,137.0	2,901.5	2,736.5	165.01	17.584	
12,900.0	7,306.0	7,444.2	7,216.6	155.8	29.4	-73.51	396.1	-2,137.1	3,001.1	2,833.7	167.39	17.929	
13,000.0	7,306.0	7,442.3	7,214.8	158.6	29.4	-73.12	396.2	-2,137.1	3,100.8	2,931.0	169.76	18.265	
13,100.0	7,306.0	7,440.4	7,212.9	161.4	29.4	-72.72	396.3	-2,137.2	3,200.4	3,028.3	172.12	18.594	
13,200.0	7,306.0	7,438.0	7,210.5	164.2	29.4	-72.21	396.5	-2,137.2	3,300.1	3,125.7	174.36	18.927	
13,300.0	7,306.0	7,438.0	7,210.5	167.0	29.4	-72.21	396.5	-2,137.2	3,399.8	3,222.7	177.02	19.206	
13,400.0	7,306.0	7,438.0	7,210.5	169.8	29.4	-72.21	396.5	-2,137.2	3,499.5	3,319.8	179.68	19.476	
13,500.0	7,306.0	7,438.0	7,210.5	172.6	29.4	-72.21	396.5	-2,137.2	3,599.2	3,416.8	182.35	19.738	
13,600.0	7,306.0	7,431.7	7,204.2	175.3	29.4	-70.89	396.9	-2,137.3	3,698.9	3,515.1	183.77	20.128	
13,700.0	7,306.0	7,430.0	7,202.5	178.1	29.4	-70.54	397.0	-2,137.4	3,798.7	3,612.6	186.06	20.416	

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-404
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-404	**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 #2	**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
13,800.0	7,306.0	7,428.3	7,200.8	180.9	29.4	-70.19	397.2	-2,137.4	3,898.4	3,710.1	188.34	20.698	
13,900.0	7,306.0	7,426.6	7,199.1	183.7	29.4	-69.85	397.3	-2,137.4	3,998.2	3,807.6	190.61	20.975	
14,000.0	7,306.0	7,425.0	7,197.5	186.5	29.4	-69.51	397.4	-2,137.4	4,098.0	3,905.1	192.87	21.247	
14,100.0	7,306.0	7,423.3	7,195.8	189.3	29.4	-69.17	397.5	-2,137.5	4,197.7	4,002.6	195.11	21.514	
14,200.0	7,306.0	7,421.7	7,194.2	192.1	29.4	-68.84	397.6	-2,137.5	4,297.5	4,100.2	197.35	21.777	
14,300.0	7,306.0	7,420.0	7,192.5	194.9	29.4	-68.51	397.7	-2,137.5	4,397.4	4,197.8	199.56	22.035	
14,363.6	7,306.0	7,419.0	7,191.5	196.7	29.4	-68.30	397.8	-2,137.6	4,460.8	4,259.8	200.97	22.197	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-45.71	1,843.8	-1,890.0	2,640.4				
100.0	100.0	93.6	93.6	0.1	0.0	-45.71	1,843.8	-1,889.8	2,640.3	2,640.2	0.11	N/A	
200.0	200.0	204.3	204.3	0.3	0.1	-45.70	1,843.7	-1,889.1	2,639.8	2,639.3	0.45	5,840.154	
300.0	300.0	623.1	621.6	0.5	1.2	-45.97	1,815.2	-1,877.8	2,633.3	2,631.5	1.76	1,495.077	
400.0	400.0	1,320.9	1,297.6	0.8	4.6	-46.85	1,676.6	-1,788.3	2,615.5	2,610.4	5.07	515.400	
500.0	500.0	1,501.5	1,465.4	1.0	5.9	-47.03	1,625.6	-1,745.1	2,578.4	2,572.0	6.42	401.709	
600.0	600.0	1,611.3	1,566.4	1.2	6.7	-47.17	1,592.4	-1,718.0	2,539.6	2,532.3	7.34	345.955	
700.0	700.0	1,678.3	1,628.3	1.4	7.2	-47.26	1,572.5	-1,701.7	2,501.5	2,493.6	7.96	314.280	
800.0	800.0	1,779.3	1,721.6	1.7	7.8	-94.63	1,542.1	-1,677.8	2,463.7	2,457.4	6.26	393.324	
900.0	899.8	1,857.0	1,793.4	1.9	8.4	-95.67	1,518.4	-1,659.8	2,426.3	2,419.6	6.77	358.213	
1,000.0	999.5	1,931.5	1,862.4	2.1	8.9	-96.76	1,495.8	-1,643.0	2,390.0	2,382.7	7.29	328.007	
1,100.0	1,098.7	2,029.0	1,952.8	2.4	9.5	-98.04	1,466.5	-1,621.3	2,354.5	2,346.6	7.93	296.872	
1,200.0	1,197.5	2,115.1	2,032.6	2.7	10.1	-99.33	1,440.4	-1,602.2	2,319.5	2,310.9	8.59	269.927	
1,299.9	1,295.5	2,189.4	2,101.5	3.0	10.6	-100.59	1,418.3	-1,585.7	2,285.7	2,276.5	9.25	247.069	
1,300.0	1,295.6	2,189.5	2,101.6	3.0	10.6	-100.59	1,418.3	-1,585.7	2,285.7	2,276.4	9.25	247.043	
1,400.0	1,393.4	2,274.2	2,180.6	3.4	11.2	-101.27	1,393.8	-1,567.0	2,253.1	2,243.1	9.95	226.405	
1,500.0	1,491.3	2,359.5	2,259.9	3.7	11.8	-101.98	1,368.3	-1,548.7	2,220.7	2,210.1	10.69	207.690	
1,600.0	1,589.1	2,429.2	2,324.9	4.1	12.3	-102.59	1,347.6	-1,534.4	2,189.5	2,178.1	11.39	192.248	
1,700.0	1,686.9	2,512.0	2,402.3	4.5	12.8	-103.32	1,323.6	-1,517.6	2,159.4	2,147.2	12.15	177.756	
1,800.0	1,784.7	2,648.0	2,528.9	5.0	13.8	-104.58	1,282.6	-1,489.2	2,128.5	2,115.2	13.21	161.091	
1,900.0	1,882.5	2,783.4	2,653.9	5.4	14.8	-105.93	1,239.4	-1,460.4	2,096.9	2,082.5	14.35	146.141	
2,000.0	1,980.3	2,849.8	2,714.9	5.8	15.3	-106.61	1,217.7	-1,445.8	2,064.7	2,049.6	15.12	136.531	
2,100.0	2,078.1	2,936.3	2,794.9	6.2	15.9	-107.50	1,190.6	-1,426.9	2,034.0	2,018.0	16.01	127.059	
2,200.0	2,176.0	3,057.9	2,906.8	6.7	16.9	-108.77	1,152.2	-1,399.2	2,002.9	1,985.8	17.12	116.993	
2,300.0	2,273.8	3,136.1	2,978.7	7.1	17.5	-109.61	1,127.6	-1,380.7	1,971.7	1,953.8	17.99	109.617	
2,400.0	2,371.6	3,205.0	3,042.4	7.5	18.0	-110.33	1,106.8	-1,364.4	1,941.9	1,923.2	18.79	103.333	
2,500.0	2,469.4	3,276.0	3,108.3	8.0	18.5	-111.10	1,085.8	-1,348.4	1,913.8	1,894.1	19.61	97.581	
2,600.0	2,567.2	3,368.4	3,194.1	8.4	19.1	-112.13	1,058.4	-1,327.8	1,886.4	1,865.8	20.57	91.695	
2,700.0	2,665.0	3,448.0	3,268.2	8.8	19.7	-113.01	1,035.6	-1,309.7	1,859.8	1,838.4	21.46	86.675	
2,800.0	2,762.9	3,524.2	3,339.2	9.3	20.2	-113.87	1,014.0	-1,292.8	1,834.5	1,812.2	22.32	82.187	
2,900.0	2,860.7	3,614.1	3,423.3	9.7	20.8	-114.92	988.3	-1,273.6	1,810.4	1,787.1	23.28	77.749	
3,000.0	2,958.5	3,689.3	3,493.6	10.2	21.3	-115.82	967.0	-1,257.6	1,787.1	1,762.9	24.16	73.957	
3,100.0	3,056.3	3,762.1	3,561.9	10.6	21.8	-116.70	946.6	-1,242.9	1,765.5	1,740.5	25.03	70.532	
3,200.0	3,154.1	3,870.3	3,663.6	11.1	22.5	-118.04	916.4	-1,221.6	1,745.3	1,719.2	26.14	66.762	
3,300.0	3,251.9	3,985.3	3,770.5	11.5	23.3	-119.57	881.8	-1,197.3	1,723.6	1,696.2	27.36	62.990	
3,400.0	3,349.8	4,074.0	3,852.8	12.0	24.0	-120.80	854.1	-1,178.9	1,702.7	1,674.3	28.43	59.891	
3,500.0	3,447.6	4,149.2	3,922.5	12.4	24.5	-121.88	830.5	-1,163.5	1,683.0	1,653.6	29.40	57.250	
3,600.0	3,545.4	4,232.9	4,000.5	12.8	25.1	-123.07	805.2	-1,146.9	1,665.2	1,634.8	30.41	54.753	
3,700.0	3,643.2	4,326.0	4,087.6	13.3	25.7	-124.34	778.9	-1,127.3	1,647.9	1,616.4	31.47	52.366	
3,800.0	3,741.0	4,399.9	4,157.0	13.7	26.2	-125.36	758.4	-1,112.2	1,632.2	1,599.8	32.38	50.401	
3,900.0	3,838.8	4,476.0	4,228.5	14.2	26.7	-126.44	737.0	-1,097.4	1,618.2	1,584.9	33.33	48.557	
4,000.0	3,936.6	4,549.5	4,297.7	14.6	27.2	-127.51	716.0	-1,083.8	1,606.1	1,571.8	34.26	46.882	
4,100.0	4,034.5	4,684.4	4,424.3	15.1	28.1	-129.51	677.1	-1,058.5	1,594.6	1,559.0	35.65	44.724	
4,200.0	4,132.3	4,782.8	4,516.4	15.5	28.7	-130.96	649.4	-1,037.9	1,582.2	1,545.5	36.76	43.037	
4,300.0	4,230.1	4,862.0	4,590.7	16.0	29.2	-132.14	627.3	-1,021.4	1,571.1	1,533.4	37.72	41.650	
4,400.0	4,327.9	4,944.0	4,668.1	16.4	29.8	-133.32	605.8	-1,005.0	1,561.9	1,523.3	38.68	40.386	
4,500.0	4,425.7	5,030.9	4,750.4	16.9	30.3	-134.57	583.7	-987.9	1,554.1	1,514.5	39.65	39.198	
4,600.0	4,523.5	5,103.7	4,819.4	17.3	30.8	-135.61	565.1	-973.8	1,547.7	1,507.2	40.52	38.200	
4,700.0	4,621.4	5,176.2	4,888.5	17.8	31.2	-136.63	547.7	-960.7	1,543.4	1,502.1	41.35	37.325	
4,800.0	4,719.2	5,245.1	4,954.7	18.2	31.5	-137.54	532.5	-949.1	1,541.3	1,499.2	42.13	36.585	
4,826.0	4,744.6	5,260.6	4,969.7	18.3	31.6	-137.74	529.2	-946.6	1,541.1	1,498.8	42.31	36.426	
4,900.0	4,817.0	5,318.0	5,025.3	18.7	31.9	-138.45	518.1	-938.3	1,541.9	1,499.0	42.89	35.948	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	5,373.6	5,079.6	19.1	32.1	-139.11	508.2	-931.2	1,544.9	1,501.4	43.52	35.499	
5,100.0	5,012.6	5,447.0	5,151.5	19.6	32.4	-139.92	496.4	-922.9	1,550.1	1,505.9	44.21	35.062	
5,200.0	5,110.4	5,522.7	5,226.1	20.0	32.7	-140.70	485.6	-915.3	1,557.1	1,512.2	44.88	34.697	
5,221.3	5,131.3	5,538.1	5,241.3	20.1	32.8	-140.86	483.6	-913.9	1,558.8	1,513.8	45.01	34.634	
5,300.0	5,208.5	5,600.0	5,302.5	20.4	33.0	-141.50	476.1	-908.8	1,565.0	1,519.4	45.58	34.337	
5,400.0	5,307.1	5,675.0	5,376.9	20.7	33.2	-142.16	468.2	-903.5	1,572.0	1,525.8	46.17	34.048	
5,500.0	5,406.3	5,763.4	5,464.8	21.0	33.4	-142.78	460.4	-898.3	1,577.3	1,530.6	46.71	33.770	
5,600.0	5,505.8	5,861.9	5,562.9	21.2	33.6	-143.28	453.7	-893.1	1,580.3	1,533.2	47.17	33.506	
5,700.0	5,605.6	5,953.3	5,654.1	21.4	33.7	-143.58	449.3	-888.6	1,580.8	1,533.3	47.51	33.275	
5,800.0	5,705.6	6,047.4	5,748.1	21.5	33.9	-143.77	445.4	-884.5	1,579.1	1,531.3	47.78	33.052	
5,821.2	5,726.8	6,068.0	5,768.6	21.5	33.9	-97.45	444.5	-883.7	1,578.4	1,537.4	40.97	38.521	
5,900.0	5,805.6	6,134.5	5,835.0	21.6	34.0	-97.55	441.9	-881.2	1,575.9	1,534.7	41.16	38.283	
6,000.0	5,905.6	6,226.2	5,926.6	21.7	34.2	-97.67	439.1	-878.6	1,573.4	1,532.0	41.43	37.980	
6,100.0	6,005.6	6,314.3	6,014.7	21.9	34.3	-97.72	438.0	-876.7	1,571.5	1,529.8	41.69	37.696	
6,200.0	6,105.6	6,406.8	6,107.2	22.0	34.4	-97.77	436.8	-875.4	1,570.3	1,528.4	41.95	37.432	
6,300.0	6,205.6	6,506.4	6,206.8	22.1	34.5	-97.83	435.3	-874.2	1,569.3	1,527.1	42.22	37.170	
6,400.0	6,305.6	6,602.8	6,303.1	22.3	34.6	-97.89	433.6	-873.1	1,568.4	1,525.9	42.49	36.915	
6,500.0	6,405.6	6,699.0	6,399.3	22.4	34.7	-97.97	431.7	-872.2	1,567.8	1,525.0	42.75	36.671	
6,600.0	6,505.6	6,795.4	6,495.7	22.5	34.8	-98.03	430.2	-871.6	1,567.4	1,524.3	43.02	36.434	
6,671.4	6,577.0	6,862.2	6,562.5	22.6	34.9	-98.06	429.4	-871.4	1,567.2	1,524.0	43.21	36.272	
6,684.2	6,589.8	6,874.0	6,574.3	22.6	34.9	-98.06	429.2	-871.3	1,567.2	1,524.0	43.24	36.244	
6,700.0	6,605.6	6,888.6	6,588.9	22.7	34.9	-8.07	429.0	-871.3	1,567.1	1,516.9	50.18	31.230	
6,750.0	6,655.5	6,934.6	6,634.9	22.7	34.9	-8.13	428.5	-871.4	1,564.4	1,514.4	49.95	31.321	
6,800.0	6,705.1	6,980.3	6,680.6	22.7	35.0	-8.25	428.1	-871.6	1,558.4	1,508.9	49.51	31.479	
6,850.0	6,754.1	7,026.5	6,726.8	22.7	35.0	-8.41	427.9	-871.9	1,549.1	1,500.2	48.86	31.705	
6,900.0	6,802.3	7,072.9	6,773.2	22.7	35.1	-8.64	427.6	-872.3	1,536.5	1,488.5	48.02	31.998	
6,950.0	6,849.5	7,120.6	6,820.9	22.6	35.1	-8.95	427.5	-872.7	1,520.6	1,473.6	46.99	32.358	
7,000.0	6,895.5	7,169.5	6,869.8	22.5	35.1	-9.34	427.3	-873.1	1,501.5	1,455.7	45.80	32.783	
7,050.0	6,939.9	7,215.4	6,915.7	22.4	35.2	-9.83	427.2	-873.4	1,479.2	1,434.7	44.45	33.277	
7,100.0	6,982.6	7,258.5	6,958.8	22.3	35.2	-10.42	427.1	-873.7	1,453.8	1,410.8	42.96	33.839	
7,150.0	7,023.4	7,302.4	7,002.7	22.2	35.2	-11.16	427.2	-874.0	1,425.5	1,384.1	41.37	34.457	
7,200.0	7,062.2	7,348.0	7,048.2	22.1	35.3	-12.09	427.4	-874.1	1,394.3	1,354.6	39.72	35.109	
7,250.0	7,098.6	7,389.2	7,089.4	22.0	35.3	-13.25	427.5	-874.0	1,360.4	1,322.4	38.03	35.769	
7,300.0	7,132.5	7,424.5	7,124.7	21.9	35.3	-14.65	427.7	-873.8	1,324.1	1,287.7	36.38	36.392	
7,350.0	7,163.8	7,456.9	7,157.2	21.8	35.4	-16.41	427.8	-873.7	1,285.5	1,250.6	34.86	36.878	
7,400.0	7,192.2	7,487.2	7,187.5	21.7	35.4	-18.68	427.9	-873.5	1,244.8	1,211.2	33.59	37.065	
7,450.0	7,217.8	7,515.0	7,215.3	21.6	35.4	-21.62	427.9	-873.3	1,202.3	1,169.6	32.75	36.713	
7,500.0	7,240.3	7,539.2	7,239.4	21.6	35.4	-25.50	428.0	-873.0	1,158.2	1,125.7	32.59	35.535	
7,550.0	7,259.6	7,559.7	7,259.9	21.6	35.5	-30.70	428.0	-872.7	1,112.8	1,079.4	33.43	33.290	
7,600.0	7,275.7	7,575.4	7,275.6	21.6	35.5	-37.65	428.0	-872.5	1,066.2	1,030.7	35.50	30.038	
7,650.0	7,288.4	7,587.3	7,287.5	21.8	35.5	-47.02	428.0	-872.3	1,018.8	979.9	38.89	26.199	
7,700.0	7,297.7	7,595.8	7,296.1	22.0	35.5	-59.37	428.0	-872.2	970.8	927.7	43.13	22.507	
7,750.0	7,303.6	7,600.9	7,301.2	22.4	35.5	-74.37	428.0	-872.2	922.5	875.6	46.86	19.686	
7,800.0	7,305.9	7,602.6	7,302.9	22.9	35.5	-90.15	428.0	-872.1	874.0	825.5	48.51	18.018	
7,809.2	7,306.0	7,602.6	7,302.8	23.0	35.5	-92.93	428.0	-872.1	865.1	816.6	48.55	17.819	
7,900.0	7,306.0	7,601.3	7,301.6	24.3	35.5	-92.62	428.0	-872.2	777.7	727.8	49.95	15.571	
8,000.0	7,306.0	7,600.0	7,300.3	26.0	35.5	-92.27	428.0	-872.2	682.4	630.7	51.69	13.203	
8,100.0	7,306.0	7,598.6	7,298.9	27.9	35.5	-91.92	428.0	-872.2	588.7	535.1	53.60	10.983	
8,200.0	7,306.0	7,597.3	7,297.6	30.0	35.5	-91.57	428.0	-872.2	497.4	441.8	55.66	8.938	
8,300.0	7,306.0	7,595.9	7,296.2	32.2	35.5	-91.22	428.0	-872.2	410.3	352.5	57.83	7.095	
8,400.0	7,306.0	7,594.6	7,294.9	34.4	35.5	-90.87	428.0	-872.2	330.5	270.4	60.09	5.499	
8,500.0	7,306.0	7,593.2	7,293.5	36.8	35.5	-90.52	428.0	-872.3	264.7	202.3	62.43	4.240	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,600.0	7,306.0	7,591.9	7,292.1	39.2	35.5	-90.17	428.0	-872.3	225.7	160.8	64.83	3.481	
8,645.7	7,306.0	7,591.2	7,291.5	40.3	35.5	-90.01	428.0	-872.3	221.0	155.1	65.95	3.351	CC, ES, SF
8,700.0	7,306.0	7,590.5	7,290.8	41.7	35.5	-89.81	428.0	-872.3	227.6	160.3	67.28	3.382	
8,800.0	7,306.0	7,589.1	7,289.4	44.1	35.5	-89.46	428.0	-872.3	269.5	199.8	69.77	3.863	
8,900.0	7,306.0	7,587.8	7,288.0	46.7	35.5	-89.10	428.0	-872.3	336.9	264.6	72.30	4.660	
9,000.0	7,306.0	7,586.4	7,286.7	49.2	35.5	-88.75	428.0	-872.4	417.5	342.7	74.85	5.578	
9,100.0	7,306.0	7,585.0	7,285.3	51.8	35.5	-88.39	428.0	-872.4	505.2	427.7	77.43	6.524	
9,200.0	7,306.0	7,583.6	7,283.9	54.4	35.5	-88.03	428.0	-872.4	596.7	516.7	80.02	7.457	
9,300.0	7,306.0	7,582.2	7,282.5	57.1	35.5	-87.67	428.0	-872.4	690.6	607.9	82.63	8.357	
9,400.0	7,306.0	7,580.9	7,281.1	59.7	35.5	-87.31	428.0	-872.4	785.9	700.7	85.26	9.219	
9,500.0	7,306.0	7,579.5	7,279.7	62.4	35.5	-86.96	428.0	-872.5	882.3	794.5	87.89	10.039	
9,600.0	7,306.0	7,578.1	7,278.3	65.0	35.5	-86.60	428.0	-872.5	979.5	888.9	90.53	10.819	
9,700.0	7,306.0	7,576.7	7,277.0	67.7	35.5	-86.23	428.0	-872.5	1,077.1	983.9	93.18	11.560	
9,800.0	7,306.0	7,575.3	7,275.6	70.4	35.5	-85.87	428.0	-872.5	1,175.2	1,079.3	95.83	12.263	
9,900.0	7,306.0	7,573.9	7,274.1	73.1	35.5	-85.51	428.0	-872.5	1,273.5	1,175.0	98.49	12.931	
10,000.0	7,306.0	7,572.5	7,272.7	75.8	35.5	-85.15	428.0	-872.6	1,372.1	1,270.9	101.14	13.566	
10,100.0	7,306.0	7,571.1	7,271.3	78.5	35.5	-84.79	428.0	-872.6	1,470.9	1,367.1	103.80	14.170	
10,200.0	7,306.0	7,569.6	7,269.9	81.2	35.5	-84.42	428.0	-872.6	1,569.8	1,463.3	106.46	14.745	
10,300.0	7,306.0	7,568.2	7,268.5	84.0	35.5	-84.06	428.0	-872.6	1,668.8	1,559.7	109.12	15.294	
10,400.0	7,306.0	7,566.8	7,267.1	86.7	35.5	-83.70	428.0	-872.6	1,768.0	1,656.2	111.77	15.818	
10,500.0	7,306.0	7,565.4	7,265.7	89.4	35.5	-83.33	428.0	-872.7	1,867.2	1,752.8	114.42	16.319	
10,600.0	7,306.0	7,565.0	7,265.3	92.2	35.5	-83.23	428.0	-872.7	1,966.6	1,849.4	117.13	16.790	
10,700.0	7,306.0	7,565.0	7,265.3	94.9	35.5	-83.23	428.0	-872.7	2,066.0	1,946.1	119.86	17.237	
10,800.0	7,306.0	7,565.0	7,265.3	97.6	35.5	-83.23	428.0	-872.7	2,165.4	2,042.8	122.59	17.664	
10,900.0	7,306.0	7,565.0	7,265.3	100.4	35.5	-83.23	428.0	-872.7	2,264.9	2,139.6	125.32	18.073	
11,000.0	7,306.0	7,565.0	7,265.3	103.2	35.5	-83.23	428.0	-872.7	2,364.4	2,236.4	128.06	18.464	
11,100.0	7,306.0	7,565.0	7,265.3	105.9	35.5	-83.23	428.0	-872.7	2,464.0	2,333.2	130.80	18.838	
11,200.0	7,306.0	7,565.0	7,265.3	108.7	35.5	-83.23	428.0	-872.7	2,563.6	2,430.1	133.54	19.197	
11,300.0	7,306.0	7,556.2	7,256.5	111.4	35.5	-81.00	428.0	-872.8	2,663.2	2,527.6	135.65	19.633	
11,400.0	7,306.0	7,555.2	7,255.4	114.2	35.5	-80.73	428.0	-872.8	2,762.9	2,624.6	138.29	19.979	
11,500.0	7,306.0	7,554.1	7,254.4	117.0	35.4	-80.46	428.0	-872.8	2,862.6	2,721.6	140.93	20.312	
11,600.0	7,306.0	7,553.1	7,253.3	119.7	35.4	-80.20	428.0	-872.8	2,962.3	2,818.7	143.57	20.633	
11,700.0	7,306.0	7,552.0	7,252.3	122.5	35.4	-79.94	428.0	-872.8	3,062.0	2,915.8	146.20	20.944	
11,800.0	7,306.0	7,551.0	7,251.3	125.3	35.4	-79.69	428.0	-872.8	3,161.7	3,012.9	148.83	21.244	
11,900.0	7,306.0	7,550.0	7,250.3	128.0	35.4	-79.44	428.0	-872.9	3,261.5	3,110.0	151.45	21.535	
12,000.0	7,306.0	7,549.0	7,249.3	130.8	35.4	-79.19	428.0	-872.9	3,361.3	3,207.2	154.07	21.816	
12,100.0	7,306.0	7,548.1	7,248.3	133.6	35.4	-78.95	428.0	-872.9	3,461.0	3,304.4	156.69	22.089	
12,200.0	7,306.0	7,547.1	7,247.4	136.4	35.4	-78.71	428.0	-872.9	3,560.8	3,401.5	159.30	22.353	
12,300.0	7,306.0	7,546.1	7,246.4	139.1	35.4	-78.47	428.0	-872.9	3,660.6	3,498.7	161.91	22.609	
12,400.0	7,306.0	7,545.2	7,245.5	141.9	35.4	-78.24	428.0	-872.9	3,760.5	3,595.9	164.52	22.857	
12,500.0	7,306.0	7,544.3	7,244.5	144.7	35.4	-78.01	428.0	-872.9	3,860.3	3,693.2	167.12	23.099	
12,600.0	7,306.0	7,543.4	7,243.6	147.5	35.4	-77.78	428.0	-872.9	3,960.1	3,790.4	169.72	23.334	
12,700.0	7,306.0	7,542.5	7,242.7	150.3	35.4	-77.56	428.0	-873.0	4,060.0	3,887.6	172.31	23.562	
12,800.0	7,306.0	7,541.6	7,241.8	153.0	35.4	-77.34	428.0	-873.0	4,159.8	3,984.9	174.90	23.784	
12,900.0	7,306.0	7,540.7	7,241.0	155.8	35.4	-77.12	428.0	-873.0	4,259.7	4,082.2	177.49	24.000	
13,000.0	7,306.0	7,539.8	7,240.1	158.6	35.4	-76.91	428.0	-873.0	4,359.5	4,179.5	180.07	24.210	
13,100.0	7,306.0	7,539.0	7,239.2	161.4	35.4	-76.69	428.0	-873.0	4,459.4	4,276.7	182.65	24.415	
13,200.0	7,306.0	7,538.1	7,238.4	164.2	35.4	-76.49	428.0	-873.0	4,559.3	4,374.0	185.22	24.615	
13,300.0	7,306.0	7,537.3	7,237.5	167.0	35.4	-76.28	428.0	-873.0	4,659.1	4,471.3	187.79	24.810	
13,400.0	7,306.0	7,536.4	7,236.7	169.8	35.4	-76.08	428.0	-873.0	4,759.0	4,568.7	190.36	25.001	
13,500.0	7,306.0	7,535.6	7,235.9	172.6	35.4	-75.88	428.0	-873.0	4,858.9	4,666.0	192.92	25.186	
13,600.0	7,306.0	7,534.8	7,235.1	175.3	35.4	-75.68	428.0	-873.0	4,958.8	4,763.3	195.48	25.368	

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-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,534.0	7,234.3	178.1	35.4	-75.49	428.0	-873.1	5,058.7	4,860.7	198.03	25.545	
13,800.0	7,306.0	7,533.2	7,233.5	180.9	35.4	-75.29	428.0	-873.1	5,158.6	4,958.0	200.58	25.718	
13,900.0	7,306.0	7,532.4	7,232.7	183.7	35.4	-75.10	428.0	-873.1	5,258.5	5,055.4	203.13	25.888	
14,000.0	7,306.0	7,531.7	7,231.9	186.5	35.4	-74.92	428.0	-873.1	5,358.4	5,152.7	205.67	26.053	
14,100.0	7,306.0	7,530.9	7,231.2	189.3	35.4	-74.73	428.0	-873.1	5,458.3	5,250.1	208.21	26.216	
14,200.0	7,306.0	7,530.1	7,230.4	192.1	35.4	-74.55	428.0	-873.1	5,558.2	5,347.5	210.74	26.374	
14,300.0	7,306.0	7,529.4	7,229.7	194.9	35.4	-74.37	428.0	-873.1	5,658.1	5,444.9	213.28	26.530	
14,363.6	7,306.0	7,528.9	7,229.2	196.7	35.4	-74.26	428.0	-873.1	5,721.7	5,506.8	214.88	26.627	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-45.36	1,845.6	-1,869.1	2,626.8				
100.0	100.0	119.7	119.7	0.1	0.0	-45.35	1,845.5	-1,868.1	2,626.2	2,626.1	0.13	N/A	
200.0	200.0	232.5	232.5	0.3	0.2	-45.33	1,844.9	-1,866.1	2,624.5	2,624.0	0.53	4,994.539	
300.0	300.0	508.2	507.8	0.5	0.9	-45.29	1,836.4	-1,854.7	2,619.5	2,618.1	1.40	1,877.161	
400.0	400.0	662.3	661.1	0.8	1.3	-45.29	1,825.9	-1,844.5	2,610.0	2,607.9	2.02	1,292.720	
500.0	500.0	1,124.4	1,115.7	1.0	3.0	-45.14	1,774.5	-1,783.3	2,593.5	2,589.8	3.69	701.992	
600.0	600.0	1,198.0	1,187.0	1.2	3.3	-45.02	1,766.1	-1,767.1	2,569.7	2,565.6	4.15	619.681	
700.0	700.0	1,466.5	1,444.1	1.4	4.8	-44.36	1,734.7	-1,696.5	2,542.2	2,536.9	5.28	481.126	
800.0	800.0	1,635.7	1,603.3	1.7	5.9	-90.95	1,711.0	-1,644.3	2,510.0	2,504.4	5.55	452.047	
900.0	899.8	1,854.4	1,806.6	1.9	7.5	-91.26	1,677.5	-1,571.4	2,476.3	2,469.7	6.54	378.418	
1,000.0	999.5	1,945.6	1,890.5	2.1	8.2	-91.96	1,661.5	-1,539.4	2,439.2	2,432.1	7.08	344.456	
1,100.0	1,098.7	2,092.7	2,024.9	2.4	9.4	-92.74	1,634.7	-1,485.7	2,400.5	2,392.7	7.85	305.883	
1,200.0	1,197.5	2,168.8	2,094.1	2.7	10.0	-93.62	1,621.1	-1,457.4	2,361.9	2,353.5	8.37	282.069	
1,299.9	1,295.5	2,237.6	2,157.0	3.0	10.6	-94.52	1,609.4	-1,432.0	2,324.4	2,315.5	8.90	261.036	
1,300.0	1,295.6	2,237.7	2,157.1	3.0	10.6	-94.52	1,609.4	-1,431.9	2,324.3	2,315.4	8.91	261.005	
1,400.0	1,393.4	2,321.0	2,233.4	3.4	11.2	-94.68	1,595.9	-1,401.3	2,287.6	2,278.0	9.56	239.371	
1,500.0	1,491.3	2,422.3	2,326.2	3.7	12.0	-94.87	1,579.3	-1,364.2	2,250.8	2,240.5	10.30	218.581	
1,600.0	1,589.1	2,515.5	2,411.6	4.1	12.7	-95.08	1,563.6	-1,330.3	2,213.9	2,202.9	11.02	200.887	
1,700.0	1,686.9	2,622.8	2,509.7	4.5	13.6	-95.32	1,545.3	-1,290.9	2,176.7	2,164.9	11.81	184.340	
1,800.0	1,784.7	2,730.5	2,608.1	5.0	14.5	-95.59	1,525.9	-1,251.4	2,139.0	2,126.3	12.60	169.727	
1,900.0	1,882.5	2,819.0	2,688.6	5.4	15.2	-95.83	1,509.5	-1,218.9	2,100.7	2,087.3	13.33	157.636	
2,000.0	1,980.3	2,884.4	2,748.4	5.8	15.7	-96.02	1,497.7	-1,195.3	2,063.4	2,049.4	13.97	147.718	
2,100.0	2,078.1	2,989.8	2,845.0	6.2	16.6	-96.32	1,478.9	-1,157.5	2,026.3	2,011.6	14.75	137.413	
2,200.0	2,176.0	3,084.6	2,931.8	6.7	17.4	-96.62	1,461.7	-1,123.4	1,989.1	1,973.6	15.49	128.396	
2,300.0	2,273.8	3,182.0	3,020.9	7.1	18.2	-96.94	1,443.5	-1,088.3	1,951.5	1,935.3	16.24	120.156	
2,400.0	2,371.6	3,257.0	3,089.7	7.5	18.8	-97.22	1,429.4	-1,062.0	1,914.6	1,897.6	16.91	113.232	
2,500.0	2,469.4	3,333.5	3,160.1	8.0	19.3	-97.50	1,415.5	-1,035.6	1,878.5	1,860.9	17.58	106.881	
2,600.0	2,567.2	3,406.2	3,227.1	8.4	19.9	-97.75	1,403.5	-1,010.1	1,843.2	1,824.9	18.24	101.061	
2,700.0	2,665.0	3,491.0	3,305.6	8.8	20.5	-98.04	1,390.3	-980.8	1,808.9	1,790.0	18.94	95.505	
2,800.0	2,762.9	3,578.2	3,386.3	9.3	21.2	-98.35	1,376.4	-950.8	1,774.7	1,755.0	19.65	90.329	
2,900.0	2,860.7	3,659.7	3,462.0	9.7	21.8	-98.65	1,364.0	-923.2	1,741.3	1,721.0	20.33	85.648	
3,000.0	2,958.5	3,752.4	3,548.3	10.2	22.5	-99.07	1,348.5	-893.2	1,708.2	1,687.2	21.03	81.234	
3,100.0	3,056.3	3,864.7	3,652.9	10.6	23.3	-99.62	1,329.5	-857.1	1,675.3	1,653.5	21.78	76.934	
3,200.0	3,154.1	3,990.9	3,769.1	11.1	24.3	-100.18	1,307.9	-812.9	1,639.9	1,617.4	22.59	72.601	
3,300.0	3,251.9	4,085.7	3,856.2	11.5	25.0	-100.64	1,291.0	-779.6	1,604.2	1,580.9	23.30	68.845	
3,400.0	3,349.8	4,161.7	3,926.2	12.0	25.6	-101.05	1,277.2	-753.3	1,568.9	1,544.9	23.95	65.516	
3,500.0	3,447.6	4,255.1	4,012.5	12.4	26.3	-101.56	1,260.9	-721.6	1,534.5	1,509.8	24.64	62.284	
3,600.0	3,545.4	4,338.6	4,089.6	12.8	27.0	-102.02	1,246.4	-692.9	1,500.0	1,474.7	25.30	59.295	
3,700.0	3,643.2	4,434.7	4,178.8	13.3	27.7	-102.67	1,228.4	-661.8	1,466.4	1,440.5	25.97	56.464	
3,800.0	3,741.0	4,518.6	4,256.4	13.7	28.3	-103.30	1,211.7	-634.8	1,432.4	1,405.8	26.61	53.835	
3,900.0	3,838.8	4,599.2	4,331.3	14.2	28.9	-103.81	1,198.7	-608.1	1,400.1	1,372.8	27.25	51.371	
4,000.0	3,936.6	4,703.9	4,428.4	14.6	29.7	-104.46	1,182.3	-572.4	1,367.3	1,339.3	27.97	48.882	
4,100.0	4,034.5	4,794.9	4,512.7	15.1	30.4	-105.07	1,167.5	-541.7	1,334.6	1,306.0	28.65	46.590	
4,200.0	4,132.3	4,882.9	4,594.3	15.5	31.1	-105.70	1,153.1	-512.2	1,302.3	1,273.0	29.31	44.439	
4,300.0	4,230.1	4,969.5	4,675.0	16.0	31.7	-106.40	1,138.5	-484.2	1,270.8	1,240.8	29.95	42.424	
4,400.0	4,327.9	5,060.8	4,760.1	16.4	32.3	-107.18	1,122.9	-454.9	1,239.7	1,209.1	30.62	40.491	
4,500.0	4,425.7	5,146.1	4,839.6	16.9	33.0	-107.91	1,109.2	-427.5	1,209.2	1,178.0	31.27	38.675	
4,600.0	4,523.5	5,222.0	4,910.7	17.3	33.5	-108.59	1,097.1	-403.7	1,179.8	1,147.9	31.89	36.996	
4,700.0	4,621.4	5,277.1	4,962.8	17.8	33.8	-109.14	1,088.4	-387.9	1,153.1	1,120.6	32.45	35.532	
4,800.0	4,719.2	5,336.9	5,020.0	18.2	34.2	-109.79	1,079.5	-373.0	1,130.2	1,097.1	33.02	34.225	
4,900.0	4,817.0	5,409.0	5,089.3	18.7	34.6	-110.61	1,069.0	-356.3	1,109.5	1,075.9	33.62	33.004	
5,000.0	4,914.8	5,502.0	5,179.2	19.1	35.0	-111.68	1,056.4	-335.9	1,090.8	1,056.5	34.27	31.831	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,560.6	5,236.2	19.6	35.3	-112.35	1,049.5	-324.1	1,074.6	1,039.7	34.84	30.848	
5,200.0	5,110.4	5,628.1	5,302.2	20.0	35.6	-113.12	1,042.6	-311.8	1,061.5	1,026.0	35.42	29.965	
5,221.3	5,131.3	5,642.5	5,316.4	20.1	35.6	-113.28	1,041.2	-309.4	1,059.1	1,023.5	35.55	29.792	
5,300.0	5,208.5	5,689.0	5,362.1	20.4	35.8	-113.64	1,037.1	-302.2	1,051.0	1,015.1	35.91	29.266	
5,400.0	5,307.1	5,783.0	5,454.9	20.7	36.1	-114.32	1,029.9	-289.1	1,041.8	1,005.4	36.37	28.643	
5,500.0	5,406.3	5,849.5	5,520.8	21.0	36.3	-114.64	1,025.8	-281.1	1,033.4	996.6	36.71	28.147	
5,600.0	5,505.8	5,926.6	5,597.4	21.2	36.5	-114.92	1,021.8	-273.3	1,025.9	988.9	37.02	27.709	
5,700.0	5,605.6	6,006.4	5,676.8	21.4	36.7	-115.07	1,018.6	-266.6	1,019.1	981.8	37.28	27.333	
5,800.0	5,705.6	6,088.9	5,759.1	21.5	36.8	-115.08	1,015.9	-261.0	1,012.6	975.1	37.49	27.010	
5,821.2	5,726.8	6,107.0	5,777.1	21.5	36.8	-68.71	1,015.3	-259.9	1,011.2	958.8	52.42	19.292	
5,900.0	5,805.6	6,175.4	5,845.4	21.6	36.9	-68.73	1,013.6	-256.3	1,006.6	954.0	52.65	19.118	
6,000.0	5,905.6	6,267.0	5,936.9	21.7	37.1	-68.76	1,011.5	-252.2	1,001.6	948.7	52.96	18.913	
6,100.0	6,005.6	6,360.2	6,030.1	21.9	37.2	-68.78	1,009.8	-248.7	997.4	944.1	53.26	18.726	
6,200.0	6,105.6	6,455.3	6,125.1	22.0	37.3	-68.79	1,008.3	-245.5	993.8	940.2	53.56	18.554	
6,300.0	6,205.6	6,553.2	6,222.9	22.1	37.4	-68.80	1,007.0	-242.6	990.5	936.6	53.86	18.391	
6,400.0	6,305.6	6,655.2	6,324.9	22.3	37.6	-68.82	1,005.4	-239.5	987.1	933.0	54.16	18.225	
6,500.0	6,405.6	6,752.2	6,421.8	22.4	37.7	-68.83	1,004.1	-236.6	983.8	929.3	54.46	18.064	
6,600.0	6,505.6	6,843.5	6,513.0	22.5	37.8	-68.83	1,003.2	-234.2	981.0	926.3	54.75	17.919	
6,684.2	6,589.8	6,915.9	6,585.5	22.6	37.9	-68.85	1,002.4	-233.3	979.7	924.7	54.98	17.820	
6,700.0	6,605.6	6,930.3	6,599.9	22.7	37.9	21.15	1,002.2	-233.2	979.4	939.4	39.93	24.528	
6,750.0	6,655.5	6,975.8	6,645.3	22.7	37.9	21.26	1,001.6	-233.1	976.4	936.8	39.56	24.682	
6,800.0	6,705.1	7,021.5	6,691.0	22.7	38.0	21.53	1,001.0	-233.2	970.4	931.3	39.03	24.862	
6,850.0	6,754.1	7,067.3	6,736.9	22.7	38.0	21.95	1,000.3	-233.5	961.3	923.0	38.36	25.062	
6,900.0	6,802.3	7,112.5	6,782.0	22.7	38.0	22.55	999.5	-234.1	949.3	911.7	37.56	25.273	
6,950.0	6,849.5	7,156.8	6,826.3	22.6	38.1	23.32	998.5	-234.8	934.4	897.7	36.67	25.477	
7,000.0	6,895.5	7,200.9	6,870.4	22.5	38.1	24.30	997.3	-235.9	916.6	880.8	35.75	25.642	
7,050.0	6,939.9	7,245.3	6,914.8	22.4	38.1	25.58	996.3	-236.8	895.9	861.1	34.85	25.709	
7,100.0	6,982.6	7,288.4	6,957.9	22.3	38.1	27.18	995.7	-237.6	872.6	838.5	34.09	25.595	
7,150.0	7,023.4	7,331.0	7,000.4	22.2	38.2	29.18	995.3	-238.3	846.6	813.0	33.61	25.187	
7,200.0	7,062.2	7,371.2	7,040.7	22.1	38.2	31.61	994.9	-238.9	818.2	784.7	33.56	24.379	
7,250.0	7,098.6	7,409.6	7,079.0	22.0	38.2	34.56	994.6	-239.4	787.6	753.5	34.10	23.095	
7,300.0	7,132.5	7,445.2	7,114.7	21.9	38.2	38.09	994.4	-239.7	754.9	719.6	35.33	21.367	
7,350.0	7,163.8	7,478.0	7,147.4	21.8	38.3	42.26	994.2	-239.9	720.6	683.3	37.28	19.328	
7,400.0	7,192.2	7,507.7	7,177.1	21.7	38.3	47.11	994.0	-240.1	684.8	645.0	39.89	17.169	
7,450.0	7,217.8	7,534.3	7,203.7	21.6	38.3	52.62	993.8	-240.2	648.1	605.1	42.98	15.077	
7,500.0	7,240.3	7,557.6	7,227.0	21.6	38.3	58.67	993.7	-240.3	610.7	564.4	46.30	13.190	
7,550.0	7,259.6	7,577.4	7,246.9	21.6	38.4	65.02	993.5	-240.3	573.2	523.7	49.51	11.577	
7,600.0	7,275.7	7,593.8	7,263.3	21.6	38.4	71.35	993.4	-240.3	536.1	483.7	52.31	10.248	
7,650.0	7,288.4	7,606.8	7,276.2	21.8	38.4	77.29	993.4	-240.3	499.9	445.4	54.51	9.172	
7,700.0	7,297.7	7,616.2	7,285.6	22.0	38.4	82.52	993.3	-240.3	465.5	409.4	56.08	8.301	
7,750.0	7,303.6	7,622.1	7,291.5	22.4	38.4	86.79	993.2	-240.3	433.6	376.5	57.15	7.587	
7,800.0	7,305.9	7,624.5	7,293.9	22.9	38.4	89.95	993.2	-240.3	405.2	347.3	57.91	6.997	
7,809.2	7,306.0	7,624.5	7,294.0	23.0	38.4	90.41	993.2	-240.3	400.4	342.4	58.03	6.900	
7,900.0	7,306.0	7,624.5	7,293.9	24.3	38.4	90.40	993.2	-240.3	362.5	303.1	59.42	6.102	
8,000.0	7,306.0	7,624.4	7,293.8	26.0	38.4	90.38	993.2	-240.3	344.5	283.4	61.14	5.634	
8,013.7	7,306.0	7,624.4	7,293.8	26.3	38.4	90.38	993.2	-240.3	344.2	282.8	61.41	5.606	CC, ES, SF
8,100.0	7,306.0	7,624.3	7,293.7	27.9	38.4	90.37	993.2	-240.3	354.9	291.8	63.05	5.629	
8,200.0	7,306.0	7,624.2	7,293.7	30.0	38.4	90.36	993.2	-240.3	391.4	326.3	65.10	6.013	
8,300.0	7,306.0	7,624.2	7,293.6	32.2	38.4	90.35	993.2	-240.3	447.7	380.5	67.26	6.657	
8,400.0	7,306.0	7,624.1	7,293.5	34.4	38.4	90.33	993.2	-240.3	517.4	447.9	69.51	7.443	
8,500.0	7,306.0	7,624.0	7,293.4	36.8	38.4	90.32	993.2	-240.3	595.8	524.0	71.85	8.293	
8,600.0	7,306.0	7,623.9	7,293.4	39.2	38.4	90.31	993.2	-240.3	679.9	605.6	74.24	9.158	

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-404
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-404	**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 #2	**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	7,306.0	7,623.9	7,293.3	41.7	38.4	90.30	993.2	-240.3	767.8	691.1	76.69	10.012	
8,800.0	7,306.0	7,623.8	7,293.2	44.1	38.4	90.28	993.2	-240.3	858.3	779.2	79.18	10.840	
8,900.0	7,306.0	7,623.7	7,293.1	46.7	38.4	90.27	993.2	-240.3	950.8	869.1	81.71	11.637	
9,000.0	7,306.0	7,623.6	7,293.1	49.2	38.4	90.26	993.2	-240.3	1,044.6	960.4	84.26	12.397	
9,100.0	7,306.0	7,623.6	7,293.0	51.8	38.4	90.25	993.2	-240.3	1,139.5	1,052.7	86.85	13.121	
9,200.0	7,306.0	7,623.5	7,292.9	54.4	38.4	90.24	993.2	-240.3	1,235.2	1,145.8	89.45	13.809	
9,300.0	7,306.0	7,623.4	7,292.9	57.1	38.4	90.23	993.2	-240.3	1,331.6	1,239.5	92.08	14.461	
9,400.0	7,306.0	7,623.4	7,292.8	59.7	38.4	90.21	993.2	-240.3	1,428.4	1,333.7	94.72	15.080	
9,500.0	7,306.0	7,623.3	7,292.7	62.4	38.4	90.20	993.2	-240.3	1,525.6	1,428.3	97.38	15.668	
9,600.0	7,306.0	7,623.2	7,292.6	65.0	38.4	90.19	993.2	-240.3	1,623.2	1,523.2	100.04	16.225	
9,700.0	7,306.0	7,623.2	7,292.6	67.7	38.4	90.18	993.2	-240.3	1,721.1	1,618.3	102.72	16.754	
9,800.0	7,306.0	7,623.1	7,292.5	70.4	38.4	90.17	993.2	-240.3	1,819.2	1,713.7	105.42	17.257	
9,900.0	7,306.0	7,623.0	7,292.4	73.1	38.4	90.16	993.2	-240.3	1,917.4	1,809.3	108.11	17.735	
10,000.0	7,306.0	7,623.0	7,292.4	75.8	38.4	90.15	993.2	-240.3	2,015.9	1,905.1	110.82	18.190	
10,100.0	7,306.0	7,622.9	7,292.3	78.5	38.4	90.14	993.2	-240.3	2,114.5	2,001.0	113.54	18.624	
10,200.0	7,306.0	7,622.8	7,292.2	81.2	38.4	90.12	993.2	-240.3	2,213.2	2,097.0	116.26	19.037	
10,300.0	7,306.0	7,622.8	7,292.2	84.0	38.4	90.11	993.2	-240.3	2,312.1	2,193.1	118.98	19.432	
10,400.0	7,306.0	7,622.7	7,292.1	86.7	38.4	90.10	993.2	-240.3	2,411.0	2,289.3	121.72	19.808	
10,500.0	7,306.0	7,622.6	7,292.1	89.4	38.4	90.09	993.2	-240.3	2,510.0	2,385.6	124.45	20.168	
10,600.0	7,306.0	7,622.6	7,292.0	92.2	38.4	90.08	993.2	-240.3	2,609.1	2,481.9	127.19	20.513	
10,700.0	7,306.0	7,622.5	7,291.9	94.9	38.4	90.07	993.2	-240.3	2,708.3	2,578.3	129.94	20.843	
10,800.0	7,306.0	7,622.4	7,291.9	97.6	38.4	90.06	993.2	-240.3	2,807.5	2,674.8	132.69	21.159	
10,900.0	7,306.0	7,622.4	7,291.8	100.4	38.4	90.05	993.2	-240.3	2,906.7	2,771.3	135.44	21.462	
11,000.0	7,306.0	7,622.3	7,291.7	103.2	38.4	90.04	993.2	-240.3	3,006.1	2,867.9	138.19	21.753	
11,100.0	7,306.0	7,622.3	7,291.7	105.9	38.4	90.03	993.2	-240.3	3,105.4	2,964.5	140.95	22.032	
11,200.0	7,306.0	7,622.2	7,291.6	108.7	38.4	90.02	993.2	-240.3	3,204.8	3,061.1	143.71	22.300	
11,300.0	7,306.0	7,622.1	7,291.6	111.4	38.4	90.01	993.2	-240.3	3,304.3	3,157.8	146.47	22.559	
11,400.0	7,306.0	7,622.1	7,291.5	114.2	38.4	90.00	993.2	-240.3	3,403.7	3,254.5	149.24	22.807	
11,500.0	7,306.0	7,622.0	7,291.4	117.0	38.4	89.99	993.3	-240.3	3,503.2	3,351.2	152.01	23.047	
11,600.0	7,306.0	7,622.0	7,291.4	119.7	38.4	89.98	993.3	-240.3	3,602.8	3,448.0	154.78	23.277	
11,700.0	7,306.0	7,621.9	7,291.3	122.5	38.4	89.97	993.3	-240.3	3,702.3	3,544.8	157.55	23.500	
11,800.0	7,306.0	7,621.8	7,291.3	125.3	38.4	89.96	993.3	-240.3	3,801.9	3,641.6	160.32	23.715	
11,900.0	7,306.0	7,621.8	7,291.2	128.0	38.4	89.95	993.3	-240.3	3,901.5	3,738.4	163.09	23.922	
12,000.0	7,306.0	7,621.7	7,291.2	130.8	38.4	89.94	993.3	-240.3	4,001.1	3,835.3	165.87	24.122	
12,100.0	7,306.0	7,621.7	7,291.1	133.6	38.4	89.93	993.3	-240.3	4,100.8	3,932.1	168.65	24.316	
12,200.0	7,306.0	7,621.6	7,291.0	136.4	38.4	89.92	993.3	-240.3	4,200.4	4,029.0	171.42	24.503	
12,300.0	7,306.0	7,621.6	7,291.0	139.1	38.4	89.91	993.3	-240.3	4,300.1	4,125.9	174.20	24.684	
12,400.0	7,306.0	7,621.5	7,290.9	141.9	38.4	89.91	993.3	-240.3	4,399.8	4,222.8	176.98	24.860	
12,500.0	7,306.0	7,621.5	7,290.9	144.7	38.4	89.90	993.3	-240.3	4,499.5	4,319.7	179.77	25.030	
12,600.0	7,306.0	7,621.4	7,290.8	147.5	38.4	89.89	993.3	-240.3	4,599.2	4,416.6	182.55	25.194	
12,700.0	7,306.0	7,621.3	7,290.8	150.3	38.4	89.88	993.3	-240.3	4,698.9	4,513.6	185.33	25.354	
12,800.0	7,306.0	7,621.3	7,290.7	153.0	38.4	89.87	993.3	-240.3	4,798.7	4,610.5	188.12	25.509	
12,900.0	7,306.0	7,621.2	7,290.7	155.8	38.4	89.86	993.3	-240.3	4,898.4	4,707.5	190.90	25.659	
13,000.0	7,306.0	7,621.2	7,290.6	158.6	38.4	89.85	993.3	-240.3	4,998.2	4,804.5	193.69	25.805	
13,100.0	7,306.0	7,621.1	7,290.6	161.4	38.4	89.84	993.3	-240.3	5,097.9	4,901.4	196.47	25.947	
13,200.0	7,306.0	7,621.1	7,290.5	164.2	38.4	89.83	993.3	-240.3	5,197.7	4,998.4	199.26	26.085	
13,300.0	7,306.0	7,621.0	7,290.4	167.0	38.4	89.83	993.3	-240.3	5,297.5	5,095.4	202.05	26.219	
13,400.0	7,306.0	7,621.0	7,290.4	169.8	38.4	89.82	993.3	-240.3	5,397.3	5,192.4	204.84	26.349	
13,500.0	7,306.0	7,620.9	7,290.3	172.6	38.4	89.81	993.3	-240.3	5,497.1	5,289.4	207.63	26.475	
13,600.0	7,306.0	7,620.9	7,290.3	175.3	38.4	89.80	993.3	-240.3	5,596.9	5,386.5	210.42	26.599	
13,700.0	7,306.0	7,620.8	7,290.2	178.1	38.4	89.79	993.3	-240.3	5,696.7	5,483.5	213.21	26.719	
13,800.0	7,306.0	7,620.8	7,290.2	180.9	38.4	89.78	993.3	-240.3	5,796.5	5,580.5	216.00	26.835	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,620.7	7,290.1	183.7	38.4	89.77	993.3	-240.3	5,896.3	5,677.6	218.79	26.949	
14,000.0	7,306.0	7,620.7	7,290.1	186.5	38.4	89.77	993.3	-240.3	5,996.2	5,774.6	221.59	27.060	
14,100.0	7,306.0	7,620.6	7,290.0	189.3	38.4	89.76	993.3	-240.3	6,096.0	5,871.6	224.38	27.168	
14,200.0	7,306.0	7,620.6	7,290.0	192.1	38.4	89.75	993.3	-240.3	6,195.9	5,968.7	227.17	27.274	
14,300.0	7,306.0	7,620.5	7,289.9	194.9	38.4	89.74	993.3	-240.3	6,295.7	6,065.7	229.97	27.377	
14,363.6	7,306.0	7,620.5	7,289.9	196.7	38.4	89.74	993.3	-240.3	6,359.2	6,127.4	231.74	27.441	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-45.22	1,968.4	-1,983.7	2,794.6				
100.0	100.0	84.3	84.3	0.1	0.1	-45.22	1,968.5	-1,983.7	2,794.6	2,794.4	0.17	N/A	
200.0	200.0	182.8	182.8	0.3	0.2	-45.22	1,968.6	-1,983.6	2,794.7	2,794.2	0.49	5,728.272	
300.0	300.0	281.4	281.4	0.5	0.3	-45.21	1,968.9	-1,983.5	2,794.8	2,794.0	0.80	3,484.472	
400.0	400.0	380.0	380.0	0.8	0.3	-45.20	1,969.3	-1,983.4	2,795.0	2,793.9	1.12	2,503.850	
500.0	500.0	478.5	478.5	1.0	0.4	-45.19	1,969.8	-1,983.2	2,795.2	2,793.8	1.43	1,954.045	
600.0	600.0	577.1	577.1	1.2	0.5	-45.18	1,970.4	-1,983.0	2,795.5	2,793.7	1.74	1,602.300	
700.0	700.0	675.7	675.7	1.4	0.6	-45.17	1,971.1	-1,982.7	2,795.8	2,793.7	2.06	1,357.938	
800.0	800.0	773.1	773.1	1.7	0.8	-91.53	1,971.9	-1,982.5	2,796.2	2,793.8	2.45	1,141.816	
900.0	899.8	881.8	881.8	1.9	1.0	-91.63	1,972.6	-1,982.3	2,796.7	2,793.8	2.88	969.894	
1,000.0	999.5	1,174.1	1,173.8	2.1	1.6	-92.10	1,970.0	-1,972.2	2,794.3	2,790.6	3.73	749.445	
1,100.0	1,098.7	1,576.2	1,572.0	2.4	2.8	-92.83	1,954.4	-1,919.8	2,783.2	2,778.3	4.96	560.915	
1,200.0	1,197.5	1,786.3	1,776.9	2.7	3.6	-93.47	1,940.0	-1,875.6	2,763.6	2,757.8	5.83	474.160	
1,299.9	1,295.5	1,878.4	1,866.2	3.0	4.0	-94.05	1,933.7	-1,854.0	2,743.0	2,736.5	6.42	427.486	
1,300.0	1,295.6	1,878.5	1,866.3	3.0	4.0	-94.05	1,933.7	-1,854.0	2,742.9	2,736.5	6.42	427.430	
1,400.0	1,393.4	2,033.4	2,015.9	3.4	4.8	-94.31	1,924.9	-1,815.2	2,722.2	2,714.9	7.25	375.287	
1,500.0	1,491.3	2,160.6	2,138.1	3.7	5.5	-94.50	1,916.5	-1,780.8	2,699.1	2,691.0	8.05	335.290	
1,600.0	1,589.1	2,267.2	2,240.3	4.1	6.0	-94.67	1,909.1	-1,751.5	2,675.5	2,666.7	8.79	304.279	
1,700.0	1,686.9	2,404.7	2,371.8	4.5	6.8	-94.87	1,899.3	-1,712.3	2,651.2	2,641.5	9.67	274.081	
1,800.0	1,784.7	2,578.5	2,536.8	5.0	7.9	-95.12	1,884.4	-1,659.9	2,624.5	2,613.8	10.70	245.199	
1,900.0	1,882.5	2,699.2	2,650.7	5.4	8.7	-95.30	1,872.3	-1,621.7	2,595.9	2,584.3	11.55	224.661	
2,000.0	1,980.3	2,764.0	2,711.8	5.8	9.1	-95.41	1,865.5	-1,601.3	2,567.2	2,555.0	12.20	210.432	
2,100.0	2,078.1	2,834.7	2,778.7	6.2	9.5	-95.54	1,858.4	-1,579.8	2,539.5	2,526.7	12.85	197.670	
2,200.0	2,176.0	2,923.4	2,863.2	6.7	10.0	-95.71	1,849.8	-1,554.0	2,513.1	2,499.5	13.56	185.357	
2,300.0	2,273.8	3,017.6	2,952.8	7.1	10.6	-95.90	1,840.6	-1,526.7	2,486.6	2,472.3	14.29	173.961	
2,400.0	2,371.6	3,080.9	3,013.2	7.5	10.9	-96.03	1,834.7	-1,508.4	2,460.7	2,445.7	14.93	164.822	
2,500.0	2,469.4	3,138.0	3,067.8	8.0	11.2	-96.14	1,830.4	-1,492.5	2,436.4	2,420.9	15.54	156.744	
2,600.0	2,567.2	3,250.7	3,175.9	8.4	11.9	-96.36	1,822.0	-1,461.3	2,412.7	2,396.3	16.35	147.596	
2,700.0	2,665.0	3,340.0	3,261.3	8.8	12.4	-96.53	1,815.3	-1,436.5	2,388.7	2,371.7	17.08	139.892	
2,800.0	2,762.9	3,433.9	3,351.3	9.3	12.9	-96.71	1,808.7	-1,410.3	2,365.0	2,347.2	17.82	132.717	
2,900.0	2,860.7	3,514.0	3,427.9	9.7	13.4	-96.86	1,803.3	-1,387.7	2,341.4	2,322.9	18.53	126.363	
3,000.0	2,958.5	3,607.0	3,517.0	10.2	13.9	-97.01	1,798.4	-1,361.4	2,318.6	2,299.3	19.29	120.198	
3,100.0	3,056.3	3,691.0	3,597.7	10.6	14.3	-97.16	1,793.8	-1,338.6	2,296.5	2,276.5	20.00	114.823	
3,200.0	3,154.1	3,846.2	3,746.8	11.1	15.2	-97.56	1,780.5	-1,297.5	2,273.0	2,252.1	20.91	108.717	
3,300.0	3,251.9	3,982.0	3,876.5	11.5	16.0	-97.95	1,766.6	-1,259.9	2,247.5	2,225.7	21.76	103.304	
3,400.0	3,349.8	4,059.6	3,950.5	12.0	16.5	-98.16	1,758.5	-1,238.0	2,221.5	2,199.1	22.42	99.068	
3,500.0	3,447.6	4,123.1	4,011.3	12.4	16.8	-98.35	1,752.3	-1,220.7	2,196.8	2,173.8	23.04	95.344	
3,600.0	3,545.4	4,187.9	4,073.6	12.8	17.2	-98.55	1,746.3	-1,204.1	2,173.7	2,150.1	23.65	91.893	
3,700.0	3,643.2	4,264.4	4,147.5	13.3	17.6	-98.80	1,739.7	-1,185.2	2,151.8	2,127.5	24.29	88.577	
3,800.0	3,741.0	4,355.0	4,234.9	13.7	18.0	-99.09	1,732.2	-1,162.8	2,130.2	2,105.2	24.97	85.293	
3,900.0	3,838.8	4,449.0	4,325.7	14.2	18.5	-99.37	1,725.4	-1,139.3	2,109.1	2,083.4	25.68	82.142	
4,000.0	3,936.6	4,578.4	4,450.5	14.6	19.2	-99.74	1,716.2	-1,106.3	2,087.7	2,061.2	26.48	78.827	
4,100.0	4,034.5	4,691.2	4,558.7	15.1	19.9	-100.05	1,708.0	-1,075.5	2,064.8	2,037.5	27.26	75.747	
4,200.0	4,132.3	4,783.9	4,647.6	15.5	20.4	-100.32	1,700.9	-1,050.3	2,041.8	2,013.8	27.96	73.015	
4,300.0	4,230.1	4,880.6	4,740.4	16.0	20.9	-100.60	1,693.8	-1,024.1	2,019.1	1,990.4	28.68	70.401	
4,400.0	4,327.9	4,958.5	4,815.2	16.4	21.4	-100.83	1,688.1	-1,003.1	1,996.6	1,967.2	29.34	68.054	
4,500.0	4,425.7	5,011.0	4,865.8	16.9	21.6	-100.99	1,684.6	-989.5	1,975.7	1,945.7	29.92	66.026	
4,600.0	4,523.5	5,075.2	4,928.0	17.3	21.9	-101.20	1,680.9	-974.1	1,956.7	1,926.1	30.52	64.108	
4,700.0	4,621.4	5,132.9	4,984.3	17.8	22.2	-101.40	1,678.0	-961.6	1,939.9	1,908.8	31.09	62.388	
4,800.0	4,719.2	5,198.0	5,048.1	18.2	22.5	-101.65	1,675.0	-948.8	1,925.1	1,893.5	31.67	60.781	
4,900.0	4,817.0	5,258.4	5,107.4	18.7	22.7	-101.90	1,672.6	-938.1	1,912.2	1,880.0	32.23	59.331	
5,000.0	4,914.8	5,324.5	5,172.7	19.1	22.9	-102.18	1,670.3	-927.4	1,901.2	1,868.4	32.79	57.982	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,385.0	5,232.5	19.6	23.1	-102.45	1,668.3	-918.7	1,891.9	1,858.5	33.33	56.763	
5,200.0	5,110.4	5,479.0	5,325.7	20.0	23.4	-102.90	1,665.5	-906.7	1,884.0	1,850.1	33.91	55.564	
5,221.3	5,131.3	5,479.0	5,325.7	20.1	23.4	-102.90	1,665.5	-906.7	1,882.5	1,848.5	34.00	55.365	
5,300.0	5,208.5	5,544.4	5,390.6	20.4	23.6	-103.09	1,664.0	-899.1	1,877.2	1,842.9	34.39	54.584	
5,400.0	5,307.1	5,609.7	5,455.6	20.7	23.7	-103.20	1,662.8	-892.2	1,871.2	1,836.4	34.78	53.793	
5,500.0	5,406.3	5,666.0	5,511.6	21.0	23.8	-103.26	1,662.3	-887.4	1,866.5	1,831.3	35.13	53.135	
5,600.0	5,505.8	5,730.0	5,575.4	21.2	24.0	-103.30	1,662.4	-883.0	1,863.1	1,827.6	35.44	52.571	
5,700.0	5,605.6	5,794.0	5,639.4	21.4	24.1	-103.31	1,663.0	-880.0	1,860.9	1,825.2	35.71	52.108	
5,800.0	5,705.6	5,862.9	5,708.2	21.5	24.2	-103.29	1,663.6	-878.2	1,859.8	1,823.8	35.95	51.729	
5,821.2	5,726.8	5,882.6	5,727.9	21.5	24.2	-56.93	1,663.8	-877.9	1,859.6	1,821.6	38.03	48.901	
5,900.0	5,805.6	5,956.4	5,801.7	21.6	24.3	-56.90	1,664.3	-876.9	1,859.1	1,820.8	38.24	48.620	
6,000.0	5,905.6	6,055.4	5,900.7	21.7	24.4	-56.87	1,664.7	-876.0	1,858.5	1,820.0	38.52	48.242	
6,100.0	6,005.6	6,150.8	5,996.1	21.9	24.5	-56.86	1,664.9	-875.4	1,858.2	1,819.3	38.81	47.877	
6,200.0	6,105.6	6,250.4	6,095.8	22.0	24.6	-56.85	1,664.9	-875.1	1,857.9	1,818.8	39.10	47.511	
6,299.3	6,204.9	6,345.1	6,190.4	22.1	24.7	-56.85	1,665.0	-874.9	1,857.7	1,818.3	39.39	47.161	
6,300.0	6,205.6	6,345.7	6,191.1	22.1	24.7	-56.85	1,665.0	-874.9	1,857.7	1,818.3	39.39	47.159	
6,400.0	6,305.6	6,443.9	6,289.3	22.3	24.8	-56.84	1,665.1	-874.9	1,857.8	1,818.1	39.69	46.813	
6,500.0	6,405.6	6,543.7	6,389.0	22.4	24.9	-56.83	1,665.4	-874.8	1,857.9	1,817.9	39.98	46.467	
6,600.0	6,505.6	6,639.4	6,484.7	22.5	25.0	-56.82	1,666.0	-874.7	1,858.1	1,817.9	40.27	46.137	
6,684.2	6,589.8	6,723.3	6,568.6	22.6	25.1	-56.80	1,666.6	-874.7	1,858.4	1,817.9	40.52	45.861	
6,700.0	6,605.6	6,738.7	6,584.0	22.7	25.1	33.21	1,666.7	-874.7	1,858.3	1,819.8	38.52	48.248	
6,750.0	6,655.5	6,787.5	6,632.8	22.7	25.1	33.36	1,666.9	-874.7	1,856.2	1,817.7	38.44	48.284	
6,800.0	6,705.1	6,839.7	6,685.0	22.7	25.2	33.70	1,667.1	-874.9	1,851.1	1,812.8	38.30	48.325	
6,850.0	6,754.1	6,893.0	6,738.3	22.7	25.2	34.24	1,666.9	-875.1	1,843.0	1,804.9	38.11	48.358	
6,900.0	6,802.3	6,951.6	6,796.9	22.7	25.3	35.01	1,666.3	-875.4	1,832.0	1,794.1	37.90	48.341	
6,950.0	6,849.5	7,005.9	6,851.2	22.6	25.4	36.01	1,665.5	-875.5	1,817.9	1,780.3	37.66	48.271	
7,000.0	6,895.5	7,056.6	6,901.9	22.5	25.4	37.23	1,664.5	-875.5	1,801.1	1,763.7	37.43	48.114	
7,050.0	6,939.9	7,111.0	6,956.3	22.4	25.5	38.78	1,663.2	-875.5	1,781.6	1,744.3	37.28	47.793	
7,100.0	6,982.6	7,165.2	7,010.4	22.3	25.6	40.65	1,661.5	-875.3	1,759.5	1,722.3	37.22	47.269	
7,150.0	7,023.4	7,226.2	7,071.4	22.2	25.7	43.00	1,659.4	-874.6	1,734.7	1,697.4	37.36	46.429	
7,200.0	7,062.2	7,276.8	7,122.0	22.1	25.7	45.66	1,657.3	-873.5	1,707.6	1,669.9	37.65	45.353	
7,250.0	7,098.6	7,316.8	7,161.9	22.0	25.8	48.58	1,655.8	-872.4	1,678.4	1,640.3	38.09	44.060	
7,300.0	7,132.5	7,353.6	7,198.6	21.9	25.9	51.88	1,654.5	-871.2	1,647.6	1,608.9	38.75	42.518	
7,350.0	7,163.8	7,388.2	7,233.2	21.8	25.9	55.60	1,653.4	-869.8	1,615.4	1,575.8	39.64	40.757	
7,400.0	7,192.2	7,419.0	7,264.0	21.7	26.0	59.67	1,652.5	-868.5	1,582.0	1,541.3	40.69	38.877	
7,450.0	7,217.8	7,444.0	7,288.9	21.6	26.0	63.95	1,651.7	-867.3	1,547.7	1,505.8	41.85	36.986	
7,500.0	7,240.3	7,444.0	7,288.9	21.6	26.0	67.47	1,651.7	-867.3	1,512.9	1,470.1	42.80	35.352	
7,550.0	7,259.6	7,469.9	7,314.8	21.6	26.1	72.36	1,651.1	-866.0	1,477.7	1,433.7	44.08	33.523	
7,600.0	7,275.7	7,479.2	7,324.1	21.6	26.1	76.63	1,650.9	-865.6	1,442.7	1,397.5	45.14	31.958	
7,650.0	7,288.4	7,486.4	7,331.3	21.8	26.1	80.83	1,650.8	-865.3	1,407.8	1,361.7	46.10	30.538	
7,700.0	7,297.7	7,491.3	7,336.2	22.0	26.1	84.86	1,650.7	-865.1	1,373.4	1,326.5	46.92	29.269	
7,750.0	7,303.6	7,493.9	7,338.8	22.4	26.1	88.64	1,650.7	-865.0	1,339.8	1,292.2	47.61	28.140	
7,800.0	7,305.9	7,494.2	7,339.1	22.9	26.1	92.11	1,650.7	-865.0	1,307.1	1,258.9	48.17	27.133	
7,809.2	7,306.0	7,494.0	7,338.9	23.0	26.1	92.71	1,650.7	-865.0	1,301.2	1,253.0	48.27	26.959	
7,900.0	7,306.0	7,491.4	7,336.3	24.3	26.1	92.56	1,650.7	-865.1	1,245.3	1,195.7	49.65	25.082	
8,000.0	7,306.0	7,488.5	7,333.4	26.0	26.1	92.40	1,650.8	-865.2	1,188.8	1,137.4	51.38	23.135	
8,100.0	7,306.0	7,485.6	7,330.5	27.9	26.1	92.23	1,650.8	-865.3	1,138.2	1,084.9	53.29	21.357	
8,200.0	7,306.0	7,482.5	7,327.4	30.0	26.1	92.05	1,650.9	-865.5	1,094.4	1,039.0	55.34	19.775	
8,300.0	7,306.0	7,479.4	7,324.3	32.2	26.1	91.87	1,650.9	-865.6	1,058.2	1,000.7	57.51	18.401	
8,400.0	7,306.0	7,476.1	7,321.0	34.4	26.1	91.69	1,651.0	-865.8	1,030.6	970.8	59.77	17.242	
8,500.0	7,306.0	7,472.8	7,317.7	36.8	26.1	91.50	1,651.1	-865.9	1,012.0	949.9	62.11	16.295	
8,600.0	7,306.0	7,469.3	7,314.2	39.2	26.1	91.30	1,651.1	-866.1	1,003.2	938.7	64.50	15.552	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,639.5	7,306.0	7,467.9	7,312.8	40.2	26.1	91.22	1,651.2	-866.1	1,002.4	936.9	65.47	15.310	CC, ES
8,700.0	7,306.0	7,465.7	7,310.7	41.7	26.1	91.10	1,651.2	-866.2	1,004.2	937.2	66.95	14.998	
8,800.0	7,306.0	7,462.1	7,307.0	44.1	26.1	90.89	1,651.3	-866.4	1,015.1	945.7	69.45	14.617	
8,900.0	7,306.0	7,458.3	7,303.2	46.7	26.1	90.67	1,651.4	-866.6	1,035.6	963.6	71.98	14.388	
9,000.0	7,306.0	7,454.3	7,299.3	49.2	26.0	90.44	1,651.5	-866.8	1,065.1	990.6	74.53	14.291	SF
9,100.0	7,306.0	7,444.0	7,288.9	51.8	26.0	89.85	1,651.7	-867.3	1,102.9	1,025.8	77.11	14.303	
9,200.0	7,306.0	7,444.0	7,288.9	54.4	26.0	89.85	1,651.7	-867.3	1,148.2	1,068.5	79.72	14.403	
9,300.0	7,306.0	7,444.0	7,288.9	57.1	26.0	89.85	1,651.7	-867.3	1,200.1	1,117.7	82.34	14.574	
9,400.0	7,306.0	7,444.0	7,288.9	59.7	26.0	89.85	1,651.7	-867.3	1,257.8	1,172.8	84.99	14.800	
9,500.0	7,306.0	7,433.3	7,278.3	62.4	26.0	89.25	1,652.0	-867.8	1,320.5	1,232.9	87.63	15.069	
9,600.0	7,306.0	7,429.3	7,274.3	65.0	26.0	89.02	1,652.2	-868.0	1,387.6	1,297.3	90.29	15.368	
9,700.0	7,306.0	7,425.3	7,270.3	67.7	26.0	88.79	1,652.3	-868.2	1,458.5	1,365.5	92.97	15.689	
9,800.0	7,306.0	7,421.5	7,266.5	70.4	26.0	88.57	1,652.4	-868.4	1,532.6	1,437.0	95.65	16.024	
9,900.0	7,306.0	7,417.8	7,262.8	73.1	26.0	88.36	1,652.5	-868.5	1,609.5	1,511.2	98.33	16.368	
10,000.0	7,306.0	7,414.1	7,259.1	75.8	26.0	88.15	1,652.6	-868.7	1,688.8	1,587.8	101.03	16.717	
10,100.0	7,306.0	7,410.6	7,255.6	78.5	26.0	87.95	1,652.7	-868.9	1,770.2	1,666.5	103.73	17.066	
10,200.0	7,306.0	7,407.1	7,252.1	81.2	26.0	87.75	1,652.8	-869.0	1,853.4	1,747.0	106.43	17.414	
10,300.0	7,306.0	7,403.7	7,248.7	84.0	26.0	87.56	1,652.9	-869.2	1,938.2	1,829.1	109.14	17.759	
10,400.0	7,306.0	7,400.4	7,245.4	86.7	25.9	87.37	1,653.0	-869.3	2,024.4	1,912.5	111.85	18.099	
10,500.0	7,306.0	7,397.2	7,242.2	89.4	25.9	87.19	1,653.1	-869.5	2,111.8	1,997.2	114.57	18.432	
10,600.0	7,306.0	7,394.0	7,239.0	92.2	25.9	87.01	1,653.2	-869.6	2,200.2	2,083.0	117.29	18.759	
10,700.0	7,306.0	7,390.9	7,235.9	94.9	25.9	86.83	1,653.3	-869.7	2,289.6	2,169.6	120.01	19.078	
10,800.0	7,306.0	7,387.9	7,232.9	97.6	25.9	86.66	1,653.4	-869.8	2,379.9	2,257.1	122.74	19.390	
10,900.0	7,306.0	7,384.9	7,230.0	100.4	25.9	86.50	1,653.5	-870.0	2,470.9	2,345.4	125.46	19.694	
11,000.0	7,306.0	7,382.1	7,227.1	103.2	25.9	86.33	1,653.6	-870.1	2,562.5	2,434.3	128.19	19.990	
11,100.0	7,306.0	7,379.2	7,224.3	105.9	25.9	86.17	1,653.7	-870.2	2,654.8	2,523.8	130.92	20.278	
11,200.0	7,306.0	7,376.5	7,221.5	108.7	25.9	86.02	1,653.8	-870.3	2,747.5	2,613.9	133.65	20.558	
11,300.0	7,306.0	7,373.8	7,218.8	111.4	25.9	85.86	1,653.8	-870.4	2,840.8	2,704.4	136.38	20.830	
11,400.0	7,306.0	7,371.1	7,216.2	114.2	25.9	85.71	1,653.9	-870.5	2,934.5	2,795.4	139.11	21.095	
11,500.0	7,306.0	7,368.5	7,213.6	117.0	25.9	85.57	1,654.0	-870.6	3,028.6	2,886.8	141.85	21.352	
11,600.0	7,306.0	7,350.0	7,195.1	119.7	25.9	84.52	1,654.6	-871.3	3,123.2	2,978.8	144.39	21.630	
11,700.0	7,306.0	7,350.0	7,195.1	122.5	25.9	84.52	1,654.6	-871.3	3,218.0	3,070.8	147.15	21.869	
11,800.0	7,306.0	7,350.0	7,195.1	125.3	25.9	84.52	1,654.6	-871.3	3,313.1	3,163.2	149.91	22.100	
11,900.0	7,306.0	7,350.0	7,195.1	128.0	25.9	84.52	1,654.6	-871.3	3,408.4	3,255.8	152.67	22.325	
12,000.0	7,306.0	7,350.0	7,195.1	130.8	25.9	84.52	1,654.6	-871.3	3,504.1	3,348.6	155.44	22.544	
12,100.0	7,306.0	7,350.0	7,195.1	133.6	25.9	84.52	1,654.6	-871.3	3,599.9	3,441.7	158.20	22.755	
12,200.0	7,306.0	7,350.0	7,195.1	136.4	25.9	84.52	1,654.6	-871.3	3,696.0	3,535.1	160.97	22.961	
12,300.0	7,306.0	7,350.0	7,195.1	139.1	25.9	84.52	1,654.6	-871.3	3,792.3	3,628.6	163.73	23.161	
12,400.0	7,306.0	7,350.0	7,195.1	141.9	25.9	84.52	1,654.6	-871.3	3,888.8	3,722.3	166.50	23.356	
12,500.0	7,306.0	7,350.0	7,195.1	144.7	25.9	84.52	1,654.6	-871.3	3,985.4	3,816.2	169.27	23.544	
12,600.0	7,306.0	7,350.0	7,195.1	147.5	25.9	84.52	1,654.6	-871.3	4,082.3	3,910.2	172.04	23.728	
12,700.0	7,306.0	7,350.0	7,195.1	150.3	25.9	84.52	1,654.6	-871.3	4,179.2	4,004.4	174.82	23.906	
12,800.0	7,306.0	7,350.0	7,195.1	153.0	25.9	84.52	1,654.6	-871.3	4,276.3	4,098.7	177.59	24.080	
12,900.0	7,306.0	7,350.0	7,195.1	155.8	25.9	84.52	1,654.6	-871.3	4,373.6	4,193.2	180.36	24.249	
13,000.0	7,306.0	7,350.0	7,195.1	158.6	25.9	84.52	1,654.6	-871.3	4,470.9	4,287.8	183.14	24.413	
13,100.0	7,306.0	7,350.0	7,195.1	161.4	25.9	84.52	1,654.6	-871.3	4,568.4	4,382.5	185.91	24.573	
13,200.0	7,306.0	7,350.0	7,195.1	164.2	25.9	84.52	1,654.6	-871.3	4,666.0	4,477.3	188.69	24.728	
13,300.0	7,306.0	7,350.0	7,195.1	167.0	25.9	84.52	1,654.6	-871.3	4,763.6	4,572.2	191.47	24.880	
13,400.0	7,306.0	7,327.9	7,173.0	169.8	25.8	83.29	1,655.4	-872.1	4,861.3	4,667.5	193.83	25.081	
13,500.0	7,306.0	7,326.1	7,171.3	172.6	25.8	83.19	1,655.4	-872.1	4,959.2	4,762.6	196.56	25.230	
13,600.0	7,306.0	7,324.4	7,169.5	175.3	25.8	83.09	1,655.5	-872.2	5,057.1	4,857.8	199.30	25.375	
13,700.0	7,306.0	7,322.7	7,167.8	178.1	25.8	82.99	1,655.6	-872.2	5,155.1	4,953.1	202.03	25.516	

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-404
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-404	**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 #2	**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
13,800.0	7,306.0	7,321.0	7,166.1	180.9	25.8	82.90	1,655.6	-872.3	5,253.2	5,048.4	204.76	25.655	
13,900.0	7,306.0	7,319.4	7,164.5	183.7	25.8	82.81	1,655.7	-872.3	5,351.3	5,143.8	207.50	25.790	
14,000.0	7,306.0	7,317.7	7,162.8	186.5	25.8	82.72	1,655.7	-872.4	5,449.6	5,239.3	210.23	25.922	
14,100.0	7,306.0	7,316.1	7,161.2	189.3	25.8	82.63	1,655.8	-872.4	5,547.8	5,334.9	212.96	26.051	
14,200.0	7,306.0	7,314.5	7,159.7	192.1	25.8	82.54	1,655.9	-872.5	5,646.2	5,430.5	215.70	26.177	
14,300.0	7,306.0	7,313.0	7,158.1	194.9	25.8	82.45	1,655.9	-872.5	5,744.6	5,526.1	218.43	26.300	
14,363.6	7,306.0	7,312.0	7,157.1	196.7	25.8	82.40	1,656.0	-872.6	5,807.1	5,587.0	220.16	26.376	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-45.01	1,847.5	-1,848.4	2,613.4				
100.0	100.0	104.6	104.6	0.1	0.0	-45.01	1,847.2	-1,848.1	2,613.1	2,613.0	0.11	N/A	
200.0	200.0	356.4	356.2	0.3	0.5	-44.96	1,843.4	-1,840.6	2,610.6	2,609.7	0.83	3,134.271	
300.0	300.0	609.0	607.3	0.5	1.2	-44.73	1,833.0	-1,816.1	2,600.4	2,598.7	1.70	1,532.986	
400.0	400.0	701.5	699.0	0.8	1.5	-44.61	1,828.9	-1,804.0	2,588.0	2,585.9	2.14	1,208.454	
500.0	500.0	797.6	794.2	1.0	1.8	-44.47	1,825.2	-1,791.5	2,576.1	2,573.5	2.57	1,001.276	
600.0	600.0	1,091.9	1,082.1	1.2	3.0	-43.60	1,818.9	-1,732.2	2,560.4	2,556.8	3.58	716.068	
700.0	700.0	1,339.8	1,318.3	1.4	4.5	-42.42	1,813.4	-1,657.0	2,536.6	2,532.1	4.50	563.190	
800.0	800.0	1,605.4	1,565.2	1.7	6.5	-87.89	1,804.7	-1,559.9	2,509.5	2,502.8	6.74	372.259	
900.0	899.8	1,737.8	1,684.9	1.9	7.7	-87.75	1,800.7	-1,503.6	2,478.0	2,470.2	7.80	317.616	
1,000.0	999.5	1,853.0	1,788.2	2.1	8.7	-87.81	1,796.4	-1,452.7	2,444.8	2,436.0	8.79	278.025	
1,100.0	1,098.7	1,927.9	1,855.2	2.4	9.4	-88.14	1,793.8	-1,419.5	2,411.7	2,402.2	9.51	253.727	
1,200.0	1,197.5	2,009.7	1,928.7	2.7	10.1	-88.49	1,791.5	-1,383.5	2,379.2	2,369.0	10.27	231.713	
1,299.9	1,295.5	2,105.5	2,014.9	3.0	10.9	-88.87	1,788.5	-1,341.8	2,347.0	2,335.9	11.14	210.670	
1,300.0	1,295.6	2,105.6	2,015.0	3.0	10.9	-88.86	1,788.5	-1,341.7	2,347.0	2,335.9	11.14	210.642	
1,400.0	1,393.4	2,203.3	2,103.1	3.4	11.7	-88.62	1,784.7	-1,299.7	2,314.6	2,302.4	12.12	190.903	
1,500.0	1,491.3	2,270.0	2,163.3	3.7	12.3	-88.45	1,782.2	-1,271.2	2,282.5	2,269.6	12.93	176.479	
1,600.0	1,589.1	2,338.9	2,225.9	4.1	12.8	-88.26	1,780.7	-1,242.3	2,252.0	2,238.2	13.78	163.481	
1,700.0	1,686.9	2,477.1	2,351.4	4.5	14.0	-87.92	1,775.6	-1,184.7	2,220.6	2,205.5	15.09	147.180	
1,800.0	1,784.7	2,639.2	2,497.5	5.0	15.5	-87.50	1,766.7	-1,115.0	2,187.2	2,170.5	16.61	131.654	
1,900.0	1,882.5	2,737.6	2,585.5	5.4	16.4	-87.22	1,760.1	-1,071.4	2,152.0	2,134.3	17.72	121.448	
2,000.0	1,980.3	2,814.0	2,653.8	5.8	17.1	-87.00	1,755.3	-1,037.7	2,117.3	2,098.6	18.67	113.423	
2,100.0	2,078.1	2,883.0	2,715.9	6.2	17.7	-86.80	1,751.4	-1,007.9	2,083.6	2,064.1	19.56	106.541	
2,200.0	2,176.0	2,945.3	2,772.2	6.7	18.2	-86.62	1,748.5	-981.4	2,051.3	2,030.9	20.41	100.508	
2,300.0	2,273.8	3,030.1	2,849.0	7.1	19.0	-86.35	1,745.7	-945.6	2,020.1	1,998.7	21.43	94.249	
2,400.0	2,371.6	3,156.6	2,963.2	7.5	20.1	-85.93	1,741.1	-891.5	1,988.5	1,965.7	22.80	87.220	
2,500.0	2,469.4	3,213.3	3,014.3	8.0	20.6	-85.71	1,739.2	-866.8	1,956.7	1,933.0	23.66	82.700	
2,600.0	2,567.2	3,282.7	3,077.3	8.4	21.2	-85.45	1,738.1	-837.5	1,926.9	1,902.3	24.62	78.261	
2,700.0	2,665.0	3,409.7	3,192.0	8.8	22.4	-84.95	1,735.3	-783.1	1,896.5	1,870.4	26.04	72.841	
2,800.0	2,762.9	3,504.1	3,277.3	9.3	23.2	-84.58	1,732.3	-742.9	1,865.4	1,838.2	27.19	68.615	
2,900.0	2,860.7	3,591.6	3,356.6	9.7	23.9	-84.25	1,729.3	-706.1	1,834.7	1,806.5	28.28	64.881	
3,000.0	2,958.5	3,673.2	3,430.5	10.2	24.6	-83.91	1,727.2	-671.6	1,804.6	1,775.2	29.34	61.504	
3,100.0	3,056.3	3,769.5	3,518.0	10.6	25.5	-83.50	1,725.3	-631.2	1,775.2	1,744.7	30.53	58.148	
3,200.0	3,154.1	3,882.7	3,620.6	11.1	26.4	-83.03	1,721.5	-583.8	1,744.8	1,713.0	31.84	54.797	
3,300.0	3,251.9	3,999.5	3,726.7	11.5	27.5	-82.56	1,716.2	-535.0	1,713.7	1,680.6	33.18	51.651	
3,400.0	3,349.8	4,099.9	3,817.6	12.0	28.3	-82.15	1,710.7	-492.8	1,681.8	1,647.4	34.39	48.897	
3,500.0	3,447.6	4,217.2	3,923.3	12.4	29.4	-81.62	1,703.5	-442.4	1,648.8	1,613.0	35.77	46.094	
3,600.0	3,545.4	4,286.0	3,985.2	12.8	30.0	-81.31	1,699.1	-412.9	1,615.9	1,579.1	36.77	43.951	
3,700.0	3,643.2	4,365.0	4,056.8	13.3	30.7	-80.95	1,694.6	-379.7	1,584.2	1,546.3	37.82	41.886	
3,800.0	3,741.0	4,452.7	4,136.6	13.7	31.5	-80.54	1,690.6	-343.5	1,553.7	1,514.8	38.96	39.883	
3,900.0	3,838.8	4,567.0	4,239.8	14.2	32.5	-79.90	1,686.0	-294.7	1,523.0	1,482.6	40.38	37.717	
4,000.0	3,936.6	4,638.1	4,303.4	14.6	33.1	-79.42	1,684.1	-262.9	1,492.3	1,450.8	41.50	35.962	
4,100.0	4,034.5	4,743.4	4,397.0	15.1	34.2	-78.60	1,683.0	-214.8	1,462.6	1,419.6	43.00	34.012	
4,200.0	4,132.3	4,850.1	4,491.9	15.5	35.2	-77.77	1,680.4	-165.9	1,431.9	1,387.3	44.52	32.163	
4,300.0	4,230.1	4,948.7	4,580.2	16.0	36.1	-77.06	1,676.2	-122.5	1,400.8	1,354.9	45.89	30.527	
4,400.0	4,327.9	5,060.6	4,680.6	16.4	37.1	-76.26	1,670.2	-73.3	1,369.1	1,321.7	47.39	28.890	
4,500.0	4,425.7	5,163.8	4,772.4	16.9	38.1	-75.42	1,664.3	-26.5	1,336.6	1,287.7	48.87	27.348	
4,600.0	4,523.5	5,249.1	4,848.1	17.3	39.0	-74.68	1,659.4	12.6	1,304.1	1,253.9	50.19	25.981	
4,700.0	4,621.4	5,316.0	4,907.9	17.8	39.6	-74.11	1,656.0	42.2	1,273.2	1,221.9	51.30	24.816	
4,800.0	4,719.2	5,394.5	4,979.1	18.2	40.3	-73.51	1,652.3	75.0	1,244.0	1,191.5	52.46	23.713	
4,900.0	4,817.0	5,470.5	5,049.1	18.7	40.9	-73.00	1,649.0	104.6	1,216.5	1,162.9	53.54	22.723	
5,000.0	4,914.8	5,548.7	5,121.8	19.1	41.4	-72.54	1,645.8	133.1	1,190.5	1,135.9	54.58	21.811	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,626.7	5,194.8	19.6	42.0	-72.10	1,643.3	160.4	1,166.1	1,110.5	55.60	20.972	
5,200.0	5,110.4	5,704.2	5,268.0	20.0	42.5	-71.72	1,641.5	186.1	1,143.4	1,086.8	56.59	20.206	
5,221.3	5,131.3	5,721.9	5,284.7	20.1	42.6	-71.64	1,641.1	191.7	1,138.8	1,082.0	56.80	20.050	
5,300.0	5,208.5	5,784.0	5,343.9	20.4	43.0	-71.04	1,640.0	210.6	1,122.5	1,064.9	57.63	19.477	
5,400.0	5,307.1	5,860.0	5,416.8	20.7	43.4	-70.30	1,639.1	231.9	1,104.5	1,045.9	58.55	18.865	
5,500.0	5,406.3	5,941.2	5,495.4	21.0	43.8	-69.55	1,638.8	252.3	1,089.7	1,030.3	59.40	18.345	
5,600.0	5,505.8	6,028.2	5,580.3	21.2	44.2	-68.78	1,638.5	271.4	1,077.5	1,017.3	60.18	17.902	
5,700.0	5,605.6	6,113.9	5,664.4	21.4	44.5	-68.04	1,638.1	287.9	1,067.6	1,006.8	60.86	17.543	
5,800.0	5,705.6	6,199.5	5,748.9	21.5	44.7	-67.34	1,637.8	301.4	1,060.6	999.2	61.42	17.267	
5,821.2	5,726.8	6,218.1	5,767.3	21.5	44.8	-20.84	1,637.8	304.0	1,059.4	1,018.2	41.24	25.688	
5,900.0	5,805.6	6,285.9	5,834.6	21.6	45.0	-20.42	1,637.6	312.4	1,055.7	1,014.4	41.35	25.531	
6,000.0	5,905.6	6,373.2	5,921.5	21.7	45.2	-19.96	1,637.7	321.3	1,052.3	1,010.8	41.51	25.348	
6,100.0	6,005.6	6,466.0	6,013.9	21.9	45.3	-19.55	1,638.0	329.2	1,049.8	1,008.1	41.69	25.180	
6,200.0	6,105.6	6,558.5	6,106.2	22.0	45.5	-19.25	1,638.3	335.0	1,048.0	1,006.1	41.89	25.018	
6,300.0	6,205.6	6,654.6	6,202.2	22.1	45.6	-19.05	1,638.4	338.7	1,046.8	1,004.7	42.12	24.853	
6,400.0	6,305.6	6,754.2	6,301.8	22.3	45.7	-18.89	1,638.3	341.8	1,045.7	1,003.3	42.36	24.685	
6,500.0	6,405.6	6,851.2	6,398.8	22.4	45.8	-18.78	1,638.2	344.0	1,044.8	1,002.2	42.62	24.517	
6,600.0	6,505.6	6,951.3	6,498.8	22.5	45.9	-18.69	1,638.1	345.8	1,044.2	1,001.3	42.88	24.351	
6,684.2	6,589.8	7,036.6	6,584.1	22.6	45.9	-18.62	1,637.8	347.3	1,043.5	1,000.4	43.11	24.206	
6,700.0	6,605.6	7,052.1	6,599.6	22.7	46.0	71.42	1,637.8	347.5	1,043.3	978.9	64.35	16.213	
6,750.0	6,655.5	7,101.0	6,648.5	22.7	46.0	71.69	1,637.6	348.2	1,042.0	977.5	64.46	16.166	
6,800.0	6,705.1	7,149.1	6,696.7	22.7	46.0	72.21	1,637.4	348.7	1,039.7	975.1	64.56	16.104	
6,850.0	6,754.1	7,197.0	6,744.5	22.7	46.1	72.96	1,637.2	348.9	1,036.4	971.8	64.66	16.028	
6,900.0	6,802.3	7,245.0	6,792.5	22.7	46.1	73.95	1,637.1	349.1	1,032.3	967.6	64.77	15.938	
6,950.0	6,849.5	7,292.4	6,839.9	22.6	46.1	75.18	1,636.9	349.3	1,027.5	962.6	64.89	15.834	
7,000.0	6,895.5	7,340.2	6,887.7	22.5	46.2	76.65	1,636.7	349.5	1,022.0	956.9	65.01	15.720	
7,050.0	6,939.9	7,385.6	6,933.1	22.4	46.2	78.28	1,636.4	349.8	1,016.0	950.9	65.12	15.601	
7,100.0	6,982.6	7,427.0	6,974.5	22.3	46.2	79.96	1,636.1	349.9	1,009.9	944.7	65.21	15.486	
7,150.0	7,023.4	7,466.7	7,014.2	22.2	46.3	81.73	1,635.9	350.0	1,004.0	938.7	65.29	15.377	
7,200.0	7,062.2	7,503.6	7,051.1	22.1	46.3	83.51	1,635.8	350.1	998.5	933.1	65.35	15.280	
7,250.0	7,098.6	7,538.2	7,085.7	22.0	46.3	85.25	1,635.7	350.2	993.7	928.3	65.40	15.196	
7,300.0	7,132.5	7,570.8	7,118.3	21.9	46.3	86.94	1,635.7	350.4	990.0	924.6	65.44	15.128	
7,350.0	7,163.8	7,602.1	7,149.6	21.8	46.4	88.56	1,635.7	350.6	987.6	922.1	65.50	15.078	
7,400.0	7,192.2	7,630.6	7,178.1	21.7	46.4	89.99	1,635.7	350.7	986.7	921.1	65.58	15.045	
7,401.3	7,192.9	7,631.3	7,178.8	21.7	46.4	90.03	1,635.7	350.7	986.7	921.1	65.59	15.044	CC, ES
7,450.0	7,217.8	7,656.3	7,203.8	21.6	46.4	91.21	1,635.7	350.8	987.6	921.9	65.71	15.029	SF
7,500.0	7,240.3	7,679.7	7,227.2	21.6	46.4	92.19	1,635.6	350.9	990.5	924.6	65.90	15.029	
7,550.0	7,259.6	7,699.7	7,247.2	21.6	46.4	92.85	1,635.6	350.9	995.5	929.4	66.18	15.043	
7,600.0	7,275.7	7,716.3	7,263.8	21.6	46.4	93.16	1,635.5	351.0	1,002.9	936.4	66.55	15.070	
7,650.0	7,288.4	7,729.3	7,276.9	21.8	46.4	93.10	1,635.5	351.1	1,012.7	945.7	67.03	15.109	
7,700.0	7,297.7	7,738.8	7,286.3	22.0	46.5	92.63	1,635.5	351.1	1,024.9	957.3	67.61	15.159	
7,750.0	7,303.6	7,744.7	7,292.2	22.4	46.5	91.75	1,635.4	351.1	1,039.5	971.2	68.28	15.224	
7,800.0	7,305.9	7,746.9	7,294.4	22.9	46.5	90.46	1,635.4	351.1	1,056.3	987.3	69.01	15.305	
7,809.2	7,306.0	7,746.9	7,294.5	23.0	46.5	90.17	1,635.4	351.1	1,059.6	990.4	69.15	15.322	
7,900.0	7,306.0	7,746.5	7,294.0	24.3	46.5	90.15	1,635.4	351.1	1,096.0	1,025.5	70.54	15.538	
8,000.0	7,306.0	7,746.0	7,293.5	26.0	46.5	90.12	1,635.4	351.1	1,143.2	1,070.9	72.27	15.819	
8,100.0	7,306.0	7,745.5	7,293.0	27.9	46.5	90.09	1,635.4	351.1	1,196.8	1,122.6	74.17	16.136	
8,200.0	7,306.0	7,745.0	7,292.5	30.0	46.5	90.06	1,635.4	351.1	1,256.1	1,179.9	76.22	16.481	
8,300.0	7,306.0	7,744.5	7,292.0	32.2	46.5	90.03	1,635.4	351.1	1,320.4	1,242.0	78.38	16.846	
8,400.0	7,306.0	7,744.0	7,291.5	34.4	46.5	90.00	1,635.4	351.1	1,388.9	1,308.2	80.64	17.224	
8,500.0	7,306.0	7,743.5	7,291.0	36.8	46.5	89.97	1,635.4	351.1	1,461.0	1,378.0	82.97	17.609	
8,600.0	7,306.0	7,743.0	7,290.5	39.2	46.5	89.94	1,635.4	351.1	1,536.3	1,450.9	85.37	17.996	

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-404
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-404	**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 #2	**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	7,306.0	7,742.5	7,290.0	41.7	46.5	89.91	1,635.4	351.1	1,614.2	1,526.4	87.81	18.382	
8,800.0	7,306.0	7,742.0	7,289.5	44.1	46.5	89.89	1,635.4	351.1	1,694.5	1,604.1	90.30	18.764	
8,900.0	7,306.0	7,741.5	7,289.0	46.7	46.5	89.86	1,635.4	351.1	1,776.7	1,683.9	92.83	19.139	
9,000.0	7,306.0	7,741.1	7,288.6	49.2	46.5	89.83	1,635.4	351.1	1,860.7	1,765.3	95.39	19.507	
9,100.0	7,306.0	7,740.6	7,288.1	51.8	46.5	89.80	1,635.5	351.1	1,946.2	1,848.3	97.97	19.865	
9,200.0	7,306.0	7,740.1	7,287.6	54.4	46.5	89.77	1,635.5	351.1	2,033.1	1,932.5	100.58	20.214	
9,300.0	7,306.0	7,739.6	7,287.1	57.1	46.5	89.75	1,635.5	351.1	2,121.1	2,017.9	103.20	20.553	
9,400.0	7,306.0	7,739.1	7,286.6	59.7	46.5	89.72	1,635.5	351.1	2,210.1	2,104.2	105.84	20.881	
9,500.0	7,306.0	7,738.6	7,286.1	62.4	46.5	89.69	1,635.5	351.1	2,300.0	2,191.5	108.50	21.198	
9,600.0	7,306.0	7,738.2	7,285.7	65.0	46.5	89.66	1,635.5	351.1	2,390.7	2,279.5	111.17	21.505	
9,700.0	7,306.0	7,737.7	7,285.2	67.7	46.5	89.63	1,635.5	351.1	2,482.1	2,368.3	113.85	21.802	
9,800.0	7,306.0	7,737.2	7,284.7	70.4	46.5	89.61	1,635.5	351.1	2,574.2	2,457.7	116.54	22.089	
9,900.0	7,306.0	7,736.7	7,284.2	73.1	46.5	89.58	1,635.5	351.1	2,666.9	2,547.6	119.24	22.366	
10,000.0	7,306.0	7,736.3	7,283.8	75.8	46.5	89.55	1,635.5	351.1	2,760.0	2,638.1	121.95	22.633	
10,100.0	7,306.0	7,735.8	7,283.3	78.5	46.5	89.52	1,635.5	351.1	2,853.6	2,729.0	124.66	22.891	
10,200.0	7,306.0	7,735.3	7,282.8	81.2	46.5	89.50	1,635.5	351.1	2,947.7	2,820.3	127.38	23.141	
10,300.0	7,306.0	7,734.9	7,282.4	84.0	46.5	89.47	1,635.5	351.1	3,042.1	2,912.0	130.11	23.382	
10,400.0	7,306.0	7,734.4	7,281.9	86.7	46.5	89.44	1,635.5	351.1	3,136.8	3,004.0	132.84	23.614	
10,500.0	7,306.0	7,733.9	7,281.4	89.4	46.4	89.42	1,635.5	351.1	3,231.9	3,096.4	135.57	23.839	
10,600.0	7,306.0	7,733.5	7,281.0	92.2	46.4	89.39	1,635.5	351.1	3,327.3	3,189.0	138.31	24.056	
10,700.0	7,306.0	7,733.0	7,280.5	94.9	46.4	89.36	1,635.5	351.1	3,422.9	3,281.9	141.06	24.266	
10,800.0	7,306.0	7,732.5	7,280.1	97.6	46.4	89.34	1,635.5	351.1	3,518.8	3,375.0	143.81	24.469	
10,900.0	7,306.0	7,732.1	7,279.6	100.4	46.4	89.31	1,635.5	351.1	3,614.9	3,468.3	146.56	24.665	
11,000.0	7,306.0	7,731.6	7,279.1	103.2	46.4	89.28	1,635.5	351.1	3,711.2	3,561.9	149.31	24.855	
11,100.0	7,306.0	7,731.2	7,278.7	105.9	46.4	89.26	1,635.5	351.1	3,807.7	3,655.6	152.07	25.039	
11,200.0	7,306.0	7,730.7	7,278.2	108.7	46.4	89.23	1,635.5	351.1	3,904.4	3,749.5	154.83	25.217	
11,300.0	7,306.0	7,730.3	7,277.8	111.4	46.4	89.20	1,635.5	351.1	4,001.2	3,843.6	157.59	25.390	
11,400.0	7,306.0	7,729.8	7,277.3	114.2	46.4	89.18	1,635.5	351.1	4,098.2	3,937.8	160.35	25.557	
11,500.0	7,306.0	7,729.4	7,276.9	117.0	46.4	89.15	1,635.5	351.1	4,195.3	4,032.2	163.12	25.719	
11,600.0	7,306.0	7,728.9	7,276.4	119.7	46.4	89.12	1,635.5	351.1	4,292.6	4,126.7	165.89	25.876	
11,700.0	7,306.0	7,728.5	7,276.0	122.5	46.4	89.10	1,635.5	351.1	4,390.0	4,221.3	168.66	26.029	
11,800.0	7,306.0	7,728.0	7,275.5	125.3	46.4	89.07	1,635.5	351.1	4,487.5	4,316.0	171.43	26.177	
11,900.0	7,306.0	7,727.6	7,275.1	128.0	46.4	89.05	1,635.5	351.1	4,585.1	4,410.9	174.20	26.320	
12,000.0	7,306.0	7,727.1	7,274.6	130.8	46.4	89.02	1,635.5	351.1	4,682.8	4,505.8	176.98	26.460	
12,100.0	7,306.0	7,726.7	7,274.2	133.6	46.4	88.99	1,635.5	351.1	4,780.6	4,600.8	179.75	26.595	
12,200.0	7,306.0	7,726.2	7,273.7	136.4	46.4	88.97	1,635.5	351.1	4,878.5	4,695.9	182.53	26.727	
12,300.0	7,306.0	7,725.8	7,273.3	139.1	46.4	88.94	1,635.5	351.0	4,976.4	4,791.1	185.31	26.855	
12,400.0	7,306.0	7,725.4	7,272.9	141.9	46.4	88.92	1,635.5	351.0	5,074.5	4,886.4	188.09	26.980	
12,500.0	7,306.0	7,724.9	7,272.4	144.7	46.4	88.89	1,635.5	351.0	5,172.6	4,981.8	190.87	27.101	
12,600.0	7,306.0	7,724.5	7,272.0	147.5	46.4	88.87	1,635.5	351.0	5,270.8	5,077.2	193.65	27.219	
12,700.0	7,306.0	7,724.1	7,271.6	150.3	46.4	88.84	1,635.5	351.0	5,369.1	5,172.7	196.43	27.333	
12,800.0	7,306.0	7,723.6	7,271.1	153.0	46.4	88.82	1,635.5	351.0	5,467.4	5,268.2	199.21	27.445	
12,900.0	7,306.0	7,723.2	7,270.7	155.8	46.4	88.79	1,635.5	351.0	5,565.8	5,363.8	202.00	27.554	
13,000.0	7,306.0	7,722.8	7,270.3	158.6	46.4	88.77	1,635.5	351.0	5,664.2	5,459.5	204.78	27.660	
13,100.0	7,306.0	7,722.3	7,269.8	161.4	46.4	88.74	1,635.5	351.0	5,762.7	5,555.2	207.57	27.763	
13,200.0	7,306.0	7,721.9	7,269.4	164.2	46.4	88.72	1,635.5	351.0	5,861.3	5,650.9	210.35	27.864	
13,300.0	7,306.0	7,721.5	7,269.0	167.0	46.4	88.69	1,635.5	351.0	5,959.9	5,746.7	213.14	27.963	
13,400.0	7,306.0	7,721.0	7,268.6	169.8	46.4	88.67	1,635.5	351.0	6,058.5	5,842.6	215.92	28.059	
13,500.0	7,306.0	7,720.6	7,268.1	172.6	46.4	88.64	1,635.5	351.0	6,157.2	5,938.5	218.71	28.152	
13,600.0	7,306.0	7,720.2	7,267.7	175.3	46.4	88.62	1,635.5	351.0	6,255.9	6,034.4	221.50	28.244	
13,700.0	7,306.0	7,719.8	7,267.3	178.1	46.4	88.59	1,635.5	351.0	6,354.7	6,130.4	224.29	28.333	
13,800.0	7,306.0	7,719.3	7,266.9	180.9	46.4	88.57	1,635.5	351.0	6,453.5	6,226.4	227.08	28.420	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,718.9	7,266.4	183.7	46.4	88.54	1,635.5	351.0	6,552.4	6,322.5	229.87	28.505	
14,000.0	7,306.0	7,718.5	7,266.0	186.5	46.4	88.52	1,635.5	351.0	6,651.2	6,418.6	232.66	28.588	
14,100.0	7,306.0	7,718.1	7,265.6	189.3	46.4	88.50	1,635.5	351.0	6,750.1	6,514.7	235.45	28.670	
14,200.0	7,306.0	7,717.7	7,265.2	192.1	46.4	88.47	1,635.5	351.0	6,849.1	6,610.8	238.24	28.749	
14,300.0	7,306.0	7,717.3	7,264.8	194.9	46.4	88.45	1,635.5	351.0	6,948.1	6,707.0	241.03	28.827	
14,363.6	7,306.0	7,717.0	7,264.5	196.7	46.4	88.43	1,635.5	351.0	7,011.0	6,768.2	242.80	28.875	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-44.93	1,989.6	-1,984.5	2,810.1				
100.0	100.0	56.2	56.2	0.1	0.0	-44.93	1,989.7	-1,984.8	2,810.5	2,810.4	0.12	N/A	
200.0	200.0	121.9	121.9	0.3	0.1	-44.94	1,990.1	-1,985.9	2,812.2	2,811.8	0.38	7,458.581	
300.0	300.0	195.4	195.4	0.5	0.1	-44.96	1,990.9	-1,988.1	2,815.0	2,814.3	0.69	4,064.702	
400.0	400.0	268.1	268.0	0.8	0.3	-44.99	1,991.7	-1,991.0	2,818.6	2,817.5	1.06	2,648.621	
500.0	500.0	333.0	332.8	1.0	0.4	-45.03	1,992.4	-1,994.7	2,823.5	2,822.1	1.44	1,958.997	
600.0	600.0	397.5	397.0	1.2	0.6	-45.09	1,993.2	-1,999.7	2,829.6	2,827.8	1.82	1,554.035	
700.0	700.0	476.4	475.6	1.4	0.8	-45.18	1,993.9	-2,006.8	2,836.7	2,834.5	2.23	1,271.020	
800.0	800.0	558.7	557.6	1.7	1.1	-91.52	1,994.6	-2,015.0	2,844.5	2,841.8	2.69	1,058.640	
900.0	899.8	650.7	649.0	1.9	1.3	-91.58	1,995.3	-2,025.0	2,852.9	2,849.7	3.15	906.466	
1,000.0	999.5	732.8	730.5	2.1	1.6	-91.67	1,995.5	-2,034.3	2,861.5	2,857.9	3.60	795.761	
1,100.0	1,098.7	796.0	793.2	2.4	1.8	-91.74	1,995.8	-2,042.4	2,871.6	2,867.5	4.02	714.099	
1,200.0	1,197.5	857.4	854.0	2.7	2.0	-91.82	1,996.1	-2,051.4	2,883.0	2,878.5	4.49	641.575	
1,299.9	1,295.5	927.1	922.6	3.0	2.3	-91.99	1,995.5	-2,063.2	2,895.8	2,890.8	5.05	573.797	
1,300.0	1,295.6	927.2	922.7	3.0	2.3	-91.99	1,995.5	-2,063.2	2,895.8	2,890.8	5.05	573.710	
1,400.0	1,393.4	983.0	977.5	3.4	2.5	-92.38	1,994.2	-2,074.0	2,909.8	2,904.2	5.60	519.788	
1,500.0	1,491.3	1,058.2	1,050.9	3.7	2.8	-92.94	1,991.5	-2,090.2	2,925.0	2,918.7	6.26	466.994	
1,600.0	1,589.1	1,148.5	1,138.4	4.1	3.3	-93.66	1,986.7	-2,111.8	2,941.4	2,934.3	7.03	418.294	
1,700.0	1,686.9	1,212.9	1,200.5	4.5	3.6	-94.19	1,982.0	-2,128.3	2,958.4	2,950.7	7.72	383.224	
1,800.0	1,784.7	1,264.0	1,249.6	5.0	3.9	-94.62	1,978.4	-2,142.1	2,977.1	2,968.7	8.36	356.016	
1,900.0	1,882.5	1,345.7	1,327.8	5.4	4.4	-95.31	1,972.6	-2,164.9	2,996.9	2,987.8	9.17	326.868	
2,000.0	1,980.3	1,435.3	1,413.4	5.8	4.9	-96.07	1,965.8	-2,190.5	3,017.6	3,007.6	10.02	301.100	
2,100.0	2,078.1	1,495.2	1,470.5	6.2	5.2	-96.58	1,961.1	-2,207.9	3,039.1	3,028.4	10.73	283.259	
2,200.0	2,176.0	1,544.0	1,517.0	6.7	5.5	-96.99	1,957.6	-2,222.4	3,062.3	3,050.9	11.38	269.005	
2,300.0	2,273.8	1,602.1	1,572.1	7.1	5.9	-97.47	1,953.8	-2,240.3	3,086.9	3,074.8	12.10	255.194	
2,400.0	2,371.6	1,638.0	1,606.0	7.5	6.1	-97.78	1,951.4	-2,251.8	3,113.2	3,100.5	12.70	245.102	
2,500.0	2,469.4	1,696.7	1,661.3	8.0	6.5	-98.27	1,947.7	-2,271.3	3,141.0	3,127.6	13.44	233.757	
2,600.0	2,567.2	1,747.1	1,708.5	8.4	6.9	-98.70	1,944.8	-2,288.7	3,170.6	3,156.5	14.13	224.380	
2,700.0	2,665.0	1,825.0	1,781.2	8.8	7.5	-99.35	1,940.3	-2,316.2	3,201.4	3,186.4	14.97	213.873	
2,800.0	2,762.9	1,933.4	1,882.4	9.3	8.2	-100.26	1,933.3	-2,354.5	3,232.3	3,216.4	15.93	202.936	
2,900.0	2,860.7	1,997.3	1,942.0	9.7	8.7	-100.79	1,928.9	-2,377.2	3,263.9	3,247.2	16.67	195.839	
3,000.0	2,958.5	2,054.6	1,995.3	10.2	9.1	-101.27	1,925.2	-2,397.9	3,296.6	3,279.2	17.39	189.574	
3,100.0	3,056.3	2,118.7	2,054.6	10.6	9.6	-101.79	1,921.0	-2,421.6	3,330.5	3,312.4	18.14	183.569	
3,200.0	3,154.1	2,259.8	2,185.8	11.1	10.5	-102.92	1,911.5	-2,472.8	3,364.2	3,345.0	19.18	175.366	
3,300.0	3,251.9	2,337.7	2,258.5	11.5	11.1	-103.53	1,906.3	-2,500.4	3,397.9	3,377.9	19.94	170.384	
3,400.0	3,349.8	2,412.0	2,327.6	12.0	11.6	-104.10	1,901.4	-2,527.1	3,432.4	3,411.7	20.70	165.812	
3,500.0	3,447.6	2,479.0	2,390.0	12.4	12.1	-104.61	1,896.8	-2,551.3	3,467.5	3,446.1	21.43	161.783	
3,600.0	3,545.4	2,536.6	2,443.4	12.8	12.5	-105.05	1,893.0	-2,572.3	3,503.6	3,481.5	22.12	158.374	
3,700.0	3,643.2	2,588.5	2,491.4	13.3	12.9	-105.43	1,889.8	-2,591.9	3,541.1	3,518.3	22.79	155.408	
3,800.0	3,741.0	2,678.9	2,574.7	13.7	13.6	-106.11	1,883.8	-2,626.4	3,579.3	3,555.7	23.62	151.520	
3,900.0	3,838.8	2,882.2	2,762.8	14.2	15.1	-107.59	1,869.1	-2,702.0	3,617.6	3,592.7	24.86	145.515	
4,000.0	3,936.6	2,968.7	2,843.6	14.6	15.7	-108.19	1,862.4	-2,732.3	3,653.7	3,628.1	25.60	142.729	
4,100.0	4,034.5	3,055.4	2,924.7	15.1	16.3	-108.78	1,856.4	-2,762.5	3,690.3	3,664.0	26.33	140.143	
4,200.0	4,132.3	3,173.8	3,035.6	15.5	17.0	-109.55	1,848.8	-2,803.1	3,727.0	3,699.8	27.15	137.269	
4,300.0	4,230.1	3,271.5	3,127.7	16.0	17.7	-110.15	1,843.1	-2,835.3	3,763.0	3,735.1	27.89	134.907	
4,400.0	4,327.9	3,356.1	3,207.2	16.4	18.2	-110.68	1,837.7	-2,863.8	3,799.8	3,771.2	28.60	132.873	
4,500.0	4,425.7	3,492.3	3,335.6	16.9	19.1	-111.50	1,828.5	-2,908.2	3,835.9	3,806.4	29.44	130.276	
4,600.0	4,523.5	3,647.9	3,483.0	17.3	20.1	-112.42	1,817.2	-2,956.5	3,870.6	3,840.3	30.32	127.677	
4,700.0	4,621.4	3,727.8	3,559.0	17.8	20.6	-112.87	1,812.1	-2,980.9	3,905.7	3,874.7	30.96	126.142	
4,800.0	4,719.2	3,828.8	3,655.0	18.2	21.2	-113.43	1,805.4	-3,011.4	3,940.6	3,909.0	31.66	124.450	
4,900.0	4,817.0	3,908.1	3,730.3	18.7	21.7	-113.88	1,799.5	-3,035.7	3,976.1	3,943.8	32.31	123.057	
5,000.0	4,914.8	3,992.8	3,810.6	19.1	22.2	-114.35	1,792.7	-3,061.7	4,011.8	3,978.8	32.97	121.663	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	4,050.9	3,865.6	19.6	22.6	-114.68	1,788.1	-3,079.8	4,048.2	4,014.6	33.56	120.625	
5,200.0	5,110.4	4,158.5	3,967.4	20.0	23.3	-115.27	1,779.5	-3,113.7	4,085.1	4,050.8	34.28	119.161	
5,221.3	5,131.3	4,202.7	4,009.2	20.1	23.6	-115.51	1,775.7	-3,127.4	4,092.9	4,058.4	34.49	118.676	
5,300.0	5,208.5	4,350.0	4,149.6	20.4	24.5	-116.77	1,764.1	-3,170.7	4,120.3	4,085.3	34.99	117.764	
5,400.0	5,307.1	4,395.0	4,192.6	20.7	24.7	-117.59	1,761.4	-3,183.5	4,153.7	4,118.5	35.20	117.999	
5,500.0	5,406.3	4,444.0	4,239.3	21.0	25.0	-118.39	1,758.8	-3,198.0	4,186.7	4,151.3	35.40	118.268	
5,600.0	5,505.8	4,558.3	4,348.3	21.2	25.7	-119.33	1,752.8	-3,231.9	4,218.5	4,182.7	35.76	117.967	
5,700.0	5,605.6	4,631.0	4,417.6	21.4	26.1	-120.08	1,748.5	-3,253.5	4,248.6	4,212.7	35.99	118.039	
5,800.0	5,705.6	4,702.1	4,485.3	21.5	26.6	-120.77	1,744.2	-3,275.0	4,277.7	4,241.5	36.21	118.132	
5,821.2	5,726.8	5,919.8	5,680.6	21.5	30.8	-75.76	1,701.5	-3,467.8	4,279.8	4,234.6	45.18	94.735	
5,900.0	5,805.6	5,997.5	5,758.3	21.6	30.9	-75.78	1,700.8	-3,468.6	4,280.4	4,235.0	45.37	94.339	
6,000.0	5,905.6	6,101.7	5,862.5	21.7	31.0	-75.80	1,699.5	-3,469.7	4,281.1	4,235.4	45.65	93.788	
6,100.0	6,005.6	6,196.3	5,957.1	21.9	31.1	-75.81	1,698.3	-3,470.7	4,281.8	4,235.9	45.91	93.258	
6,200.0	6,105.6	6,297.6	6,058.4	22.0	31.2	-75.84	1,696.9	-3,471.9	4,282.6	4,236.4	46.19	92.714	
6,300.0	6,205.6	6,395.1	6,155.9	22.1	31.3	-75.86	1,695.4	-3,473.1	4,283.4	4,236.9	46.47	92.177	
6,400.0	6,305.6	6,489.3	6,250.1	22.3	31.4	-75.88	1,693.9	-3,474.3	4,284.3	4,237.5	46.75	91.649	
6,500.0	6,405.6	6,579.9	6,340.6	22.4	31.5	-75.90	1,692.7	-3,475.6	4,285.3	4,238.3	47.02	91.132	
6,600.0	6,505.6	6,662.9	6,423.6	22.5	31.6	-75.92	1,691.6	-3,477.0	4,286.7	4,239.4	47.30	90.631	
6,684.2	6,589.8	6,739.3	6,500.0	22.6	31.7	-75.94	1,690.5	-3,478.6	4,288.1	4,240.6	47.54	90.195	
6,700.0	6,605.6	6,754.5	6,515.2	22.7	31.7	14.05	1,690.3	-3,479.0	4,288.2	4,246.9	41.29	103.857	
6,750.0	6,655.5	6,799.3	6,560.0	22.7	31.7	14.09	1,689.6	-3,480.0	4,286.4	4,244.9	41.46	103.381	
6,800.0	6,705.1	6,839.6	6,600.3	22.7	31.8	14.19	1,688.9	-3,481.0	4,281.2	4,239.7	41.50	103.171	
6,850.0	6,754.1	6,876.0	6,636.7	22.7	31.8	14.37	1,688.3	-3,482.0	4,272.8	4,231.5	41.39	103.223	
6,900.0	6,802.3	6,915.1	6,675.7	22.7	31.9	14.63	1,687.7	-3,483.1	4,261.3	4,220.1	41.17	103.500	
6,950.0	6,849.5	6,950.4	6,711.0	22.6	32.0	14.98	1,687.2	-3,484.2	4,246.6	4,205.8	40.82	104.022	
7,000.0	6,895.5	6,990.0	6,750.6	22.5	32.0	15.42	1,686.7	-3,485.6	4,228.9	4,188.5	40.38	104.732	
7,050.0	6,939.9	7,034.5	6,795.1	22.4	32.1	15.99	1,686.0	-3,487.2	4,208.1	4,168.2	39.85	105.600	
7,100.0	6,982.6	7,078.3	6,838.8	22.3	32.1	16.68	1,685.3	-3,488.8	4,184.3	4,145.0	39.25	106.615	
7,150.0	7,023.4	7,121.9	6,882.4	22.2	32.2	17.52	1,684.6	-3,490.4	4,157.6	4,119.0	38.60	107.715	
7,200.0	7,062.2	7,165.9	6,926.4	22.1	32.3	18.56	1,683.8	-3,491.9	4,128.1	4,090.2	37.94	108.812	
7,250.0	7,098.6	7,218.3	6,978.7	22.0	32.3	19.85	1,682.8	-3,493.7	4,096.0	4,058.6	37.34	109.698	
7,300.0	7,132.5	7,265.0	7,025.4	21.9	32.4	21.42	1,681.9	-3,495.1	4,061.3	4,024.5	36.82	110.291	
7,350.0	7,163.8	7,304.8	7,065.1	21.8	32.5	23.33	1,681.1	-3,496.2	4,024.3	3,987.8	36.46	110.366	
7,400.0	7,192.2	7,340.9	7,101.3	21.7	32.5	25.68	1,680.5	-3,497.1	3,985.2	3,948.8	36.37	109.567	
7,450.0	7,217.8	7,376.6	7,136.9	21.6	32.6	28.63	1,679.8	-3,497.9	3,944.1	3,907.4	36.70	107.475	
7,500.0	7,240.3	7,408.2	7,168.5	21.6	32.6	32.35	1,679.3	-3,498.6	3,901.4	3,863.8	37.59	103.789	
7,550.0	7,259.6	7,435.2	7,195.6	21.6	32.6	37.09	1,678.8	-3,499.1	3,857.2	3,818.0	39.22	98.353	
7,600.0	7,275.7	7,454.0	7,214.3	21.6	32.7	43.06	1,678.6	-3,499.4	3,811.8	3,770.2	41.68	91.459	
7,650.0	7,288.4	7,468.7	7,229.0	21.8	32.7	50.71	1,678.4	-3,499.7	3,765.5	3,720.5	45.02	83.638	
7,700.0	7,297.7	7,479.7	7,240.0	22.0	32.7	60.37	1,678.2	-3,499.8	3,718.4	3,669.4	48.96	75.951	
7,750.0	7,303.6	7,486.9	7,247.2	22.4	32.7	72.09	1,678.1	-3,500.0	3,670.8	3,618.1	52.68	69.685	
7,800.0	7,305.9	7,490.4	7,250.7	22.9	32.7	85.26	1,678.0	-3,500.0	3,622.9	3,567.9	54.96	65.921	
7,809.2	7,306.0	7,490.6	7,250.9	23.0	32.7	87.74	1,678.0	-3,500.0	3,614.1	3,558.9	55.14	65.547	
7,900.0	7,306.0	7,492.2	7,252.5	24.3	32.7	87.83	1,678.0	-3,500.1	3,527.1	3,470.6	56.52	62.403	
8,000.0	7,306.0	7,493.9	7,254.2	26.0	32.7	87.92	1,678.0	-3,500.1	3,431.6	3,373.4	58.25	58.911	
8,100.0	7,306.0	7,495.6	7,255.9	27.9	32.7	88.02	1,678.0	-3,500.1	3,336.3	3,276.2	60.16	55.461	
8,200.0	7,306.0	7,497.3	7,257.6	30.0	32.7	88.12	1,677.9	-3,500.1	3,241.4	3,179.2	62.20	52.109	
8,300.0	7,306.0	7,499.0	7,259.3	32.2	32.7	88.21	1,677.9	-3,500.2	3,146.7	3,082.3	64.37	48.887	
8,400.0	7,306.0	7,500.7	7,261.0	34.4	32.7	88.30	1,677.9	-3,500.2	3,052.4	2,985.8	66.62	45.816	
8,500.0	7,306.0	7,502.4	7,262.7	36.8	32.7	88.40	1,677.9	-3,500.2	2,958.4	2,889.5	68.96	42.903	
8,600.0	7,306.0	7,504.1	7,264.4	39.2	32.7	88.49	1,677.8	-3,500.2	2,864.9	2,793.5	71.35	40.152	
8,700.0	7,306.0	7,505.8	7,266.1	41.7	32.7	88.58	1,677.8	-3,500.3	2,771.8	2,698.0	73.80	37.558	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,507.4	7,267.7	44.1	32.7	88.68	1,677.8	-3,500.3	2,679.2	2,602.9	76.29	35.118	
8,900.0	7,306.0	7,509.1	7,269.4	46.7	32.7	88.77	1,677.8	-3,500.3	2,587.2	2,508.3	78.82	32.825	
9,000.0	7,306.0	7,510.7	7,271.0	49.2	32.7	88.86	1,677.7	-3,500.3	2,495.7	2,414.4	81.38	30.669	
9,100.0	7,306.0	7,512.4	7,272.7	51.8	32.7	88.95	1,677.7	-3,500.4	2,405.0	2,321.0	83.96	28.644	
9,200.0	7,306.0	7,514.0	7,274.3	54.4	32.7	89.04	1,677.7	-3,500.4	2,315.0	2,228.4	86.57	26.742	
9,300.0	7,306.0	7,515.6	7,275.9	57.1	32.7	89.13	1,677.7	-3,500.4	2,225.8	2,136.7	89.19	24.955	
9,400.0	7,306.0	7,517.2	7,277.5	59.7	32.7	89.22	1,677.6	-3,500.4	2,137.7	2,045.8	91.84	23.277	
9,500.0	7,306.0	7,518.8	7,279.1	62.4	32.7	89.31	1,677.6	-3,500.5	2,050.6	1,956.1	94.49	21.701	
9,600.0	7,306.0	7,520.4	7,280.7	65.0	32.7	89.40	1,677.6	-3,500.5	1,964.7	1,867.5	97.16	20.221	
9,700.0	7,306.0	7,522.0	7,282.3	67.7	32.7	89.49	1,677.6	-3,500.5	1,880.2	1,780.4	99.84	18.832	
9,800.0	7,306.0	7,523.6	7,283.9	70.4	32.7	89.58	1,677.6	-3,500.5	1,797.4	1,694.8	102.54	17.529	
9,900.0	7,306.0	7,525.2	7,285.5	73.1	32.7	89.66	1,677.5	-3,500.6	1,716.3	1,611.1	105.23	16.309	
10,000.0	7,306.0	7,526.7	7,287.0	75.8	32.8	89.75	1,677.5	-3,500.6	1,637.3	1,529.4	107.94	15.169	
10,100.0	7,306.0	7,528.3	7,288.6	78.5	32.8	89.84	1,677.5	-3,500.6	1,560.8	1,450.1	110.66	14.105	
10,200.0	7,306.0	7,529.8	7,290.1	81.2	32.8	89.92	1,677.5	-3,500.6	1,487.0	1,373.7	113.38	13.116	
10,300.0	7,306.0	7,531.4	7,291.7	84.0	32.8	90.01	1,677.4	-3,500.7	1,416.5	1,300.4	116.10	12.200	
10,400.0	7,306.0	7,532.9	7,293.2	86.7	32.8	90.10	1,677.4	-3,500.7	1,349.7	1,230.9	118.84	11.358	
10,500.0	7,306.0	7,534.5	7,294.7	89.4	32.8	90.18	1,677.4	-3,500.7	1,287.2	1,165.6	121.57	10.588	
10,600.0	7,306.0	7,536.0	7,296.3	92.2	32.8	90.27	1,677.4	-3,500.7	1,229.6	1,105.3	124.31	9.892	
10,700.0	7,306.0	7,537.5	7,297.8	94.9	32.8	90.35	1,677.4	-3,500.8	1,177.8	1,050.7	127.06	9.270	
10,800.0	7,306.0	7,539.0	7,299.3	97.6	32.8	90.43	1,677.3	-3,500.8	1,132.4	1,002.6	129.80	8.724	
10,900.0	7,306.0	7,540.5	7,300.8	100.4	32.8	90.52	1,677.3	-3,500.8	1,094.3	961.8	132.55	8.256	
11,000.0	7,306.0	7,541.9	7,302.2	103.2	32.8	90.60	1,677.3	-3,500.8	1,064.3	929.0	135.31	7.866	
11,100.0	7,306.0	7,543.4	7,303.7	105.9	32.8	90.68	1,677.3	-3,500.8	1,043.0	904.9	138.06	7.555	
11,200.0	7,306.0	7,544.9	7,305.2	108.7	32.8	90.76	1,677.2	-3,500.9	1,031.0	890.2	140.82	7.322	
11,274.3	7,306.0	7,545.9	7,306.2	110.7	32.8	90.82	1,677.2	-3,500.9	1,028.3	885.5	142.87	7.198	CC
11,300.0	7,306.0	7,546.3	7,306.6	111.4	32.8	90.84	1,677.2	-3,500.9	1,028.7	885.1	143.58	7.164	ES
11,400.0	7,306.0	7,547.8	7,308.1	114.2	32.8	90.92	1,677.2	-3,500.9	1,036.0	889.6	146.34	7.079	
11,500.0	7,306.0	7,549.2	7,309.5	117.0	32.8	91.00	1,677.2	-3,500.9	1,052.8	903.7	149.10	7.061	SF
11,600.0	7,306.0	7,550.6	7,310.9	119.7	32.8	91.08	1,677.2	-3,500.9	1,078.7	926.8	151.87	7.103	
11,700.0	7,306.0	7,552.0	7,312.3	122.5	32.8	91.16	1,677.1	-3,501.0	1,113.0	958.3	154.64	7.197	
11,800.0	7,306.0	7,553.5	7,313.7	125.3	32.8	91.24	1,677.1	-3,501.0	1,154.9	997.5	157.40	7.337	
11,900.0	7,306.0	7,554.9	7,315.1	128.0	32.8	91.32	1,677.1	-3,501.0	1,203.7	1,043.5	160.17	7.515	
12,000.0	7,306.0	7,556.2	7,316.5	130.8	32.8	91.40	1,677.1	-3,501.0	1,258.6	1,095.6	162.94	7.724	
12,100.0	7,306.0	7,557.6	7,317.9	133.6	32.8	91.47	1,677.1	-3,501.0	1,318.8	1,153.0	165.71	7.958	
12,200.0	7,306.0	7,559.0	7,319.3	136.4	32.8	91.55	1,677.0	-3,501.1	1,383.6	1,215.1	168.48	8.212	
12,300.0	7,306.0	7,560.4	7,320.7	139.1	32.8	91.63	1,677.0	-3,501.1	1,452.4	1,281.1	171.26	8.481	
12,400.0	7,306.0	7,561.7	7,322.0	141.9	32.8	91.70	1,677.0	-3,501.1	1,524.6	1,350.6	174.03	8.761	
12,500.0	7,306.0	7,563.1	7,323.4	144.7	32.8	91.78	1,677.0	-3,501.1	1,599.9	1,423.1	176.80	9.049	
12,600.0	7,306.0	7,564.4	7,324.7	147.5	32.8	91.85	1,677.0	-3,501.1	1,677.7	1,498.1	179.58	9.342	
12,700.0	7,306.0	7,565.8	7,326.1	150.3	32.8	91.93	1,676.9	-3,501.2	1,757.8	1,575.4	182.35	9.639	
12,800.0	7,306.0	7,567.1	7,327.4	153.0	32.8	92.00	1,676.9	-3,501.2	1,839.8	1,654.7	185.13	9.938	
12,900.0	7,306.0	7,568.4	7,328.7	155.8	32.8	92.07	1,676.9	-3,501.2	1,923.5	1,735.6	187.90	10.237	
13,000.0	7,306.0	7,569.7	7,330.0	158.6	32.8	92.15	1,676.9	-3,501.2	2,008.7	1,818.0	190.68	10.535	
13,100.0	7,306.0	7,571.0	7,331.3	161.4	32.8	92.22	1,676.9	-3,501.2	2,095.2	1,901.8	193.46	10.831	
13,200.0	7,306.0	7,572.3	7,332.6	164.2	32.8	92.29	1,676.9	-3,501.3	2,182.9	1,986.7	196.23	11.124	
13,300.0	7,306.0	7,573.6	7,333.9	167.0	32.8	92.36	1,676.8	-3,501.3	2,271.6	2,072.6	199.01	11.415	
13,400.0	7,306.0	7,574.9	7,335.2	169.8	32.8	92.44	1,676.8	-3,501.3	2,361.2	2,159.4	201.79	11.701	
13,500.0	7,306.0	7,576.2	7,336.5	172.6	32.8	92.51	1,676.8	-3,501.3	2,451.6	2,247.0	204.56	11.984	
13,600.0	7,306.0	7,577.5	7,337.8	175.3	32.8	92.58	1,676.8	-3,501.3	2,542.7	2,335.4	207.34	12.263	
13,700.0	7,306.0	7,578.7	7,339.0	178.1	32.8	92.65	1,676.8	-3,501.3	2,634.5	2,424.3	210.12	12.538	
13,800.0	7,306.0	7,580.0	7,340.3	180.9	32.8	92.72	1,676.7	-3,501.4	2,726.8	2,513.9	212.89	12.808	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,581.2	7,341.5	183.7	32.8	92.79	1,676.7	-3,501.4	2,819.7	2,604.0	215.67	13.074	
14,000.0	7,306.0	7,582.5	7,342.8	186.5	32.8	92.86	1,676.7	-3,501.4	2,913.0	2,694.5	218.45	13.335	
14,100.0	7,306.0	7,583.7	7,344.0	189.3	32.8	92.92	1,676.7	-3,501.4	3,006.8	2,785.5	221.23	13.591	
14,200.0	7,306.0	7,584.9	7,345.2	192.1	32.8	92.99	1,676.7	-3,501.4	3,100.9	2,876.9	224.00	13.843	
14,300.0	7,306.0	7,586.2	7,346.4	194.9	32.8	93.06	1,676.7	-3,501.4	3,195.4	2,968.6	226.78	14.090	
14,363.6	7,306.0	7,586.9	7,347.2	196.7	32.8	93.10	1,676.7	-3,501.5	3,255.6	3,027.1	228.54	14.245	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-46.80	1,835.8	-1,954.7	2,681.7				
100.0	100.0	132.6	132.6	0.1	0.0	-46.79	1,835.2	-1,953.7	2,680.9	2,680.7	0.14	N/A	
200.0	200.0	214.2	214.2	0.3	0.2	-46.79	1,834.4	-1,952.6	2,679.3	2,678.8	0.48	5,621.019	
286.8	286.8	272.3	272.3	0.5	0.3	-46.79	1,833.9	-1,952.6	2,678.8	2,678.0	0.79	3,392.636	
300.0	300.0	280.9	280.8	0.5	0.3	-46.80	1,833.8	-1,952.7	2,678.8	2,677.9	0.84	3,195.069	
400.0	400.0	336.0	336.0	0.8	0.4	-46.83	1,832.9	-1,954.1	2,679.6	2,678.5	1.19	2,259.135	
500.0	500.0	404.8	404.6	1.0	0.6	-46.91	1,831.4	-1,957.6	2,681.9	2,680.3	1.58	1,699.054	
600.0	600.0	471.6	471.2	1.2	0.7	-47.01	1,829.5	-1,962.7	2,685.6	2,683.6	1.97	1,364.733	
700.0	700.0	552.8	551.9	1.4	1.0	-47.18	1,826.4	-1,970.8	2,690.3	2,687.9	2.39	1,124.074	
800.0	800.0	650.0	648.4	1.7	1.3	-93.71	1,821.2	-1,982.2	2,695.4	2,692.5	2.93	920.772	
900.0	899.8	734.8	732.3	1.9	1.6	-93.92	1,816.2	-1,992.8	2,701.1	2,697.6	3.42	789.792	
1,000.0	999.5	819.6	816.1	2.1	1.9	-94.21	1,810.3	-2,004.9	2,707.8	2,703.9	3.95	685.979	
1,100.0	1,098.7	943.7	937.7	2.4	2.4	-94.88	1,797.2	-2,025.8	2,714.5	2,709.8	4.70	578.124	
1,200.0	1,197.5	1,046.5	1,037.4	2.7	2.9	-95.58	1,782.3	-2,045.6	2,721.4	2,715.9	5.46	498.449	
1,299.9	1,295.5	1,191.2	1,176.1	3.0	3.7	-96.84	1,755.1	-2,076.4	2,728.2	2,721.7	6.56	415.904	
1,300.0	1,295.6	1,191.3	1,176.2	3.0	3.7	-96.84	1,755.1	-2,076.4	2,728.2	2,721.7	6.56	415.826	
1,400.0	1,393.4	1,298.8	1,278.0	3.4	4.3	-97.99	1,730.5	-2,100.9	2,734.9	2,727.3	7.56	361.726	
1,500.0	1,491.3	1,397.1	1,370.7	3.7	4.9	-99.06	1,706.5	-2,123.2	2,741.7	2,733.1	8.54	321.208	
1,600.0	1,589.1	1,466.0	1,435.3	4.1	5.4	-99.82	1,689.1	-2,139.5	2,749.7	2,740.3	9.36	293.655	
1,700.0	1,686.9	1,533.0	1,497.7	4.5	5.9	-100.58	1,671.4	-2,156.3	2,759.3	2,749.0	10.23	269.802	
1,800.0	1,784.7	1,616.9	1,575.2	5.0	6.5	-101.56	1,648.2	-2,178.4	2,770.2	2,759.0	11.24	246.474	
1,900.0	1,882.5	1,687.9	1,640.5	5.4	7.0	-102.40	1,627.7	-2,197.7	2,782.3	2,770.1	12.18	228.477	
2,000.0	1,980.3	1,753.7	1,700.6	5.8	7.6	-103.19	1,608.5	-2,216.2	2,796.0	2,782.9	13.09	213.585	
2,100.0	2,078.1	1,826.0	1,766.1	6.2	8.2	-104.07	1,586.5	-2,237.3	2,811.3	2,797.2	14.07	199.799	
2,200.0	2,176.0	1,914.2	1,845.7	6.7	8.9	-105.14	1,559.0	-2,263.5	2,827.8	2,812.7	15.12	187.007	
2,300.0	2,273.8	2,038.4	1,957.8	7.1	9.8	-106.66	1,518.9	-2,299.0	2,844.2	2,827.8	16.39	173.584	
2,400.0	2,371.6	2,086.3	2,000.9	7.5	10.2	-107.24	1,503.3	-2,312.8	2,862.1	2,844.9	17.15	166.929	
2,500.0	2,469.4	2,155.9	2,063.5	8.0	10.7	-108.08	1,480.9	-2,333.6	2,881.8	2,863.8	18.04	159.778	
2,600.0	2,567.2	2,235.5	2,135.3	8.4	11.3	-109.03	1,455.6	-2,356.9	2,902.7	2,883.7	18.96	153.083	
2,700.0	2,665.0	2,309.1	2,201.8	8.8	11.8	-109.88	1,432.9	-2,378.5	2,924.8	2,905.0	19.83	147.491	
2,800.0	2,762.9	2,395.5	2,280.0	9.3	12.5	-110.88	1,406.1	-2,403.8	2,947.9	2,927.1	20.82	141.616	
2,900.0	2,860.7	2,468.8	2,346.1	9.7	13.1	-111.72	1,382.8	-2,425.4	2,972.2	2,950.4	21.76	136.593	
3,000.0	2,958.5	2,582.3	2,448.0	10.2	14.1	-113.03	1,345.8	-2,458.7	2,997.1	2,974.1	22.96	130.514	
3,100.0	3,056.3	2,657.1	2,514.9	10.6	14.7	-113.90	1,320.3	-2,480.5	3,022.7	2,998.7	23.90	126.462	
3,200.0	3,154.1	2,767.5	2,613.0	11.1	15.7	-115.19	1,281.2	-2,512.7	3,049.0	3,023.9	25.08	121.577	
3,300.0	3,251.9	2,873.8	2,707.9	11.5	16.5	-116.40	1,243.6	-2,542.3	3,075.4	3,049.2	26.14	117.659	
3,400.0	3,349.8	2,933.2	2,761.2	12.0	17.0	-117.06	1,223.2	-2,558.7	3,102.8	3,075.9	26.88	115.412	
3,500.0	3,447.6	2,981.1	2,804.2	12.4	17.4	-117.58	1,207.0	-2,572.2	3,131.8	3,104.3	27.57	113.579	
3,600.0	3,545.4	3,043.0	2,859.6	12.8	17.9	-118.25	1,186.2	-2,590.6	3,162.8	3,134.4	28.35	111.577	
3,700.0	3,643.2	3,072.8	2,886.1	13.3	18.1	-118.57	1,176.2	-2,599.7	3,195.2	3,166.3	28.95	110.375	
3,800.0	3,741.0	3,137.0	2,942.9	13.7	18.7	-119.27	1,154.2	-2,619.8	3,229.3	3,199.6	29.76	108.495	
3,900.0	3,838.8	3,215.5	3,012.4	14.2	19.4	-120.12	1,127.1	-2,644.6	3,264.5	3,233.9	30.64	106.548	
4,000.0	3,936.6	3,319.0	3,104.1	14.6	20.3	-121.21	1,091.3	-2,676.6	3,300.0	3,268.4	31.63	104.334	
4,100.0	4,034.5	3,364.3	3,144.1	15.1	20.7	-121.69	1,075.5	-2,690.6	3,336.4	3,304.1	32.29	103.335	
4,200.0	4,132.3	3,417.0	3,190.7	15.5	21.1	-122.23	1,057.7	-2,707.4	3,374.4	3,341.4	32.98	102.307	
4,300.0	4,230.1	3,511.0	3,274.0	16.0	22.0	-123.17	1,026.0	-2,737.4	3,413.3	3,379.4	33.88	100.750	
4,400.0	4,327.9	3,564.0	3,321.1	16.4	22.4	-123.69	1,008.5	-2,754.2	3,452.7	3,418.2	34.54	99.972	
4,500.0	4,425.7	3,618.2	3,369.5	16.9	22.8	-124.20	991.8	-2,771.9	3,493.6	3,458.4	35.19	99.270	
4,600.0	4,523.5	3,727.0	3,467.3	17.3	23.7	-125.18	959.4	-2,807.1	3,534.9	3,498.9	36.07	98.004	
4,700.0	4,621.4	3,854.5	3,582.1	17.8	24.8	-126.30	920.9	-2,847.0	3,576.0	3,539.0	37.01	96.611	
4,800.0	4,719.2	3,998.8	3,713.4	18.2	25.9	-127.50	879.0	-2,889.8	3,616.1	3,578.1	37.99	95.180	
4,900.0	4,817.0	4,059.5	3,768.4	18.7	26.4	-128.01	860.5	-2,907.5	3,656.5	3,617.8	38.64	94.636	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,150.4	3,850.4	19.1	27.2	-128.78	831.7	-2,934.1	3,697.5	3,658.1	39.42	93.802	
5,100.0	5,012.6	4,259.0	3,948.3	19.6	28.1	-129.69	796.4	-2,965.3	3,738.7	3,698.4	40.25	92.891	
5,200.0	5,110.4	4,312.0	3,996.3	20.0	28.5	-130.12	779.8	-2,980.6	3,780.3	3,739.5	40.82	92.618	
5,221.3	5,131.3	4,323.3	4,006.5	20.1	28.5	-130.20	776.4	-2,983.9	3,789.3	3,748.4	40.94	92.564	
5,300.0	5,208.5	4,384.5	4,062.3	20.4	29.0	-131.20	759.0	-3,001.9	3,822.3	3,781.0	41.25	92.660	
5,400.0	5,307.1	4,482.0	4,151.7	20.7	29.7	-132.49	732.2	-3,030.3	3,862.2	3,820.5	41.67	92.693	
5,500.0	5,406.3	4,550.0	4,213.4	21.0	30.3	-133.54	711.7	-3,050.2	3,900.6	3,858.6	41.97	92.935	
5,600.0	5,505.8	4,633.0	4,288.7	21.2	30.9	-134.59	686.6	-3,074.5	3,937.1	3,894.8	42.33	93.016	
5,700.0	5,605.6	4,689.6	4,340.0	21.4	31.4	-135.42	669.6	-3,091.3	3,972.1	3,929.5	42.56	93.331	
5,800.0	5,705.6	4,761.7	4,404.9	21.5	32.0	-136.28	647.3	-3,113.3	4,005.7	3,962.9	42.85	93.492	
5,821.2	5,726.8	4,789.7	4,430.1	21.5	32.2	-90.16	638.4	-3,121.8	4,012.6	3,969.4	43.13	93.026	
5,900.0	5,805.6	4,914.8	4,543.1	21.6	33.2	-90.73	599.9	-3,159.0	4,037.4	3,993.2	44.25	91.235	
6,000.0	5,905.6	5,008.0	4,628.0	21.7	34.0	-91.13	572.4	-3,186.1	4,068.3	4,023.1	45.14	90.130	
6,100.0	6,005.6	5,086.3	4,699.3	21.9	34.6	-91.46	549.7	-3,208.9	4,099.5	4,053.6	45.91	89.296	
6,200.0	6,105.6	6,352.8	5,916.6	22.0	40.6	-94.44	329.8	-3,426.6	4,123.1	4,070.8	52.32	78.811	
6,300.0	6,205.6	6,501.9	6,065.6	22.1	40.8	-94.51	324.8	-3,431.5	4,126.5	4,073.8	52.70	78.306	
6,400.0	6,305.6	6,607.6	6,171.3	22.3	40.9	-94.54	322.2	-3,434.4	4,129.5	4,076.5	53.00	77.920	
6,500.0	6,405.6	6,721.9	6,285.4	22.4	41.1	-94.57	319.7	-3,437.3	4,132.2	4,078.9	53.30	77.521	
6,600.0	6,505.6	6,824.6	6,388.1	22.5	41.2	-94.60	317.7	-3,439.7	4,134.7	4,081.1	53.59	77.148	
6,684.2	6,589.8	6,906.2	6,469.6	22.6	41.3	-94.62	316.1	-3,441.6	4,136.8	4,083.0	53.83	76.844	
6,700.0	6,605.6	6,919.4	6,482.9	22.7	41.3	-4.62	315.8	-3,442.0	4,137.0	4,087.6	49.48	83.611	
6,750.0	6,655.5	6,961.3	6,524.7	22.7	41.4	-4.64	315.0	-3,443.0	4,135.6	4,086.0	49.53	83.489	
6,800.0	6,705.1	7,010.0	6,573.4	22.7	41.4	-4.69	314.1	-3,444.4	4,130.7	4,081.3	49.36	83.691	
6,850.0	6,754.1	7,060.6	6,624.0	22.7	41.5	-4.77	313.3	-3,445.7	4,122.3	4,073.4	48.94	84.227	
6,900.0	6,802.3	7,113.2	6,676.5	22.7	41.5	-4.88	312.4	-3,447.1	4,110.6	4,062.3	48.30	85.107	
6,950.0	6,849.5	7,164.0	6,727.3	22.6	41.6	-5.02	311.6	-3,448.4	4,095.4	4,048.0	47.42	86.356	
7,000.0	6,895.5	7,205.8	6,769.2	22.5	41.6	-5.19	310.9	-3,449.5	4,076.9	4,030.6	46.32	88.012	
7,050.0	6,939.9	7,246.5	6,809.8	22.4	41.7	-5.40	310.3	-3,450.6	4,055.4	4,010.4	45.01	90.099	
7,100.0	6,982.6	7,282.5	6,845.8	22.3	41.7	-5.66	309.8	-3,451.6	4,030.8	3,987.3	43.50	92.668	
7,150.0	7,023.4	7,316.5	6,879.7	22.2	41.8	-5.96	309.3	-3,452.6	4,003.3	3,961.5	41.80	95.770	
7,200.0	7,062.2	7,349.2	6,912.5	22.1	41.8	-6.34	308.9	-3,453.7	3,973.1	3,933.2	39.94	99.469	
7,250.0	7,098.6	7,386.0	6,949.2	22.0	41.9	-6.79	308.6	-3,454.9	3,940.2	3,902.3	37.95	103.828	
7,300.0	7,132.5	7,420.5	6,983.7	21.9	41.9	-7.36	308.3	-3,456.0	3,904.8	3,869.0	35.85	108.927	
7,350.0	7,163.8	7,453.6	7,016.7	21.8	41.9	-8.06	308.0	-3,457.2	3,867.1	3,833.4	33.68	114.811	
7,400.0	7,192.2	7,485.9	7,049.1	21.7	42.0	-8.95	307.6	-3,458.2	3,827.2	3,795.7	31.51	121.452	
7,450.0	7,217.8	7,515.1	7,078.2	21.6	42.0	-10.09	307.3	-3,459.2	3,785.2	3,755.8	29.42	128.645	
7,500.0	7,240.3	7,535.0	7,098.1	21.6	42.0	-11.55	307.0	-3,459.8	3,741.6	3,714.0	27.55	135.790	
7,550.0	7,259.6	7,535.0	7,098.1	21.6	42.0	-13.37	307.0	-3,459.8	3,696.4	3,670.3	26.10	141.639	
7,600.0	7,275.7	7,561.5	7,124.6	21.6	42.1	-16.23	306.5	-3,460.7	3,649.8	3,624.3	25.51	143.092	
7,650.0	7,288.4	7,570.2	7,133.3	21.8	42.1	-20.29	306.3	-3,461.0	3,602.2	3,575.9	26.33	136.830	
7,700.0	7,297.7	7,577.0	7,140.1	22.0	42.1	-26.82	306.1	-3,461.3	3,553.7	3,524.1	29.65	119.853	
7,750.0	7,303.6	7,581.8	7,144.9	22.4	42.1	-38.49	306.0	-3,461.5	3,504.6	3,467.4	37.21	94.183	
7,800.0	7,305.9	7,584.5	7,147.5	22.9	42.1	-61.27	305.9	-3,461.6	3,455.0	3,405.1	49.92	69.215	
7,809.2	7,306.0	7,584.7	7,147.8	23.0	42.1	-67.27	305.9	-3,461.6	3,445.9	3,393.7	52.24	65.963	
7,900.0	7,306.0	7,586.9	7,150.0	24.3	42.1	-67.59	305.9	-3,461.7	3,355.6	3,302.0	53.62	62.583	
8,000.0	7,306.0	7,589.4	7,152.5	26.0	42.1	-67.95	305.8	-3,461.8	3,256.3	3,200.9	55.34	58.839	
8,100.0	7,306.0	7,592.0	7,155.0	27.9	42.1	-68.32	305.7	-3,461.9	3,156.9	3,099.7	57.24	55.151	
8,200.0	7,306.0	7,594.5	7,157.6	30.0	42.1	-68.70	305.7	-3,462.0	3,057.7	2,998.4	59.29	51.573	
8,300.0	7,306.0	7,597.2	7,160.3	32.2	42.1	-69.09	305.6	-3,462.1	2,958.4	2,897.0	61.45	48.140	
8,400.0	7,306.0	7,599.9	7,162.9	34.4	42.1	-69.48	305.5	-3,462.2	2,859.2	2,795.5	63.72	44.872	
8,500.0	7,306.0	7,602.6	7,165.7	36.8	42.1	-69.89	305.4	-3,462.3	2,760.1	2,694.0	66.07	41.776	
8,600.0	7,306.0	7,605.4	7,168.5	39.2	42.1	-70.31	305.3	-3,462.4	2,661.0	2,592.5	68.49	38.853	

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-404
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-404	**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 #2	**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	7,306.0	7,608.3	7,171.4	41.7	42.1	-70.74	305.2	-3,462.5	2,562.0	2,491.0	70.97	36.100	
8,800.0	7,306.0	7,611.2	7,174.3	44.1	42.1	-71.18	305.1	-3,462.7	2,463.0	2,389.5	73.50	33.509	
8,900.0	7,306.0	7,614.2	7,177.3	46.7	42.1	-71.63	305.0	-3,462.8	2,364.1	2,288.1	76.08	31.074	
9,000.0	7,306.0	7,629.0	7,192.0	49.2	42.2	-73.89	304.5	-3,463.5	2,265.4	2,186.1	79.36	28.546	
9,100.0	7,306.0	7,629.0	7,192.0	51.8	42.2	-73.89	304.5	-3,463.5	2,166.7	2,084.9	81.85	26.471	
9,200.0	7,306.0	7,629.0	7,192.0	54.4	42.2	-73.89	304.5	-3,463.5	2,068.2	1,983.8	84.37	24.514	
9,300.0	7,306.0	7,629.0	7,192.0	57.1	42.2	-73.89	304.5	-3,463.5	1,969.8	1,882.9	86.90	22.668	
9,400.0	7,306.0	7,632.0	7,195.0	59.7	42.2	-74.35	304.4	-3,463.6	1,871.5	1,781.9	89.62	20.882	
9,500.0	7,306.0	7,639.6	7,202.7	62.4	42.2	-75.55	304.1	-3,463.9	1,773.5	1,680.8	92.65	19.143	
9,600.0	7,306.0	7,646.8	7,209.8	65.0	42.2	-76.68	303.9	-3,464.2	1,675.6	1,580.0	95.64	17.519	
9,700.0	7,306.0	7,653.5	7,216.5	67.7	42.2	-77.75	303.6	-3,464.5	1,578.0	1,479.4	98.62	16.001	
9,800.0	7,306.0	7,659.8	7,222.8	70.4	42.2	-78.75	303.4	-3,464.8	1,480.7	1,379.1	101.58	14.577	
9,900.0	7,306.0	7,665.7	7,228.6	73.1	42.2	-79.70	303.2	-3,465.0	1,383.8	1,279.3	104.52	13.239	
10,000.0	7,306.0	7,671.2	7,234.2	75.8	42.2	-80.59	303.1	-3,465.2	1,287.3	1,179.9	107.44	11.981	
10,100.0	7,306.0	7,676.4	7,239.4	78.5	42.2	-81.44	302.9	-3,465.4	1,191.4	1,081.0	110.35	10.797	
10,200.0	7,306.0	7,681.4	7,244.3	81.2	42.2	-82.24	302.7	-3,465.6	1,096.2	983.0	113.24	9.680	
10,300.0	7,306.0	7,686.0	7,248.9	84.0	42.3	-83.00	302.6	-3,465.7	1,001.9	885.8	116.12	8.629	
10,400.0	7,306.0	7,690.4	7,253.3	86.7	42.3	-83.72	302.5	-3,465.9	908.8	789.9	118.98	7.639	
10,500.0	7,306.0	7,694.6	7,257.5	89.4	42.3	-84.40	302.4	-3,466.0	817.4	695.5	121.83	6.709	
10,600.0	7,306.0	7,698.5	7,261.5	92.2	42.3	-85.05	302.2	-3,466.2	728.1	603.5	124.67	5.840	
10,700.0	7,306.0	7,702.3	7,265.2	94.9	42.3	-85.67	302.1	-3,466.3	642.1	514.6	127.50	5.036	
10,800.0	7,306.0	7,705.9	7,268.8	97.6	42.3	-86.26	302.0	-3,466.4	560.6	430.3	130.33	4.302	
10,900.0	7,306.0	7,709.3	7,272.2	100.4	42.3	-86.82	301.9	-3,466.5	486.2	353.0	133.14	3.652	
11,000.0	7,306.0	7,712.6	7,275.5	103.2	42.3	-87.36	301.9	-3,466.6	422.3	286.4	135.94	3.107	
11,100.0	7,306.0	7,715.7	7,278.6	105.9	42.3	-87.87	301.8	-3,466.7	374.6	235.9	138.74	2.700	
11,200.0	7,306.0	7,718.6	7,281.6	108.7	42.3	-88.36	301.7	-3,466.8	349.8	208.2	141.53	2.471	
11,240.2	7,306.0	7,719.8	7,282.7	109.8	42.3	-88.55	301.7	-3,466.8	347.4	204.8	142.65	2.436	CC, ES, SF
11,300.0	7,306.0	7,721.5	7,284.4	111.4	42.3	-88.83	301.6	-3,466.8	352.5	208.2	144.31	2.443	
11,400.0	7,306.0	7,724.2	7,287.1	114.2	42.3	-89.28	301.6	-3,466.9	382.4	235.3	147.09	2.600	
11,500.0	7,306.0	7,726.8	7,289.7	117.0	42.3	-89.71	301.5	-3,467.0	433.8	283.9	149.86	2.895	
11,600.0	7,306.0	7,729.4	7,292.3	119.7	42.3	-90.13	301.4	-3,467.0	500.1	347.5	152.63	3.276	
11,700.0	7,306.0	7,731.8	7,294.7	122.5	42.3	-90.53	301.4	-3,467.1	576.2	420.8	155.39	3.708	
11,800.0	7,306.0	7,734.2	7,297.1	125.3	42.3	-90.93	301.3	-3,467.2	658.7	500.5	158.14	4.165	
11,900.0	7,306.0	7,736.6	7,299.5	128.0	42.3	-91.31	301.3	-3,467.2	745.5	584.6	160.89	4.633	
12,000.0	7,306.0	7,738.8	7,301.7	130.8	42.3	-91.68	301.2	-3,467.3	835.2	671.6	163.64	5.104	
12,100.0	7,306.0	7,741.0	7,303.9	133.6	42.3	-92.05	301.2	-3,467.3	927.1	760.7	166.38	5.572	
12,200.0	7,306.0	7,743.2	7,306.1	136.4	42.3	-92.40	301.1	-3,467.4	1,020.5	851.3	169.12	6.034	
12,300.0	7,306.0	7,745.2	7,308.1	139.1	42.3	-92.74	301.1	-3,467.4	1,115.0	943.1	171.85	6.488	
12,400.0	7,306.0	7,747.3	7,310.2	141.9	42.3	-93.07	301.0	-3,467.5	1,210.4	1,035.8	174.57	6.933	
12,500.0	7,306.0	7,749.2	7,312.1	144.7	42.3	-93.40	301.0	-3,467.5	1,306.5	1,129.2	177.30	7.369	
12,600.0	7,306.0	7,751.2	7,314.1	147.5	42.3	-93.71	300.9	-3,467.6	1,403.1	1,223.1	180.02	7.794	
12,700.0	7,306.0	7,753.0	7,315.9	150.3	42.3	-94.02	300.9	-3,467.6	1,500.1	1,317.4	182.73	8.210	
12,800.0	7,306.0	7,754.9	7,317.8	153.0	42.4	-94.31	300.8	-3,467.6	1,597.6	1,412.1	185.44	8.615	
12,900.0	7,306.0	7,756.7	7,319.5	155.8	42.4	-94.61	300.8	-3,467.7	1,695.3	1,507.1	188.15	9.010	
13,000.0	7,306.0	7,758.4	7,321.3	158.6	42.4	-94.89	300.8	-3,467.7	1,793.3	1,602.4	190.85	9.396	
13,100.0	7,306.0	7,760.1	7,323.0	161.4	42.4	-95.16	300.7	-3,467.8	1,891.4	1,697.9	193.55	9.772	
13,200.0	7,306.0	7,761.7	7,324.6	164.2	42.4	-95.43	300.7	-3,467.8	1,989.8	1,793.6	196.25	10.139	
13,300.0	7,306.0	7,763.4	7,326.2	167.0	42.4	-95.70	300.7	-3,467.8	2,088.3	1,889.4	198.94	10.497	
13,400.0	7,306.0	7,764.9	7,327.8	169.8	42.4	-95.95	300.6	-3,467.9	2,187.0	1,985.3	201.63	10.846	
13,500.0	7,306.0	7,766.5	7,329.4	172.6	42.4	-96.20	300.6	-3,467.9	2,285.7	2,081.4	204.32	11.187	
13,600.0	7,306.0	7,768.0	7,330.9	175.3	42.4	-96.45	300.6	-3,467.9	2,384.6	2,177.6	207.00	11.520	
13,700.0	7,306.0	7,769.4	7,332.3	178.1	42.4	-96.68	300.5	-3,467.9	2,483.6	2,273.9	209.68	11.845	

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-404
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-404	**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 #2	**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
13,800.0	7,306.0	7,770.9	7,333.8	180.9	42.4	-96.92	300.5	-3,468.0	2,582.6	2,370.2	212.36	12.162	
13,900.0	7,306.0	7,772.3	7,335.2	183.7	42.4	-97.14	300.5	-3,468.0	2,681.7	2,466.7	215.03	12.471	
14,000.0	7,306.0	7,773.7	7,336.6	186.5	42.4	-97.37	300.4	-3,468.0	2,780.9	2,563.2	217.70	12.774	
14,100.0	7,306.0	7,775.0	7,337.9	189.3	42.4	-97.58	300.4	-3,468.1	2,880.1	2,659.7	220.37	13.069	
14,200.0	7,306.0	7,776.3	7,339.2	192.1	42.4	-97.79	300.4	-3,468.1	2,979.4	2,756.3	223.04	13.358	
14,300.0	7,306.0	7,777.6	7,340.5	194.9	42.4	-98.00	300.4	-3,468.1	3,078.7	2,853.0	225.70	13.640	
14,363.6	7,306.0	7,778.4	7,341.3	196.7	42.4	-98.13	300.3	-3,468.1	3,141.8	2,914.4	227.39	13.817	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-45.54	1,946.9	-1,984.2	2,779.9				
100.0	100.0	83.4	83.4	0.1	0.1	-45.55	1,946.9	-1,984.3	2,779.9	2,779.7	0.17	N/A	
200.0	200.0	181.0	181.0	0.3	0.2	-45.55	1,946.8	-1,984.6	2,780.0	2,779.6	0.48	5,732.923	
300.0	300.0	278.6	278.6	0.5	0.3	-45.56	1,946.7	-1,985.0	2,780.2	2,779.4	0.80	3,486.058	
400.0	400.0	376.2	376.2	0.8	0.3	-45.57	1,946.4	-1,985.6	2,780.5	2,779.4	1.11	2,504.678	
500.0	500.0	473.8	473.8	1.0	0.4	-45.59	1,946.1	-1,986.4	2,780.9	2,779.5	1.42	1,954.620	
600.0	600.0	571.4	571.4	1.2	0.5	-45.61	1,945.8	-1,987.4	2,781.4	2,779.6	1.74	1,602.789	
700.0	700.0	672.0	672.0	1.4	0.6	-45.63	1,945.3	-1,988.6	2,781.9	2,779.9	2.05	1,356.608	
800.0	800.0	773.1	773.0	1.7	0.8	-92.04	1,944.7	-1,990.0	2,782.5	2,780.0	2.50	1,114.702	
900.0	899.8	875.4	875.4	1.9	1.0	-92.16	1,943.9	-1,991.2	2,783.0	2,780.1	2.92	953.224	
1,000.0	999.5	959.2	959.2	2.1	1.2	-92.32	1,943.4	-1,992.5	2,784.0	2,780.7	3.32	837.919	
1,100.0	1,098.7	1,059.3	1,059.2	2.4	1.4	-92.58	1,942.8	-1,994.3	2,785.5	2,781.7	3.79	734.501	
1,200.0	1,197.5	1,157.2	1,157.1	2.7	1.6	-92.89	1,942.2	-1,996.1	2,787.2	2,782.9	4.29	649.955	
1,299.9	1,295.5	1,261.4	1,261.3	3.0	1.9	-93.30	1,941.5	-1,998.2	2,789.2	2,784.4	4.84	576.242	
1,300.0	1,295.6	1,261.6	1,261.5	3.0	1.9	-93.30	1,941.5	-1,998.2	2,789.2	2,784.4	4.84	576.135	
1,400.0	1,393.4	1,389.2	1,389.0	3.4	2.1	-93.88	1,940.3	-1,999.3	2,790.5	2,785.0	5.46	510.758	
1,500.0	1,491.3	1,486.2	1,486.0	3.7	2.3	-94.31	1,939.4	-1,999.6	2,791.6	2,785.6	6.04	462.414	
1,600.0	1,589.1	1,583.3	1,583.2	4.1	2.5	-94.74	1,938.6	-1,999.9	2,793.0	2,786.3	6.63	421.424	
1,700.0	1,686.9	1,678.9	1,678.8	4.5	2.7	-95.16	1,937.8	-2,000.2	2,794.5	2,787.3	7.23	386.707	
1,800.0	1,784.7	1,769.0	1,768.9	5.0	2.9	-95.56	1,937.3	-2,000.5	2,796.4	2,788.6	7.82	357.501	
1,900.0	1,882.5	1,858.1	1,858.0	5.4	3.1	-95.94	1,937.0	-2,001.1	2,798.7	2,790.3	8.42	332.268	
2,000.0	1,980.3	1,949.7	1,949.6	5.8	3.3	-96.34	1,936.8	-2,001.8	2,801.5	2,792.5	9.04	310.023	
2,100.0	2,078.1	2,031.6	2,031.5	6.2	3.4	-96.71	1,936.3	-2,003.0	2,804.7	2,795.1	9.64	291.037	
2,200.0	2,176.0	2,118.2	2,117.9	6.7	3.6	-97.14	1,934.6	-2,006.1	2,808.8	2,798.5	10.26	273.887	
2,300.0	2,273.8	2,204.1	2,203.6	7.1	3.8	-97.62	1,930.7	-2,010.9	2,813.2	2,802.3	10.88	258.555	
2,400.0	2,371.6	2,286.7	2,285.9	7.5	4.0	-98.12	1,926.2	-2,017.0	2,818.6	2,807.0	11.51	244.954	
2,500.0	2,469.4	2,391.0	2,389.4	8.0	4.3	-98.79	1,917.7	-2,026.3	2,823.8	2,811.6	12.20	231.491	
2,600.0	2,567.2	2,450.0	2,447.8	8.4	4.5	-99.21	1,911.9	-2,032.7	2,830.1	2,817.3	12.79	221.337	
2,700.0	2,665.0	2,513.9	2,510.7	8.8	4.7	-99.69	1,904.5	-2,041.3	2,837.9	2,824.5	13.41	211.637	
2,800.0	2,762.9	2,576.4	2,571.7	9.3	4.9	-100.20	1,895.9	-2,051.7	2,847.3	2,833.2	14.04	202.830	
2,900.0	2,860.7	2,653.5	2,646.8	9.7	5.1	-100.84	1,885.1	-2,065.4	2,858.0	2,843.3	14.72	194.160	
3,000.0	2,958.5	2,761.2	2,752.0	10.2	5.5	-101.71	1,870.7	-2,083.5	2,868.8	2,853.4	15.48	185.380	
3,100.0	3,056.3	2,824.0	2,813.5	10.6	5.7	-102.20	1,863.1	-2,093.7	2,880.6	2,864.5	16.09	179.027	
3,200.0	3,154.1	2,904.7	2,892.4	11.1	6.0	-102.83	1,853.3	-2,107.6	2,893.5	2,876.7	16.79	172.372	
3,300.0	3,251.9	3,054.4	3,038.5	11.5	6.5	-104.02	1,833.3	-2,133.2	2,906.2	2,888.5	17.70	164.154	
3,400.0	3,349.8	3,148.3	3,130.4	12.0	6.8	-104.73	1,821.3	-2,147.6	2,918.4	2,899.9	18.42	158.420	
3,500.0	3,447.6	3,222.2	3,203.1	12.4	7.1	-105.27	1,813.0	-2,158.7	2,931.4	2,912.3	19.08	153.659	
3,600.0	3,545.4	3,292.0	3,271.6	12.8	7.3	-105.76	1,805.6	-2,169.4	2,945.5	2,925.8	19.72	149.336	
3,700.0	3,643.2	3,360.9	3,339.3	13.3	7.6	-106.26	1,798.4	-2,180.6	2,960.7	2,940.4	20.38	145.292	
3,800.0	3,741.0	3,463.2	3,439.5	13.7	8.0	-106.99	1,787.4	-2,197.8	2,976.9	2,955.7	21.14	140.834	
3,900.0	3,838.8	3,544.9	3,519.4	14.2	8.3	-107.58	1,778.0	-2,211.6	2,993.2	2,971.3	21.82	137.151	
4,000.0	3,936.6	3,717.5	3,688.6	14.6	9.0	-108.82	1,757.3	-2,238.8	3,008.6	2,985.8	22.79	132.041	
4,100.0	4,034.5	3,807.6	3,776.6	15.1	9.3	-109.50	1,743.9	-2,253.1	3,023.6	3,000.1	23.51	128.623	
4,200.0	4,132.3	3,958.8	3,924.7	15.5	9.9	-110.58	1,723.0	-2,275.1	3,038.6	3,014.2	24.39	124.557	
4,300.0	4,230.1	4,110.4	4,074.3	16.0	10.4	-111.55	1,705.9	-2,292.1	3,052.1	3,026.9	25.22	121.018	
4,400.0	4,327.9	4,289.0	4,251.8	16.4	10.9	-112.55	1,691.1	-2,304.9	3,063.3	3,037.3	26.04	117.659	
4,500.0	4,425.7	4,438.1	4,400.8	16.9	11.2	-113.19	1,686.2	-2,308.7	3,072.6	3,045.9	26.70	115.061	
4,600.0	4,523.5	4,571.5	4,534.2	17.3	11.4	-113.70	1,684.4	-2,309.3	3,081.0	3,053.7	27.31	112.806	
4,700.0	4,621.4	4,685.0	4,647.7	17.8	11.6	-114.13	1,682.7	-2,308.6	3,088.3	3,060.4	27.89	110.741	
4,800.0	4,719.2	4,779.4	4,742.1	18.2	11.8	-114.48	1,681.4	-2,307.8	3,095.8	3,067.3	28.44	108.864	
4,900.0	4,817.0	4,875.5	4,838.2	18.7	11.9	-114.83	1,680.3	-2,307.0	3,103.4	3,074.4	28.99	107.061	
5,000.0	4,914.8	4,962.8	4,925.4	19.1	12.1	-115.14	1,679.3	-2,306.4	3,111.3	3,081.8	29.53	105.379	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,051.7	5,014.3	19.6	12.2	-115.46	1,678.6	-2,306.1	3,119.7	3,089.6	30.07	103.763	
5,200.0	5,110.4	5,149.2	5,111.9	20.0	12.4	-115.81	1,678.0	-2,305.8	3,128.4	3,097.7	30.62	102.181	
5,221.3	5,131.3	5,170.0	5,132.6	20.1	12.4	-115.88	1,677.8	-2,305.8	3,130.2	3,099.5	30.73	101.852	
5,300.0	5,208.5	5,243.4	5,206.1	20.4	12.5	-116.24	1,677.4	-2,305.6	3,136.7	3,105.6	31.12	100.807	
5,400.0	5,307.1	5,338.6	5,301.2	20.7	12.7	-116.62	1,677.0	-2,305.4	3,143.7	3,112.2	31.54	99.679	
5,500.0	5,406.3	5,434.2	5,396.9	21.0	12.9	-116.93	1,676.9	-2,305.2	3,149.4	3,117.4	31.93	98.627	
5,600.0	5,505.8	5,537.0	5,499.6	21.2	13.0	-117.15	1,677.1	-2,304.9	3,153.4	3,121.1	32.30	97.615	
5,700.0	5,605.6	5,631.0	5,593.6	21.4	13.2	-117.28	1,677.6	-2,304.5	3,156.0	3,123.4	32.63	96.713	
5,800.0	5,705.6	5,710.5	5,673.2	21.5	13.3	-117.33	1,678.2	-2,304.5	3,157.4	3,124.5	32.91	95.951	
5,821.2	5,726.8	5,725.0	5,687.6	21.5	13.4	-70.97	1,678.3	-2,304.6	3,157.5	3,129.6	27.99	112.819	
5,900.0	5,805.6	5,798.8	5,761.4	21.6	13.5	-70.97	1,678.9	-2,305.0	3,158.2	3,129.9	28.26	111.774	
6,000.0	5,905.6	5,887.3	5,849.9	21.7	13.6	-70.95	1,679.9	-2,305.7	3,159.3	3,130.7	28.60	110.451	
6,100.0	6,005.6	5,981.2	5,943.8	21.9	13.8	-70.93	1,681.5	-2,306.6	3,160.7	3,131.8	28.96	109.129	
6,200.0	6,105.6	6,093.4	6,056.0	22.0	14.0	-70.91	1,683.0	-2,307.7	3,162.1	3,132.7	29.36	107.711	
6,300.0	6,205.6	6,188.1	6,150.6	22.1	14.2	-70.90	1,683.8	-2,308.5	3,163.3	3,133.5	29.72	106.438	
6,400.0	6,305.6	6,291.8	6,254.4	22.3	14.4	-70.89	1,684.7	-2,309.6	3,164.5	3,134.4	30.10	105.126	
6,500.0	6,405.6	6,386.9	6,349.5	22.4	14.5	-70.89	1,685.5	-2,310.6	3,165.7	3,135.3	30.47	103.899	
6,600.0	6,505.6	6,497.7	6,460.3	22.5	14.7	-70.89	1,685.9	-2,311.7	3,166.9	3,136.0	30.87	102.588	
6,684.2	6,589.8	6,586.8	6,549.3	22.6	14.9	-70.89	1,685.9	-2,312.6	3,167.6	3,136.4	31.20	101.533	
6,700.0	6,605.6	6,601.7	6,564.2	22.7	14.9	19.11	1,685.9	-2,312.7	3,167.6	3,131.8	35.74	88.626	
6,750.0	6,655.5	6,648.9	6,611.5	22.7	15.0	19.18	1,685.8	-2,313.2	3,165.3	3,129.6	35.78	88.476	
6,800.0	6,705.1	6,702.5	6,665.1	22.7	15.1	19.36	1,685.5	-2,313.8	3,159.8	3,124.1	35.70	88.499	
6,850.0	6,754.1	6,757.5	6,720.0	22.7	15.2	19.66	1,685.1	-2,314.3	3,150.9	3,115.4	35.52	88.712	
6,900.0	6,802.3	6,806.8	6,769.4	22.7	15.3	20.07	1,684.7	-2,314.8	3,138.8	3,103.6	35.21	89.141	
6,950.0	6,849.5	6,855.6	6,818.1	22.6	15.4	20.61	1,684.2	-2,315.3	3,123.5	3,088.7	34.80	89.752	
7,000.0	6,895.5	6,905.7	6,868.2	22.5	15.5	21.31	1,683.7	-2,315.7	3,105.1	3,070.8	34.31	90.513	
7,050.0	6,939.9	6,953.1	6,915.7	22.4	15.6	22.16	1,683.1	-2,316.1	3,083.7	3,049.9	33.73	91.421	
7,100.0	6,982.6	6,996.1	6,958.6	22.3	15.7	23.19	1,682.6	-2,316.4	3,059.4	3,026.3	33.09	92.453	
7,150.0	7,023.4	7,037.3	6,999.8	22.2	15.8	24.43	1,682.2	-2,316.7	3,032.3	2,999.9	32.42	93.533	
7,200.0	7,062.2	7,078.2	7,040.7	22.1	15.8	25.93	1,681.7	-2,317.0	3,002.7	2,971.0	31.75	94.561	
7,250.0	7,098.6	7,116.5	7,079.1	22.0	15.9	27.73	1,681.3	-2,317.2	2,970.7	2,939.5	31.13	95.425	
7,300.0	7,132.5	7,151.4	7,113.9	21.9	16.0	29.87	1,681.0	-2,317.4	2,936.3	2,905.7	30.60	95.966	
7,350.0	7,163.8	7,183.2	7,145.7	21.8	16.0	32.43	1,680.7	-2,317.5	2,899.9	2,869.6	30.22	95.966	
7,400.0	7,192.2	7,212.2	7,174.7	21.7	16.1	35.50	1,680.4	-2,317.7	2,861.5	2,831.5	30.07	95.178	
7,450.0	7,217.8	7,238.4	7,200.9	21.6	16.1	39.19	1,680.2	-2,317.8	2,821.5	2,791.3	30.22	93.370	
7,500.0	7,240.3	7,261.5	7,224.0	21.6	16.2	43.62	1,680.0	-2,317.9	2,780.0	2,749.3	30.75	90.417	
7,550.0	7,259.6	7,281.4	7,243.9	21.6	16.2	48.91	1,679.8	-2,318.0	2,737.3	2,705.6	31.69	86.383	
7,600.0	7,275.7	7,298.0	7,260.5	21.6	16.3	55.17	1,679.7	-2,318.0	2,693.5	2,660.5	33.02	81.580	
7,650.0	7,288.4	7,311.1	7,273.6	21.8	16.3	62.42	1,679.6	-2,318.1	2,648.9	2,614.3	34.61	76.531	
7,700.0	7,297.7	7,320.6	7,283.1	22.0	16.3	70.58	1,679.6	-2,318.1	2,603.7	2,567.5	36.24	71.838	
7,750.0	7,303.6	7,326.6	7,289.1	22.4	16.3	79.38	1,679.5	-2,318.1	2,558.2	2,520.6	37.62	68.002	
7,800.0	7,305.9	7,329.2	7,291.7	22.9	16.3	88.38	1,679.5	-2,318.1	2,512.6	2,474.1	38.49	65.282	
7,809.2	7,306.0	7,329.3	7,291.7	23.0	16.3	90.01	1,679.5	-2,318.1	2,504.2	2,465.6	38.58	64.905	
7,900.0	7,306.0	7,329.5	7,292.0	24.3	16.3	90.03	1,679.5	-2,318.1	2,421.7	2,381.8	39.96	60.596	
8,000.0	7,306.0	7,329.8	7,292.3	26.0	16.3	90.04	1,679.5	-2,318.1	2,331.6	2,289.9	41.69	55.923	
8,100.0	7,306.0	7,330.0	7,292.5	27.9	16.3	90.06	1,679.5	-2,318.1	2,242.4	2,198.8	43.60	51.433	
8,200.0	7,306.0	7,330.3	7,292.8	30.0	16.3	90.07	1,679.5	-2,318.1	2,154.0	2,108.4	45.64	47.191	
8,300.0	7,306.0	7,330.6	7,293.1	32.2	16.3	90.09	1,679.5	-2,318.1	2,066.8	2,019.0	47.81	43.232	
8,400.0	7,306.0	7,330.8	7,293.3	34.4	16.3	90.10	1,679.5	-2,318.1	1,980.7	1,930.6	50.06	39.564	
8,500.0	7,306.0	7,331.1	7,293.6	36.8	16.3	90.12	1,679.5	-2,318.1	1,896.0	1,843.6	52.40	36.187	
8,600.0	7,306.0	7,331.4	7,293.9	39.2	16.3	90.13	1,679.5	-2,318.1	1,812.9	1,758.1	54.79	33.088	
8,700.0	7,306.0	7,331.6	7,294.1	41.7	16.3	90.15	1,679.5	-2,318.1	1,731.6	1,674.3	57.24	30.252	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,800.0	7,306.0	7,331.9	7,294.4	44.1	16.3	90.16	1,679.5	-2,318.1	1,652.3	1,592.5	59.73	27.663	
8,900.0	7,306.0	7,332.1	7,294.6	46.7	16.3	90.18	1,679.5	-2,318.1	1,575.3	1,513.1	62.25	25.305	
9,000.0	7,306.0	7,332.4	7,294.9	49.2	16.3	90.19	1,679.5	-2,318.1	1,501.1	1,436.3	64.81	23.162	
9,100.0	7,306.0	7,332.7	7,295.2	51.8	16.3	90.20	1,679.5	-2,318.1	1,430.1	1,362.7	67.39	21.219	
9,200.0	7,306.0	7,332.9	7,295.4	54.4	16.3	90.22	1,679.5	-2,318.1	1,362.6	1,292.6	70.00	19.466	
9,300.0	7,306.0	7,333.2	7,295.7	57.1	16.3	90.23	1,679.5	-2,318.1	1,299.4	1,226.8	72.62	17.892	
9,400.0	7,306.0	7,333.5	7,296.0	59.7	16.3	90.25	1,679.5	-2,318.1	1,241.0	1,165.8	75.27	16.488	
9,500.0	7,306.0	7,333.7	7,296.2	62.4	16.3	90.26	1,679.5	-2,318.1	1,188.2	1,110.3	77.92	15.249	
9,600.0	7,306.0	7,334.0	7,296.5	65.0	16.3	90.28	1,679.5	-2,318.1	1,141.7	1,061.1	80.59	14.167	
9,700.0	7,306.0	7,334.2	7,296.7	67.7	16.3	90.29	1,679.5	-2,318.1	1,102.4	1,019.1	83.27	13.238	
9,800.0	7,306.0	7,334.5	7,297.0	70.4	16.3	90.31	1,679.5	-2,318.1	1,070.9	985.0	85.96	12.458	
9,900.0	7,306.0	7,334.8	7,297.3	73.1	16.3	90.32	1,679.5	-2,318.1	1,048.1	959.5	88.66	11.822	
10,000.0	7,306.0	7,335.0	7,297.5	75.8	16.3	90.33	1,679.5	-2,318.1	1,034.6	943.2	91.37	11.323	
10,091.5	7,306.0	7,335.2	7,297.7	78.3	16.3	90.35	1,679.5	-2,318.1	1,030.5	936.6	93.85	10.980	CC
10,100.0	7,306.0	7,335.3	7,297.8	78.5	16.3	90.35	1,679.5	-2,318.1	1,030.5	936.4	94.08	10.953	ES
10,200.0	7,306.0	7,335.5	7,298.0	81.2	16.3	90.36	1,679.5	-2,318.1	1,036.2	939.4	96.80	10.704	
10,300.0	7,306.0	7,335.8	7,298.3	84.0	16.3	90.38	1,679.5	-2,318.1	1,051.4	951.8	99.53	10.563	
10,400.0	7,306.0	7,336.0	7,298.5	86.7	16.3	90.39	1,679.5	-2,318.1	1,075.7	973.4	102.26	10.519	SF
10,500.0	7,306.0	7,336.3	7,298.8	89.4	16.3	90.41	1,679.5	-2,318.1	1,108.5	1,003.5	105.00	10.557	
10,600.0	7,306.0	7,336.6	7,299.0	92.2	16.3	90.42	1,679.5	-2,318.1	1,149.1	1,041.4	107.74	10.665	
10,700.0	7,306.0	7,336.8	7,299.3	94.9	16.3	90.43	1,679.5	-2,318.1	1,196.7	1,086.2	110.49	10.831	
10,800.0	7,306.0	7,337.1	7,299.6	97.6	16.3	90.45	1,679.5	-2,318.1	1,250.5	1,137.3	113.23	11.044	
10,900.0	7,306.0	7,337.3	7,299.8	100.4	16.3	90.46	1,679.5	-2,318.1	1,309.8	1,193.8	115.99	11.293	
11,000.0	7,306.0	7,337.6	7,300.1	103.2	16.3	90.48	1,679.5	-2,318.1	1,373.8	1,255.0	118.74	11.569	
11,100.0	7,306.0	7,337.8	7,300.3	105.9	16.3	90.49	1,679.5	-2,318.1	1,441.8	1,320.3	121.50	11.867	
11,200.0	7,306.0	7,338.1	7,300.6	108.7	16.3	90.50	1,679.5	-2,318.1	1,513.5	1,389.2	124.26	12.180	
11,300.0	7,306.0	7,338.3	7,300.8	111.4	16.3	90.52	1,679.5	-2,318.1	1,588.2	1,461.1	127.02	12.503	
11,400.0	7,306.0	7,338.6	7,301.1	114.2	16.3	90.53	1,679.5	-2,318.1	1,665.5	1,535.7	129.79	12.833	
11,500.0	7,306.0	7,338.8	7,301.3	117.0	16.3	90.55	1,679.5	-2,318.1	1,745.2	1,612.6	132.55	13.166	
11,600.0	7,306.0	7,339.1	7,301.6	119.7	16.3	90.56	1,679.5	-2,318.1	1,826.8	1,691.5	135.32	13.500	
11,700.0	7,306.0	7,339.3	7,301.8	122.5	16.3	90.57	1,679.5	-2,318.1	1,910.2	1,772.2	138.09	13.833	
11,800.0	7,306.0	7,339.6	7,302.1	125.3	16.3	90.59	1,679.5	-2,318.1	1,995.2	1,854.3	140.86	14.164	
11,900.0	7,306.0	7,339.8	7,302.3	128.0	16.3	90.60	1,679.5	-2,318.2	2,081.4	1,937.8	143.64	14.491	
12,000.0	7,306.0	7,340.1	7,302.6	130.8	16.3	90.62	1,679.4	-2,318.2	2,168.9	2,022.5	146.41	14.814	
12,100.0	7,306.0	7,340.3	7,302.8	133.6	16.3	90.63	1,679.4	-2,318.2	2,257.4	2,108.2	149.19	15.131	
12,200.0	7,306.0	7,340.6	7,303.1	136.4	16.3	90.64	1,679.4	-2,318.2	2,346.8	2,194.8	151.97	15.443	
12,300.0	7,306.0	7,340.8	7,303.3	139.1	16.3	90.66	1,679.4	-2,318.2	2,437.0	2,282.3	154.75	15.749	
12,400.0	7,306.0	7,341.1	7,303.6	141.9	16.3	90.67	1,679.4	-2,318.2	2,528.0	2,370.5	157.53	16.048	
12,500.0	7,306.0	7,341.3	7,303.8	144.7	16.3	90.69	1,679.4	-2,318.2	2,619.6	2,459.3	160.31	16.341	
12,600.0	7,306.0	7,341.6	7,304.1	147.5	16.3	90.70	1,679.4	-2,318.2	2,711.9	2,548.8	163.09	16.628	
12,700.0	7,306.0	7,341.8	7,304.3	150.3	16.3	90.71	1,679.4	-2,318.2	2,804.6	2,638.7	165.87	16.908	
12,800.0	7,306.0	7,342.1	7,304.6	153.0	16.3	90.73	1,679.4	-2,318.2	2,897.9	2,729.2	168.66	17.182	
12,900.0	7,306.0	7,342.3	7,304.8	155.8	16.3	90.74	1,679.4	-2,318.2	2,991.5	2,820.1	171.44	17.449	
13,000.0	7,306.0	7,342.6	7,305.1	158.6	16.3	90.75	1,679.4	-2,318.2	3,085.6	2,911.4	174.23	17.710	
13,100.0	7,306.0	7,342.8	7,305.3	161.4	16.3	90.77	1,679.4	-2,318.2	3,180.0	3,003.0	177.01	17.965	
13,200.0	7,306.0	7,343.0	7,305.5	164.2	16.3	90.78	1,679.4	-2,318.2	3,274.8	3,095.0	179.80	18.213	
13,300.0	7,306.0	7,343.3	7,305.8	167.0	16.3	90.79	1,679.4	-2,318.2	3,369.9	3,187.3	182.59	18.456	
13,400.0	7,306.0	7,343.5	7,306.0	169.8	16.3	90.81	1,679.4	-2,318.2	3,465.2	3,279.8	185.38	18.693	
13,500.0	7,306.0	7,343.8	7,306.3	172.6	16.3	90.82	1,679.4	-2,318.2	3,560.8	3,372.6	188.17	18.924	
13,600.0	7,306.0	7,344.0	7,306.5	175.3	16.3	90.84	1,679.4	-2,318.2	3,656.7	3,465.7	190.96	19.149	
13,700.0	7,306.0	7,344.3	7,306.8	178.1	16.3	90.85	1,679.4	-2,318.2	3,752.7	3,559.0	193.75	19.369	
13,800.0	7,306.0	7,344.5	7,307.0	180.9	16.3	90.86	1,679.4	-2,318.2	3,849.0	3,652.4	196.54	19.584	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,344.7	7,307.2	183.7	16.3	90.88	1,679.4	-2,318.2	3,945.4	3,746.1	199.33	19.793	
14,000.0	7,306.0	7,345.0	7,307.5	186.5	16.3	90.89	1,679.4	-2,318.2	4,042.0	3,839.9	202.12	19.998	
14,100.0	7,306.0	7,345.2	7,307.7	189.3	16.3	90.90	1,679.4	-2,318.2	4,138.8	3,933.9	204.91	20.198	
14,200.0	7,306.0	7,345.5	7,308.0	192.1	16.3	90.92	1,679.4	-2,318.2	4,235.7	4,028.0	207.70	20.393	
14,300.0	7,306.0	7,345.7	7,308.2	194.9	16.3	90.93	1,679.4	-2,318.2	4,332.8	4,122.3	210.50	20.584	
14,363.6	7,306.0	7,345.9	7,308.4	196.7	16.3	90.94	1,679.4	-2,318.2	4,394.5	4,182.3	212.27	20.702	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-71.59	1,632.9	-4,904.6	5,169.4				
100.0	100.0	63.6	63.6	0.1	0.1	-71.59	1,632.9	-4,904.6	5,169.3	5,169.2	0.15	N/A	
200.0	200.0	163.8	163.8	0.3	0.1	-71.59	1,632.9	-4,904.6	5,169.3	5,168.8	0.47	N/A	
300.0	300.0	264.1	264.1	0.5	0.2	-71.59	1,632.7	-4,904.7	5,169.3	5,168.5	0.78	6,612.315	
400.0	400.0	364.3	364.3	0.8	0.3	-71.59	1,632.5	-4,904.7	5,169.3	5,168.2	1.10	4,717.674	
500.0	500.0	464.5	464.5	1.0	0.4	-71.59	1,632.3	-4,904.8	5,169.3	5,167.9	1.41	3,666.963	
577.5	577.5	542.1	542.1	1.2	0.5	-71.60	1,632.0	-4,904.9	5,169.3	5,167.6	1.65	3,127.472	
600.0	600.0	559.9	559.9	1.2	0.5	-71.60	1,632.0	-4,904.9	5,169.3	5,167.5	1.74	2,977.022	
700.0	700.0	847.4	847.2	1.4	1.1	-71.52	1,636.9	-4,899.3	5,168.8	5,166.2	2.55	2,027.733	
800.0	800.0	1,125.7	1,123.4	1.7	1.8	-117.67	1,660.6	-4,875.2	5,163.6	5,160.1	3.48	1,485.394	
900.0	899.8	1,219.4	1,215.6	1.9	2.2	-117.63	1,673.0	-4,864.3	5,159.2	5,155.2	3.99	1,291.881	
1,000.0	999.5	1,778.7	1,757.0	2.1	4.7	-116.86	1,769.0	-4,765.3	5,151.6	5,144.9	6.62	778.660	
1,100.0	1,098.7	1,856.0	1,830.8	2.4	5.2	-116.90	1,784.1	-4,747.7	5,141.8	5,134.6	7.23	710.962	
1,200.0	1,197.5	1,997.6	1,965.9	2.7	5.9	-116.86	1,811.1	-4,714.9	5,133.1	5,124.9	8.21	625.532	
1,299.9	1,295.5	2,065.4	2,030.3	3.0	6.3	-116.90	1,825.0	-4,698.9	5,126.1	5,117.3	8.86	578.600	
1,300.0	1,295.6	2,065.5	2,030.4	3.0	6.3	-116.90	1,825.0	-4,698.9	5,126.1	5,117.3	8.86	578.547	
1,400.0	1,393.4	2,136.0	2,097.5	3.4	6.7	-116.83	1,839.4	-4,683.1	5,120.9	5,111.3	9.55	535.958	
1,500.0	1,491.3	2,205.0	2,163.4	3.7	7.1	-116.77	1,853.4	-4,668.0	5,116.2	5,106.0	10.24	499.498	
1,600.0	1,589.1	2,332.3	2,284.8	4.1	7.8	-116.65	1,879.2	-4,639.8	5,111.4	5,100.1	11.26	453.766	
1,700.0	1,686.9	2,484.6	2,430.1	4.5	8.7	-116.51	1,909.4	-4,605.3	5,106.0	5,093.6	12.44	410.458	
1,800.0	1,784.7	2,572.5	2,513.6	5.0	9.2	-116.43	1,927.4	-4,584.5	5,099.8	5,086.5	13.31	383.262	
1,900.0	1,882.5	2,633.4	2,571.2	5.4	9.6	-116.36	1,940.6	-4,570.3	5,094.3	5,080.2	14.03	362.970	
2,000.0	1,980.3	2,698.0	2,632.5	5.8	10.0	-116.28	1,955.0	-4,555.7	5,089.6	5,074.8	14.79	344.163	
2,100.0	2,078.1	2,780.2	2,710.8	6.2	10.4	-116.20	1,972.6	-4,537.8	5,085.5	5,069.9	15.62	325.606	
2,200.0	2,176.0	3,009.2	2,929.4	6.7	11.7	-116.00	2,016.4	-4,485.4	5,079.1	5,061.9	17.21	295.090	
2,300.0	2,273.8	3,080.4	2,997.4	7.1	12.1	-115.95	2,029.4	-4,469.0	5,072.8	5,054.8	17.97	282.243	
2,400.0	2,371.6	3,171.9	3,085.0	7.5	12.6	-115.88	2,045.9	-4,448.3	5,066.8	5,048.0	18.83	269.074	
2,500.0	2,469.4	3,394.2	3,297.3	8.0	13.9	-115.72	2,085.8	-4,396.0	5,060.3	5,039.9	20.40	248.058	
2,600.0	2,567.2	3,447.0	3,347.6	8.4	14.2	-115.67	2,095.3	-4,382.7	5,052.2	5,031.1	21.09	239.514	
2,700.0	2,665.0	3,503.1	3,401.1	8.8	14.5	-115.63	2,105.4	-4,369.1	5,045.0	5,023.2	21.80	231.466	
2,800.0	2,762.9	3,540.0	3,436.3	9.3	14.7	-115.60	2,112.2	-4,360.8	5,039.2	5,016.8	22.40	224.971	
2,900.0	2,860.7	3,634.0	3,526.4	9.7	15.3	-115.53	2,129.5	-4,340.1	5,034.0	5,010.7	23.29	216.181	
3,000.0	2,958.5	3,728.0	3,616.5	10.2	15.8	-115.46	2,146.7	-4,319.6	5,028.9	5,004.7	24.17	208.061	
3,100.0	3,056.3	3,788.9	3,674.9	10.6	16.1	-115.42	2,157.9	-4,306.5	5,024.3	4,999.4	24.89	201.826	
3,200.0	3,154.1	3,857.7	3,740.8	11.1	16.5	-115.36	2,171.4	-4,292.1	5,020.5	4,994.8	25.67	195.571	
3,300.0	3,251.9	3,931.3	3,811.2	11.5	16.9	-115.29	2,186.5	-4,276.7	5,017.1	4,990.6	26.48	189.442	
3,400.0	3,349.8	4,008.0	3,884.5	12.0	17.3	-115.22	2,202.6	-4,261.1	5,014.4	4,987.1	27.32	183.555	
3,500.0	3,447.6	4,085.5	3,958.8	12.4	17.8	-115.15	2,218.6	-4,245.8	5,012.2	4,984.0	28.14	178.120	
3,600.0	3,545.4	4,335.9	4,200.1	12.8	19.1	-115.01	2,262.9	-4,195.7	5,008.9	4,979.1	29.78	168.191	
3,700.0	3,643.2	4,440.4	4,300.2	13.3	19.6	-114.93	2,281.8	-4,172.5	5,003.5	4,972.8	30.74	162.791	
3,800.0	3,741.0	4,506.2	4,363.4	13.7	20.0	-114.89	2,293.5	-4,158.3	4,998.6	4,967.1	31.48	158.764	
3,900.0	3,838.8	4,570.0	4,424.8	14.2	20.3	-114.85	2,304.6	-4,145.3	4,994.5	4,962.3	32.21	155.047	
4,000.0	3,936.6	4,605.5	4,459.2	14.6	20.5	-114.83	2,310.6	-4,138.4	4,991.4	4,958.6	32.79	152.223	
4,100.0	4,034.5	4,663.0	4,515.1	15.1	20.8	-114.82	2,319.5	-4,128.5	4,989.5	4,956.0	33.46	149.103	
4,183.6	4,116.3	4,663.0	4,515.1	15.5	20.8	-114.82	2,319.5	-4,128.5	4,988.8	4,955.0	33.81	147.536	
4,200.0	4,132.3	4,663.0	4,515.1	15.5	20.8	-114.82	2,319.5	-4,128.5	4,988.8	4,954.9	33.88	147.238	
4,300.0	4,230.1	4,757.0	4,607.1	16.0	21.1	-114.82	2,333.1	-4,114.7	4,989.2	4,954.5	34.67	143.910	
4,400.0	4,327.9	4,757.0	4,607.1	16.4	21.1	-114.82	2,333.1	-4,114.7	4,990.6	4,955.5	35.09	142.231	
4,500.0	4,425.7	4,851.0	4,699.5	16.9	21.5	-114.84	2,345.8	-4,103.3	4,993.1	4,957.3	35.84	139.302	
4,600.0	4,523.5	4,901.5	4,749.3	17.3	21.7	-114.86	2,352.3	-4,097.9	4,996.4	4,959.9	36.43	137.141	
4,700.0	4,621.4	4,992.5	4,839.2	17.8	22.0	-114.90	2,363.0	-4,088.7	5,000.1	4,962.9	37.13	134.657	
4,800.0	4,719.2	5,073.7	4,919.7	18.2	22.2	-114.98	2,369.8	-4,081.7	5,003.9	4,966.1	37.76	132.523	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
4,900.0	4,817.0	5,131.0	4,976.8	18.7	22.3	-115.04	2,373.6	-4,077.5	5,008.4	4,970.1	38.30	130.750	
5,000.0	4,914.8	5,196.5	5,042.1	19.1	22.5	-115.13	2,377.3	-4,073.5	5,013.7	4,974.8	38.85	129.064	
5,100.0	5,012.6	5,263.5	5,109.0	19.6	22.6	-115.23	2,380.6	-4,070.1	5,019.7	4,980.3	39.38	127.467	
5,200.0	5,110.4	5,319.0	5,164.3	20.0	22.7	-115.31	2,383.0	-4,067.7	5,026.3	4,986.4	39.89	126.010	
5,221.3	5,131.3	5,319.0	5,164.3	20.1	22.7	-115.31	2,383.0	-4,067.7	5,027.9	4,987.9	39.98	125.767	
5,300.0	5,208.5	5,370.4	5,215.7	20.4	22.8	-115.49	2,384.8	-4,066.2	5,033.5	4,993.2	40.30	124.889	
5,400.0	5,307.1	5,412.0	5,257.2	20.7	22.9	-115.67	2,385.8	-4,065.7	5,040.3	4,999.7	40.61	124.105	
5,500.0	5,406.3	5,483.9	5,329.1	21.0	22.9	-115.87	2,387.0	-4,065.7	5,046.5	5,005.6	40.90	123.374	
5,600.0	5,505.8	5,566.1	5,411.3	21.2	23.0	-116.03	2,388.0	-4,066.2	5,051.7	5,010.5	41.17	122.704	
5,700.0	5,605.6	5,665.9	5,511.1	21.4	23.1	-116.15	2,389.4	-4,066.9	5,055.5	5,014.1	41.42	122.043	
5,800.0	5,705.6	5,795.4	5,640.6	21.5	23.3	-116.20	2,390.7	-4,067.7	5,057.5	5,015.8	41.68	121.331	
5,821.2	5,726.8	5,818.2	5,663.4	21.5	23.3	-69.85	2,390.9	-4,067.7	5,057.6	5,025.5	32.09	157.590	
5,900.0	5,805.6	5,902.9	5,748.1	21.6	23.4	-69.85	2,391.2	-4,068.0	5,058.0	5,025.7	32.33	156.439	
6,000.0	5,905.6	6,013.0	5,858.2	21.7	23.5	-69.85	2,391.3	-4,068.4	5,058.3	5,025.7	32.66	154.878	
6,100.0	6,005.6	6,123.7	5,968.9	21.9	23.6	-69.85	2,391.2	-4,068.5	5,058.4	5,025.4	32.99	153.317	
6,200.0	6,105.6	6,254.6	6,099.8	22.0	23.7	-69.85	2,391.4	-4,068.1	5,058.2	5,024.8	33.36	151.618	
6,300.0	6,205.6	6,356.6	6,201.8	22.1	23.9	-69.84	2,391.6	-4,067.4	5,057.6	5,023.9	33.69	150.100	
6,400.0	6,305.6	6,444.8	6,290.0	22.3	24.0	-69.84	2,391.9	-4,066.8	5,057.0	5,023.0	34.01	148.701	
6,500.0	6,405.6	6,549.6	6,394.8	22.4	24.1	-69.83	2,392.6	-4,065.9	5,056.5	5,022.2	34.35	147.211	
6,600.0	6,505.6	6,629.0	6,474.2	22.5	24.2	-69.82	2,393.4	-4,065.4	5,056.3	5,021.6	34.65	145.920	
6,684.2	6,589.8	6,762.4	6,607.5	22.6	24.4	-69.80	2,394.7	-4,064.0	5,055.6	5,020.6	35.02	144.382	
6,700.0	6,605.6	6,778.0	6,623.1	22.7	24.4	20.21	2,394.8	-4,063.7	5,055.3	5,011.2	44.08	114.687	
6,750.0	6,655.5	6,828.5	6,673.7	22.7	24.5	20.32	2,395.3	-4,063.0	5,052.1	5,008.1	44.01	114.793	
6,800.0	6,705.1	6,883.6	6,728.7	22.7	24.5	20.54	2,395.8	-4,062.2	5,045.6	5,001.8	43.81	115.169	
6,850.0	6,754.1	6,929.8	6,774.9	22.7	24.6	20.87	2,396.1	-4,061.4	5,035.9	4,992.4	43.47	115.856	
6,900.0	6,802.3	6,968.2	6,813.4	22.7	24.7	21.30	2,396.5	-4,060.9	5,023.0	4,980.0	42.99	116.845	
6,950.0	6,849.5	7,003.0	6,848.1	22.6	24.7	21.85	2,397.0	-4,060.4	5,007.2	4,964.8	42.40	118.105	
7,000.0	6,895.5	7,037.6	6,882.7	22.5	24.8	22.53	2,397.5	-4,060.0	4,988.4	4,946.7	41.71	119.594	
7,050.0	6,939.9	7,068.6	6,913.8	22.4	24.8	23.35	2,398.0	-4,059.7	4,966.8	4,925.8	40.95	121.300	
7,100.0	6,982.6	7,096.0	6,941.1	22.3	24.8	24.34	2,398.4	-4,059.5	4,942.5	4,902.4	40.13	123.175	
7,150.0	7,023.4	7,131.9	6,977.0	22.2	24.9	25.54	2,399.1	-4,059.2	4,915.5	4,876.2	39.31	125.050	
7,200.0	7,062.2	7,163.1	7,008.2	22.1	24.9	26.97	2,399.7	-4,059.1	4,886.1	4,847.6	38.50	126.901	
7,250.0	7,098.6	7,190.0	7,035.1	22.0	25.0	28.65	2,400.3	-4,059.0	4,854.3	4,816.5	37.75	128.578	
7,300.0	7,132.5	7,220.9	7,065.9	21.9	25.0	30.68	2,400.9	-4,059.0	4,820.3	4,783.1	37.14	129.792	
7,350.0	7,163.8	7,247.0	7,092.1	21.8	25.1	33.07	2,401.3	-4,059.0	4,784.2	4,747.5	36.70	130.375	
7,400.0	7,192.2	7,271.0	7,116.0	21.7	25.1	35.93	2,401.7	-4,059.0	4,746.2	4,709.7	36.50	130.026	
7,450.0	7,217.8	7,294.1	7,139.1	21.6	25.1	39.36	2,402.0	-4,059.1	4,706.5	4,669.9	36.63	128.473	
7,500.0	7,240.3	7,316.5	7,161.6	21.6	25.1	43.50	2,402.3	-4,059.2	4,665.3	4,628.2	37.16	125.560	
7,550.0	7,259.6	7,335.8	7,180.9	21.6	25.2	48.45	2,402.5	-4,059.3	4,622.8	4,584.7	38.09	121.379	
7,600.0	7,275.7	7,351.9	7,197.0	21.6	25.2	54.34	2,402.7	-4,059.4	4,579.2	4,539.8	39.39	116.249	
7,650.0	7,288.4	7,364.8	7,209.8	21.8	25.2	61.23	2,402.8	-4,059.5	4,534.7	4,493.7	40.95	110.738	
7,700.0	7,297.7	7,374.3	7,219.3	22.0	25.2	69.12	2,403.0	-4,059.5	4,489.5	4,447.0	42.53	105.554	
7,750.0	7,303.6	7,380.4	7,225.5	22.4	25.2	77.82	2,403.0	-4,059.6	4,443.9	4,400.1	43.84	101.372	
7,800.0	7,305.9	7,383.1	7,228.2	22.9	25.2	86.96	2,403.0	-4,059.6	4,398.1	4,353.5	44.59	98.640	
7,809.2	7,306.0	7,383.2	7,228.3	23.0	25.2	88.65	2,403.1	-4,059.6	4,389.7	4,345.0	44.65	98.309	
7,900.0	7,306.0	7,383.7	7,228.8	24.3	25.2	88.67	2,403.1	-4,059.6	4,306.6	4,260.6	46.03	93.551	
8,000.0	7,306.0	7,384.3	7,229.3	26.0	25.2	88.69	2,403.1	-4,059.6	4,215.5	4,167.7	47.76	88.259	
8,100.0	7,306.0	7,384.8	7,229.9	27.9	25.2	88.71	2,403.1	-4,059.6	4,124.7	4,075.1	49.67	83.050	
8,200.0	7,306.0	7,385.4	7,230.4	30.0	25.2	88.72	2,403.1	-4,059.6	4,034.5	3,982.8	51.71	78.018	
8,300.0	7,306.0	7,385.9	7,231.0	32.2	25.2	88.74	2,403.1	-4,059.6	3,944.7	3,890.8	53.87	73.221	
8,400.0	7,306.0	7,386.4	7,231.5	34.4	25.2	88.76	2,403.1	-4,059.6	3,855.4	3,799.2	56.13	68.688	
8,500.0	7,306.0	7,387.0	7,232.0	36.8	25.2	88.78	2,403.1	-4,059.6	3,766.6	3,708.1	58.46	64.431	

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-404
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-404	**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 #2	**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
8,600.0	7,306.0	7,387.5	7,232.6	39.2	25.2	88.79	2,403.1	-4,059.6	3,678.4	3,617.5	60.85	60.447	
8,700.0	7,306.0	7,388.0	7,233.1	41.7	25.2	88.81	2,403.1	-4,059.6	3,590.8	3,527.5	63.30	56.727	
8,800.0	7,306.0	7,388.6	7,233.6	44.1	25.2	88.83	2,403.1	-4,059.6	3,503.9	3,438.1	65.79	53.260	
8,900.0	7,306.0	7,389.1	7,234.2	46.7	25.2	88.85	2,403.1	-4,059.6	3,417.7	3,349.4	68.31	50.029	
9,000.0	7,306.0	7,389.6	7,234.7	49.2	25.2	88.86	2,403.1	-4,059.6	3,332.3	3,261.4	70.87	47.020	
9,100.0	7,306.0	7,390.2	7,235.2	51.8	25.2	88.88	2,403.1	-4,059.6	3,247.7	3,174.2	73.45	44.215	
9,200.0	7,306.0	7,390.7	7,235.8	54.4	25.2	88.90	2,403.1	-4,059.6	3,164.0	3,087.9	76.06	41.600	
9,300.0	7,306.0	7,391.2	7,236.3	57.1	25.2	88.92	2,403.1	-4,059.6	3,081.3	3,002.6	78.68	39.161	
9,400.0	7,306.0	7,391.8	7,236.8	59.7	25.2	88.93	2,403.1	-4,059.6	2,999.6	2,918.3	81.32	36.885	
9,500.0	7,306.0	7,392.3	7,237.3	62.4	25.2	88.95	2,403.2	-4,059.6	2,919.1	2,835.1	83.98	34.760	
9,600.0	7,306.0	7,392.8	7,237.9	65.0	25.2	88.97	2,403.2	-4,059.6	2,839.8	2,753.2	86.65	32.774	
9,700.0	7,306.0	7,393.3	7,238.4	67.7	25.2	88.98	2,403.2	-4,059.6	2,761.9	2,672.5	89.33	30.919	
9,800.0	7,306.0	7,393.8	7,238.9	70.4	25.2	89.00	2,403.2	-4,059.6	2,685.4	2,593.4	92.02	29.184	
9,900.0	7,306.0	7,394.4	7,239.4	73.1	25.2	89.02	2,403.2	-4,059.6	2,610.5	2,515.8	94.72	27.561	
10,000.0	7,306.0	7,394.9	7,239.9	75.8	25.2	89.03	2,403.2	-4,059.6	2,537.3	2,439.9	97.42	26.044	
10,100.0	7,306.0	7,395.4	7,240.4	78.5	25.2	89.05	2,403.2	-4,059.6	2,466.1	2,365.9	100.14	24.627	
10,200.0	7,306.0	7,395.9	7,241.0	81.2	25.2	89.07	2,403.2	-4,059.6	2,396.8	2,294.0	102.86	23.302	
10,300.0	7,306.0	7,396.4	7,241.5	84.0	25.2	89.08	2,403.2	-4,059.6	2,329.9	2,224.3	105.58	22.066	
10,400.0	7,306.0	7,396.9	7,242.0	86.7	25.2	89.10	2,403.2	-4,059.6	2,265.3	2,157.0	108.32	20.914	
10,500.0	7,306.0	7,397.4	7,242.5	89.4	25.2	89.12	2,403.2	-4,059.7	2,203.4	2,092.4	111.05	19.841	
10,600.0	7,306.0	7,397.9	7,243.0	92.2	25.2	89.13	2,403.2	-4,059.7	2,144.4	2,030.6	113.79	18.845	
10,700.0	7,306.0	7,398.4	7,243.5	94.9	25.2	89.15	2,403.2	-4,059.7	2,088.5	1,972.0	116.54	17.921	
10,800.0	7,306.0	7,398.9	7,244.0	97.6	25.2	89.17	2,403.2	-4,059.7	2,036.0	1,916.7	119.29	17.068	
10,900.0	7,306.0	7,399.4	7,244.5	100.4	25.2	89.18	2,403.2	-4,059.7	1,987.1	1,865.1	122.04	16.283	
11,000.0	7,306.0	7,400.0	7,245.0	103.2	25.2	89.20	2,403.2	-4,059.7	1,942.2	1,817.4	124.79	15.563	
11,100.0	7,306.0	7,400.5	7,245.5	105.9	25.3	89.22	2,403.2	-4,059.7	1,901.4	1,773.9	127.55	14.907	
11,200.0	7,306.0	7,401.0	7,246.0	108.7	25.3	89.23	2,403.3	-4,059.7	1,865.1	1,734.8	130.31	14.313	
11,300.0	7,306.0	7,401.4	7,246.5	111.4	25.3	89.25	2,403.3	-4,059.7	1,833.6	1,700.5	133.07	13.779	
11,400.0	7,306.0	7,401.9	7,247.0	114.2	25.3	89.27	2,403.3	-4,059.7	1,807.1	1,671.2	135.84	13.303	
11,500.0	7,306.0	7,402.4	7,247.5	117.0	25.3	89.28	2,403.3	-4,059.7	1,785.7	1,647.1	138.61	12.884	
11,600.0	7,306.0	7,402.9	7,248.0	119.7	25.3	89.30	2,403.3	-4,059.7	1,769.8	1,628.4	141.37	12.519	
11,700.0	7,306.0	7,403.4	7,248.5	122.5	25.3	89.31	2,403.3	-4,059.7	1,759.4	1,615.3	144.15	12.206	
11,800.0	7,306.0	7,403.9	7,249.0	125.3	25.3	89.33	2,403.3	-4,059.7	1,754.7	1,607.8	146.92	11.943	
11,833.1	7,306.0	7,404.1	7,249.1	126.2	25.3	89.34	2,403.3	-4,059.7	1,754.4	1,606.6	147.84	11.867	CC
11,900.0	7,306.0	7,404.4	7,249.5	128.0	25.3	89.35	2,403.3	-4,059.7	1,755.7	1,606.0	149.69	11.729	ES
12,000.0	7,306.0	7,404.9	7,250.0	130.8	25.3	89.36	2,403.3	-4,059.7	1,762.3	1,609.9	152.47	11.559	
12,100.0	7,306.0	7,405.4	7,250.4	133.6	25.3	89.38	2,403.3	-4,059.7	1,774.6	1,619.3	155.24	11.431	
12,200.0	7,306.0	7,405.9	7,250.9	136.4	25.3	89.39	2,403.3	-4,059.7	1,792.4	1,634.3	158.02	11.342	
12,300.0	7,306.0	7,406.3	7,251.4	139.1	25.3	89.41	2,403.3	-4,059.7	1,815.5	1,654.7	160.80	11.290	
12,400.0	7,306.0	7,406.8	7,251.9	141.9	25.3	89.42	2,403.3	-4,059.7	1,843.7	1,680.1	163.58	11.271	SF
12,500.0	7,306.0	7,407.3	7,252.4	144.7	25.3	89.44	2,403.3	-4,059.7	1,876.9	1,710.5	166.37	11.282	
12,600.0	7,306.0	7,407.8	7,252.9	147.5	25.3	89.46	2,403.3	-4,059.7	1,914.7	1,745.5	169.15	11.320	
12,700.0	7,306.0	7,408.3	7,253.3	150.3	25.3	89.47	2,403.3	-4,059.7	1,956.9	1,785.0	171.93	11.382	
12,800.0	7,306.0	7,408.7	7,253.8	153.0	25.3	89.49	2,403.3	-4,059.7	2,003.2	1,828.5	174.72	11.465	
12,900.0	7,306.0	7,409.2	7,254.3	155.8	25.3	89.50	2,403.3	-4,059.7	2,053.3	1,875.8	177.50	11.568	
13,000.0	7,306.0	7,409.7	7,254.8	158.6	25.3	89.52	2,403.4	-4,059.7	2,107.0	1,926.7	180.29	11.687	
13,100.0	7,306.0	7,410.2	7,255.2	161.4	25.3	89.53	2,403.4	-4,059.7	2,164.0	1,980.9	183.08	11.820	
13,200.0	7,306.0	7,410.6	7,255.7	164.2	25.3	89.55	2,403.4	-4,059.7	2,224.0	2,038.2	185.86	11.966	
13,300.0	7,306.0	7,411.1	7,256.2	167.0	25.3	89.56	2,403.4	-4,059.7	2,286.9	2,098.2	188.65	12.122	
13,400.0	7,306.0	7,411.6	7,256.6	169.8	25.3	89.58	2,403.4	-4,059.7	2,352.2	2,160.8	191.44	12.287	
13,500.0	7,306.0	7,412.0	7,257.1	172.6	25.3	89.60	2,403.4	-4,059.7	2,420.0	2,225.8	194.23	12.459	
13,600.0	7,306.0	7,412.5	7,257.6	175.3	25.3	89.61	2,403.4	-4,059.7	2,489.9	2,292.9	197.02	12.638	

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-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,413.0	7,258.0	178.1	25.3	89.63	2,403.4	-4,059.7	2,561.9	2,362.1	199.81	12.821	
13,800.0	7,306.0	7,413.4	7,258.5	180.9	25.3	89.64	2,403.4	-4,059.7	2,635.6	2,433.0	202.60	13.009	
13,900.0	7,306.0	7,413.9	7,259.0	183.7	25.3	89.66	2,403.4	-4,059.7	2,711.1	2,505.7	205.40	13.199	
14,000.0	7,306.0	7,414.4	7,259.4	186.5	25.3	89.67	2,403.4	-4,059.7	2,788.1	2,579.9	208.19	13.392	
14,100.0	7,306.0	7,414.8	7,259.9	189.3	25.3	89.69	2,403.4	-4,059.7	2,866.5	2,655.5	210.98	13.586	
14,200.0	7,306.0	7,415.3	7,260.4	192.1	25.3	89.70	2,403.4	-4,059.7	2,946.2	2,732.4	213.78	13.782	
14,300.0	7,306.0	7,415.8	7,260.8	194.9	25.3	89.72	2,403.4	-4,059.7	3,027.1	2,810.5	216.57	13.978	
14,363.6	7,306.0	7,416.0	7,261.1	196.7	25.3	89.73	2,403.4	-4,059.7	3,079.1	2,860.8	218.34	14.102	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-72.05	1,608.2	-4,964.0	5,218.2				
100.0	100.0	53.9	53.9	0.1	0.0	-72.05	1,608.2	-4,964.1	5,218.1	5,218.0	0.15	N/A	
200.0	200.0	138.9	138.9	0.3	0.1	-72.05	1,608.4	-4,964.3	5,218.4	5,218.0	0.45	N/A	
300.0	300.0	223.9	223.9	0.5	0.2	-72.05	1,608.7	-4,964.8	5,219.0	5,218.3	0.75	6,987.971	
400.0	400.0	308.8	308.8	0.8	0.3	-72.04	1,609.1	-4,965.4	5,219.9	5,218.9	1.05	4,982.921	
500.0	500.0	393.7	393.7	1.0	0.4	-72.04	1,609.7	-4,966.3	5,221.1	5,219.8	1.35	3,872.475	
600.0	600.0	2,319.0	2,276.4	1.2	7.2	-72.83	1,453.8	-4,704.3	5,213.2	5,205.3	7.92	657.979	
700.0	700.0	2,694.0	2,625.3	1.4	9.8	-73.29	1,377.7	-4,590.4	5,178.6	5,168.1	10.54	491.381	
800.0	800.0	2,734.3	2,662.4	1.7	10.1	-120.39	1,369.3	-4,577.2	5,141.9	5,134.0	7.98	643.993	
900.0	899.8	2,788.0	2,712.2	1.9	10.5	-121.10	1,358.6	-4,560.2	5,108.1	5,099.7	8.43	606.099	
1,000.0	999.5	2,810.8	2,733.5	2.1	10.6	-121.72	1,354.2	-4,553.2	5,076.9	5,068.1	8.77	578.863	
1,100.0	1,098.7	2,881.0	2,799.0	2.4	11.1	-122.40	1,340.6	-4,532.2	5,048.5	5,039.2	9.29	543.507	
1,200.0	1,197.5	2,957.4	2,870.6	2.7	11.6	-123.07	1,326.0	-4,509.5	5,022.3	5,012.4	9.86	509.388	
1,299.9	1,295.5	3,046.0	2,953.6	3.0	12.2	-123.76	1,310.2	-4,482.8	4,998.1	4,987.6	10.50	475.975	
1,300.0	1,295.6	3,046.1	2,953.7	3.0	12.2	-123.76	1,310.2	-4,482.8	4,998.0	4,987.5	10.50	475.934	
1,400.0	1,393.4	3,096.8	3,001.2	3.4	12.5	-123.92	1,301.7	-4,467.5	4,975.2	4,964.2	11.01	452.062	
1,500.0	1,491.3	3,161.0	3,061.8	3.7	12.9	-124.11	1,291.9	-4,448.9	4,953.8	4,942.2	11.57	428.241	
1,600.0	1,589.1	3,197.5	3,096.4	4.1	13.2	-124.21	1,286.5	-4,438.5	4,933.1	4,921.0	12.04	409.600	
1,700.0	1,686.9	3,277.1	3,171.8	4.5	13.6	-124.46	1,274.4	-4,416.0	4,912.9	4,900.2	12.68	387.518	
1,800.0	1,784.7	3,349.0	3,240.1	5.0	14.1	-124.68	1,263.3	-4,396.4	4,893.6	4,880.3	13.29	368.092	
1,900.0	1,882.5	3,406.8	3,295.1	5.4	14.4	-124.85	1,254.7	-4,380.9	4,874.9	4,861.0	13.86	351.636	
2,000.0	1,980.3	3,474.2	3,359.3	5.8	14.8	-125.06	1,244.9	-4,362.8	4,856.7	4,842.2	14.47	335.656	
2,100.0	2,078.1	3,536.0	3,418.3	6.2	15.2	-125.25	1,235.8	-4,346.9	4,839.4	4,824.4	15.06	321.364	
2,200.0	2,176.0	3,629.0	3,507.1	6.7	15.7	-125.55	1,221.7	-4,323.2	4,822.5	4,806.8	15.77	305.801	
2,300.0	2,273.8	3,680.1	3,556.0	7.1	16.0	-125.71	1,214.0	-4,310.3	4,806.1	4,789.8	16.33	294.295	
2,400.0	2,371.6	3,831.9	3,701.4	7.5	16.9	-126.19	1,191.5	-4,273.0	4,790.8	4,773.5	17.26	277.582	
2,500.0	2,469.4	3,933.9	3,798.5	8.0	17.5	-126.54	1,174.6	-4,247.0	4,773.9	4,755.9	18.03	264.721	
2,600.0	2,567.2	4,024.0	3,884.3	8.4	18.1	-126.86	1,159.1	-4,224.2	4,757.3	4,738.6	18.77	253.481	
2,700.0	2,665.0	4,097.0	3,953.8	8.8	18.5	-127.11	1,146.3	-4,205.7	4,740.9	4,721.4	19.44	243.846	
2,800.0	2,762.9	4,150.1	4,004.4	9.3	18.8	-127.30	1,137.3	-4,192.5	4,725.3	4,705.2	20.03	235.917	
2,900.0	2,860.7	4,191.0	4,043.6	9.7	19.1	-127.44	1,130.8	-4,182.8	4,711.0	4,690.4	20.57	229.022	
3,000.0	2,958.5	4,237.9	4,088.7	10.2	19.3	-127.60	1,123.5	-4,172.2	4,697.9	4,676.8	21.12	222.413	
3,100.0	3,056.3	4,284.0	4,133.2	10.6	19.5	-127.76	1,116.4	-4,162.2	4,685.9	4,664.3	21.67	216.218	
3,200.0	3,154.1	4,330.5	4,178.1	11.1	19.8	-127.92	1,109.6	-4,152.5	4,675.1	4,652.9	22.22	210.429	
3,300.0	3,251.9	4,378.0	4,224.2	11.5	20.0	-128.07	1,103.0	-4,143.0	4,665.5	4,642.8	22.77	204.939	
3,400.0	3,349.8	4,427.8	4,272.7	12.0	20.2	-128.23	1,096.7	-4,133.5	4,657.1	4,633.8	23.31	199.793	
3,500.0	3,447.6	4,471.0	4,314.8	12.4	20.4	-128.36	1,091.7	-4,125.5	4,649.7	4,625.8	23.83	195.103	
3,600.0	3,545.4	4,565.0	4,406.8	12.8	20.8	-128.64	1,081.8	-4,108.7	4,643.0	4,618.5	24.50	189.504	
3,700.0	3,643.2	4,596.2	4,437.3	13.3	20.9	-128.73	1,078.8	-4,103.3	4,637.3	4,612.3	24.97	185.694	
3,800.0	3,741.0	4,658.0	4,498.2	13.7	21.2	-128.91	1,073.3	-4,093.6	4,633.1	4,607.6	25.53	181.464	
3,900.0	3,838.8	4,658.0	4,498.2	14.2	21.2	-128.91	1,073.3	-4,093.6	4,630.0	4,604.1	25.91	178.666	
4,000.0	3,936.6	4,711.9	4,551.4	14.6	21.3	-129.06	1,069.0	-4,086.1	4,628.3	4,601.9	26.44	175.058	
4,080.6	4,015.5	4,752.0	4,591.0	15.0	21.5	-129.16	1,066.1	-4,081.1	4,627.9	4,601.1	26.85	172.350	
4,100.0	4,034.5	4,752.0	4,591.0	15.1	21.5	-129.16	1,066.1	-4,081.1	4,628.0	4,601.0	26.93	171.876	
4,200.0	4,132.3	4,791.2	4,629.9	15.5	21.6	-129.27	1,063.3	-4,076.7	4,628.9	4,601.5	27.41	168.907	
4,300.0	4,230.1	4,845.0	4,683.3	16.0	21.7	-129.41	1,059.7	-4,071.4	4,631.3	4,603.4	27.92	165.879	
4,400.0	4,327.9	4,845.0	4,683.3	16.4	21.7	-129.41	1,059.7	-4,071.4	4,635.1	4,606.8	28.30	163.772	
4,500.0	4,425.7	4,901.2	4,739.2	16.9	21.9	-129.56	1,056.1	-4,066.9	4,640.0	4,611.2	28.81	161.029	
4,600.0	4,523.5	4,939.0	4,776.9	17.3	22.0	-129.66	1,053.7	-4,064.6	4,646.5	4,617.3	29.28	158.669	
4,700.0	4,621.4	4,995.1	4,832.8	17.8	22.1	-129.80	1,050.7	-4,061.8	4,654.2	4,624.4	29.78	156.263	
4,800.0	4,719.2	5,055.4	4,893.0	18.2	22.2	-129.95	1,048.4	-4,059.0	4,662.8	4,632.5	30.29	153.959	
4,900.0	4,817.0	5,126.0	4,963.5	18.7	22.3	-130.10	1,047.0	-4,056.4	4,672.2	4,641.4	30.79	151.727	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	5,126.0	4,963.5	19.1	22.3	-130.10	1,047.0	-4,056.4	4,682.9	4,651.7	31.17	150.215	
5,100.0	5,012.6	5,189.8	5,027.3	19.6	22.4	-130.23	1,046.7	-4,054.9	4,694.5	4,662.9	31.65	148.314	
5,200.0	5,110.4	5,235.1	5,072.6	20.0	22.4	-130.31	1,047.0	-4,054.7	4,707.7	4,675.6	32.10	146.659	
5,221.3	5,131.3	5,254.6	5,092.1	20.1	22.4	-130.35	1,047.2	-4,054.7	4,710.6	4,678.4	32.21	146.257	
5,300.0	5,208.5	5,313.0	5,150.5	20.4	22.5	-130.60	1,047.8	-4,054.7	4,720.7	4,688.2	32.57	144.934	
5,400.0	5,307.1	5,407.0	5,244.5	20.7	22.6	-130.91	1,048.5	-4,055.2	4,732.1	4,699.1	32.98	143.467	
5,500.0	5,406.3	5,515.3	5,352.8	21.0	22.7	-131.17	1,048.6	-4,055.9	4,741.2	4,707.9	33.37	142.071	
5,600.0	5,505.8	5,640.3	5,477.8	21.2	22.8	-131.37	1,048.7	-4,056.0	4,747.6	4,713.9	33.74	140.717	
5,700.0	5,605.6	5,745.2	5,582.7	21.4	22.9	-131.49	1,048.1	-4,055.7	4,751.2	4,717.2	34.03	139.606	
5,800.0	5,705.6	5,831.8	5,669.3	21.5	23.0	-131.55	1,047.1	-4,055.7	4,752.7	4,718.5	34.25	138.746	
5,821.2	5,726.8	5,849.6	5,687.1	21.5	23.0	-85.20	1,047.0	-4,055.7	4,752.8	4,713.6	39.20	121.248	
5,900.0	5,805.6	5,915.7	5,753.2	21.6	23.1	-85.20	1,046.4	-4,055.9	4,752.9	4,713.5	39.38	120.695	
6,000.0	5,905.6	6,011.5	5,849.0	21.7	23.2	-85.21	1,046.0	-4,056.3	4,753.4	4,713.7	39.64	119.921	
6,100.0	6,005.6	6,171.1	6,008.5	21.9	23.4	-85.23	1,044.6	-4,056.2	4,753.2	4,713.2	39.98	118.895	
6,200.0	6,105.6	6,248.0	6,085.5	22.0	23.4	-85.23	1,043.8	-4,055.8	4,752.7	4,712.4	40.23	118.132	
6,258.2	6,163.8	6,289.8	6,127.3	22.1	23.5	-85.24	1,043.5	-4,055.8	4,752.6	4,712.2	40.37	117.715	
6,300.0	6,205.6	6,322.9	6,160.4	22.1	23.5	-85.24	1,043.3	-4,055.8	4,752.6	4,712.2	40.48	117.410	
6,400.0	6,305.6	6,393.2	6,230.6	22.3	23.6	-85.24	1,043.0	-4,056.2	4,753.1	4,712.4	40.72	116.733	
6,500.0	6,405.6	6,475.1	6,312.6	22.4	23.7	-85.25	1,042.6	-4,057.2	4,754.2	4,713.2	40.97	116.049	
6,600.0	6,505.6	6,563.6	6,401.1	22.5	23.8	-85.26	1,042.2	-4,058.2	4,755.4	4,714.2	41.22	115.362	
6,684.2	6,589.8	6,623.0	6,460.4	22.6	23.8	-85.26	1,041.7	-4,059.3	4,756.8	4,715.4	41.42	114.844	
6,700.0	6,605.6	6,634.2	6,471.6	22.7	23.8	4.73	1,041.6	-4,059.5	4,757.0	4,720.3	36.74	129.473	
6,750.0	6,655.5	6,672.4	6,509.8	22.7	23.9	4.74	1,041.3	-4,060.4	4,755.2	4,718.7	36.53	130.179	
6,800.0	6,705.1	6,716.0	6,553.4	22.7	23.9	4.78	1,041.2	-4,061.5	4,750.1	4,714.0	36.17	131.340	
6,850.0	6,754.1	6,756.1	6,593.5	22.7	24.0	4.84	1,041.0	-4,062.5	4,741.7	4,706.0	35.65	133.021	
6,900.0	6,802.3	6,802.4	6,639.8	22.7	24.0	4.93	1,040.6	-4,063.8	4,729.9	4,694.9	34.99	135.189	
6,950.0	6,849.5	6,837.9	6,675.2	22.6	24.0	5.05	1,040.3	-4,064.8	4,714.7	4,680.6	34.17	137.977	
7,000.0	6,895.5	6,870.5	6,707.9	22.5	24.1	5.20	1,040.0	-4,065.8	4,696.5	4,663.3	33.22	141.387	
7,050.0	6,939.9	6,903.0	6,740.3	22.4	24.1	5.39	1,039.7	-4,067.0	4,675.2	4,643.0	32.14	145.454	
7,100.0	6,982.6	6,951.4	6,788.7	22.3	24.1	5.63	1,039.4	-4,068.7	4,650.8	4,619.8	30.98	150.106	
7,150.0	7,023.4	6,997.0	6,834.3	22.2	24.2	5.93	1,039.2	-4,070.2	4,623.4	4,593.7	29.73	155.517	
7,200.0	7,062.2	7,030.5	6,867.7	22.1	24.2	6.28	1,039.1	-4,071.3	4,593.2	4,564.8	28.39	161.816	
7,250.0	7,098.6	7,061.0	6,898.2	22.0	24.2	6.71	1,039.0	-4,072.4	4,560.4	4,533.4	26.99	168.961	
7,300.0	7,132.5	7,091.0	6,928.2	21.9	24.2	7.24	1,038.8	-4,073.5	4,525.1	4,499.5	25.58	176.887	
7,350.0	7,163.8	7,118.9	6,956.1	21.8	24.3	7.90	1,038.7	-4,074.6	4,487.4	4,463.2	24.20	185.446	
7,400.0	7,192.2	7,145.9	6,983.1	21.7	24.3	8.72	1,038.5	-4,075.7	4,447.6	4,424.7	22.90	194.251	
7,450.0	7,217.8	7,170.4	7,007.6	21.6	24.3	9.77	1,038.3	-4,076.6	4,405.9	4,384.1	21.75	202.574	
7,500.0	7,240.3	7,184.0	7,021.1	21.6	24.3	11.11	1,038.1	-4,077.2	4,362.3	4,341.5	20.84	209.294	
7,550.0	7,259.6	7,206.1	7,043.2	21.6	24.3	12.97	1,037.9	-4,078.1	4,317.2	4,296.8	20.38	211.827	
7,600.0	7,275.7	7,219.3	7,056.4	21.6	24.3	15.53	1,037.8	-4,078.7	4,270.8	4,250.3	20.55	207.853	
7,650.0	7,288.4	7,230.2	7,067.3	21.8	24.4	19.36	1,037.6	-4,079.2	4,223.3	4,201.5	21.73	194.373	
7,700.0	7,297.7	7,238.7	7,075.7	22.0	24.4	25.51	1,037.5	-4,079.6	4,174.8	4,150.2	24.57	169.915	
7,750.0	7,303.6	7,244.7	7,081.7	22.4	24.4	36.58	1,037.4	-4,079.8	4,125.7	4,095.4	30.29	136.195	
7,800.0	7,305.9	7,248.2	7,085.2	22.9	24.4	58.68	1,037.4	-4,080.0	4,076.1	4,036.1	40.03	101.828	
7,809.2	7,306.0	7,248.5	7,085.6	23.0	24.4	64.66	1,037.4	-4,080.0	4,067.0	4,025.1	41.93	96.998	
7,900.0	7,306.0	7,251.7	7,088.7	24.3	24.4	65.04	1,037.3	-4,080.2	3,976.7	3,933.4	43.30	91.839	
8,000.0	7,306.0	7,255.2	7,092.3	26.0	24.4	65.47	1,037.3	-4,080.3	3,877.3	3,832.3	45.00	86.162	
8,100.0	7,306.0	7,258.8	7,095.9	27.9	24.4	65.90	1,037.2	-4,080.5	3,777.9	3,731.1	46.87	80.612	
8,200.0	7,306.0	7,262.4	7,099.5	30.0	24.4	66.35	1,037.2	-4,080.7	3,678.6	3,629.7	48.87	75.271	
8,300.0	7,306.0	7,266.1	7,103.2	32.2	24.4	66.80	1,037.1	-4,080.9	3,579.3	3,528.3	50.99	70.190	
8,400.0	7,306.0	7,278.0	7,115.0	34.4	24.4	68.29	1,036.9	-4,081.4	3,480.0	3,426.5	53.53	65.010	
8,500.0	7,306.0	7,278.0	7,115.0	36.8	24.4	68.29	1,036.9	-4,081.4	3,380.7	3,325.0	55.70	60.698	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,600.0	7,306.0	7,278.0	7,115.0	39.2	24.4	68.29	1,036.9	-4,081.4	3,281.5	3,223.6	57.92	56.653	
8,700.0	7,306.0	7,278.0	7,115.0	41.7	24.4	68.29	1,036.9	-4,081.4	3,182.4	3,122.2	60.20	52.865	
8,800.0	7,306.0	7,286.4	7,123.4	44.1	24.4	69.35	1,036.8	-4,081.9	3,083.2	3,020.3	62.89	49.026	
8,900.0	7,306.0	7,290.9	7,127.9	46.7	24.4	69.94	1,036.7	-4,082.1	2,984.2	2,918.7	65.46	45.586	
9,000.0	7,306.0	7,295.5	7,132.5	49.2	24.4	70.53	1,036.6	-4,082.3	2,885.2	2,817.1	68.08	42.379	
9,100.0	7,306.0	7,300.1	7,137.1	51.8	24.4	71.14	1,036.5	-4,082.6	2,786.2	2,715.5	70.74	39.389	
9,200.0	7,306.0	7,304.8	7,141.8	54.4	24.4	71.75	1,036.4	-4,082.8	2,687.3	2,613.9	73.43	36.598	
9,300.0	7,306.0	7,309.5	7,146.5	57.1	24.4	72.38	1,036.3	-4,083.0	2,588.5	2,512.4	76.15	33.991	
9,400.0	7,306.0	7,314.2	7,151.2	59.7	24.4	73.01	1,036.2	-4,083.3	2,489.8	2,410.9	78.91	31.553	
9,500.0	7,306.0	7,319.0	7,156.0	62.4	24.4	73.66	1,036.1	-4,083.5	2,391.2	2,309.5	81.69	29.272	
9,600.0	7,306.0	7,323.9	7,160.9	65.0	24.4	74.32	1,036.0	-4,083.8	2,292.7	2,208.2	84.49	27.135	
9,700.0	7,306.0	7,328.8	7,165.8	67.7	24.4	74.99	1,035.9	-4,084.0	2,194.3	2,107.0	87.32	25.130	
9,800.0	7,306.0	7,333.8	7,170.7	70.4	24.4	75.67	1,035.7	-4,084.3	2,096.1	2,005.9	90.16	23.248	
9,900.0	7,306.0	7,338.8	7,175.7	73.1	24.4	76.37	1,035.6	-4,084.6	1,998.0	1,904.9	93.02	21.478	
10,000.0	7,306.0	7,343.9	7,180.8	75.8	24.4	77.07	1,035.5	-4,084.8	1,900.1	1,804.2	95.90	19.813	
10,100.0	7,306.0	7,349.0	7,185.9	78.5	24.5	77.79	1,035.3	-4,085.1	1,802.4	1,703.6	98.79	18.245	
10,200.0	7,306.0	7,354.2	7,191.1	81.2	24.5	78.52	1,035.2	-4,085.4	1,705.0	1,603.3	101.68	16.767	
10,300.0	7,306.0	7,359.4	7,196.3	84.0	24.5	79.26	1,035.0	-4,085.7	1,607.8	1,503.2	104.59	15.373	
10,400.0	7,306.0	7,364.7	7,201.6	86.7	24.5	80.01	1,034.9	-4,085.9	1,511.0	1,403.5	107.50	14.056	
10,500.0	7,306.0	7,370.0	7,206.9	89.4	24.5	80.78	1,034.7	-4,086.2	1,414.7	1,304.3	110.41	12.812	
10,600.0	7,306.0	7,375.9	7,212.8	92.2	24.5	81.63	1,034.5	-4,086.6	1,318.9	1,205.5	113.35	11.635	
10,700.0	7,306.0	7,381.8	7,218.6	94.9	24.5	82.48	1,034.4	-4,086.9	1,223.7	1,107.4	116.27	10.524	
10,800.0	7,306.0	7,387.5	7,224.3	97.6	24.5	83.31	1,034.2	-4,087.2	1,129.3	1,010.1	119.19	9.475	
10,900.0	7,306.0	7,393.0	7,229.8	100.4	24.5	84.12	1,034.1	-4,087.5	1,035.9	913.8	122.09	8.485	
11,000.0	7,306.0	7,398.4	7,235.2	103.2	24.5	84.91	1,033.9	-4,087.7	943.9	818.9	124.97	7.553	
11,100.0	7,306.0	7,403.6	7,240.4	105.9	24.5	85.68	1,033.8	-4,088.0	853.6	725.8	127.84	6.677	
11,200.0	7,306.0	7,408.7	7,245.5	108.7	24.5	86.43	1,033.7	-4,088.3	765.7	635.0	130.69	5.859	
11,300.0	7,306.0	7,413.7	7,250.5	111.4	24.5	87.17	1,033.6	-4,088.5	681.2	547.6	133.53	5.101	
11,400.0	7,306.0	7,418.5	7,255.3	114.2	24.5	87.88	1,033.5	-4,088.7	601.3	465.0	136.35	4.410	
11,500.0	7,306.0	7,423.2	7,260.0	117.0	24.5	88.58	1,033.4	-4,089.0	528.3	389.2	139.16	3.797	
11,600.0	7,306.0	7,427.7	7,264.5	119.7	24.5	89.26	1,033.3	-4,089.2	465.4	323.5	141.95	3.279	
11,700.0	7,306.0	7,432.2	7,269.0	122.5	24.5	89.92	1,033.2	-4,089.4	417.3	272.5	144.73	2.883	
11,800.0	7,306.0	7,436.5	7,273.3	125.3	24.5	90.57	1,033.1	-4,089.6	389.3	241.8	147.49	2.639	
11,863.1	7,306.0	7,439.2	7,276.0	127.0	24.5	90.97	1,033.1	-4,089.7	384.1	234.9	149.22	2.574	CC, ES
11,900.0	7,306.0	7,440.8	7,277.5	128.0	24.5	91.20	1,033.0	-4,089.8	385.9	235.6	150.23	2.569	SF
12,000.0	7,306.0	7,444.9	7,281.7	130.8	24.5	91.82	1,033.0	-4,090.0	407.7	254.8	152.96	2.666	
12,100.0	7,306.0	7,448.9	7,285.7	133.6	24.5	92.42	1,032.9	-4,090.1	451.2	295.5	155.68	2.898	
12,200.0	7,306.0	7,452.9	7,289.6	136.4	24.5	93.00	1,032.9	-4,090.3	510.7	352.3	158.38	3.225	
12,300.0	7,306.0	7,456.7	7,293.5	139.1	24.5	93.57	1,032.8	-4,090.5	581.4	420.4	161.07	3.610	
12,400.0	7,306.0	7,465.0	7,301.7	141.9	24.5	94.80	1,032.7	-4,090.8	659.8	496.2	163.60	4.033	
12,500.0	7,306.0	7,465.0	7,301.7	144.7	24.5	94.80	1,032.7	-4,090.8	743.3	576.9	166.37	4.467	
12,600.0	7,306.0	7,465.0	7,301.7	147.5	24.5	94.80	1,032.7	-4,090.8	830.4	661.3	169.15	4.909	
12,700.0	7,306.0	7,471.8	7,308.6	150.3	24.6	95.81	1,032.6	-4,091.1	920.2	748.5	171.66	5.361	
12,800.0	7,306.0	7,475.6	7,312.4	153.0	24.6	96.37	1,032.6	-4,091.3	1,011.8	837.6	174.26	5.806	
12,900.0	7,306.0	7,479.3	7,316.1	155.8	24.6	96.92	1,032.5	-4,091.4	1,104.9	928.1	176.84	6.248	
13,000.0	7,306.0	7,483.0	7,319.7	158.6	24.6	97.46	1,032.5	-4,091.6	1,199.1	1,019.7	179.41	6.684	
13,100.0	7,306.0	7,486.6	7,323.3	161.4	24.6	97.99	1,032.4	-4,091.7	1,294.2	1,112.2	181.96	7.112	
13,200.0	7,306.0	7,490.1	7,326.9	164.2	24.6	98.51	1,032.4	-4,091.9	1,389.9	1,205.4	184.50	7.533	
13,300.0	7,306.0	7,493.6	7,330.3	167.0	24.6	99.02	1,032.4	-4,092.0	1,486.2	1,299.2	187.02	7.947	
13,400.0	7,306.0	7,497.1	7,333.8	169.8	24.6	99.52	1,032.3	-4,092.1	1,582.9	1,393.4	189.53	8.352	
13,500.0	7,306.0	7,500.4	7,337.1	172.6	24.6	100.01	1,032.3	-4,092.3	1,680.0	1,488.0	192.02	8.749	
13,600.0	7,306.0	7,503.7	7,340.4	175.3	24.6	100.49	1,032.3	-4,092.4	1,777.5	1,583.0	194.50	9.139	

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-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,507.0	7,343.7	178.1	24.6	100.96	1,032.2	-4,092.5	1,875.1	1,678.2	196.96	9.520	
13,800.0	7,306.0	7,510.2	7,346.9	180.9	24.6	101.42	1,032.2	-4,092.6	1,973.1	1,773.7	199.41	9.894	
13,900.0	7,306.0	7,513.4	7,350.1	183.7	24.6	101.88	1,032.1	-4,092.8	2,071.2	1,869.3	201.85	10.261	
14,000.0	7,306.0	7,516.5	7,353.2	186.5	24.6	102.32	1,032.1	-4,092.9	2,169.4	1,965.2	204.27	10.620	
14,100.0	7,306.0	7,519.5	7,356.2	189.3	24.6	102.76	1,032.1	-4,093.0	2,267.9	2,061.2	206.68	10.973	
14,200.0	7,306.0	7,522.5	7,359.2	192.1	24.6	103.19	1,032.0	-4,093.1	2,366.4	2,157.3	209.08	11.318	
14,300.0	7,306.0	7,525.5	7,362.2	194.9	24.6	103.61	1,032.0	-4,093.2	2,465.1	2,253.6	211.46	11.657	
14,363.6	7,306.0	7,527.4	7,364.1	196.7	24.6	103.87	1,032.0	-4,093.3	2,527.8	2,314.9	212.97	11.870	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-45.86	1,926.2	-1,984.8	2,765.8				
100.0	100.0	89.8	89.8	0.1	0.1	-45.86	1,926.1	-1,984.8	2,765.7	2,765.5	0.18	N/A	
200.0	200.0	194.9	194.9	0.3	0.2	-45.86	1,925.7	-1,984.8	2,765.5	2,765.0	0.50	5,518.592	
300.0	300.0	300.0	300.0	0.5	0.3	-45.87	1,925.2	-1,984.7	2,765.0	2,764.2	0.82	3,361.934	
400.0	400.0	405.1	405.1	0.8	0.4	-45.88	1,924.4	-1,984.6	2,764.4	2,763.3	1.14	2,416.902	
500.0	500.0	510.1	510.1	1.0	0.5	-45.90	1,923.3	-1,984.4	2,763.6	2,762.2	1.47	1,886.282	
600.0	600.0	615.2	615.2	1.2	0.6	-45.91	1,922.0	-1,984.3	2,762.6	2,760.9	1.79	1,546.450	
700.0	700.0	705.0	705.0	1.4	0.6	-45.93	1,920.7	-1,984.1	2,761.5	2,759.4	2.09	1,318.933	
766.0	766.0	753.0	753.0	1.6	0.8	-92.32	1,919.9	-1,984.4	2,761.2	2,758.8	2.34	1,181.050	
800.0	800.0	773.2	773.2	1.7	0.8	-92.34	1,919.6	-1,984.8	2,761.3	2,758.8	2.46	1,124.396	
900.0	899.8	840.9	840.8	1.9	0.9	-92.44	1,918.2	-1,987.2	2,762.6	2,759.8	2.82	978.277	
1,000.0	999.5	917.1	916.8	2.1	1.1	-92.63	1,915.5	-1,991.9	2,765.1	2,761.8	3.23	854.867	
1,100.0	1,098.7	1,084.7	1,083.4	2.4	1.6	-93.39	1,904.5	-2,006.7	2,768.1	2,764.2	3.94	702.217	
1,200.0	1,197.5	1,205.3	1,202.6	2.7	2.0	-94.14	1,890.7	-2,019.0	2,768.9	2,764.3	4.62	598.879	
1,299.9	1,295.5	1,305.8	1,301.3	3.0	2.3	-94.89	1,876.3	-2,030.5	2,769.4	2,764.1	5.32	520.475	
1,300.0	1,295.6	1,305.9	1,301.4	3.0	2.3	-94.89	1,876.3	-2,030.5	2,769.4	2,764.1	5.32	520.396	
1,400.0	1,393.4	1,376.0	1,370.1	3.4	2.6	-95.47	1,865.6	-2,039.7	2,771.1	2,765.2	5.96	464.931	
1,500.0	1,491.3	1,453.0	1,445.3	3.7	2.9	-96.12	1,853.2	-2,050.9	2,774.0	2,767.3	6.66	416.257	
1,600.0	1,589.1	1,542.5	1,532.0	4.1	3.4	-96.94	1,837.0	-2,065.7	2,777.8	2,770.3	7.49	371.043	
1,700.0	1,686.9	1,620.8	1,607.3	4.5	3.8	-97.69	1,821.2	-2,080.2	2,782.4	2,774.1	8.30	335.201	
1,800.0	1,784.7	1,680.0	1,664.1	5.0	4.1	-98.27	1,809.1	-2,091.8	2,788.4	2,779.4	9.03	308.938	
1,900.0	1,882.5	1,734.0	1,715.8	5.4	4.4	-98.80	1,798.2	-2,103.0	2,796.3	2,786.6	9.73	287.418	
2,000.0	1,980.3	1,822.2	1,799.9	5.8	4.9	-99.68	1,780.0	-2,122.3	2,805.6	2,794.9	10.64	263.672	
2,100.0	2,078.1	1,964.3	1,935.4	6.2	5.7	-101.09	1,749.2	-2,151.9	2,814.2	2,802.3	11.81	238.266	
2,200.0	2,176.0	2,034.5	2,002.2	6.7	6.1	-101.80	1,733.3	-2,166.8	2,823.6	2,811.0	12.61	223.926	
2,300.0	2,273.8	2,108.0	2,072.1	7.1	6.5	-102.54	1,717.1	-2,182.6	2,834.4	2,820.9	13.42	211.147	
2,400.0	2,371.6	2,224.7	2,183.4	7.5	7.1	-103.68	1,691.9	-2,206.9	2,845.7	2,831.3	14.40	197.635	
2,500.0	2,469.4	2,309.1	2,264.1	8.0	7.5	-104.49	1,673.9	-2,223.8	2,857.3	2,842.1	15.22	187.700	
2,600.0	2,567.2	2,376.5	2,328.5	8.4	7.9	-105.13	1,659.6	-2,237.5	2,870.1	2,854.1	15.98	179.596	
2,700.0	2,665.0	2,512.1	2,458.6	8.8	8.6	-106.39	1,631.8	-2,264.0	2,883.2	2,866.1	17.06	168.984	
2,800.0	2,762.9	2,610.3	2,552.4	9.3	9.1	-107.31	1,610.1	-2,283.0	2,896.2	2,878.2	17.98	161.056	
2,900.0	2,860.7	2,717.4	2,654.5	9.7	9.7	-108.34	1,585.0	-2,303.7	2,909.4	2,890.5	18.96	153.440	
3,000.0	2,958.5	2,806.1	2,739.1	10.2	10.2	-109.18	1,564.2	-2,320.3	2,923.1	2,903.2	19.81	147.542	
3,100.0	3,056.3	2,877.7	2,807.5	10.6	10.6	-109.84	1,547.8	-2,333.8	2,937.7	2,917.1	20.57	142.827	
3,200.0	3,154.1	2,950.0	2,876.5	11.1	11.0	-110.51	1,531.7	-2,347.9	2,953.8	2,932.4	21.33	138.477	
3,300.0	3,251.9	3,074.1	2,995.2	11.5	11.7	-111.63	1,504.0	-2,371.1	2,969.8	2,947.5	22.32	133.051	
3,400.0	3,349.8	3,137.0	3,055.7	12.0	12.0	-112.18	1,490.7	-2,382.6	2,986.6	2,963.6	23.01	129.779	
3,500.0	3,447.6	3,202.8	3,118.8	12.4	12.4	-112.74	1,477.2	-2,395.0	3,004.8	2,981.1	23.73	126.637	
3,600.0	3,545.4	3,270.5	3,183.6	12.8	12.7	-113.33	1,462.9	-2,408.3	3,024.2	2,999.7	24.45	123.711	
3,700.0	3,643.2	3,344.8	3,255.0	13.3	13.1	-113.96	1,448.2	-2,423.2	3,044.8	3,019.6	25.18	120.899	
3,800.0	3,741.0	3,441.7	3,347.9	13.7	13.7	-114.77	1,429.0	-2,442.4	3,065.8	3,039.8	25.99	117.948	
3,900.0	3,838.8	3,523.4	3,426.8	14.2	14.1	-115.41	1,414.7	-2,458.1	3,087.6	3,060.8	26.72	115.547	
4,000.0	3,936.6	3,622.0	3,522.0	14.6	14.6	-116.17	1,397.1	-2,477.1	3,109.7	3,082.2	27.50	113.065	
4,100.0	4,034.5	3,698.0	3,595.2	15.1	15.0	-116.77	1,382.9	-2,491.8	3,132.3	3,104.1	28.21	111.040	
4,200.0	4,132.3	3,756.3	3,651.3	15.5	15.3	-117.22	1,372.1	-2,503.5	3,156.1	3,127.2	28.84	109.416	
4,300.0	4,230.1	3,822.0	3,714.4	16.0	15.6	-117.73	1,360.1	-2,517.4	3,181.3	3,151.8	29.51	107.808	
4,400.0	4,327.9	3,937.0	3,824.5	16.4	16.3	-118.62	1,338.0	-2,541.9	3,207.1	3,176.7	30.37	105.616	
4,500.0	4,425.7	4,061.2	3,943.2	16.9	17.0	-119.60	1,311.9	-2,567.3	3,232.1	3,200.9	31.25	103.424	
4,600.0	4,523.5	4,154.9	4,033.0	17.3	17.5	-120.33	1,292.1	-2,585.9	3,257.3	3,225.3	32.00	101.796	
4,700.0	4,621.4	4,260.0	4,133.8	17.8	18.1	-121.12	1,270.7	-2,606.2	3,282.5	3,249.7	32.76	100.206	
4,800.0	4,719.2	4,327.0	4,198.0	18.2	18.4	-121.62	1,256.9	-2,619.2	3,308.3	3,274.9	33.40	99.054	
4,900.0	4,817.0	4,420.1	4,287.1	18.7	18.9	-122.31	1,237.2	-2,637.8	3,335.1	3,300.9	34.13	97.719	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,491.8	4,355.8	19.1	19.4	-122.84	1,221.9	-2,652.0	3,362.1	3,327.3	34.79	96.653	
5,100.0	5,012.6	4,554.1	4,415.0	19.6	19.7	-123.31	1,208.1	-2,665.0	3,390.4	3,355.0	35.40	95.764	
5,200.0	5,110.4	4,743.1	4,595.7	20.0	20.8	-124.68	1,167.1	-2,702.8	3,419.0	3,382.5	36.43	93.847	
5,221.3	5,131.3	4,761.2	4,613.0	20.1	20.9	-124.81	1,163.0	-2,706.1	3,424.7	3,388.1	36.58	93.633	
5,300.0	5,208.5	4,821.0	4,670.2	20.4	21.2	-125.58	1,149.4	-2,717.0	3,445.3	3,408.3	36.98	93.158	
5,400.0	5,307.1	4,893.9	4,739.8	20.7	21.6	-126.48	1,132.7	-2,730.6	3,470.4	3,433.0	37.44	92.695	
5,500.0	5,406.3	5,210.2	5,046.0	21.0	23.1	-128.45	1,073.8	-2,781.6	3,493.8	3,455.2	38.53	90.675	
5,600.0	5,505.8	5,380.3	5,214.1	21.2	23.7	-129.26	1,053.7	-2,799.0	3,508.4	3,469.4	39.05	89.839	
5,700.0	5,605.6	5,702.1	5,534.4	21.4	24.4	-130.05	1,029.9	-2,816.0	3,515.9	3,476.1	39.73	88.485	
5,800.0	5,705.6	5,833.7	5,666.0	21.5	24.6	-130.21	1,025.4	-2,817.7	3,518.3	3,478.3	40.05	87.845	
5,821.2	5,726.8	5,855.1	5,687.3	21.5	24.7	-83.87	1,024.9	-2,817.9	3,518.5	3,482.4	36.10	97.464	
5,900.0	5,805.6	5,932.8	5,765.0	21.6	24.7	-83.89	1,023.7	-2,818.6	3,519.1	3,482.8	36.32	96.880	
6,000.0	5,905.6	6,025.4	5,857.6	21.7	24.9	-83.91	1,022.6	-2,819.5	3,519.9	3,483.3	36.61	96.134	
6,100.0	6,005.6	6,112.0	5,944.2	21.9	25.0	-83.92	1,022.0	-2,820.5	3,521.1	3,484.2	36.90	95.420	
6,200.0	6,105.6	6,219.8	6,052.0	22.0	25.1	-83.93	1,021.3	-2,822.0	3,522.3	3,485.1	37.22	94.636	
6,300.0	6,205.6	6,310.2	6,142.3	22.1	25.2	-83.94	1,020.7	-2,823.2	3,523.6	3,486.1	37.52	93.922	
6,400.0	6,305.6	6,400.5	6,232.6	22.3	25.3	-83.95	1,020.4	-2,824.6	3,525.1	3,487.3	37.82	93.216	
6,500.0	6,405.6	6,488.1	6,320.2	22.4	25.4	-83.96	1,020.2	-2,826.2	3,526.9	3,488.8	38.12	92.528	
6,600.0	6,505.6	6,572.0	6,404.1	22.5	25.5	-83.96	1,020.2	-2,828.1	3,529.2	3,490.7	38.42	91.863	
6,684.2	6,589.8	6,648.7	6,480.8	22.6	25.6	-83.96	1,020.4	-2,830.1	3,531.4	3,492.7	38.68	91.289	
6,700.0	6,605.6	6,663.8	6,495.9	22.7	25.6	6.04	1,020.5	-2,830.5	3,531.6	3,489.2	42.37	83.348	
6,750.0	6,655.5	6,713.6	6,545.7	22.7	25.7	6.06	1,020.9	-2,831.8	3,530.1	3,487.8	42.37	83.312	
6,800.0	6,705.1	6,765.7	6,597.7	22.7	25.8	6.12	1,021.5	-2,833.1	3,525.2	3,483.0	42.20	83.525	
6,850.0	6,754.1	6,817.9	6,649.9	22.7	25.8	6.22	1,022.1	-2,834.4	3,516.7	3,474.9	41.87	83.988	
6,900.0	6,802.3	6,869.7	6,701.8	22.7	25.9	6.36	1,022.5	-2,835.7	3,504.9	3,463.5	41.38	84.709	
6,950.0	6,849.5	6,963.7	6,795.7	22.6	26.0	6.56	1,022.2	-2,837.5	3,489.4	3,448.6	40.79	85.548	
7,000.0	6,895.5	7,025.2	6,857.2	22.5	26.1	6.78	1,021.2	-2,838.1	3,470.1	3,430.1	40.01	86.726	
7,050.0	6,939.9	7,080.3	6,912.3	22.4	26.2	7.05	1,019.8	-2,838.6	3,447.6	3,408.5	39.09	88.199	
7,100.0	6,982.6	7,132.1	6,964.0	22.3	26.2	7.40	1,018.5	-2,838.8	3,421.9	3,383.9	38.04	89.967	
7,150.0	7,023.4	7,174.6	7,006.6	22.2	26.3	7.81	1,017.4	-2,839.0	3,393.2	3,356.4	36.86	92.067	
7,200.0	7,062.2	7,206.6	7,038.5	22.1	26.3	8.31	1,016.7	-2,839.1	3,361.8	3,326.3	35.57	94.519	
7,250.0	7,098.6	7,236.8	7,068.7	22.0	26.4	8.92	1,016.0	-2,839.3	3,327.9	3,293.7	34.21	97.277	
7,300.0	7,132.5	7,265.8	7,097.7	21.9	26.4	9.67	1,015.4	-2,839.5	3,291.6	3,258.8	32.82	100.299	
7,350.0	7,163.8	7,293.6	7,125.5	21.8	26.5	10.61	1,014.9	-2,839.8	3,253.1	3,221.7	31.43	103.499	
7,400.0	7,192.2	7,319.0	7,150.9	21.7	26.5	11.80	1,014.4	-2,840.0	3,212.5	3,182.4	30.10	106.720	
7,450.0	7,217.8	7,347.0	7,178.9	21.6	26.5	13.37	1,013.9	-2,840.3	3,170.0	3,141.1	28.92	109.602	
7,500.0	7,240.3	7,368.2	7,200.0	21.6	26.6	15.41	1,013.5	-2,840.6	3,125.9	3,097.9	27.98	111.734	
7,550.0	7,259.6	7,392.5	7,224.4	21.6	26.6	18.28	1,013.1	-2,840.8	3,080.3	3,052.8	27.47	112.112	
7,600.0	7,275.7	7,412.6	7,244.5	21.6	26.6	22.39	1,012.8	-2,841.0	3,033.4	3,005.7	27.68	109.588	
7,650.0	7,288.4	7,428.5	7,260.4	21.8	26.7	28.62	1,012.6	-2,841.1	2,985.4	2,956.3	29.09	102.641	
7,700.0	7,297.7	7,440.2	7,272.1	22.0	26.7	38.70	1,012.5	-2,841.1	2,936.7	2,904.2	32.52	90.306	
7,750.0	7,303.6	7,446.3	7,278.2	22.4	26.7	55.75	1,012.4	-2,841.2	2,887.5	2,848.9	38.62	74.766	
7,800.0	7,305.9	7,448.8	7,280.7	22.9	26.7	82.64	1,012.3	-2,841.2	2,838.0	2,793.5	44.45	63.845	
7,809.2	7,306.0	7,448.9	7,280.8	23.0	26.7	88.32	1,012.3	-2,841.2	2,828.8	2,784.0	44.80	63.140	
7,900.0	7,306.0	7,449.4	7,281.3	24.3	26.7	88.39	1,012.3	-2,841.2	2,738.8	2,692.6	46.19	59.299	
8,000.0	7,306.0	7,449.9	7,281.8	26.0	26.7	88.47	1,012.3	-2,841.2	2,639.7	2,591.8	47.92	55.091	
8,100.0	7,306.0	7,450.5	7,282.3	27.9	26.7	88.56	1,012.3	-2,841.2	2,540.7	2,490.9	49.82	50.997	
8,200.0	7,306.0	7,451.0	7,282.9	30.0	26.7	88.64	1,012.3	-2,841.2	2,441.8	2,389.9	51.87	47.077	
8,300.0	7,306.0	7,451.5	7,283.4	32.2	26.7	88.72	1,012.3	-2,841.2	2,343.0	2,288.9	54.03	43.363	
8,400.0	7,306.0	7,452.1	7,283.9	34.4	26.7	88.81	1,012.3	-2,841.2	2,244.2	2,187.9	56.29	39.870	
8,500.0	7,306.0	7,452.6	7,284.5	36.8	26.7	88.89	1,012.3	-2,841.2	2,145.6	2,087.0	58.62	36.601	
8,600.0	7,306.0	7,453.1	7,285.0	39.2	26.7	88.97	1,012.3	-2,841.2	2,047.1	1,986.1	61.02	33.550	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,453.6	7,285.5	41.7	26.7	89.06	1,012.3	-2,841.2	1,948.8	1,885.3	63.46	30.707	
8,800.0	7,306.0	7,454.2	7,286.1	44.1	26.7	89.14	1,012.3	-2,841.2	1,850.6	1,784.7	65.96	28.059	
8,900.0	7,306.0	7,454.7	7,286.6	46.7	26.7	89.23	1,012.3	-2,841.2	1,752.7	1,684.2	68.48	25.593	
9,000.0	7,306.0	7,455.3	7,287.1	49.2	26.7	89.31	1,012.3	-2,841.2	1,655.0	1,583.9	71.04	23.296	
9,100.0	7,306.0	7,455.8	7,287.7	51.8	26.7	89.40	1,012.3	-2,841.2	1,557.6	1,484.0	73.62	21.156	
9,200.0	7,306.0	7,456.3	7,288.2	54.4	26.7	89.48	1,012.2	-2,841.2	1,460.5	1,384.3	76.23	19.159	
9,300.0	7,306.0	7,456.9	7,288.8	57.1	26.7	89.57	1,012.2	-2,841.2	1,363.9	1,285.0	78.86	17.296	
9,400.0	7,306.0	7,457.4	7,289.3	59.7	26.7	89.65	1,012.2	-2,841.2	1,267.8	1,186.3	81.50	15.556	
9,500.0	7,306.0	7,458.0	7,289.8	62.4	26.7	89.74	1,012.2	-2,841.2	1,172.3	1,088.2	84.16	13.930	
9,600.0	7,306.0	7,458.5	7,290.4	65.0	26.7	89.82	1,012.2	-2,841.2	1,077.7	990.9	86.83	12.412	
9,700.0	7,306.0	7,459.0	7,290.9	67.7	26.7	89.91	1,012.2	-2,841.2	984.1	894.6	89.51	10.995	
9,800.0	7,306.0	7,459.6	7,291.5	70.4	26.7	90.00	1,012.2	-2,841.2	891.9	799.7	92.20	9.674	
9,900.0	7,306.0	7,460.1	7,292.0	73.1	26.7	90.08	1,012.2	-2,841.2	801.6	706.7	94.90	8.447	
10,000.0	7,306.0	7,460.7	7,292.6	75.8	26.7	90.17	1,012.2	-2,841.2	713.9	616.3	97.61	7.315	
10,100.0	7,306.0	7,461.2	7,293.1	78.5	26.7	90.25	1,012.2	-2,841.3	629.9	529.6	100.32	6.279	
10,200.0	7,306.0	7,461.8	7,293.7	81.2	26.7	90.34	1,012.2	-2,841.3	551.2	448.2	103.04	5.350	
10,300.0	7,306.0	7,462.3	7,294.2	84.0	26.7	90.43	1,012.2	-2,841.3	480.5	374.8	105.77	4.543	
10,400.0	7,306.0	7,462.9	7,294.8	86.7	26.7	90.52	1,012.2	-2,841.3	421.9	313.4	108.50	3.888	
10,500.0	7,306.0	7,463.4	7,295.3	89.4	26.7	90.60	1,012.2	-2,841.3	380.8	269.6	111.23	3.424	
10,600.0	7,306.0	7,464.0	7,295.9	92.2	26.7	90.69	1,012.2	-2,841.3	363.5	249.5	113.97	3.189	
10,614.7	7,306.0	7,464.1	7,296.0	92.6	26.7	90.70	1,012.1	-2,841.3	363.2	248.8	114.38	3.175	CC, ES, SF
10,700.0	7,306.0	7,464.6	7,296.4	94.9	26.7	90.78	1,012.1	-2,841.3	373.1	256.3	116.72	3.196	
10,800.0	7,306.0	7,465.1	7,297.0	97.6	26.7	90.87	1,012.1	-2,841.3	407.7	288.3	119.46	3.413	
10,900.0	7,306.0	7,465.7	7,297.5	100.4	26.7	90.95	1,012.1	-2,841.3	461.8	339.6	122.21	3.779	
11,000.0	7,306.0	7,466.2	7,298.1	103.2	26.7	91.04	1,012.1	-2,841.3	529.5	404.5	124.96	4.237	
11,100.0	7,306.0	7,466.8	7,298.7	105.9	26.7	91.13	1,012.1	-2,841.3	606.2	478.4	127.72	4.746	
11,200.0	7,306.0	7,467.4	7,299.2	108.7	26.7	91.22	1,012.1	-2,841.3	688.8	558.4	130.48	5.279	
11,300.0	7,306.0	7,467.9	7,299.8	111.4	26.7	91.31	1,012.1	-2,841.3	775.6	642.4	133.23	5.821	
11,400.0	7,306.0	7,468.5	7,300.4	114.2	26.7	91.40	1,012.1	-2,841.3	865.2	729.2	135.99	6.362	
11,500.0	7,306.0	7,469.1	7,300.9	117.0	26.7	91.49	1,012.1	-2,841.3	956.9	818.1	138.76	6.896	
11,600.0	7,306.0	7,469.6	7,301.5	119.7	26.7	91.58	1,012.1	-2,841.3	1,050.1	908.6	141.52	7.420	
11,700.0	7,306.0	7,470.2	7,302.1	122.5	26.7	91.67	1,012.1	-2,841.3	1,144.5	1,000.2	144.28	7.932	
11,800.0	7,306.0	7,470.8	7,302.6	125.3	26.7	91.76	1,012.1	-2,841.3	1,239.7	1,092.6	147.05	8.430	
11,900.0	7,306.0	7,471.3	7,303.2	128.0	26.7	91.85	1,012.1	-2,841.3	1,335.6	1,185.8	149.82	8.915	
12,000.0	7,306.0	7,471.9	7,303.8	130.8	26.7	91.94	1,012.1	-2,841.3	1,432.1	1,279.5	152.58	9.386	
12,100.0	7,306.0	7,472.5	7,304.3	133.6	26.7	92.03	1,012.0	-2,841.3	1,529.1	1,373.7	155.35	9.842	
12,200.0	7,306.0	7,473.0	7,304.9	136.4	26.7	92.12	1,012.0	-2,841.3	1,626.4	1,468.2	158.12	10.286	
12,300.0	7,306.0	7,473.6	7,305.5	139.1	26.7	92.21	1,012.0	-2,841.3	1,724.0	1,563.1	160.89	10.715	
12,400.0	7,306.0	7,474.2	7,306.1	141.9	26.7	92.30	1,012.0	-2,841.3	1,821.9	1,658.2	163.66	11.132	
12,500.0	7,306.0	7,474.8	7,306.7	144.7	26.7	92.39	1,012.0	-2,841.3	1,920.0	1,753.5	166.43	11.536	
12,600.0	7,306.0	7,475.4	7,307.2	147.5	26.7	92.48	1,012.0	-2,841.3	2,018.2	1,849.0	169.20	11.928	
12,700.0	7,306.0	7,475.9	7,307.8	150.3	26.7	92.57	1,012.0	-2,841.3	2,116.7	1,944.7	171.97	12.308	
12,800.0	7,306.0	7,476.5	7,308.4	153.0	26.7	92.66	1,012.0	-2,841.3	2,215.3	2,040.5	174.74	12.677	
12,900.0	7,306.0	7,477.1	7,309.0	155.8	26.7	92.76	1,012.0	-2,841.3	2,314.0	2,136.5	177.51	13.035	
13,000.0	7,306.0	7,477.7	7,309.6	158.6	26.7	92.85	1,012.0	-2,841.3	2,412.8	2,232.5	180.28	13.383	
13,100.0	7,306.0	7,478.3	7,310.1	161.4	26.7	92.94	1,012.0	-2,841.3	2,511.7	2,328.6	183.06	13.721	
13,200.0	7,306.0	7,478.9	7,310.7	164.2	26.7	93.03	1,012.0	-2,841.4	2,610.7	2,424.8	185.83	14.049	
13,300.0	7,306.0	7,479.4	7,311.3	167.0	26.7	93.13	1,012.0	-2,841.4	2,709.7	2,521.1	188.60	14.368	
13,400.0	7,306.0	7,480.0	7,311.9	169.8	26.7	93.22	1,012.0	-2,841.4	2,808.9	2,617.5	191.37	14.678	
13,500.0	7,306.0	7,480.6	7,312.5	172.6	26.7	93.31	1,012.0	-2,841.4	2,908.0	2,713.9	194.14	14.979	
13,600.0	7,306.0	7,481.2	7,313.1	175.3	26.7	93.41	1,011.9	-2,841.4	3,007.3	2,810.4	196.90	15.273	
13,700.0	7,306.0	7,481.8	7,313.7	178.1	26.7	93.50	1,011.9	-2,841.4	3,106.6	2,906.9	199.67	15.558	

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-404
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-404	**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 #2	**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
13,800.0	7,306.0	7,482.4	7,314.3	180.9	26.7	93.59	1,011.9	-2,841.4	3,205.9	3,003.5	202.44	15.836	
13,900.0	7,306.0	7,483.0	7,314.9	183.7	26.7	93.69	1,011.9	-2,841.4	3,305.3	3,100.1	205.21	16.107	
14,000.0	7,306.0	7,483.6	7,315.5	186.5	26.7	93.78	1,011.9	-2,841.4	3,404.7	3,196.7	207.98	16.371	
14,100.0	7,306.0	7,484.2	7,316.1	189.3	26.7	93.87	1,011.9	-2,841.4	3,504.1	3,293.4	210.74	16.628	
14,200.0	7,306.0	7,484.8	7,316.7	192.1	26.7	93.97	1,011.9	-2,841.4	3,603.6	3,390.1	213.51	16.878	
14,300.0	7,306.0	7,485.4	7,317.3	194.9	26.7	94.06	1,011.9	-2,841.4	3,703.1	3,486.8	216.27	17.122	
14,363.6	7,306.0	7,485.8	7,317.7	196.7	26.7	94.12	1,011.9	-2,841.4	3,766.4	3,548.3	218.03	17.275	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-68.74	2,504.7	-6,436.5	6,906.8				
100.0	100.0	62.5	62.5	0.1	0.0	-68.74	2,504.7	-6,436.5	6,906.7	6,906.6	0.10	N/A	
200.0	200.0	162.5	162.5	0.3	0.7	-68.74	2,504.7	-6,436.5	6,906.7	6,905.7	1.05	6,603.576	
300.0	300.0	262.5	262.5	0.5	2.6	-68.74	2,504.7	-6,436.5	6,906.7	6,903.6	3.14	2,198.445	
400.0	400.0	362.5	362.5	0.8	4.8	-68.74	2,504.7	-6,436.5	6,906.7	6,901.2	5.53	1,249.462	
500.0	500.0	462.5	462.5	1.0	6.8	-68.74	2,504.7	-6,436.5	6,906.7	6,898.9	7.81	884.498	
600.0	600.0	562.5	562.5	1.2	8.8	-68.74	2,504.7	-6,436.5	6,906.7	6,896.6	10.07	686.042	
700.0	700.0	662.5	662.5	1.4	10.9	-68.74	2,504.7	-6,436.5	6,906.7	6,894.4	12.32	560.728	
800.0	800.0	762.5	762.5	1.7	12.9	-115.09	2,504.7	-6,436.5	6,907.4	6,892.9	14.56	474.532	
900.0	899.8	862.3	862.3	1.9	14.9	-115.09	2,504.7	-6,436.5	6,909.7	6,892.9	16.79	411.651	
1,000.0	999.5	962.0	962.0	2.1	16.9	-115.09	2,504.7	-6,436.5	6,913.4	6,894.4	19.01	363.636	
1,100.0	1,098.7	1,061.2	1,061.2	2.4	18.9	-115.08	2,504.7	-6,436.5	6,918.6	6,897.3	21.24	325.719	
1,200.0	1,197.5	1,160.0	1,160.0	2.7	20.9	-115.08	2,504.7	-6,436.5	6,925.3	6,901.8	23.48	294.963	
1,299.9	1,295.5	1,258.0	1,258.0	3.0	22.9	-115.07	2,504.7	-6,436.5	6,933.5	6,907.7	25.73	269.504	
1,300.0	1,295.6	1,258.1	1,258.1	3.0	22.9	-115.07	2,504.7	-6,436.5	6,933.5	6,907.7	25.73	269.473	
1,400.0	1,393.4	1,355.9	1,355.9	3.4	24.9	-115.22	2,504.7	-6,436.5	6,942.5	6,914.4	28.03	247.684	
1,500.0	1,491.3	1,453.8	1,453.8	3.7	26.8	-115.37	2,504.7	-6,436.5	6,951.5	6,921.2	30.35	229.080	
1,600.0	1,589.1	1,551.6	1,551.6	4.1	28.8	-115.53	2,504.7	-6,436.5	6,960.6	6,927.9	32.67	213.040	
1,700.0	1,686.9	1,649.4	1,649.4	4.5	30.8	-115.68	2,504.7	-6,436.5	6,969.8	6,934.7	35.01	199.086	
1,800.0	1,784.7	1,747.2	1,747.2	5.0	32.7	-115.83	2,504.7	-6,436.5	6,978.9	6,941.6	37.35	186.849	
1,900.0	1,882.5	1,845.0	1,845.0	5.4	34.7	-115.98	2,504.7	-6,436.5	6,988.2	6,948.5	39.70	176.036	
2,000.0	1,980.3	1,942.8	1,942.8	5.8	36.7	-116.13	2,504.7	-6,436.5	6,997.5	6,955.4	42.05	166.418	
2,100.0	2,078.1	2,040.6	2,040.6	6.2	38.6	-116.28	2,504.7	-6,436.5	7,006.8	6,962.4	44.40	157.811	
2,200.0	2,176.0	2,138.5	2,138.5	6.7	40.6	-116.43	2,504.7	-6,436.5	7,016.2	6,969.5	46.75	150.064	
2,300.0	2,273.8	2,236.3	2,236.3	7.1	42.6	-116.58	2,504.7	-6,436.5	7,025.7	6,976.6	49.11	143.057	
2,400.0	2,371.6	2,334.1	2,334.1	7.5	44.5	-116.73	2,504.7	-6,436.5	7,035.2	6,983.7	51.47	136.690	
2,500.0	2,469.4	2,431.9	2,431.9	8.0	46.5	-116.88	2,504.7	-6,436.5	7,044.7	6,990.9	53.83	130.880	
2,600.0	2,567.2	2,529.7	2,529.7	8.4	48.5	-117.02	2,504.7	-6,436.5	7,054.3	6,998.1	56.18	125.557	
2,700.0	2,665.0	2,627.5	2,627.5	8.8	50.4	-117.17	2,504.7	-6,436.5	7,063.9	7,005.4	58.54	120.663	
2,800.0	2,762.9	2,725.4	2,725.4	9.3	52.4	-117.32	2,504.7	-6,436.5	7,073.6	7,012.7	60.90	116.149	
2,900.0	2,860.7	2,823.2	2,823.2	9.7	54.4	-117.47	2,504.7	-6,436.5	7,083.3	7,020.1	63.26	111.972	
3,000.0	2,958.5	2,921.0	2,921.0	10.2	56.3	-117.61	2,504.7	-6,436.5	7,093.1	7,027.5	65.62	108.097	
3,100.0	3,056.3	3,018.8	3,018.8	10.6	58.3	-117.76	2,504.7	-6,436.5	7,102.9	7,035.0	67.98	104.491	
3,200.0	3,154.1	3,116.6	3,116.6	11.1	60.3	-117.90	2,504.7	-6,436.5	7,112.8	7,042.5	70.33	101.129	
3,300.0	3,251.9	3,214.4	3,214.4	11.5	62.2	-118.05	2,504.7	-6,436.5	7,122.7	7,050.0	72.69	97.985	
3,400.0	3,349.8	3,312.3	3,312.3	12.0	64.2	-118.19	2,504.7	-6,436.5	7,132.7	7,057.6	75.05	95.040	
3,500.0	3,447.6	3,410.1	3,410.1	12.4	66.2	-118.34	2,504.7	-6,436.5	7,142.7	7,065.3	77.41	92.276	
3,600.0	3,545.4	3,507.9	3,507.9	12.8	68.1	-118.48	2,504.7	-6,436.5	7,152.8	7,073.0	79.76	89.676	
3,700.0	3,643.2	3,605.7	3,605.7	13.3	70.1	-118.63	2,504.7	-6,436.5	7,162.9	7,080.7	82.12	87.227	
3,800.0	3,741.0	3,703.5	3,703.5	13.7	72.1	-118.77	2,504.7	-6,436.5	7,173.0	7,088.5	84.47	84.915	
3,900.0	3,838.8	3,801.3	3,801.3	14.2	74.0	-118.91	2,504.7	-6,436.5	7,183.2	7,096.4	86.83	82.730	
4,000.0	3,936.6	3,899.1	3,899.1	14.6	76.0	-119.05	2,504.7	-6,436.5	7,193.5	7,104.3	89.18	80.661	
4,100.0	4,034.5	3,997.0	3,997.0	15.1	78.0	-119.20	2,504.7	-6,436.5	7,203.7	7,112.2	91.53	78.700	
4,200.0	4,132.3	4,094.8	4,094.8	15.5	79.9	-119.34	2,504.7	-6,436.5	7,214.1	7,120.2	93.89	76.838	
4,300.0	4,230.1	4,192.6	4,192.6	16.0	81.9	-119.48	2,504.7	-6,436.5	7,224.5	7,128.2	96.24	75.068	
4,400.0	4,327.9	4,290.4	4,290.4	16.4	83.9	-119.62	2,504.7	-6,436.5	7,234.9	7,136.3	98.59	73.384	
4,500.0	4,425.7	4,388.2	4,388.2	16.9	85.8	-119.76	2,504.7	-6,436.5	7,245.3	7,144.4	100.94	71.779	
4,600.0	4,523.5	4,486.0	4,486.0	17.3	87.8	-119.90	2,504.7	-6,436.5	7,255.9	7,152.6	103.29	70.248	
4,700.0	4,621.4	4,583.9	4,583.9	17.8	89.8	-120.04	2,504.7	-6,436.5	7,266.4	7,160.8	105.64	68.786	
4,800.0	4,719.2	4,681.7	4,681.7	18.2	91.7	-120.18	2,504.7	-6,436.5	7,277.0	7,169.0	107.99	67.388	
4,900.0	4,817.0	4,779.5	4,779.5	18.7	93.7	-120.32	2,504.7	-6,436.5	7,287.7	7,177.3	110.33	66.051	
5,000.0	4,914.8	4,877.3	4,877.3	19.1	95.7	-120.46	2,504.7	-6,436.5	7,298.4	7,185.7	112.68	64.770	

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-404
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-404	**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 #2	**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
5,100.0	5,012.6	4,975.1	4,975.1	19.6	97.7	-120.60	2,504.7	-6,436.5	7,309.1	7,194.1	115.03	63.543	
5,200.0	5,110.4	5,072.9	5,072.9	20.0	99.6	-120.73	2,504.7	-6,436.5	7,319.9	7,202.5	117.37	62.365	
5,221.3	5,131.3	5,093.8	5,093.8	20.1	100.0	-120.76	2,504.7	-6,436.5	7,322.2	7,204.3	117.87	62.120	
5,300.0	5,208.5	5,171.0	5,171.0	20.4	101.6	-121.00	2,504.7	-6,436.5	7,330.1	7,210.3	119.80	61.185	
5,400.0	5,307.1	5,269.6	5,269.6	20.7	103.6	-121.26	2,504.7	-6,436.5	7,338.7	7,216.5	122.18	60.062	
5,500.0	5,406.3	5,368.8	5,368.8	21.0	105.6	-121.46	2,504.7	-6,436.5	7,345.4	7,220.9	124.52	58.990	
5,600.0	5,505.8	5,468.3	5,468.3	21.2	107.6	-121.61	2,504.7	-6,436.5	7,350.4	7,223.6	126.80	57.966	
5,700.0	5,605.6	5,568.1	5,568.1	21.4	109.6	-121.70	2,504.7	-6,436.5	7,353.5	7,224.5	129.03	56.991	
5,800.0	5,705.6	5,668.1	5,668.1	21.5	111.6	-121.74	2,504.7	-6,436.5	7,354.8	7,223.7	131.19	56.061	
5,821.2	5,726.8	5,689.3	5,689.3	21.5	112.0	-75.39	2,504.7	-6,436.5	7,354.9	7,226.3	128.58	57.201	
5,900.0	5,805.6	5,768.1	5,768.1	21.6	113.6	-75.39	2,504.7	-6,436.5	7,354.9	7,224.6	130.28	56.454	
6,000.0	5,905.6	5,868.1	5,868.1	21.7	115.6	-75.39	2,504.7	-6,436.5	7,354.9	7,222.4	132.46	55.526	
6,100.0	6,005.6	5,968.1	5,968.1	21.9	117.6	-75.39	2,504.7	-6,436.5	7,354.9	7,220.3	134.64	54.627	
6,200.0	6,105.6	6,068.1	6,068.1	22.0	119.6	-75.39	2,504.7	-6,436.5	7,354.9	7,218.1	136.82	53.757	
6,300.0	6,205.6	6,168.1	6,168.1	22.1	121.6	-75.39	2,504.7	-6,436.5	7,354.9	7,215.9	139.00	52.913	
6,400.0	6,305.6	6,268.1	6,268.1	22.3	123.7	-75.39	2,504.7	-6,436.5	7,354.9	7,213.7	141.18	52.095	
6,500.0	6,405.6	6,368.1	6,368.1	22.4	125.7	-75.39	2,504.7	-6,436.5	7,354.9	7,211.5	143.36	51.302	
6,600.0	6,505.6	6,468.1	6,468.1	22.5	127.7	-75.39	2,504.7	-6,436.5	7,354.9	7,209.3	145.55	50.532	
6,684.2	6,589.8	6,552.3	6,552.3	22.6	129.4	-75.39	2,504.7	-6,436.5	7,354.9	7,207.5	147.39	49.901	
6,700.0	6,605.6	6,568.1	6,568.1	22.7	129.7	14.62	2,504.7	-6,436.5	7,354.7	7,204.2	150.50	48.870	
6,750.0	6,655.5	6,618.0	6,618.0	22.7	130.7	14.68	2,504.7	-6,436.5	7,352.0	7,201.0	150.96	48.700	
6,800.0	6,705.1	6,667.6	6,667.6	22.7	131.7	14.82	2,504.7	-6,436.5	7,345.9	7,195.1	150.74	48.731	
6,850.0	6,754.1	6,716.6	6,716.6	22.7	132.7	15.04	2,504.7	-6,436.5	7,336.4	7,186.6	149.83	48.965	
6,900.0	6,802.3	6,764.8	6,764.8	22.7	133.6	15.34	2,504.7	-6,436.5	7,323.7	7,175.4	148.23	49.406	
6,950.0	6,849.5	6,812.0	6,812.0	22.6	134.6	15.73	2,504.7	-6,436.5	7,307.7	7,161.8	145.97	50.064	
7,000.0	6,895.5	6,858.0	6,858.0	22.5	135.5	16.23	2,504.7	-6,436.5	7,288.6	7,145.6	143.06	50.948	
7,050.0	6,939.9	6,902.4	6,902.4	22.4	136.4	16.85	2,504.7	-6,436.5	7,266.5	7,126.9	139.56	52.067	
7,100.0	6,982.6	6,945.1	6,945.1	22.3	137.3	17.59	2,504.7	-6,436.5	7,241.4	7,105.9	135.53	53.430	
7,150.0	7,023.4	6,985.9	6,985.9	22.2	138.1	18.50	2,504.7	-6,436.5	7,213.5	7,082.4	131.07	55.035	
7,200.0	7,062.2	7,024.7	7,024.7	22.1	138.9	19.58	2,504.7	-6,436.5	7,182.9	7,056.6	126.32	56.865	
7,250.0	7,098.6	7,061.1	7,061.1	22.0	139.6	20.90	2,504.7	-6,436.5	7,149.8	7,028.4	121.45	58.868	
7,300.0	7,132.5	7,095.0	7,095.0	21.9	140.3	22.49	2,504.7	-6,436.5	7,114.4	6,997.6	116.76	60.933	
7,350.0	7,163.8	7,126.3	7,126.3	21.8	140.9	24.43	2,504.7	-6,436.5	7,076.8	6,964.2	112.60	62.849	
7,400.0	7,192.2	7,154.7	7,154.7	21.7	141.5	26.82	2,504.7	-6,436.5	7,037.1	6,927.6	109.49	64.271	
7,450.0	7,217.8	7,180.3	7,180.3	21.6	142.0	29.78	2,504.7	-6,436.5	6,995.7	6,887.6	108.11	64.711	
7,500.0	7,240.3	7,202.8	7,202.8	21.6	142.4	33.50	2,504.7	-6,436.5	6,952.6	6,843.4	109.23	63.649	
7,550.0	7,259.6	7,222.1	7,222.1	21.6	142.8	38.22	2,504.7	-6,436.5	6,908.2	6,794.6	113.67	60.777	
7,600.0	7,275.7	7,238.2	7,238.2	21.6	143.2	44.29	2,504.7	-6,436.5	6,862.6	6,740.7	121.92	56.290	
7,650.0	7,288.4	7,250.9	7,250.9	21.8	143.4	52.07	2,504.7	-6,436.5	6,816.1	6,682.3	133.78	50.950	
7,700.0	7,297.7	7,260.2	7,260.2	22.0	143.6	61.95	2,504.7	-6,436.5	6,768.9	6,621.2	147.70	45.830	
7,750.0	7,303.6	7,266.1	7,266.1	22.4	143.7	73.96	2,504.7	-6,436.5	6,721.1	6,561.0	160.16	41.965	
7,800.0	7,305.9	7,268.4	7,268.4	22.9	143.8	87.46	2,504.7	-6,436.5	6,673.2	6,506.7	166.46	40.089	
7,809.2	7,306.0	7,268.5	7,268.5	23.0	143.8	90.00	2,504.7	-6,436.5	6,664.3	6,497.7	166.66	39.989	
7,900.0	7,306.0	7,268.5	7,268.5	24.3	143.8	90.00	2,504.7	-6,436.5	6,577.2	6,409.1	168.04	39.141	
8,000.0	7,306.0	7,268.5	7,268.5	26.0	143.8	90.00	2,504.7	-6,436.5	6,481.3	6,311.5	169.77	38.178	
8,100.0	7,306.0	7,268.5	7,268.5	27.9	143.8	90.00	2,504.7	-6,436.5	6,385.5	6,213.9	171.67	37.197	
8,200.0	7,306.0	7,268.5	7,268.5	30.0	143.8	90.00	2,504.7	-6,436.5	6,289.9	6,116.2	173.72	36.208	
8,300.0	7,306.0	7,268.5	7,268.5	32.2	143.8	90.00	2,504.7	-6,436.5	6,194.4	6,018.6	175.88	35.220	
8,400.0	7,306.0	7,268.5	7,268.5	34.4	143.8	90.00	2,504.7	-6,436.5	6,099.1	5,921.0	178.14	34.239	
8,500.0	7,306.0	7,268.5	7,268.5	36.8	143.8	90.00	2,504.7	-6,436.5	6,003.9	5,823.5	180.47	33.269	
8,600.0	7,306.0	7,268.5	7,268.5	39.2	143.8	90.00	2,504.7	-6,436.5	5,908.9	5,726.0	182.86	32.313	
8,700.0	7,306.0	7,268.5	7,268.5	41.7	143.8	90.00	2,504.7	-6,436.5	5,814.0	5,628.7	185.31	31.375	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,268.5	7,268.5	44.1	143.8	90.00	2,504.7	-6,436.5	5,719.4	5,531.6	187.80	30.455	
8,900.0	7,306.0	7,268.5	7,268.5	46.7	143.8	90.00	2,504.7	-6,436.5	5,624.9	5,434.5	190.33	29.554	
9,000.0	7,306.0	7,268.5	7,268.5	49.2	143.8	90.00	2,504.7	-6,436.5	5,530.6	5,337.7	192.88	28.673	
9,100.0	7,306.0	7,268.5	7,268.5	51.8	143.8	90.00	2,504.7	-6,436.5	5,436.5	5,241.0	195.47	27.813	
9,200.0	7,306.0	7,268.5	7,268.5	54.4	143.8	90.00	2,504.7	-6,436.5	5,342.6	5,144.5	198.07	26.973	
9,300.0	7,306.0	7,268.5	7,268.5	57.1	143.8	90.00	2,504.7	-6,436.5	5,248.9	5,048.2	200.70	26.154	
9,400.0	7,306.0	7,268.5	7,268.5	59.7	143.8	90.00	2,504.7	-6,436.5	5,155.5	4,952.2	203.34	25.354	
9,500.0	7,306.0	7,268.5	7,268.5	62.4	143.8	90.00	2,504.7	-6,436.5	5,062.3	4,856.3	205.99	24.575	
9,600.0	7,306.0	7,268.5	7,268.5	65.0	143.8	90.00	2,504.7	-6,436.5	4,969.4	4,760.8	208.66	23.816	
9,700.0	7,306.0	7,268.5	7,268.5	67.7	143.8	90.00	2,504.7	-6,436.5	4,876.8	4,665.5	211.34	23.075	
9,800.0	7,306.0	7,268.5	7,268.5	70.4	143.8	90.00	2,504.7	-6,436.5	4,784.5	4,570.4	214.03	22.354	
9,900.0	7,306.0	7,268.5	7,268.5	73.1	143.8	90.00	2,504.7	-6,436.5	4,692.5	4,475.7	216.73	21.651	
10,000.0	7,306.0	7,268.5	7,268.5	75.8	143.8	90.00	2,504.7	-6,436.5	4,600.8	4,381.3	219.44	20.966	
10,100.0	7,306.0	7,268.5	7,268.5	78.5	143.8	90.00	2,504.7	-6,436.5	4,509.5	4,287.3	222.15	20.299	
10,200.0	7,306.0	7,268.5	7,268.5	81.2	143.8	90.00	2,504.7	-6,436.5	4,418.5	4,193.6	224.88	19.649	
10,300.0	7,306.0	7,268.5	7,268.5	84.0	143.8	90.00	2,504.7	-6,436.5	4,328.0	4,100.4	227.60	19.016	
10,400.0	7,306.0	7,268.5	7,268.5	86.7	143.8	90.00	2,504.7	-6,436.5	4,237.8	4,007.5	230.33	18.399	
10,500.0	7,306.0	7,268.5	7,268.5	89.4	143.8	90.00	2,504.7	-6,436.5	4,148.2	3,915.1	233.07	17.798	
10,600.0	7,306.0	7,268.5	7,268.5	92.2	143.8	90.00	2,504.7	-6,436.5	4,059.0	3,823.2	235.81	17.213	
10,700.0	7,306.0	7,268.5	7,268.5	94.9	143.8	90.00	2,504.7	-6,436.5	3,970.3	3,731.7	238.56	16.643	
10,800.0	7,306.0	7,268.5	7,268.5	97.6	143.8	90.00	2,504.7	-6,436.5	3,882.2	3,640.9	241.30	16.088	
10,900.0	7,306.0	7,268.5	7,268.5	100.4	143.8	90.00	2,504.7	-6,436.5	3,794.6	3,550.6	244.06	15.548	
11,000.0	7,306.0	7,268.5	7,268.5	103.2	143.8	90.00	2,504.7	-6,436.5	3,707.7	3,460.9	246.81	15.023	
11,100.0	7,306.0	7,268.5	7,268.5	105.9	143.8	90.00	2,504.7	-6,436.5	3,621.5	3,371.9	249.57	14.511	
11,200.0	7,306.0	7,268.5	7,268.5	108.7	143.8	90.00	2,504.7	-6,436.5	3,536.0	3,283.7	252.33	14.013	
11,300.0	7,306.0	7,268.5	7,268.5	111.4	143.8	90.00	2,504.7	-6,436.5	3,451.3	3,196.2	255.09	13.530	
11,400.0	7,306.0	7,268.5	7,268.5	114.2	143.8	90.00	2,504.7	-6,436.5	3,367.4	3,109.5	257.86	13.059	
11,500.0	7,306.0	7,268.5	7,268.5	117.0	143.8	90.00	2,504.7	-6,436.5	3,284.4	3,023.8	260.62	12.602	
11,600.0	7,306.0	7,268.5	7,268.5	119.7	143.8	90.00	2,504.7	-6,436.5	3,202.4	2,939.0	263.39	12.158	
11,700.0	7,306.0	7,268.5	7,268.5	122.5	143.8	90.00	2,504.7	-6,436.5	3,121.4	2,855.3	266.16	11.728	
11,800.0	7,306.0	7,268.5	7,268.5	125.3	143.8	90.00	2,504.7	-6,436.5	3,041.6	2,772.7	268.94	11.310	
11,900.0	7,306.0	7,268.5	7,268.5	128.0	143.8	90.00	2,504.7	-6,436.5	2,963.0	2,691.3	271.71	10.905	
12,000.0	7,306.0	7,268.5	7,268.5	130.8	143.8	90.00	2,504.7	-6,436.5	2,885.7	2,611.3	274.49	10.513	
12,100.0	7,306.0	7,268.5	7,268.5	133.6	143.8	90.00	2,504.7	-6,436.5	2,809.9	2,532.6	277.26	10.134	
12,200.0	7,306.0	7,268.5	7,268.5	136.4	143.8	90.00	2,504.7	-6,436.5	2,735.6	2,455.6	280.04	9.769	
12,300.0	7,306.0	7,268.5	7,268.5	139.1	143.8	90.00	2,504.7	-6,436.5	2,663.0	2,380.2	282.82	9.416	
12,400.0	7,306.0	7,268.5	7,268.5	141.9	143.8	90.00	2,504.7	-6,436.5	2,592.2	2,306.6	285.60	9.076	
12,500.0	7,306.0	7,268.5	7,268.5	144.7	143.8	90.00	2,504.7	-6,436.5	2,523.4	2,235.0	288.38	8.750	
12,600.0	7,306.0	7,268.5	7,268.5	147.5	143.8	90.00	2,504.7	-6,436.5	2,456.7	2,165.6	291.17	8.438	
12,700.0	7,306.0	7,268.5	7,268.5	150.3	143.8	90.00	2,504.7	-6,436.5	2,392.4	2,098.4	293.95	8.139	
12,800.0	7,306.0	7,268.5	7,268.5	153.0	143.8	90.00	2,504.7	-6,436.5	2,330.6	2,033.8	296.73	7.854	
12,900.0	7,306.0	7,268.5	7,268.5	155.8	143.8	90.00	2,504.7	-6,436.5	2,271.5	1,972.0	299.52	7.584	
13,000.0	7,306.0	7,268.5	7,268.5	158.6	143.8	90.00	2,504.7	-6,436.5	2,215.3	1,913.0	302.31	7.328	
13,100.0	7,306.0	7,268.5	7,268.5	161.4	143.8	90.00	2,504.7	-6,436.5	2,162.3	1,857.2	305.09	7.087	
13,200.0	7,306.0	7,268.5	7,268.5	164.2	143.8	90.00	2,504.7	-6,436.5	2,112.7	1,804.8	307.88	6.862	
13,300.0	7,306.0	7,268.5	7,268.5	167.0	143.8	90.00	2,504.7	-6,436.5	2,066.8	1,756.1	310.67	6.653	
13,400.0	7,306.0	7,268.5	7,268.5	169.8	143.8	90.00	2,504.7	-6,436.5	2,024.8	1,711.3	313.46	6.459	
13,500.0	7,306.0	7,268.5	7,268.5	172.6	143.8	90.00	2,504.7	-6,436.5	1,986.9	1,670.6	316.25	6.283	
13,600.0	7,306.0	7,268.5	7,268.5	175.3	143.8	90.00	2,504.7	-6,436.5	1,953.4	1,634.3	319.04	6.123	
13,700.0	7,306.0	7,268.5	7,268.5	178.1	143.8	90.00	2,504.7	-6,436.5	1,924.5	1,602.7	321.83	5.980	
13,800.0	7,306.0	7,268.5	7,268.5	180.9	143.8	90.00	2,504.7	-6,436.5	1,900.4	1,575.8	324.62	5.854	
13,900.0	7,306.0	7,268.5	7,268.5	183.7	143.8	90.00	2,504.7	-6,436.5	1,881.4	1,554.0	327.41	5.746	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
14,000.0	7,306.0	7,268.5	7,268.5	186.5	143.8	90.00	2,504.7	-6,436.5	1,867.5	1,537.3	330.20	5.656	
14,100.0	7,306.0	7,268.5	7,268.5	189.3	143.8	90.00	2,504.7	-6,436.5	1,859.0	1,526.0	333.00	5.583	
14,200.0	7,306.0	7,268.5	7,268.5	192.1	143.8	90.00	2,504.7	-6,436.5	1,855.7	1,519.9	335.79	5.526	
14,209.9	7,306.0	7,268.5	7,268.5	192.4	143.8	90.00	2,504.7	-6,436.5	1,855.7	1,519.6	336.07	5.522	CC
14,300.0	7,306.0	7,268.5	7,268.5	194.9	143.8	90.00	2,504.7	-6,436.5	1,857.9	1,519.3	338.58	5.487	ES
14,363.6	7,306.0	7,268.5	7,268.5	196.7	143.8	90.00	2,504.7	-6,436.5	1,862.1	1,521.7	340.36	5.471	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-79.20	1,015.5	-5,324.5	5,420.7				
100.0	100.0	50.5	50.5	0.1	0.0	-79.20	1,015.5	-5,324.5	5,420.5	5,420.4	0.10	N/A	
200.0	200.0	150.5	150.5	0.3	0.7	-79.20	1,015.5	-5,324.5	5,420.5	5,419.5	0.99	5,488.633	
300.0	300.0	250.5	250.5	0.5	2.5	-79.20	1,015.5	-5,324.5	5,420.5	5,417.5	3.01	1,801.983	
400.0	400.0	350.5	350.5	0.8	4.6	-79.20	1,015.5	-5,324.5	5,420.5	5,415.1	5.40	1,003.457	
500.0	500.0	450.5	450.5	1.0	6.7	-79.20	1,015.5	-5,324.5	5,420.5	5,412.8	7.69	705.325	
600.0	600.0	550.5	550.5	1.2	8.7	-79.20	1,015.5	-5,324.5	5,420.5	5,410.6	9.94	545.051	
700.0	700.0	650.5	650.5	1.4	10.7	-79.20	1,015.5	-5,324.5	5,420.5	5,408.3	12.20	444.471	
800.0	800.0	750.5	750.5	1.7	12.8	-125.55	1,015.5	-5,324.5	5,421.5	5,407.1	14.43	375.624	
900.0	899.8	850.3	850.3	1.9	14.8	-125.55	1,015.5	-5,324.5	5,424.6	5,407.9	16.66	325.659	
1,000.0	999.5	950.0	950.0	2.1	16.8	-125.54	1,015.5	-5,324.5	5,429.7	5,410.8	18.87	287.704	
1,100.0	1,098.7	1,049.2	1,049.2	2.4	18.8	-125.53	1,015.5	-5,324.5	5,436.8	5,415.7	21.08	257.896	
1,200.0	1,197.5	1,148.0	1,148.0	2.7	20.8	-125.51	1,015.5	-5,324.5	5,445.9	5,422.7	23.29	233.859	
1,299.9	1,295.5	1,246.0	1,246.0	3.0	22.8	-125.49	1,015.5	-5,324.5	5,457.1	5,431.7	25.49	214.081	
1,300.0	1,295.6	1,246.1	1,246.1	3.0	22.8	-125.49	1,015.5	-5,324.5	5,457.2	5,431.7	25.49	214.057	
1,400.0	1,393.4	1,343.9	1,343.9	3.4	24.7	-125.66	1,015.5	-5,324.5	5,469.4	5,441.7	27.77	196.977	
1,500.0	1,491.3	1,441.8	1,441.8	3.7	26.7	-125.84	1,015.5	-5,324.5	5,481.7	5,451.7	30.05	182.399	
1,600.0	1,589.1	1,539.6	1,539.6	4.1	28.7	-126.01	1,015.5	-5,324.5	5,494.1	5,461.8	32.35	169.832	
1,700.0	1,686.9	1,637.4	1,637.4	4.5	30.6	-126.18	1,015.5	-5,324.5	5,506.5	5,471.9	34.65	158.899	
1,800.0	1,784.7	1,735.2	1,735.2	5.0	32.6	-126.36	1,015.5	-5,324.5	5,519.0	5,482.1	36.96	149.309	
1,900.0	1,882.5	1,833.0	1,833.0	5.4	34.6	-126.53	1,015.5	-5,324.5	5,531.5	5,492.3	39.28	140.835	
2,000.0	1,980.3	1,930.8	1,930.8	5.8	36.5	-126.70	1,015.5	-5,324.5	5,544.1	5,502.5	41.59	133.295	
2,100.0	2,078.1	2,028.6	2,028.6	6.2	38.5	-126.87	1,015.5	-5,324.5	5,556.7	5,512.8	43.91	126.546	
2,200.0	2,176.0	2,126.5	2,126.5	6.7	40.5	-127.03	1,015.5	-5,324.5	5,569.4	5,523.2	46.23	120.471	
2,300.0	2,273.8	2,224.3	2,224.3	7.1	42.4	-127.20	1,015.5	-5,324.5	5,582.1	5,533.6	48.55	114.976	
2,400.0	2,371.6	2,322.1	2,322.1	7.5	44.4	-127.37	1,015.5	-5,324.5	5,594.9	5,544.0	50.87	109.981	
2,500.0	2,469.4	2,419.9	2,419.9	8.0	46.4	-127.54	1,015.5	-5,324.5	5,607.7	5,554.5	53.19	105.422	
2,600.0	2,567.2	2,517.7	2,517.7	8.4	48.3	-127.70	1,015.5	-5,324.5	5,620.6	5,565.1	55.51	101.245	
2,700.0	2,665.0	2,615.5	2,615.5	8.8	50.3	-127.87	1,015.5	-5,324.5	5,633.5	5,575.7	57.84	97.405	
2,800.0	2,762.9	2,713.4	2,713.4	9.3	52.3	-128.03	1,015.5	-5,324.5	5,646.4	5,586.3	60.16	93.862	
2,900.0	2,860.7	2,811.2	2,811.2	9.7	54.2	-128.19	1,015.5	-5,324.5	5,659.5	5,597.0	62.48	90.583	
3,000.0	2,958.5	2,909.0	2,909.0	10.2	56.2	-128.36	1,015.5	-5,324.5	5,672.5	5,607.7	64.80	87.541	
3,100.0	3,056.3	3,006.8	3,006.8	10.6	58.2	-128.52	1,015.5	-5,324.5	5,685.6	5,618.5	67.12	84.710	
3,200.0	3,154.1	3,104.6	3,104.6	11.1	60.2	-128.68	1,015.5	-5,324.5	5,698.7	5,629.3	69.44	82.070	
3,300.0	3,251.9	3,202.4	3,202.4	11.5	62.1	-128.84	1,015.5	-5,324.5	5,711.9	5,640.2	71.76	79.602	
3,400.0	3,349.8	3,300.3	3,300.3	12.0	64.1	-129.00	1,015.5	-5,324.5	5,725.2	5,651.1	74.07	77.290	
3,500.0	3,447.6	3,398.1	3,398.1	12.4	66.1	-129.16	1,015.5	-5,324.5	5,738.4	5,662.1	76.39	75.119	
3,600.0	3,545.4	3,495.9	3,495.9	12.8	68.0	-129.32	1,015.5	-5,324.5	5,751.8	5,673.1	78.71	73.077	
3,700.0	3,643.2	3,593.7	3,593.7	13.3	70.0	-129.48	1,015.5	-5,324.5	5,765.1	5,684.1	81.02	71.154	
3,800.0	3,741.0	3,691.5	3,691.5	13.7	72.0	-129.63	1,015.5	-5,324.5	5,778.5	5,695.2	83.34	69.338	
3,900.0	3,838.8	3,789.3	3,789.3	14.2	73.9	-129.79	1,015.5	-5,324.5	5,792.0	5,706.3	85.65	67.622	
4,000.0	3,936.6	3,887.1	3,887.1	14.6	75.9	-129.95	1,015.5	-5,324.5	5,805.5	5,717.5	87.97	65.997	
4,100.0	4,034.5	3,985.0	3,985.0	15.1	77.9	-130.10	1,015.5	-5,324.5	5,819.0	5,728.8	90.28	64.457	
4,200.0	4,132.3	4,082.8	4,082.8	15.5	79.8	-130.26	1,015.5	-5,324.5	5,832.6	5,740.0	92.59	62.995	
4,300.0	4,230.1	4,180.6	4,180.6	16.0	81.8	-130.41	1,015.5	-5,324.5	5,846.2	5,751.3	94.90	61.604	
4,400.0	4,327.9	4,278.4	4,278.4	16.4	83.8	-130.56	1,015.5	-5,324.5	5,859.9	5,762.7	97.21	60.281	
4,500.0	4,425.7	4,376.2	4,376.2	16.9	85.7	-130.71	1,015.5	-5,324.5	5,873.6	5,774.1	99.52	59.021	
4,600.0	4,523.5	4,474.0	4,474.0	17.3	87.7	-130.87	1,015.5	-5,324.5	5,887.4	5,785.5	101.83	57.818	
4,700.0	4,621.4	4,571.9	4,571.9	17.8	89.7	-131.02	1,015.5	-5,324.5	5,901.2	5,797.0	104.13	56.670	
4,800.0	4,719.2	4,669.7	4,669.7	18.2	91.6	-131.17	1,015.5	-5,324.5	5,915.0	5,808.6	106.44	55.572	
4,900.0	4,817.0	4,767.5	4,767.5	18.7	93.6	-131.32	1,015.5	-5,324.5	5,928.9	5,820.1	108.74	54.522	
5,000.0	4,914.8	4,865.3	4,865.3	19.1	95.6	-131.46	1,015.5	-5,324.5	5,942.8	5,831.7	111.05	53.516	

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-404
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-404	**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 #2	**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
5,100.0	5,012.6	4,963.1	4,963.1	19.6	97.5	-131.61	1,015.5	-5,324.5	5,956.7	5,843.4	113.35	52.552	
5,200.0	5,110.4	5,060.9	5,060.9	20.0	99.5	-131.76	1,015.5	-5,324.5	5,970.7	5,855.1	115.65	51.627	
5,221.3	5,131.3	5,081.8	5,081.8	20.1	99.9	-131.79	1,015.5	-5,324.5	5,973.7	5,857.6	116.14	51.434	
5,300.0	5,208.5	5,159.0	5,159.0	20.4	101.5	-132.05	1,015.5	-5,324.5	5,984.1	5,865.9	118.14	50.652	
5,400.0	5,307.1	5,257.6	5,257.6	20.7	103.5	-132.33	1,015.5	-5,324.5	5,995.1	5,874.5	120.60	49.712	
5,500.0	5,406.3	5,356.8	5,356.8	21.0	105.4	-132.55	1,015.5	-5,324.5	6,003.9	5,880.9	123.00	48.813	
5,600.0	5,505.8	5,456.3	5,456.3	21.2	107.4	-132.72	1,015.5	-5,324.5	6,010.3	5,885.0	125.33	47.956	
5,700.0	5,605.6	5,556.1	5,556.1	21.4	109.5	-132.82	1,015.5	-5,324.5	6,014.4	5,886.8	127.58	47.140	
5,800.0	5,705.6	5,656.1	5,656.1	21.5	111.5	-132.86	1,015.5	-5,324.5	6,016.1	5,886.3	129.76	46.364	
5,821.2	5,726.8	5,677.3	5,677.3	21.5	111.9	-86.51	1,015.5	-5,324.5	6,016.1	5,886.2	129.90	46.313	
5,900.0	5,805.6	5,756.1	5,756.1	21.6	113.5	-86.51	1,015.5	-5,324.5	6,016.1	5,884.5	131.60	45.717	
6,000.0	5,905.6	5,856.1	5,856.1	21.7	115.5	-86.51	1,015.5	-5,324.5	6,016.1	5,882.4	133.76	44.977	
6,100.0	6,005.6	5,956.1	5,956.1	21.9	117.5	-86.51	1,015.5	-5,324.5	6,016.1	5,880.2	135.93	44.260	
6,200.0	6,105.6	6,056.1	6,056.1	22.0	119.5	-86.51	1,015.5	-5,324.5	6,016.1	5,878.0	138.09	43.565	
6,300.0	6,205.6	6,156.1	6,156.1	22.1	121.5	-86.51	1,015.5	-5,324.5	6,016.1	5,875.9	140.26	42.891	
6,400.0	6,305.6	6,256.1	6,256.1	22.3	123.5	-86.51	1,015.5	-5,324.5	6,016.1	5,873.7	142.43	42.238	
6,500.0	6,405.6	6,356.1	6,356.1	22.4	125.5	-86.51	1,015.5	-5,324.5	6,016.1	5,871.5	144.61	41.603	
6,600.0	6,505.6	6,456.1	6,456.1	22.5	127.6	-86.51	1,015.5	-5,324.5	6,016.1	5,869.3	146.78	40.987	
6,684.2	6,589.8	6,540.3	6,540.3	22.6	129.2	-86.51	1,015.5	-5,324.5	6,016.1	5,867.5	148.61	40.483	
6,700.0	6,605.6	6,556.1	6,556.1	22.7	129.6	3.49	1,015.5	-5,324.5	6,015.9	5,866.8	149.13	40.341	
6,750.0	6,655.5	6,606.0	6,606.0	22.7	130.6	3.51	1,015.5	-5,324.5	6,013.1	5,863.6	149.54	40.210	
6,800.0	6,705.1	6,655.6	6,655.6	22.7	131.6	3.54	1,015.5	-5,324.5	6,006.8	5,857.6	149.22	40.254	
6,850.0	6,754.1	6,704.6	6,704.6	22.7	132.6	3.60	1,015.5	-5,324.5	5,997.0	5,848.9	148.16	40.477	
6,900.0	6,802.3	6,752.8	6,752.8	22.7	133.5	3.68	1,015.5	-5,324.5	5,983.9	5,837.6	146.35	40.889	
6,950.0	6,849.5	6,800.0	6,800.0	22.6	134.5	3.78	1,015.5	-5,324.5	5,967.4	5,823.7	143.78	41.503	
7,000.0	6,895.5	6,846.0	6,846.0	22.5	135.4	3.91	1,015.5	-5,324.5	5,947.7	5,807.3	140.48	42.339	
7,050.0	6,939.9	6,890.4	6,890.4	22.4	136.3	4.06	1,015.5	-5,324.5	5,924.9	5,788.4	136.44	43.423	
7,100.0	6,982.6	6,933.1	6,933.1	22.3	137.1	4.26	1,015.5	-5,324.5	5,899.0	5,767.3	131.70	44.792	
7,150.0	7,023.4	6,973.9	6,973.9	22.2	138.0	4.49	1,015.5	-5,324.5	5,870.2	5,743.9	126.27	46.489	
7,200.0	7,062.2	7,012.7	7,012.7	22.1	138.7	4.78	1,015.5	-5,324.5	5,838.6	5,718.4	120.20	48.574	
7,250.0	7,098.6	7,049.1	7,049.1	22.0	139.5	5.14	1,015.5	-5,324.5	5,804.4	5,690.9	113.54	51.124	
7,300.0	7,132.5	7,083.0	7,083.0	21.9	140.2	5.57	1,015.5	-5,324.5	5,767.8	5,661.4	106.35	54.236	
7,350.0	7,163.8	7,114.3	7,114.3	21.8	140.8	6.12	1,015.5	-5,324.5	5,728.9	5,630.1	98.72	58.029	
7,400.0	7,192.2	7,142.7	7,142.7	21.7	141.4	6.81	1,015.5	-5,324.5	5,687.9	5,597.1	90.80	62.640	
7,450.0	7,217.8	7,168.3	7,168.3	21.6	141.9	7.71	1,015.5	-5,324.5	5,645.0	5,562.2	82.79	68.187	
7,500.0	7,240.3	7,190.8	7,190.8	21.6	142.3	8.91	1,015.5	-5,324.5	5,600.4	5,525.4	75.03	74.646	
7,550.0	7,259.6	7,210.1	7,210.1	21.6	142.7	10.58	1,015.5	-5,324.5	5,554.4	5,486.2	68.19	81.459	
7,600.0	7,275.7	7,226.2	7,226.2	21.6	143.0	13.04	1,015.5	-5,324.5	5,507.2	5,443.5	63.64	86.532	
7,650.0	7,288.4	7,238.9	7,238.9	21.8	143.3	16.97	1,015.5	-5,324.5	5,459.0	5,394.7	64.30	84.892	
7,700.0	7,297.7	7,248.2	7,248.2	22.0	143.5	24.09	1,015.5	-5,324.5	5,410.0	5,334.0	75.94	71.241	
7,750.0	7,303.6	7,254.1	7,254.1	22.4	143.6	39.69	1,015.5	-5,324.5	5,360.4	5,250.8	109.67	48.879	
7,800.0	7,305.9	7,256.4	7,256.4	22.9	143.6	79.48	1,015.5	-5,324.5	5,310.6	5,146.6	164.06	32.370	
7,809.2	7,306.0	7,256.5	7,256.5	23.0	143.6	90.00	1,015.5	-5,324.5	5,301.4	5,134.9	166.53	31.834	
7,900.0	7,306.0	7,256.5	7,256.5	24.3	143.6	90.00	1,015.5	-5,324.5	5,210.9	5,042.9	167.92	31.032	
8,000.0	7,306.0	7,256.5	7,256.5	26.0	143.6	90.00	1,015.5	-5,324.5	5,111.1	4,941.5	169.65	30.128	
8,100.0	7,306.0	7,256.5	7,256.5	27.9	143.6	90.00	1,015.5	-5,324.5	5,011.4	4,839.8	171.55	29.212	
8,200.0	7,306.0	7,256.5	7,256.5	30.0	143.6	90.00	1,015.5	-5,324.5	4,911.6	4,738.0	173.60	28.293	
8,300.0	7,306.0	7,256.5	7,256.5	32.2	143.6	90.00	1,015.5	-5,324.5	4,811.9	4,636.2	175.76	27.378	
8,400.0	7,306.0	7,256.5	7,256.5	34.4	143.6	90.00	1,015.5	-5,324.5	4,712.2	4,534.2	178.01	26.471	
8,500.0	7,306.0	7,256.5	7,256.5	36.8	143.6	90.00	1,015.5	-5,324.5	4,612.5	4,432.2	180.35	25.576	
8,600.0	7,306.0	7,256.5	7,256.5	39.2	143.6	90.00	1,015.5	-5,324.5	4,512.9	4,330.1	182.74	24.695	
8,700.0	7,306.0	7,256.5	7,256.5	41.7	143.6	90.00	1,015.5	-5,324.5	4,413.2	4,228.0	185.19	23.831	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,256.5	7,256.5	44.1	143.6	90.00	1,015.5	-5,324.5	4,313.5	4,125.9	187.68	22.984	
8,900.0	7,306.0	7,256.5	7,256.5	46.7	143.6	90.00	1,015.5	-5,324.5	4,213.9	4,023.7	190.20	22.155	
9,000.0	7,306.0	7,256.5	7,256.5	49.2	143.6	90.00	1,015.5	-5,324.5	4,114.3	3,921.5	192.76	21.344	
9,100.0	7,306.0	7,256.5	7,256.5	51.8	143.6	90.00	1,015.5	-5,324.5	4,014.7	3,819.4	195.34	20.552	
9,200.0	7,306.0	7,256.5	7,256.5	54.4	143.6	90.00	1,015.5	-5,324.5	3,915.1	3,717.2	197.95	19.778	
9,300.0	7,306.0	7,256.5	7,256.5	57.1	143.6	90.00	1,015.5	-5,324.5	3,815.6	3,615.0	200.58	19.023	
9,400.0	7,306.0	7,256.5	7,256.5	59.7	143.6	90.00	1,015.5	-5,324.5	3,716.1	3,512.8	203.22	18.286	
9,500.0	7,306.0	7,256.5	7,256.5	62.4	143.6	90.00	1,015.5	-5,324.5	3,616.6	3,410.7	205.87	17.567	
9,600.0	7,306.0	7,256.5	7,256.5	65.0	143.6	90.00	1,015.5	-5,324.5	3,517.1	3,308.6	208.54	16.865	
9,700.0	7,306.0	7,256.5	7,256.5	67.7	143.6	90.00	1,015.5	-5,324.5	3,417.7	3,206.4	211.22	16.180	
9,800.0	7,306.0	7,256.5	7,256.5	70.4	143.6	90.00	1,015.5	-5,324.5	3,318.3	3,104.3	213.91	15.512	
9,900.0	7,306.0	7,256.5	7,256.5	73.1	143.6	90.00	1,015.5	-5,324.5	3,218.9	3,002.3	216.61	14.860	
10,000.0	7,306.0	7,256.5	7,256.5	75.8	143.6	90.00	1,015.5	-5,324.5	3,119.6	2,900.2	219.32	14.224	
10,100.0	7,306.0	7,256.5	7,256.5	78.5	143.6	90.00	1,015.5	-5,324.5	3,020.3	2,798.2	222.03	13.603	
10,200.0	7,306.0	7,256.5	7,256.5	81.2	143.6	90.00	1,015.5	-5,324.5	2,921.0	2,696.3	224.75	12.997	
10,300.0	7,306.0	7,256.5	7,256.5	84.0	143.6	90.00	1,015.5	-5,324.5	2,821.9	2,594.4	227.48	12.405	
10,400.0	7,306.0	7,256.5	7,256.5	86.7	143.6	90.00	1,015.5	-5,324.5	2,722.7	2,492.5	230.21	11.827	
10,500.0	7,306.0	7,256.5	7,256.5	89.4	143.6	90.00	1,015.5	-5,324.5	2,623.7	2,390.7	232.95	11.263	
10,600.0	7,306.0	7,256.5	7,256.5	92.2	143.6	90.00	1,015.5	-5,324.5	2,524.7	2,289.0	235.69	10.712	
10,700.0	7,306.0	7,256.5	7,256.5	94.9	143.6	90.00	1,015.5	-5,324.5	2,425.8	2,187.4	238.44	10.174	
10,800.0	7,306.0	7,256.5	7,256.5	97.6	143.6	90.00	1,015.5	-5,324.5	2,327.0	2,085.8	241.18	9.648	
10,900.0	7,306.0	7,256.5	7,256.5	100.4	143.6	90.00	1,015.5	-5,324.5	2,228.3	1,984.4	243.94	9.135	
11,000.0	7,306.0	7,256.5	7,256.5	103.2	143.6	90.00	1,015.5	-5,324.5	2,129.7	1,883.0	246.69	8.633	
11,100.0	7,306.0	7,256.5	7,256.5	105.9	143.6	90.00	1,015.5	-5,324.5	2,031.3	1,781.8	249.45	8.143	
11,200.0	7,306.0	7,256.5	7,256.5	108.7	143.6	90.00	1,015.5	-5,324.5	1,933.0	1,680.8	252.21	7.664	
11,300.0	7,306.0	7,256.5	7,256.5	111.4	143.6	90.00	1,015.5	-5,324.5	1,834.9	1,580.0	254.97	7.197	
11,400.0	7,306.0	7,256.5	7,256.5	114.2	143.6	90.00	1,015.5	-5,324.5	1,737.1	1,479.3	257.74	6.740	
11,500.0	7,306.0	7,256.5	7,256.5	117.0	143.6	90.00	1,015.5	-5,324.5	1,639.4	1,378.9	260.50	6.293	
11,600.0	7,306.0	7,256.5	7,256.5	119.7	143.6	90.00	1,015.5	-5,324.5	1,542.1	1,278.9	263.27	5.858	
11,700.0	7,306.0	7,256.5	7,256.5	122.5	143.6	90.00	1,015.5	-5,324.5	1,445.2	1,179.2	266.04	5.432	
11,800.0	7,306.0	7,256.5	7,256.5	125.3	143.6	90.00	1,015.5	-5,324.5	1,348.7	1,079.9	268.82	5.017	
11,900.0	7,306.0	7,256.5	7,256.5	128.0	143.6	90.00	1,015.5	-5,324.5	1,252.8	981.2	271.59	4.613	
12,000.0	7,306.0	7,256.5	7,256.5	130.8	143.6	90.00	1,015.5	-5,324.5	1,157.5	883.1	274.36	4.219	
12,100.0	7,306.0	7,256.5	7,256.5	133.6	143.6	90.00	1,015.5	-5,324.5	1,063.1	786.0	277.14	3.836	
12,200.0	7,306.0	7,256.5	7,256.5	136.4	143.6	90.00	1,015.5	-5,324.5	969.9	689.9	279.92	3.465	
12,300.0	7,306.0	7,256.5	7,256.5	139.1	143.6	90.00	1,015.5	-5,324.5	878.1	595.4	282.70	3.106	
12,400.0	7,306.0	7,256.5	7,256.5	141.9	143.6	90.00	1,015.5	-5,324.5	788.3	502.9	285.48	2.761	
12,500.0	7,306.0	7,256.5	7,256.5	144.7	143.6	90.00	1,015.5	-5,324.5	701.3	413.1	288.26	2.433	
12,600.0	7,306.0	7,256.5	7,256.5	147.5	143.6	90.00	1,015.5	-5,324.5	618.3	327.3	291.04	2.124	
12,700.0	7,306.0	7,256.5	7,256.5	150.3	143.6	90.00	1,015.5	-5,324.5	541.0	247.2	293.83	1.841	
12,800.0	7,306.0	7,256.5	7,256.5	153.0	143.6	90.00	1,015.5	-5,324.5	472.3	175.7	296.61	1.592	
12,900.0	7,306.0	7,256.5	7,256.5	155.8	143.6	90.00	1,015.5	-5,324.5	416.6	117.2	299.40	1.391	Level 3
13,000.0	7,306.0	7,256.5	7,256.5	158.6	143.6	90.00	1,015.5	-5,324.5	379.4	77.2	302.18	1.255	Level 3
13,097.9	7,306.0	7,256.5	7,256.5	161.3	143.6	90.00	1,015.5	-5,324.5	366.5	61.6	304.91	1.202	Level 2, CC
13,100.0	7,306.0	7,256.5	7,256.5	161.4	143.6	90.00	1,015.5	-5,324.5	366.5	61.6	304.97	1.202	Level 2, ES, SF
13,200.0	7,306.0	7,256.5	7,256.5	164.2	143.6	90.00	1,015.5	-5,324.5	380.5	72.7	307.76	1.236	Level 2
13,300.0	7,306.0	7,256.5	7,256.5	167.0	143.6	90.00	1,015.5	-5,324.5	418.5	108.0	310.55	1.348	Level 3
13,400.0	7,306.0	7,256.5	7,256.5	169.8	143.6	90.00	1,015.5	-5,324.5	475.0	161.6	313.34	1.516	
13,500.0	7,306.0	7,256.5	7,256.5	172.6	143.6	90.00	1,015.5	-5,324.5	544.0	227.9	316.13	1.721	
13,600.0	7,306.0	7,256.5	7,256.5	175.3	143.6	90.00	1,015.5	-5,324.5	621.6	302.7	318.92	1.949	
13,700.0	7,306.0	7,256.5	7,256.5	178.1	143.6	90.00	1,015.5	-5,324.5	704.8	383.1	321.71	2.191	
13,800.0	7,306.0	7,256.5	7,256.5	180.9	143.6	90.00	1,015.5	-5,324.5	792.0	467.5	324.50	2.441	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,256.5	7,256.5	183.7	143.6	90.00	1,015.5	-5,324.5	881.8	554.5	327.29	2.694	
14,000.0	7,306.0	7,256.5	7,256.5	186.5	143.6	90.00	1,015.5	-5,324.5	973.7	643.6	330.08	2.950	
14,100.0	7,306.0	7,256.5	7,256.5	189.3	143.6	90.00	1,015.5	-5,324.5	1,067.0	734.1	332.88	3.205	
14,200.0	7,306.0	7,256.5	7,256.5	192.1	143.6	90.00	1,015.5	-5,324.5	1,161.4	825.7	335.67	3.460	
14,300.0	7,306.0	7,256.5	7,256.5	194.9	143.6	90.00	1,015.5	-5,324.5	1,256.7	918.2	338.46	3.713	
14,363.6	7,306.0	7,256.5	7,256.5	196.7	143.6	90.00	1,015.5	-5,324.5	1,317.6	977.4	340.24	3.873	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-65.24	2,387.8	-5,176.4	5,700.8				
100.0	100.0	57.5	57.5	0.1	0.0	-65.24	2,387.8	-5,176.4	5,700.6	5,700.5	0.10	N/A	
200.0	200.0	157.5	157.5	0.3	0.7	-65.24	2,387.8	-5,176.4	5,700.6	5,699.6	1.03	5,554.720	
300.0	300.0	257.5	257.5	0.5	2.5	-65.24	2,387.8	-5,176.4	5,700.6	5,697.5	3.08	1,847.982	
400.0	400.0	357.5	357.5	0.8	4.7	-65.24	2,387.8	-5,176.4	5,700.6	5,695.1	5.47	1,041.225	
500.0	500.0	457.5	457.5	1.0	6.8	-65.24	2,387.8	-5,176.4	5,700.6	5,692.9	7.76	734.906	
600.0	600.0	557.5	557.5	1.2	8.8	-65.24	2,387.8	-5,176.4	5,700.6	5,690.6	10.02	569.136	
700.0	700.0	657.5	657.5	1.4	10.8	-65.24	2,387.8	-5,176.4	5,700.6	5,688.4	12.27	464.733	
800.0	800.0	757.5	757.5	1.7	12.8	-111.59	2,387.8	-5,176.4	5,701.3	5,686.8	14.51	393.030	
900.0	899.8	857.3	857.3	1.9	14.9	-111.61	2,387.8	-5,176.4	5,703.2	5,686.5	16.74	340.764	
1,000.0	999.5	957.0	957.0	2.1	16.9	-111.63	2,387.8	-5,176.4	5,706.4	5,687.4	18.97	300.869	
1,100.0	1,098.7	1,056.2	1,056.2	2.4	18.9	-111.66	2,387.8	-5,176.4	5,710.9	5,689.7	21.20	269.366	
1,200.0	1,197.5	1,155.0	1,155.0	2.7	20.9	-111.69	2,387.8	-5,176.4	5,716.8	5,693.3	23.45	243.811	
1,299.9	1,295.5	1,253.0	1,253.0	3.0	22.8	-111.73	2,387.8	-5,176.4	5,723.9	5,698.2	25.71	222.652	
1,300.0	1,295.6	1,253.1	1,253.1	3.0	22.8	-111.73	2,387.8	-5,176.4	5,724.0	5,698.2	25.71	222.626	
1,400.0	1,393.4	1,350.9	1,350.9	3.4	24.8	-111.92	2,387.8	-5,176.4	5,731.8	5,703.8	28.02	204.579	
1,500.0	1,491.3	1,448.8	1,448.8	3.7	26.8	-112.11	2,387.8	-5,176.4	5,739.8	5,709.4	30.34	189.177	
1,600.0	1,589.1	1,546.6	1,546.6	4.1	28.7	-112.30	2,387.8	-5,176.4	5,747.8	5,715.1	32.68	175.903	
1,700.0	1,686.9	1,644.4	1,644.4	4.5	30.7	-112.49	2,387.8	-5,176.4	5,755.8	5,720.8	35.02	164.362	
1,800.0	1,784.7	1,742.2	1,742.2	5.0	32.7	-112.68	2,387.8	-5,176.4	5,764.0	5,726.6	37.37	154.245	
1,900.0	1,882.5	1,840.0	1,840.0	5.4	34.6	-112.86	2,387.8	-5,176.4	5,772.2	5,732.5	39.72	145.310	
2,000.0	1,980.3	1,937.8	1,937.8	5.8	36.6	-113.05	2,387.8	-5,176.4	5,780.4	5,738.4	42.08	137.365	
2,100.0	2,078.1	2,035.6	2,035.6	6.2	38.6	-113.23	2,387.8	-5,176.4	5,788.8	5,744.3	44.44	130.257	
2,200.0	2,176.0	2,133.5	2,133.5	6.7	40.5	-113.42	2,387.8	-5,176.4	5,797.1	5,750.3	46.80	123.863	
2,300.0	2,273.8	2,231.3	2,231.3	7.1	42.5	-113.60	2,387.8	-5,176.4	5,805.6	5,756.4	49.17	118.081	
2,400.0	2,371.6	2,329.1	2,329.1	7.5	44.5	-113.79	2,387.8	-5,176.4	5,814.1	5,762.6	51.53	112.828	
2,500.0	2,469.4	2,426.9	2,426.9	8.0	46.4	-113.97	2,387.8	-5,176.4	5,822.7	5,768.8	53.90	108.037	
2,600.0	2,567.2	2,524.7	2,524.7	8.4	48.4	-114.16	2,387.8	-5,176.4	5,831.3	5,775.0	56.26	103.648	
2,700.0	2,665.0	2,622.5	2,622.5	8.8	50.4	-114.34	2,387.8	-5,176.4	5,840.0	5,781.4	58.63	99.615	
2,800.0	2,762.9	2,720.4	2,720.4	9.3	52.4	-114.52	2,387.8	-5,176.4	5,848.8	5,787.8	60.99	95.895	
2,900.0	2,860.7	2,818.2	2,818.2	9.7	54.3	-114.70	2,387.8	-5,176.4	5,857.6	5,794.2	63.36	92.454	
3,000.0	2,958.5	2,916.0	2,916.0	10.2	56.3	-114.88	2,387.8	-5,176.4	5,866.4	5,800.7	65.72	89.262	
3,100.0	3,056.3	3,013.8	3,013.8	10.6	58.3	-115.06	2,387.8	-5,176.4	5,875.4	5,807.3	68.09	86.294	
3,200.0	3,154.1	3,111.6	3,111.6	11.1	60.2	-115.24	2,387.8	-5,176.4	5,884.4	5,813.9	70.45	83.525	
3,300.0	3,251.9	3,209.4	3,209.4	11.5	62.2	-115.42	2,387.8	-5,176.4	5,893.4	5,820.6	72.81	80.938	
3,400.0	3,349.8	3,307.3	3,307.3	12.0	64.2	-115.60	2,387.8	-5,176.4	5,902.5	5,827.4	75.18	78.515	
3,500.0	3,447.6	3,405.1	3,405.1	12.4	66.1	-115.78	2,387.8	-5,176.4	5,911.7	5,834.2	77.54	76.242	
3,600.0	3,545.4	3,502.9	3,502.9	12.8	68.1	-115.96	2,387.8	-5,176.4	5,921.0	5,841.1	79.90	74.103	
3,700.0	3,643.2	3,600.7	3,600.7	13.3	70.1	-116.14	2,387.8	-5,176.4	5,930.2	5,848.0	82.26	72.089	
3,800.0	3,741.0	3,698.5	3,698.5	13.7	72.0	-116.31	2,387.8	-5,176.4	5,939.6	5,855.0	84.62	70.189	
3,900.0	3,838.8	3,796.3	3,796.3	14.2	74.0	-116.49	2,387.8	-5,176.4	5,949.0	5,862.0	86.98	68.393	
4,000.0	3,936.6	3,894.1	3,894.1	14.6	76.0	-116.67	2,387.8	-5,176.4	5,958.5	5,869.1	89.34	66.693	
4,100.0	4,034.5	3,992.0	3,992.0	15.1	77.9	-116.84	2,387.8	-5,176.4	5,968.0	5,876.3	91.70	65.082	
4,200.0	4,132.3	4,089.8	4,089.8	15.5	79.9	-117.02	2,387.8	-5,176.4	5,977.6	5,883.5	94.06	63.553	
4,300.0	4,230.1	4,187.6	4,187.6	16.0	81.9	-117.19	2,387.8	-5,176.4	5,987.2	5,890.8	96.41	62.100	
4,400.0	4,327.9	4,285.4	4,285.4	16.4	83.8	-117.36	2,387.8	-5,176.4	5,996.9	5,898.1	98.77	60.717	
4,500.0	4,425.7	4,383.2	4,383.2	16.9	85.8	-117.54	2,387.8	-5,176.4	6,006.6	5,905.5	101.12	59.399	
4,600.0	4,523.5	4,481.0	4,481.0	17.3	87.8	-117.71	2,387.8	-5,176.4	6,016.5	5,913.0	103.48	58.143	
4,700.0	4,621.4	4,578.9	4,578.9	17.8	89.7	-117.88	2,387.8	-5,176.4	6,026.3	5,920.5	105.83	56.944	
4,800.0	4,719.2	4,676.7	4,676.7	18.2	91.7	-118.05	2,387.8	-5,176.4	6,036.2	5,928.0	108.18	55.797	
4,900.0	4,817.0	4,774.5	4,774.5	18.7	93.7	-118.22	2,387.8	-5,176.4	6,046.2	5,935.7	110.53	54.701	
5,000.0	4,914.8	4,872.3	4,872.3	19.1	95.6	-118.39	2,387.8	-5,176.4	6,056.2	5,943.3	112.88	53.651	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	4,970.1	4,970.1	19.6	97.6	-118.56	2,387.8	-5,176.4	6,066.3	5,951.1	115.23	52.644	
5,200.0	5,110.4	5,067.9	5,067.9	20.0	99.6	-118.73	2,387.8	-5,176.4	6,076.4	5,958.9	117.58	51.679	
5,221.3	5,131.3	5,088.8	5,088.8	20.1	100.0	-118.77	2,387.8	-5,176.4	6,078.6	5,960.5	118.08	51.478	
5,300.0	5,208.5	5,166.0	5,166.0	20.4	101.5	-119.02	2,387.8	-5,176.4	6,086.1	5,966.1	120.00	50.718	
5,400.0	5,307.1	5,264.6	5,264.6	20.7	103.5	-119.30	2,387.8	-5,176.4	6,094.2	5,971.8	122.37	49.803	
5,500.0	5,406.3	5,363.8	5,363.8	21.0	105.5	-119.52	2,387.8	-5,176.4	6,100.6	5,975.9	124.69	48.926	
5,600.0	5,505.8	5,463.3	5,463.3	21.2	107.5	-119.67	2,387.8	-5,176.4	6,105.2	5,978.3	126.96	48.086	
5,700.0	5,605.6	5,563.1	5,563.1	21.4	109.5	-119.77	2,387.8	-5,176.4	6,108.2	5,979.0	129.18	47.283	
5,800.0	5,705.6	5,663.1	5,663.1	21.5	111.5	-119.82	2,387.8	-5,176.4	6,109.4	5,978.1	131.34	46.515	
5,821.2	5,726.8	5,684.3	5,684.3	21.5	112.0	-73.46	2,387.8	-5,176.4	6,109.5	5,981.2	128.29	47.624	
5,900.0	5,805.6	5,763.1	5,763.1	21.6	113.5	-73.46	2,387.8	-5,176.4	6,109.5	5,979.5	129.99	47.000	
6,000.0	5,905.6	5,863.1	5,863.1	21.7	115.6	-73.46	2,387.8	-5,176.4	6,109.5	5,977.3	132.17	46.225	
6,100.0	6,005.6	5,963.1	5,963.1	21.9	117.6	-73.46	2,387.8	-5,176.4	6,109.5	5,975.1	134.35	45.474	
6,200.0	6,105.6	6,063.1	6,063.1	22.0	119.6	-73.46	2,387.8	-5,176.4	6,109.5	5,973.0	136.53	44.748	
6,300.0	6,205.6	6,163.1	6,163.1	22.1	121.6	-73.46	2,387.8	-5,176.4	6,109.5	5,970.8	138.72	44.043	
6,400.0	6,305.6	6,263.1	6,263.1	22.3	123.6	-73.46	2,387.8	-5,176.4	6,109.5	5,968.6	140.90	43.360	
6,500.0	6,405.6	6,363.1	6,363.1	22.4	125.6	-73.46	2,387.8	-5,176.4	6,109.5	5,966.4	143.09	42.698	
6,600.0	6,505.6	6,463.1	6,463.1	22.5	127.6	-73.46	2,387.8	-5,176.4	6,109.5	5,964.2	145.27	42.055	
6,684.2	6,589.8	6,547.3	6,547.3	22.6	129.3	-73.46	2,387.8	-5,176.4	6,109.5	5,962.4	147.12	41.528	
6,700.0	6,605.6	6,563.1	6,563.1	22.7	129.6	16.54	2,387.8	-5,176.4	6,109.3	5,958.7	150.64	40.556	
6,750.0	6,655.5	6,613.0	6,613.0	22.7	130.6	16.61	2,387.8	-5,176.4	6,106.6	5,955.5	151.12	40.409	
6,800.0	6,705.1	6,662.6	6,662.6	22.7	131.6	16.77	2,387.8	-5,176.4	6,100.5	5,949.6	150.93	40.421	
6,850.0	6,754.1	6,711.6	6,711.6	22.7	132.6	17.02	2,387.8	-5,176.4	6,091.2	5,941.1	150.06	40.593	
6,900.0	6,802.3	6,759.8	6,759.8	22.7	133.6	17.36	2,387.8	-5,176.4	6,078.6	5,930.0	148.52	40.928	
6,950.0	6,849.5	6,807.0	6,807.0	22.6	134.5	17.81	2,387.8	-5,176.4	6,062.8	5,916.4	146.33	41.431	
7,000.0	6,895.5	6,853.0	6,853.0	22.5	135.5	18.38	2,387.8	-5,176.4	6,043.9	5,900.3	143.54	42.106	
7,050.0	6,939.9	6,897.4	6,897.4	22.4	136.4	19.07	2,387.8	-5,176.4	6,021.9	5,881.7	140.18	42.957	
7,100.0	6,982.6	6,940.1	6,940.1	22.3	137.2	19.92	2,387.8	-5,176.4	5,997.1	5,860.7	136.35	43.982	
7,150.0	7,023.4	6,980.9	6,980.9	22.2	138.0	20.94	2,387.8	-5,176.4	5,969.5	5,837.3	132.15	45.171	
7,200.0	7,062.2	7,019.7	7,019.7	22.1	138.8	22.16	2,387.8	-5,176.4	5,939.2	5,811.5	127.74	46.495	
7,250.0	7,098.6	7,056.1	7,056.1	22.0	139.5	23.64	2,387.8	-5,176.4	5,906.5	5,783.1	123.33	47.892	
7,300.0	7,132.5	7,090.0	7,090.0	21.9	140.2	25.41	2,387.8	-5,176.4	5,871.4	5,752.2	119.22	49.249	
7,350.0	7,163.8	7,121.3	7,121.3	21.8	140.9	27.57	2,387.8	-5,176.4	5,834.2	5,718.3	115.81	50.379	
7,400.0	7,192.2	7,149.7	7,149.7	21.7	141.4	30.19	2,387.8	-5,176.4	5,794.9	5,681.3	113.61	51.009	
7,450.0	7,217.8	7,175.3	7,175.3	21.6	141.9	33.40	2,387.8	-5,176.4	5,754.0	5,640.7	113.24	50.810	
7,500.0	7,240.3	7,197.8	7,197.8	21.6	142.4	37.37	2,387.8	-5,176.4	5,711.4	5,596.1	115.38	49.501	
7,550.0	7,259.6	7,217.1	7,217.1	21.6	142.8	42.32	2,387.8	-5,176.4	5,667.5	5,547.0	120.54	47.017	
7,600.0	7,275.7	7,233.2	7,233.2	21.6	143.1	48.48	2,387.8	-5,176.4	5,622.5	5,493.6	128.89	43.624	
7,650.0	7,288.4	7,245.9	7,245.9	21.8	143.4	56.11	2,387.8	-5,176.4	5,576.5	5,436.7	139.83	39.882	
7,700.0	7,297.7	7,255.2	7,255.2	22.0	143.6	65.37	2,387.8	-5,176.4	5,529.9	5,378.2	151.68	36.458	
7,750.0	7,303.6	7,261.1	7,261.1	22.4	143.7	76.13	2,387.8	-5,176.4	5,482.8	5,321.2	161.60	33.929	
7,800.0	7,305.9	7,263.4	7,263.4	22.9	143.7	87.82	2,387.8	-5,176.4	5,435.5	5,269.0	166.44	32.658	
7,809.2	7,306.0	7,263.5	7,263.5	23.0	143.7	90.00	2,387.8	-5,176.4	5,426.7	5,260.1	166.60	32.573	
7,900.0	7,306.0	7,263.5	7,263.5	24.3	143.7	90.00	2,387.8	-5,176.4	5,340.8	5,172.8	167.99	31.793	
8,000.0	7,306.0	7,263.5	7,263.5	26.0	143.7	90.00	2,387.8	-5,176.4	5,246.4	5,076.6	169.72	30.913	
8,100.0	7,306.0	7,263.5	7,263.5	27.9	143.7	90.00	2,387.8	-5,176.4	5,152.1	4,980.5	171.62	30.021	
8,200.0	7,306.0	7,263.5	7,263.5	30.0	143.7	90.00	2,387.8	-5,176.4	5,058.1	4,884.4	173.67	29.125	
8,300.0	7,306.0	7,263.5	7,263.5	32.2	143.7	90.00	2,387.8	-5,176.4	4,964.3	4,788.5	175.83	28.234	
8,400.0	7,306.0	7,263.5	7,263.5	34.4	143.7	90.00	2,387.8	-5,176.4	4,870.8	4,692.7	178.08	27.351	
8,500.0	7,306.0	7,263.5	7,263.5	36.8	143.7	90.00	2,387.8	-5,176.4	4,777.5	4,597.1	180.42	26.480	
8,600.0	7,306.0	7,263.5	7,263.5	39.2	143.7	90.00	2,387.8	-5,176.4	4,684.5	4,501.7	182.81	25.625	
8,700.0	7,306.0	7,263.5	7,263.5	41.7	143.7	90.00	2,387.8	-5,176.4	4,591.8	4,406.5	185.26	24.786	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,263.5	7,263.5	44.1	143.7	90.00	2,387.8	-5,176.4	4,499.4	4,311.6	187.75	23.965	
8,900.0	7,306.0	7,263.5	7,263.5	46.7	143.7	90.00	2,387.8	-5,176.4	4,407.3	4,217.1	190.28	23.163	
9,000.0	7,306.0	7,263.5	7,263.5	49.2	143.7	90.00	2,387.8	-5,176.4	4,315.6	4,122.8	192.83	22.380	
9,100.0	7,306.0	7,263.5	7,263.5	51.8	143.7	90.00	2,387.8	-5,176.4	4,224.3	4,028.9	195.42	21.617	
9,200.0	7,306.0	7,263.5	7,263.5	54.4	143.7	90.00	2,387.8	-5,176.4	4,133.4	3,935.3	198.02	20.873	
9,300.0	7,306.0	7,263.5	7,263.5	57.1	143.7	90.00	2,387.8	-5,176.4	4,042.9	3,842.2	200.65	20.149	
9,400.0	7,306.0	7,263.5	7,263.5	59.7	143.7	90.00	2,387.8	-5,176.4	3,952.8	3,749.5	203.29	19.445	
9,500.0	7,306.0	7,263.5	7,263.5	62.4	143.7	90.00	2,387.8	-5,176.4	3,863.3	3,657.3	205.94	18.759	
9,600.0	7,306.0	7,263.5	7,263.5	65.0	143.7	90.00	2,387.8	-5,176.4	3,774.2	3,565.6	208.61	18.092	
9,700.0	7,306.0	7,263.5	7,263.5	67.7	143.7	90.00	2,387.8	-5,176.4	3,685.8	3,474.5	211.29	17.444	
9,800.0	7,306.0	7,263.5	7,263.5	70.4	143.7	90.00	2,387.8	-5,176.4	3,597.9	3,383.9	213.98	16.814	
9,900.0	7,306.0	7,263.5	7,263.5	73.1	143.7	90.00	2,387.8	-5,176.4	3,510.7	3,294.0	216.68	16.202	
10,000.0	7,306.0	7,263.5	7,263.5	75.8	143.7	90.00	2,387.8	-5,176.4	3,424.2	3,204.8	219.39	15.608	
10,100.0	7,306.0	7,263.5	7,263.5	78.5	143.7	90.00	2,387.8	-5,176.4	3,338.4	3,116.3	222.10	15.031	
10,200.0	7,306.0	7,263.5	7,263.5	81.2	143.7	90.00	2,387.8	-5,176.4	3,253.5	3,028.6	224.82	14.471	
10,300.0	7,306.0	7,263.5	7,263.5	84.0	143.7	90.00	2,387.8	-5,176.4	3,169.4	2,941.9	227.55	13.928	
10,400.0	7,306.0	7,263.5	7,263.5	86.7	143.7	90.00	2,387.8	-5,176.4	3,086.3	2,856.0	230.28	13.402	
10,500.0	7,306.0	7,263.5	7,263.5	89.4	143.7	90.00	2,387.8	-5,176.4	3,004.2	2,771.2	233.02	12.892	
10,600.0	7,306.0	7,263.5	7,263.5	92.2	143.7	90.00	2,387.8	-5,176.4	2,923.2	2,687.5	235.76	12.399	
10,700.0	7,306.0	7,263.5	7,263.5	94.9	143.7	90.00	2,387.8	-5,176.4	2,843.5	2,605.0	238.51	11.922	
10,800.0	7,306.0	7,263.5	7,263.5	97.6	143.7	90.00	2,387.8	-5,176.4	2,765.0	2,523.8	241.25	11.461	
10,900.0	7,306.0	7,263.5	7,263.5	100.4	143.7	90.00	2,387.8	-5,176.4	2,688.0	2,444.0	244.01	11.016	
11,000.0	7,306.0	7,263.5	7,263.5	103.2	143.7	90.00	2,387.8	-5,176.4	2,612.5	2,365.8	246.76	10.587	
11,100.0	7,306.0	7,263.5	7,263.5	105.9	143.7	90.00	2,387.8	-5,176.4	2,538.8	2,289.3	249.52	10.175	
11,200.0	7,306.0	7,263.5	7,263.5	108.7	143.7	90.00	2,387.8	-5,176.4	2,466.9	2,214.6	252.28	9.778	
11,300.0	7,306.0	7,263.5	7,263.5	111.4	143.7	90.00	2,387.8	-5,176.4	2,397.0	2,141.9	255.04	9.398	
11,400.0	7,306.0	7,263.5	7,263.5	114.2	143.7	90.00	2,387.8	-5,176.4	2,329.3	2,071.5	257.81	9.035	
11,500.0	7,306.0	7,263.5	7,263.5	117.0	143.7	90.00	2,387.8	-5,176.4	2,264.0	2,003.4	260.57	8.688	
11,600.0	7,306.0	7,263.5	7,263.5	119.7	143.7	90.00	2,387.8	-5,176.4	2,201.3	1,937.9	263.34	8.359	
11,700.0	7,306.0	7,263.5	7,263.5	122.5	143.7	90.00	2,387.8	-5,176.4	2,141.4	1,875.3	266.11	8.047	
11,800.0	7,306.0	7,263.5	7,263.5	125.3	143.7	90.00	2,387.8	-5,176.4	2,084.6	1,815.7	268.89	7.753	
11,900.0	7,306.0	7,263.5	7,263.5	128.0	143.7	90.00	2,387.8	-5,176.4	2,031.2	1,759.5	271.66	7.477	
12,000.0	7,306.0	7,263.5	7,263.5	130.8	143.7	90.00	2,387.8	-5,176.4	1,981.3	1,706.9	274.44	7.220	
12,100.0	7,306.0	7,263.5	7,263.5	133.6	143.7	90.00	2,387.8	-5,176.4	1,935.4	1,658.2	277.21	6.982	
12,200.0	7,306.0	7,263.5	7,263.5	136.4	143.7	90.00	2,387.8	-5,176.4	1,893.6	1,613.6	279.99	6.763	
12,300.0	7,306.0	7,263.5	7,263.5	139.1	143.7	90.00	2,387.8	-5,176.4	1,856.3	1,573.5	282.77	6.565	
12,400.0	7,306.0	7,263.5	7,263.5	141.9	143.7	90.00	2,387.8	-5,176.4	1,823.7	1,538.1	285.55	6.387	
12,500.0	7,306.0	7,263.5	7,263.5	144.7	143.7	90.00	2,387.8	-5,176.4	1,796.1	1,507.7	288.33	6.229	
12,600.0	7,306.0	7,263.5	7,263.5	147.5	143.7	90.00	2,387.8	-5,176.4	1,773.7	1,482.6	291.11	6.093	
12,700.0	7,306.0	7,263.5	7,263.5	150.3	143.7	90.00	2,387.8	-5,176.4	1,756.7	1,462.8	293.90	5.977	
12,800.0	7,306.0	7,263.5	7,263.5	153.0	143.7	90.00	2,387.8	-5,176.4	1,745.3	1,448.6	296.68	5.883	
12,900.0	7,306.0	7,263.5	7,263.5	155.8	143.7	90.00	2,387.8	-5,176.4	1,739.5	1,440.1	299.47	5.809	
12,949.8	7,306.0	7,263.5	7,263.5	157.2	143.7	90.00	2,387.8	-5,176.4	1,738.8	1,438.0	300.86	5.780	CC
13,000.0	7,306.0	7,263.5	7,263.5	158.6	143.7	90.00	2,387.8	-5,176.4	1,739.6	1,437.3	302.25	5.755	ES
13,100.0	7,306.0	7,263.5	7,263.5	161.4	143.7	90.00	2,387.8	-5,176.4	1,745.3	1,440.3	305.04	5.722	
13,200.0	7,306.0	7,263.5	7,263.5	164.2	143.7	90.00	2,387.8	-5,176.4	1,756.7	1,448.9	307.83	5.707	SF
13,300.0	7,306.0	7,263.5	7,263.5	167.0	143.7	90.00	2,387.8	-5,176.4	1,773.7	1,463.1	310.62	5.710	
13,400.0	7,306.0	7,263.5	7,263.5	169.8	143.7	90.00	2,387.8	-5,176.4	1,796.2	1,482.8	313.41	5.731	
13,500.0	7,306.0	7,263.5	7,263.5	172.6	143.7	90.00	2,387.8	-5,176.4	1,823.8	1,507.6	316.20	5.768	
13,600.0	7,306.0	7,263.5	7,263.5	175.3	143.7	90.00	2,387.8	-5,176.4	1,856.4	1,537.4	318.99	5.820	
13,700.0	7,306.0	7,263.5	7,263.5	178.1	143.7	90.00	2,387.8	-5,176.4	1,893.8	1,572.0	321.78	5.885	
13,800.0	7,306.0	7,263.5	7,263.5	180.9	143.7	90.00	2,387.8	-5,176.4	1,935.5	1,611.0	324.57	5.963	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,263.5	7,263.5	183.7	143.7	90.00	2,387.8	-5,176.4	1,981.5	1,654.1	327.36	6.053	
14,000.0	7,306.0	7,263.5	7,263.5	186.5	143.7	90.00	2,387.8	-5,176.4	2,031.4	1,701.2	330.15	6.153	
14,100.0	7,306.0	7,263.5	7,263.5	189.3	143.7	90.00	2,387.8	-5,176.4	2,084.8	1,751.9	332.95	6.262	
14,200.0	7,306.0	7,263.5	7,263.5	192.1	143.7	90.00	2,387.8	-5,176.4	2,141.6	1,805.9	335.74	6.379	
14,300.0	7,306.0	7,263.5	7,263.5	194.9	143.7	90.00	2,387.8	-5,176.4	2,201.5	1,862.9	338.53	6.503	
14,363.6	7,306.0	7,263.5	7,263.5	196.7	143.7	90.00	2,387.8	-5,176.4	2,241.0	1,900.7	340.31	6.585	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	0.35	45.2	0.3	45.2				
100.0	100.0	101.0	101.0	0.1	0.1	0.35	45.2	0.3	45.2	45.0	0.20	229.718	
200.0	200.0	201.0	201.0	0.3	0.3	0.35	45.2	0.3	45.2	44.5	0.65	69.914	
300.0	300.0	301.0	301.0	0.5	0.5	0.35	45.2	0.3	45.2	44.1	1.10	41.232	
366.3	366.3	367.3	367.3	0.7	0.7	0.35	45.2	0.3	45.2	43.8	1.39	32.412	CC
400.0	400.0	401.0	401.0	0.8	0.8	0.35	45.2	0.3	45.2	43.6	1.55	29.238	ES
500.0	500.0	500.0	500.0	1.0	1.0	1.36	46.7	1.1	46.7	44.7	1.99	23.475	
600.0	600.0	597.9	597.8	1.2	1.2	3.94	51.2	3.5	51.4	49.0	2.44	21.086	
700.0	700.0	695.8	695.3	1.4	1.5	7.31	58.6	7.5	59.4	56.5	2.90	20.476	
800.0	800.0	793.2	792.0	1.7	1.7	-36.32	68.9	13.1	69.3	65.9	3.35	20.691	
900.0	899.8	890.2	887.9	1.9	2.0	-34.97	82.0	20.1	79.7	75.9	3.80	20.962	
1,000.0	999.5	986.9	982.8	2.1	2.3	-34.54	97.9	28.7	90.5	86.3	4.27	21.201	
1,100.0	1,098.7	1,083.2	1,076.7	2.4	2.7	-34.74	116.5	38.8	101.7	96.9	4.76	21.372	
1,200.0	1,197.5	1,179.7	1,170.1	2.7	3.2	-35.37	137.9	50.3	113.1	107.9	5.28	21.443	
1,299.9	1,295.5	1,279.0	1,265.9	3.0	3.6	-36.68	161.0	62.7	123.0	117.1	5.84	21.045	
1,300.0	1,295.6	1,279.1	1,266.0	3.0	3.6	-36.68	161.0	62.8	123.0	117.1	5.84	21.044	
1,400.0	1,393.4	1,378.7	1,362.1	3.4	4.1	-38.37	184.1	75.2	131.5	125.0	6.47	20.324	
1,500.0	1,491.3	1,478.3	1,458.1	3.7	4.6	-39.84	207.2	87.7	140.1	133.0	7.12	19.679	
1,600.0	1,589.1	1,577.8	1,554.2	4.1	5.1	-41.15	230.3	100.1	148.8	141.0	7.80	19.073	
1,700.0	1,686.9	1,677.4	1,650.2	4.5	5.7	-42.31	253.4	112.6	157.6	149.1	8.50	18.532	
1,800.0	1,784.7	1,777.0	1,746.3	5.0	6.2	-43.35	276.5	125.1	166.4	157.2	9.22	18.044	
1,900.0	1,882.5	1,876.5	1,842.3	5.4	6.7	-44.28	299.6	137.5	175.2	165.3	9.95	17.606	
2,000.0	1,980.3	1,976.1	1,938.3	5.8	7.2	-45.13	322.7	150.0	184.2	173.5	10.70	17.211	
2,100.0	2,078.1	2,075.7	2,034.4	6.2	7.8	-45.89	345.8	162.5	193.1	181.7	11.46	16.855	
2,200.0	2,176.0	2,175.2	2,130.4	6.7	8.3	-46.59	368.9	174.9	202.1	189.9	12.22	16.533	
2,300.0	2,273.8	2,274.8	2,226.5	7.1	8.8	-47.23	392.0	187.4	211.1	198.1	13.00	16.242	
2,400.0	2,371.6	2,374.4	2,322.5	7.5	9.4	-47.82	415.1	199.8	220.1	206.4	13.78	15.976	
2,500.0	2,469.4	2,473.9	2,418.6	8.0	9.9	-48.36	438.2	212.3	229.2	214.6	14.57	15.734	
2,600.0	2,567.2	2,573.5	2,514.6	8.4	10.4	-48.86	461.3	224.8	238.3	222.9	15.36	15.513	
2,700.0	2,665.0	2,673.1	2,610.7	8.8	10.9	-49.32	484.4	237.2	247.3	231.2	16.15	15.311	
2,800.0	2,762.9	2,772.6	2,706.7	9.3	11.5	-49.75	507.5	249.7	256.4	239.5	16.96	15.124	
2,900.0	2,860.7	2,872.2	2,802.8	9.7	12.0	-50.15	530.6	262.1	265.6	247.8	17.76	14.952	
3,000.0	2,958.5	2,971.8	2,898.8	10.2	12.6	-50.52	553.7	274.6	274.7	256.1	18.57	14.793	
3,100.0	3,056.3	3,071.3	2,994.8	10.6	13.1	-50.87	576.8	287.1	283.8	264.4	19.38	14.646	
3,200.0	3,154.1	3,170.9	3,090.9	11.1	13.6	-51.20	599.9	299.5	293.0	272.8	20.19	14.509	
3,300.0	3,251.9	3,270.5	3,186.9	11.5	14.2	-51.51	623.0	312.0	302.1	281.1	21.01	14.382	
3,400.0	3,349.8	3,370.0	3,283.0	12.0	14.7	-51.80	646.1	324.4	311.3	289.5	21.83	14.263	
3,500.0	3,447.6	3,469.6	3,379.0	12.4	15.2	-52.07	669.2	336.9	320.5	297.8	22.65	14.152	
3,600.0	3,545.4	3,569.2	3,475.1	12.8	15.8	-52.33	692.3	349.4	329.6	306.2	23.47	14.048	
3,700.0	3,643.2	3,668.7	3,571.1	13.3	16.3	-52.57	715.4	361.8	338.8	314.5	24.29	13.950	
3,800.0	3,741.0	3,768.3	3,667.2	13.7	16.8	-52.80	738.5	374.3	348.0	322.9	25.11	13.858	
3,900.0	3,838.8	3,867.9	3,763.2	14.2	17.4	-53.02	761.6	386.7	357.2	331.3	25.94	13.772	
4,000.0	3,936.6	3,967.4	3,859.3	14.6	17.9	-53.23	784.7	399.2	366.4	339.7	26.77	13.690	
4,100.0	4,034.5	4,067.0	3,955.3	15.1	18.4	-53.43	807.8	411.7	375.6	348.0	27.59	13.613	
4,200.0	4,132.3	4,166.6	4,051.3	15.5	19.0	-53.62	830.9	424.1	384.8	356.4	28.42	13.540	
4,300.0	4,230.1	4,266.1	4,147.4	16.0	19.5	-53.80	854.0	436.6	394.1	364.8	29.25	13.471	
4,400.0	4,327.9	4,365.7	4,243.4	16.4	20.1	-53.97	877.1	449.0	403.3	373.2	30.08	13.406	
4,500.0	4,425.7	4,465.3	4,339.5	16.9	20.6	-54.13	900.2	461.5	412.5	381.6	30.91	13.344	
4,600.0	4,523.5	4,564.8	4,435.5	17.3	21.1	-54.29	923.3	474.0	421.7	390.0	31.75	13.284	
4,700.0	4,621.4	4,664.4	4,531.6	17.8	21.7	-54.44	946.4	486.4	431.0	398.4	32.58	13.228	
4,800.0	4,719.2	4,764.0	4,627.6	18.2	22.2	-54.58	969.5	498.9	440.2	406.8	33.41	13.174	
4,900.0	4,817.0	4,863.5	4,723.7	18.7	22.7	-54.72	992.6	511.3	449.4	415.2	34.25	13.123	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,963.1	4,819.7	19.1	23.3	-54.85	1,015.7	523.8	458.7	423.6	35.08	13.074	
5,100.0	5,012.6	5,062.7	4,915.8	19.6	23.8	-54.98	1,038.8	536.3	467.9	432.0	35.92	13.028	
5,200.0	5,110.4	5,162.2	5,011.8	20.0	24.4	-55.10	1,061.9	548.7	477.1	440.4	36.75	12.983	
5,221.3	5,131.3	5,183.5	5,032.3	20.1	24.5	-55.13	1,066.8	551.4	479.1	442.2	36.93	12.974	
5,300.0	5,208.5	5,261.7	5,107.8	20.4	24.9	-55.24	1,085.0	561.2	487.0	449.5	37.52	12.978	
5,400.0	5,307.1	5,361.0	5,203.5	20.7	25.4	-55.13	1,108.0	573.6	498.8	460.7	38.12	13.084	
5,500.0	5,406.3	5,459.9	5,298.9	21.0	26.0	-54.74	1,130.9	586.0	512.6	474.0	38.60	13.281	
5,600.0	5,505.8	5,558.3	5,393.8	21.2	26.5	-54.11	1,153.8	598.3	528.5	489.5	38.95	13.569	
5,700.0	5,605.6	5,656.1	5,488.2	21.4	27.0	-53.27	1,176.5	610.5	546.6	507.4	39.19	13.948	
5,800.0	5,705.6	5,753.1	5,581.8	21.5	27.6	-52.26	1,199.0	622.7	566.9	527.6	39.31	14.421	
5,821.2	5,726.8	5,776.9	5,604.8	21.5	27.7	-5.63	1,204.4	625.6	571.5	530.0	41.55	13.755	
5,900.0	5,805.6	5,869.1	5,694.2	21.6	28.0	-4.40	1,224.0	636.2	587.6	545.2	42.38	13.865	
6,000.0	5,905.6	5,988.1	5,810.6	21.7	28.5	-3.13	1,245.5	647.8	605.1	561.8	43.29	13.976	
6,100.0	6,005.6	6,108.9	5,929.9	21.9	28.8	-2.16	1,263.0	657.2	619.2	575.1	44.07	14.050	
6,200.0	6,105.6	6,231.3	6,051.3	22.0	29.1	-1.47	1,276.2	664.3	629.8	585.1	44.71	14.086	
6,300.0	6,205.6	6,354.8	6,174.3	22.1	29.3	-1.03	1,284.8	669.0	636.7	591.5	45.22	14.080	
6,400.0	6,305.6	6,478.8	6,298.3	22.3	29.5	-0.83	1,288.8	671.1	639.9	594.3	45.61	14.032	
6,500.0	6,405.6	6,586.6	6,406.1	22.4	29.6	-0.89	1,289.1	670.4	640.2	594.3	45.86	13.960	
6,600.0	6,505.6	6,683.9	6,502.6	22.5	29.6	-1.91	1,289.1	659.0	640.4	594.6	45.81	13.980	
6,684.2	6,589.8	6,762.2	6,578.7	22.6	29.6	-3.57	1,289.1	640.4	641.4	595.9	45.53	14.087	
6,700.0	6,605.6	6,776.5	6,592.3	22.7	29.6	86.04	1,289.1	636.2	641.7	600.1	41.62	15.417	
6,750.0	6,655.5	6,821.1	6,634.2	22.7	29.5	84.81	1,289.1	621.1	642.9	600.9	42.00	15.307	
6,800.0	6,705.1	6,865.0	6,674.5	22.7	29.5	83.62	1,289.1	603.7	644.4	602.1	42.31	15.230	
6,850.0	6,754.1	6,908.2	6,713.1	22.7	29.4	82.46	1,289.1	584.2	646.1	603.5	42.55	15.185	
6,900.0	6,802.3	6,950.0	6,749.2	22.7	29.3	81.36	1,289.1	563.1	648.0	605.3	42.70	15.175	
6,950.0	6,849.5	6,993.1	6,785.1	22.6	29.2	80.27	1,289.1	539.3	650.0	607.2	42.79	15.192	
7,000.0	6,895.5	7,034.7	6,818.3	22.5	29.2	79.24	1,289.1	514.3	652.2	609.4	42.80	15.240	
7,050.0	6,939.9	7,075.9	6,849.7	22.4	29.1	78.26	1,289.1	487.6	654.4	611.7	42.74	15.312	
7,100.0	6,982.6	7,116.7	6,879.2	22.3	29.0	77.33	1,289.1	459.5	656.7	614.1	42.63	15.407	
7,150.0	7,023.4	7,157.1	6,906.9	22.2	28.9	76.46	1,289.1	430.0	659.1	616.6	42.47	15.519	
7,200.0	7,062.2	7,200.0	6,934.4	22.1	28.7	75.61	1,289.1	397.0	661.4	619.1	42.29	15.639	
7,250.0	7,098.6	7,236.9	6,956.4	22.0	28.7	74.90	1,289.1	367.5	663.6	621.5	42.10	15.762	
7,300.0	7,132.5	7,276.4	6,978.2	21.9	28.5	74.21	1,289.1	334.6	665.7	623.8	41.93	15.878	
7,350.0	7,163.8	7,315.6	6,998.1	21.8	28.4	73.59	1,289.1	300.7	667.8	626.0	41.80	15.977	
7,400.0	7,192.2	7,350.0	7,013.9	21.7	28.4	73.07	1,289.1	270.2	669.7	628.0	41.71	16.056	
7,450.0	7,217.8	7,393.5	7,031.9	21.6	28.3	72.54	1,289.1	230.6	671.3	629.6	41.75	16.081	
7,500.0	7,240.3	7,432.2	7,045.8	21.6	28.2	72.11	1,289.1	194.5	672.8	631.0	41.88	16.065	
7,550.0	7,259.6	7,470.7	7,057.7	21.6	28.1	71.76	1,289.1	157.9	674.1	632.0	42.15	15.994	
7,600.0	7,275.7	7,509.1	7,067.6	21.6	28.0	71.47	1,289.1	120.7	675.2	632.6	42.56	15.865	
7,650.0	7,288.4	7,550.0	7,075.9	21.8	27.9	71.24	1,289.1	80.7	676.0	632.9	43.14	15.669	
7,700.0	7,297.7	7,585.8	7,081.3	22.0	27.8	71.11	1,289.1	45.4	676.6	632.7	43.85	15.427	
7,750.0	7,303.6	7,624.0	7,085.1	22.4	27.7	71.03	1,289.1	7.3	676.8	632.1	44.74	15.129	
7,800.0	7,305.9	7,662.3	7,086.9	22.9	27.7	71.02	1,289.1	-30.9	676.9	631.1	45.77	14.790	
7,809.2	7,306.0	7,669.3	7,087.0	23.0	27.7	71.03	1,289.1	-37.9	676.8	630.9	45.97	14.723	
7,830.1	7,306.0	7,687.6	7,087.0	23.3	27.6	71.03	1,289.1	-56.2	676.8	630.3	46.51	14.551	
7,900.0	7,306.0	7,757.6	7,086.8	24.3	27.5	71.02	1,289.1	-126.2	676.9	628.3	48.54	13.945	
8,000.0	7,306.0	7,857.6	7,086.7	26.0	27.6	71.00	1,289.1	-226.2	676.9	625.2	51.75	13.081	
8,100.0	7,306.0	7,957.6	7,086.5	27.9	28.7	70.99	1,289.1	-326.2	677.0	621.7	55.29	12.245	
8,200.0	7,306.0	8,057.6	7,086.3	30.0	30.6	70.97	1,289.1	-426.2	677.1	618.0	59.10	11.457	
8,300.0	7,306.0	8,157.6	7,086.1	32.2	32.8	70.96	1,289.1	-526.2	677.1	614.0	63.13	10.726	
8,400.0	7,306.0	8,257.6	7,085.9	34.4	35.0	70.94	1,289.1	-626.2	677.2	609.9	67.34	10.057	
8,500.0	7,306.0	8,357.6	7,085.7	36.8	37.3	70.93	1,289.1	-726.2	677.3	605.6	71.70	9.446	

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-404
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-404	**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 #2	**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
8,600.0	7,306.0	8,457.6	7,085.5	39.2	39.7	70.91	1,289.1	-826.2	677.3	601.1	76.18	8.891	
8,700.0	7,306.0	8,557.6	7,085.3	41.7	42.1	70.90	1,289.1	-926.2	677.4	596.6	80.76	8.387	
8,800.0	7,306.0	8,657.6	7,085.1	44.1	44.6	70.88	1,289.1	-1,026.2	677.4	592.0	85.43	7.929	
8,900.0	7,306.0	8,757.6	7,084.9	46.7	47.1	70.86	1,289.1	-1,126.2	677.5	587.3	90.18	7.513	
9,000.0	7,306.0	8,857.6	7,084.7	49.2	49.6	70.85	1,289.1	-1,226.2	677.6	582.6	94.98	7.134	
9,100.0	7,306.0	8,957.5	7,084.5	51.8	52.1	70.83	1,289.1	-1,326.2	677.6	577.8	99.84	6.788	
9,200.0	7,306.0	9,057.5	7,084.3	54.4	54.7	70.82	1,289.1	-1,426.2	677.7	573.0	104.74	6.471	
9,300.0	7,306.0	9,157.5	7,084.1	57.1	57.3	70.80	1,289.1	-1,526.2	677.8	568.1	109.68	6.180	
9,400.0	7,306.0	9,257.5	7,083.9	59.7	59.9	70.79	1,289.1	-1,626.2	677.8	563.2	114.65	5.912	
9,500.0	7,306.0	9,357.5	7,083.7	62.4	62.6	70.77	1,289.1	-1,726.2	677.9	558.2	119.65	5.666	
9,600.0	7,306.0	9,457.5	7,083.5	65.0	65.2	70.76	1,289.1	-1,826.2	678.0	553.3	124.68	5.438	
9,700.0	7,306.0	9,557.5	7,083.3	67.7	67.9	70.74	1,289.1	-1,926.2	678.0	548.3	129.73	5.227	
9,800.0	7,306.0	9,657.5	7,083.1	70.4	70.5	70.72	1,289.1	-2,026.2	678.1	543.3	134.80	5.030	
9,900.0	7,306.0	9,757.5	7,083.0	73.1	73.2	70.71	1,289.1	-2,126.2	678.2	538.3	139.88	4.848	
10,000.0	7,306.0	9,857.5	7,082.8	75.8	75.9	70.69	1,289.1	-2,226.2	678.2	533.2	144.99	4.678	
10,100.0	7,306.0	9,957.5	7,082.6	78.5	78.6	70.68	1,289.1	-2,326.2	678.3	528.2	150.10	4.519	
10,200.0	7,306.0	10,057.5	7,082.4	81.2	81.3	70.66	1,289.1	-2,426.2	678.3	523.1	155.23	4.370	
10,300.0	7,306.0	10,157.5	7,082.2	84.0	84.0	70.65	1,289.1	-2,526.2	678.4	518.0	160.37	4.230	
10,400.0	7,306.0	10,257.5	7,082.0	86.7	86.7	70.63	1,289.1	-2,626.1	678.5	513.0	165.52	4.099	
10,500.0	7,306.0	10,357.5	7,081.8	89.4	89.5	70.61	1,289.1	-2,726.1	678.5	507.9	170.68	3.975	
10,600.0	7,306.0	10,457.5	7,081.6	92.2	92.2	70.60	1,289.1	-2,826.1	678.6	502.8	175.85	3.859	
10,700.0	7,306.0	10,557.5	7,081.4	94.9	94.9	70.58	1,289.1	-2,926.1	678.7	497.6	181.03	3.749	
10,800.0	7,306.0	10,657.5	7,081.2	97.6	97.6	70.57	1,289.1	-3,026.1	678.7	492.5	186.21	3.645	
10,900.0	7,306.0	10,757.5	7,081.0	100.4	100.4	70.55	1,289.1	-3,126.1	678.8	487.4	191.39	3.547	
11,000.0	7,306.0	10,857.5	7,080.8	103.2	103.1	70.54	1,289.1	-3,226.1	678.9	482.3	196.59	3.453	
11,100.0	7,306.0	10,957.5	7,080.6	105.9	105.9	70.52	1,289.1	-3,326.1	678.9	477.2	201.79	3.365	
11,200.0	7,306.0	11,057.5	7,080.4	108.7	108.6	70.50	1,289.1	-3,426.1	679.0	472.0	206.99	3.280	
11,300.0	7,306.0	11,157.5	7,080.2	111.4	111.4	70.49	1,289.1	-3,526.1	679.1	466.9	212.19	3.200	
11,400.0	7,306.0	11,257.5	7,080.0	114.2	114.1	70.47	1,289.1	-3,626.1	679.1	461.7	217.41	3.124	
11,500.0	7,306.0	11,357.5	7,079.8	117.0	116.9	70.46	1,289.1	-3,726.1	679.2	456.6	222.62	3.051	
11,600.0	7,306.0	11,457.5	7,079.6	119.7	119.6	70.44	1,289.1	-3,826.1	679.3	451.4	227.84	2.981	
11,700.0	7,306.0	11,557.5	7,079.4	122.5	122.4	70.42	1,289.1	-3,926.1	679.3	446.3	233.06	2.915	
11,800.0	7,306.0	11,657.5	7,079.2	125.3	125.2	70.41	1,289.1	-4,026.1	679.4	441.1	238.28	2.851	
11,900.0	7,306.0	11,757.5	7,079.0	128.0	127.9	70.39	1,289.1	-4,126.1	679.5	436.0	243.50	2.790	
12,000.0	7,306.0	11,857.5	7,078.8	130.8	130.7	70.38	1,289.1	-4,226.1	679.5	430.8	248.73	2.732	
12,100.0	7,306.0	11,957.5	7,078.6	133.6	133.5	70.36	1,289.1	-4,326.1	679.6	425.6	253.96	2.676	
12,200.0	7,306.0	12,057.5	7,078.4	136.4	136.2	70.34	1,289.1	-4,426.1	679.7	420.5	259.19	2.622	
12,300.0	7,306.0	12,157.5	7,078.2	139.1	139.0	70.33	1,289.1	-4,526.1	679.7	415.3	264.42	2.571	
12,400.0	7,306.0	12,257.5	7,078.0	141.9	141.8	70.31	1,289.1	-4,626.1	679.8	410.2	269.65	2.521	
12,500.0	7,306.0	12,357.5	7,077.8	144.7	144.5	70.30	1,289.1	-4,726.1	679.9	405.0	274.89	2.473	
12,600.0	7,306.0	12,457.5	7,077.6	147.5	147.3	70.28	1,289.1	-4,826.1	679.9	399.8	280.12	2.427	
12,700.0	7,306.0	12,557.5	7,077.4	150.3	150.1	70.27	1,289.1	-4,926.1	680.0	394.7	285.36	2.383	
12,800.0	7,306.0	12,657.5	7,077.2	153.0	152.9	70.25	1,289.1	-5,026.1	680.1	389.5	290.60	2.340	
12,900.0	7,306.0	12,757.5	7,077.0	155.8	155.6	70.23	1,289.1	-5,126.1	680.1	384.3	295.84	2.299	
13,000.0	7,306.0	12,857.5	7,076.8	158.6	158.4	70.22	1,289.1	-5,226.1	680.2	379.1	301.08	2.259	
13,100.0	7,306.0	12,957.5	7,076.6	161.4	161.2	70.20	1,289.1	-5,326.1	680.3	374.0	306.32	2.221	
13,200.0	7,306.0	13,057.5	7,076.4	164.2	164.0	70.19	1,289.1	-5,426.1	680.4	368.8	311.56	2.184	
13,300.0	7,306.0	13,157.5	7,076.2	167.0	166.8	70.17	1,289.1	-5,526.1	680.4	363.6	316.80	2.148	
13,400.0	7,306.0	13,257.5	7,076.0	169.8	169.6	70.15	1,289.1	-5,626.1	680.5	358.5	322.04	2.113	
13,500.0	7,306.0	13,357.5	7,075.8	172.6	172.3	70.14	1,289.1	-5,726.1	680.6	353.3	327.28	2.079	
13,600.0	7,306.0	13,457.5	7,075.6	175.3	175.1	70.12	1,289.1	-5,826.1	680.6	348.1	332.52	2.047	
13,700.0	7,306.0	13,557.5	7,075.4	178.1	177.9	70.10	1,289.1	-5,926.1	680.7	342.9	337.76	2.015	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,800.0	7,306.0	13,657.5	7,075.2	180.9	180.7	70.09	1,289.1	-6,026.1	680.8	337.8	343.01	1.985	
13,900.0	7,306.0	13,757.5	7,074.9	183.7	183.5	70.07	1,289.1	-6,126.1	680.8	332.6	348.25	1.955	
14,000.0	7,306.0	13,857.5	7,074.7	186.5	186.3	70.06	1,289.1	-6,226.1	680.9	327.4	353.49	1.926	
14,100.0	7,306.0	13,957.5	7,074.5	189.3	189.1	70.04	1,289.1	-6,326.1	681.0	322.2	358.73	1.898	
14,200.0	7,306.0	14,057.5	7,074.3	192.1	191.8	70.02	1,289.1	-6,426.1	681.0	317.1	363.98	1.871	
14,300.0	7,306.0	14,157.5	7,074.1	194.9	194.6	70.01	1,289.1	-6,526.1	681.1	311.9	369.22	1.845	
14,363.6	7,306.0	14,221.1	7,074.0	196.7	196.4	70.00	1,289.1	-6,589.7	681.2	308.6	372.55	1.828	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	60.1	0.6	60.1				
100.0	100.0	102.0	102.0	0.1	0.1	0.53	60.1	0.6	60.1	59.9	0.20	302.220	
200.0	200.0	202.0	202.0	0.3	0.3	0.53	60.1	0.6	60.1	59.5	0.65	92.709	
266.0	266.0	268.0	268.0	0.5	0.5	0.53	60.1	0.6	60.1	59.2	0.95	63.610	CC
300.0	300.0	302.0	302.0	0.5	0.6	0.53	60.1	0.6	60.1	59.0	1.10	54.757	ES
400.0	400.0	400.0	400.0	0.8	0.8	1.21	61.7	1.3	61.7	60.2	1.54	40.038	
500.0	500.0	497.9	497.7	1.0	1.0	2.99	66.3	3.5	66.5	64.5	1.99	33.407	
600.0	600.0	595.3	594.8	1.2	1.2	5.44	73.9	7.0	74.6	72.1	2.45	30.379	
700.0	700.0	692.0	690.8	1.4	1.5	8.07	84.3	12.0	85.9	83.0	2.94	29.246	
800.0	800.0	788.1	785.7	1.7	1.8	-36.20	97.6	18.2	99.3	95.9	3.37	29.466	
900.0	899.8	883.7	879.7	1.9	2.1	-35.17	113.7	25.8	113.1	109.2	3.83	29.544	
1,000.0	999.5	978.8	972.5	2.1	2.5	-34.86	132.5	34.7	127.3	123.0	4.30	29.591	
1,100.0	1,098.7	1,073.4	1,064.1	2.4	3.0	-35.05	154.0	44.8	141.8	137.0	4.80	29.568	
1,200.0	1,197.5	1,169.7	1,156.5	2.7	3.4	-35.63	178.4	56.2	156.4	151.1	5.33	29.364	
1,299.9	1,295.5	1,268.7	1,251.4	3.0	4.0	-36.78	203.9	68.2	168.7	162.8	5.90	28.601	
1,300.0	1,295.6	1,268.8	1,251.5	3.0	4.0	-36.79	203.9	68.3	168.7	162.8	5.90	28.600	
1,400.0	1,393.4	1,368.1	1,346.7	3.4	4.5	-38.25	229.5	80.3	179.8	173.3	6.53	27.552	
1,500.0	1,491.3	1,467.4	1,441.9	3.7	5.1	-39.54	255.1	92.3	191.0	183.8	7.19	26.578	
1,600.0	1,589.1	1,566.7	1,537.1	4.1	5.6	-40.70	280.6	104.4	202.2	194.4	7.87	25.708	
1,700.0	1,686.9	1,666.0	1,632.2	4.5	6.2	-41.72	306.2	116.4	213.6	205.0	8.57	24.928	
1,800.0	1,784.7	1,765.3	1,727.4	5.0	6.7	-42.65	331.8	128.5	225.0	215.7	9.28	24.230	
1,900.0	1,882.5	1,864.6	1,822.6	5.4	7.3	-43.49	357.4	140.5	236.4	226.4	10.02	23.605	
2,000.0	1,980.3	1,963.8	1,917.8	5.8	7.9	-44.25	383.0	152.6	247.9	237.1	10.76	23.043	
2,100.0	2,078.1	2,063.1	2,012.9	6.2	8.4	-44.94	408.5	164.6	259.4	247.9	11.51	22.537	
2,200.0	2,176.0	2,162.4	2,108.1	6.7	9.0	-45.57	434.1	176.7	271.0	258.7	12.27	22.080	
2,300.0	2,273.8	2,261.7	2,203.3	7.1	9.6	-46.15	459.7	188.7	282.6	269.5	13.04	21.666	
2,400.0	2,371.6	2,361.0	2,298.5	7.5	10.1	-46.69	485.3	200.7	294.2	280.4	13.82	21.290	
2,500.0	2,469.4	2,460.3	2,393.6	8.0	10.7	-47.18	510.9	212.8	305.8	291.2	14.60	20.947	
2,600.0	2,567.2	2,559.6	2,488.8	8.4	11.3	-47.64	536.4	224.8	317.5	302.1	15.39	20.633	
2,700.0	2,665.0	2,658.9	2,584.0	8.8	11.8	-48.07	562.0	236.9	329.2	313.0	16.18	20.346	
2,800.0	2,762.9	2,758.1	2,679.2	9.3	12.4	-48.46	587.6	248.9	340.9	323.9	16.97	20.082	
2,900.0	2,860.7	2,857.4	2,774.3	9.7	13.0	-48.83	613.2	261.0	352.6	334.8	17.77	19.838	
3,000.0	2,958.5	2,956.7	2,869.5	10.2	13.5	-49.18	638.8	273.0	364.3	345.7	18.58	19.612	
3,100.0	3,056.3	3,056.0	2,964.7	10.6	14.1	-49.50	664.4	285.0	376.1	356.7	19.38	19.403	
3,200.0	3,154.1	3,155.3	3,059.9	11.1	14.7	-49.81	689.9	297.1	387.8	367.6	20.19	19.209	
3,300.0	3,251.9	3,254.6	3,155.0	11.5	15.2	-50.10	715.5	309.1	399.6	378.6	21.00	19.028	
3,400.0	3,349.8	3,353.9	3,250.2	12.0	15.8	-50.37	741.1	321.2	411.3	389.5	21.81	18.859	
3,500.0	3,447.6	3,453.1	3,345.4	12.4	16.4	-50.62	766.7	333.2	423.1	400.5	22.62	18.701	
3,600.0	3,545.4	3,552.4	3,440.6	12.8	17.0	-50.86	792.3	345.3	434.9	411.5	23.44	18.553	
3,700.0	3,643.2	3,651.7	3,535.8	13.3	17.5	-51.09	817.8	357.3	446.7	422.4	24.26	18.414	
3,800.0	3,741.0	3,751.0	3,630.9	13.7	18.1	-51.31	843.4	369.3	458.5	433.4	25.08	18.283	
3,900.0	3,838.8	3,850.3	3,726.1	14.2	18.7	-51.52	869.0	381.4	470.3	444.4	25.90	18.160	
4,000.0	3,936.6	3,949.6	3,821.3	14.6	19.2	-51.71	894.6	393.4	482.1	455.4	26.72	18.044	
4,100.0	4,034.5	4,048.9	3,916.5	15.1	19.8	-51.90	920.2	405.5	493.9	466.4	27.54	17.934	
4,200.0	4,132.3	4,148.2	4,011.6	15.5	20.4	-52.08	945.7	417.5	505.7	477.4	28.36	17.830	
4,300.0	4,230.1	4,247.4	4,106.8	16.0	21.0	-52.25	971.3	429.6	517.6	488.4	29.19	17.732	
4,400.0	4,327.9	4,346.7	4,202.0	16.4	21.5	-52.41	996.9	441.6	529.4	499.4	30.01	17.638	
4,500.0	4,425.7	4,446.0	4,297.2	16.9	22.1	-52.57	1,022.5	453.7	541.2	510.4	30.84	17.550	
4,600.0	4,523.5	4,545.3	4,392.3	17.3	22.7	-52.72	1,048.1	465.7	553.1	521.4	31.67	17.465	
4,700.0	4,621.4	4,644.6	4,487.5	17.8	23.2	-52.86	1,073.6	477.7	564.9	532.4	32.49	17.385	
4,800.0	4,719.2	4,743.9	4,582.7	18.2	23.8	-52.99	1,099.2	489.8	576.8	543.4	33.32	17.308	
4,900.0	4,817.0	4,843.2	4,677.9	18.7	24.4	-53.13	1,124.8	501.8	588.6	554.5	34.15	17.235	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,942.4	4,773.0	19.1	25.0	-53.25	1,150.4	513.9	600.5	565.5	34.98	17.165	
5,100.0	5,012.6	5,041.7	4,868.2	19.6	25.5	-53.37	1,176.0	525.9	612.3	576.5	35.81	17.098	
5,200.0	5,110.4	5,141.0	4,963.4	20.0	26.1	-53.49	1,201.5	538.0	624.2	587.5	36.64	17.034	
5,221.3	5,131.3	5,162.2	4,983.7	20.1	26.2	-53.51	1,207.0	540.5	626.7	589.9	36.82	17.021	
5,300.0	5,208.5	5,240.2	5,058.5	20.4	26.7	-53.68	1,227.1	550.0	636.7	599.2	37.42	17.014	
5,400.0	5,307.1	5,339.1	5,153.3	20.7	27.2	-53.71	1,252.6	562.0	651.2	613.1	38.04	17.116	
5,500.0	5,406.3	5,437.6	5,247.7	21.0	27.8	-53.53	1,278.0	573.9	667.7	629.2	38.56	17.315	
5,600.0	5,505.8	5,535.6	5,341.6	21.2	28.4	-53.18	1,303.2	585.8	686.4	647.4	38.98	17.609	
5,700.0	5,605.6	5,632.8	5,434.8	21.4	28.9	-52.67	1,328.2	597.6	707.2	667.9	39.30	17.997	
5,800.0	5,705.6	5,729.3	5,527.3	21.5	29.5	-52.03	1,353.1	609.3	730.3	690.8	39.52	18.481	
5,821.2	5,726.8	5,749.7	5,546.8	21.5	29.6	-5.52	1,358.3	611.8	735.5	691.7	43.77	16.803	
5,900.0	5,805.6	5,825.2	5,619.2	21.6	30.0	-4.66	1,377.8	621.0	755.1	710.5	44.55	16.951	
6,000.0	5,905.6	5,946.5	5,736.1	21.7	30.6	-3.44	1,407.4	634.9	778.8	733.2	45.60	17.079	
6,100.0	6,005.6	6,075.4	5,861.5	21.9	31.1	-2.41	1,433.9	647.3	799.0	752.5	46.52	17.176	
6,200.0	6,105.6	6,206.7	5,990.7	22.0	31.5	-1.62	1,455.6	657.6	815.3	768.0	47.31	17.234	
6,300.0	6,205.6	6,340.1	6,122.7	22.1	31.9	-1.05	1,472.2	665.4	827.7	779.7	47.96	17.255	
6,400.0	6,305.6	6,474.8	6,256.9	22.3	32.1	-0.67	1,483.2	670.6	835.8	787.3	48.49	17.235	
6,500.0	6,405.6	6,610.5	6,392.4	22.4	32.3	-0.50	1,488.6	673.1	839.8	790.9	48.89	17.175	
6,600.0	6,505.6	6,725.4	6,507.3	22.5	32.4	-0.52	1,489.1	672.8	840.1	791.0	49.16	17.091	
6,684.2	6,589.8	6,807.9	6,589.4	22.6	32.5	-1.05	1,489.1	664.9	840.3	791.1	49.20	17.077	
6,700.0	6,605.6	6,823.1	6,604.5	22.7	32.5	88.78	1,489.1	662.4	840.3	798.8	41.53	20.232	
6,750.0	6,655.5	6,871.1	6,651.4	22.7	32.4	88.27	1,489.1	652.5	840.5	798.8	41.74	20.138	
6,800.0	6,705.1	6,918.6	6,697.1	22.7	32.4	87.78	1,489.1	639.6	840.8	798.9	41.88	20.075	
6,850.0	6,754.1	6,965.7	6,741.4	22.7	32.4	87.29	1,489.1	623.9	841.1	799.1	41.97	20.042	
6,900.0	6,802.3	7,012.4	6,784.3	22.7	32.3	86.82	1,489.1	605.4	841.4	799.4	42.00	20.036	
6,950.0	6,849.5	7,058.6	6,825.5	22.6	32.2	86.36	1,489.1	584.4	841.8	799.9	41.97	20.056	
7,000.0	6,895.5	7,104.5	6,865.0	22.5	32.2	85.92	1,489.1	561.0	842.3	800.4	41.91	20.098	
7,050.0	6,939.9	7,150.0	6,902.5	22.4	32.1	85.50	1,489.1	535.4	842.7	800.9	41.81	20.157	
7,100.0	6,982.6	7,195.4	6,938.3	22.3	32.0	85.11	1,489.1	507.4	843.2	801.5	41.69	20.228	
7,150.0	7,023.4	7,240.4	6,971.9	22.2	31.9	84.73	1,489.1	477.6	843.7	802.2	41.56	20.302	
7,200.0	7,062.2	7,285.1	7,003.4	22.1	31.8	84.38	1,489.1	445.9	844.2	802.8	41.44	20.373	
7,250.0	7,098.6	7,329.5	7,032.7	22.0	31.7	84.05	1,489.1	412.4	844.7	803.3	41.35	20.430	
7,300.0	7,132.5	7,373.8	7,059.8	21.9	31.6	83.76	1,489.1	377.4	845.2	803.9	41.30	20.463	
7,350.0	7,163.8	7,417.8	7,084.5	21.8	31.5	83.48	1,489.1	341.0	845.6	804.3	41.33	20.462	
7,400.0	7,192.2	7,461.7	7,106.9	21.7	31.4	83.24	1,489.1	303.3	846.0	804.6	41.44	20.417	
7,450.0	7,217.8	7,505.4	7,126.8	21.6	31.2	83.03	1,489.1	264.4	846.4	804.7	41.65	20.320	
7,500.0	7,240.3	7,550.0	7,144.7	21.6	31.1	82.84	1,489.1	223.5	846.7	804.7	42.00	20.161	
7,550.0	7,259.6	7,592.4	7,159.3	21.6	31.0	82.69	1,489.1	183.7	847.0	804.5	42.47	19.942	
7,600.0	7,275.7	7,635.8	7,171.7	21.6	31.0	82.57	1,489.1	142.1	847.2	804.1	43.09	19.660	
7,650.0	7,288.4	7,679.1	7,181.7	21.8	30.9	82.48	1,489.1	100.0	847.4	803.5	43.86	19.321	
7,700.0	7,297.7	7,722.4	7,189.0	22.0	30.8	82.42	1,489.1	57.4	847.5	802.8	44.76	18.933	
7,750.0	7,303.6	7,765.6	7,193.7	22.4	30.7	82.39	1,489.1	14.4	847.6	801.8	45.80	18.504	
7,800.0	7,305.9	7,808.8	7,195.9	22.9	30.6	82.40	1,489.1	-28.8	847.6	800.6	46.96	18.048	
7,809.2	7,306.0	7,816.8	7,196.0	23.0	30.6	82.41	1,489.1	-36.7	847.5	800.4	47.19	17.961	
7,818.4	7,306.0	7,824.8	7,196.0	23.1	30.6	82.41	1,489.1	-44.7	847.5	800.1	47.43	17.869	
7,900.0	7,306.0	7,905.8	7,195.4	24.3	30.6	82.36	1,489.1	-125.7	847.6	797.8	49.81	17.016	
8,000.0	7,306.0	8,005.8	7,194.6	26.0	30.6	82.31	1,489.1	-225.7	847.7	794.6	53.13	15.955	
8,100.0	7,306.0	8,105.8	7,193.8	27.9	31.0	82.26	1,489.1	-325.7	847.8	791.0	56.80	14.926	
8,200.0	7,306.0	8,205.7	7,193.0	30.0	32.2	82.20	1,489.1	-425.7	848.0	787.2	60.76	13.955	
8,300.0	7,306.0	8,305.7	7,192.2	32.2	33.9	82.15	1,489.1	-525.7	848.1	783.1	64.96	13.055	
8,400.0	7,306.0	8,405.7	7,191.3	34.4	35.9	82.10	1,489.1	-625.7	848.2	778.8	69.35	12.231	
8,500.0	7,306.0	8,505.7	7,190.5	36.8	38.1	82.04	1,489.1	-725.6	848.3	774.4	73.89	11.480	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	8,605.7	7,189.7	39.2	40.4	81.99	1,489.1	-825.6	848.4	769.8	78.57	10.798	
8,700.0	7,306.0	8,705.7	7,188.9	41.7	42.8	81.93	1,489.1	-925.6	848.5	765.2	83.35	10.180	
8,800.0	7,306.0	8,805.7	7,188.1	44.1	45.2	81.88	1,489.1	-1,025.6	848.6	760.4	88.23	9.619	
8,900.0	7,306.0	8,905.7	7,187.3	46.7	47.7	81.83	1,489.1	-1,125.6	848.7	755.6	93.18	9.109	
9,000.0	7,306.0	9,005.7	7,186.5	49.2	50.2	81.77	1,489.1	-1,225.6	848.8	750.7	98.19	8.645	
9,100.0	7,306.0	9,105.7	7,185.7	51.8	52.7	81.72	1,489.1	-1,325.6	849.0	745.7	103.26	8.222	
9,200.0	7,306.0	9,205.7	7,184.9	54.4	55.3	81.66	1,489.1	-1,425.6	849.1	740.7	108.37	7.835	
9,300.0	7,306.0	9,305.7	7,184.1	57.1	57.8	81.61	1,489.1	-1,525.6	849.2	735.7	113.53	7.480	
9,400.0	7,306.0	9,405.7	7,183.3	59.7	60.4	81.56	1,489.1	-1,625.6	849.3	730.6	118.72	7.154	
9,500.0	7,306.0	9,505.7	7,182.5	62.4	63.0	81.50	1,489.1	-1,725.6	849.4	725.5	123.93	6.854	
9,600.0	7,306.0	9,605.7	7,181.7	65.0	65.7	81.45	1,489.1	-1,825.6	849.6	720.4	129.18	6.576	
9,700.0	7,306.0	9,705.7	7,180.9	67.7	68.3	81.39	1,489.1	-1,925.6	849.7	715.2	134.45	6.320	
9,800.0	7,306.0	9,805.7	7,180.0	70.4	70.9	81.34	1,489.1	-2,025.6	849.8	710.1	139.74	6.081	
9,900.0	7,306.0	9,905.7	7,179.2	73.1	73.6	81.29	1,489.1	-2,125.6	849.9	704.9	145.04	5.860	
10,000.0	7,306.0	10,005.7	7,178.4	75.8	76.3	81.23	1,489.1	-2,225.5	850.0	699.7	150.37	5.653	
10,100.0	7,306.0	10,105.7	7,177.6	78.5	79.0	81.18	1,489.1	-2,325.5	850.2	694.5	155.70	5.460	
10,200.0	7,306.0	10,205.7	7,176.8	81.2	81.7	81.12	1,489.1	-2,425.5	850.3	689.2	161.05	5.280	
10,300.0	7,306.0	10,305.7	7,176.0	84.0	84.4	81.07	1,489.1	-2,525.5	850.4	684.0	166.41	5.110	
10,400.0	7,306.0	10,405.7	7,175.2	86.7	87.1	81.02	1,489.1	-2,625.5	850.5	678.8	171.78	4.951	
10,500.0	7,306.0	10,505.7	7,174.4	89.4	89.8	80.96	1,489.1	-2,725.5	850.7	673.5	177.16	4.802	
10,600.0	7,306.0	10,605.7	7,173.6	92.2	92.5	80.91	1,489.1	-2,825.5	850.8	668.2	182.54	4.661	
10,700.0	7,306.0	10,705.7	7,172.8	94.9	95.2	80.86	1,489.1	-2,925.5	850.9	663.0	187.93	4.528	
10,800.0	7,306.0	10,805.7	7,172.0	97.6	97.9	80.80	1,489.1	-3,025.5	851.0	657.7	193.33	4.402	
10,900.0	7,306.0	10,905.7	7,171.1	100.4	100.7	80.75	1,489.1	-3,125.5	851.2	652.4	198.74	4.283	
11,000.0	7,306.0	11,005.7	7,170.3	103.2	103.4	80.69	1,489.1	-3,225.5	851.3	647.2	204.15	4.170	
11,100.0	7,306.0	11,105.7	7,169.5	105.9	106.1	80.64	1,489.1	-3,325.5	851.4	641.9	209.56	4.063	
11,200.0	7,306.0	11,205.6	7,168.7	108.7	108.9	80.59	1,489.1	-3,425.5	851.6	636.6	214.98	3.961	
11,300.0	7,306.0	11,305.6	7,167.9	111.4	111.6	80.53	1,489.1	-3,525.5	851.7	631.3	220.40	3.864	
11,400.0	7,306.0	11,405.6	7,167.1	114.2	114.4	80.48	1,489.1	-3,625.5	851.8	626.0	225.82	3.772	
11,500.0	7,306.0	11,505.6	7,166.3	117.0	117.1	80.43	1,489.1	-3,725.4	852.0	620.7	231.25	3.684	
11,600.0	7,306.0	11,605.6	7,165.5	119.7	119.9	80.37	1,489.1	-3,825.4	852.1	615.4	236.68	3.600	
11,700.0	7,306.0	11,705.6	7,164.7	122.5	122.6	80.32	1,489.1	-3,925.4	852.2	610.1	242.11	3.520	
11,800.0	7,306.0	11,805.6	7,163.9	125.3	125.4	80.26	1,489.1	-4,025.4	852.4	604.8	247.55	3.443	
11,900.0	7,306.0	11,905.6	7,163.0	128.0	128.1	80.21	1,489.1	-4,125.4	852.5	599.5	252.98	3.370	
12,000.0	7,306.0	12,005.6	7,162.2	130.8	130.9	80.16	1,489.1	-4,225.4	852.6	594.2	258.42	3.300	
12,100.0	7,306.0	12,105.6	7,161.4	133.6	133.7	80.10	1,489.1	-4,325.4	852.8	588.9	263.85	3.232	
12,200.0	7,306.0	12,205.6	7,160.6	136.4	136.4	80.05	1,489.1	-4,425.4	852.9	583.6	269.29	3.167	
12,300.0	7,306.0	12,305.6	7,159.8	139.1	139.2	80.00	1,489.1	-4,525.4	853.1	578.3	274.73	3.105	
12,400.0	7,306.0	12,405.6	7,159.0	141.9	142.0	79.94	1,489.1	-4,625.4	853.2	573.0	280.17	3.045	
12,500.0	7,306.0	12,505.6	7,158.2	144.7	144.7	79.89	1,489.1	-4,725.4	853.3	567.7	285.61	2.988	
12,600.0	7,306.0	12,605.6	7,157.4	147.5	147.5	79.83	1,489.1	-4,825.4	853.5	562.4	291.05	2.932	
12,700.0	7,306.0	12,705.6	7,156.5	150.3	150.3	79.78	1,489.1	-4,925.4	853.6	557.1	296.49	2.879	
12,800.0	7,306.0	12,805.6	7,155.7	153.0	153.0	79.73	1,489.1	-5,025.4	853.8	551.8	301.94	2.828	
12,900.0	7,306.0	12,905.6	7,154.9	155.8	155.8	79.67	1,489.1	-5,125.4	853.9	546.5	307.38	2.778	
13,000.0	7,306.0	13,005.6	7,154.1	158.6	158.6	79.62	1,489.1	-5,225.3	854.1	541.2	312.82	2.730	
13,100.0	7,306.0	13,105.6	7,153.3	161.4	161.4	79.57	1,489.1	-5,325.3	854.2	536.0	318.26	2.684	
13,200.0	7,306.0	13,205.6	7,152.5	164.2	164.1	79.51	1,489.1	-5,425.3	854.4	530.7	323.70	2.639	
13,300.0	7,306.0	13,305.6	7,151.7	167.0	166.9	79.46	1,489.1	-5,525.3	854.5	525.4	329.14	2.596	
13,400.0	7,306.0	13,405.6	7,150.9	169.8	169.7	79.40	1,489.1	-5,625.3	854.7	520.1	334.58	2.554	
13,500.0	7,306.0	13,505.6	7,150.0	172.6	172.5	79.35	1,489.1	-5,725.3	854.8	514.8	340.02	2.514	
13,600.0	7,306.0	13,605.6	7,149.2	175.3	175.3	79.30	1,489.1	-5,825.3	855.0	509.5	345.45	2.475	
13,700.0	7,306.0	13,705.6	7,148.4	178.1	178.0	79.24	1,489.1	-5,925.3	855.1	504.2	350.89	2.437	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,800.0	7,306.0	13,805.6	7,147.6	180.9	180.8	79.19	1,489.1	-6,025.3	855.3	498.9	356.33	2.400	
13,900.0	7,306.0	13,905.6	7,146.8	183.7	183.6	79.14	1,489.1	-6,125.3	855.4	493.6	361.76	2.365	
14,000.0	7,306.0	14,005.6	7,146.0	186.5	186.4	79.08	1,489.1	-6,225.3	855.6	488.4	367.20	2.330	
14,100.0	7,306.0	14,105.6	7,145.2	189.3	189.2	79.03	1,489.1	-6,325.3	855.7	483.1	372.63	2.296	
14,200.0	7,306.0	14,205.5	7,144.3	192.1	192.0	78.98	1,489.1	-6,425.3	855.9	477.8	378.06	2.264	
14,300.0	7,306.0	14,305.5	7,143.5	194.9	194.8	78.92	1,489.1	-6,525.3	856.0	472.5	383.49	2.232	
14,363.6	7,306.0	14,369.1	7,143.0	196.7	196.5	78.89	1,489.1	-6,588.8	856.1	469.2	386.94	2.213 SF	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	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	76.804	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-14.9	0.0	14.9	14.3	0.64	23.189	
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-14.9	0.0	14.9	13.8	1.09	13.656	
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-14.9	0.0	14.9	13.4	1.54	9.677	
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-14.9	0.0	14.9	12.9	1.99	7.494	
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-14.9	0.0	14.9	12.5	2.44	6.115	
700.0	700.0	700.0	700.0	1.4	1.4	180.00	-14.9	0.0	14.9	12.0	2.89	5.164	CC, ES
800.0	800.0	800.0	800.0	1.7	1.7	138.10	-14.9	0.0	16.2	12.8	3.34	4.849	
900.0	899.8	900.3	900.3	1.9	1.9	144.39	-14.0	1.5	19.1	15.4	3.78	5.068	
1,000.0	999.5	1,000.8	1,000.6	2.1	2.1	147.55	-11.1	5.9	22.7	18.5	4.22	5.376	
1,100.0	1,098.7	1,101.3	1,100.8	2.4	2.3	148.64	-6.4	13.3	26.6	22.0	4.67	5.702	
1,200.0	1,197.5	1,202.0	1,200.7	2.7	2.6	148.40	0.2	23.7	31.0	25.8	5.15	6.019	
1,299.9	1,295.5	1,302.6	1,300.0	3.0	2.9	147.33	8.7	37.1	35.7	30.0	5.66	6.308	
1,300.0	1,295.6	1,302.7	1,300.1	3.0	2.9	147.32	8.8	37.1	35.7	30.0	5.66	6.308	
1,400.0	1,393.4	1,403.5	1,399.1	3.4	3.2	144.34	19.2	53.4	39.4	33.2	6.26	6.299	
1,500.0	1,491.3	1,503.5	1,496.8	3.7	3.6	140.23	30.3	70.9	42.2	35.2	6.93	6.086	
1,600.0	1,589.1	1,603.4	1,594.6	4.1	3.9	136.64	41.5	88.4	45.1	37.5	7.65	5.897	
1,700.0	1,686.9	1,703.3	1,692.3	4.5	4.3	133.50	52.7	105.9	48.2	39.8	8.41	5.732	
1,800.0	1,784.7	1,803.2	1,790.0	5.0	4.7	130.74	63.9	123.4	51.4	42.2	9.20	5.589	
1,900.0	1,882.5	1,903.1	1,887.8	5.4	5.2	128.31	75.1	140.9	54.7	44.7	10.01	5.466	
2,000.0	1,980.3	2,003.0	1,985.5	5.8	5.6	126.16	86.3	158.4	58.1	47.3	10.85	5.360	
2,100.0	2,078.1	2,103.0	2,083.2	6.2	6.0	124.25	97.4	175.9	61.6	49.9	11.70	5.269	
2,200.0	2,176.0	2,202.9	2,181.0	6.7	6.4	122.55	108.6	193.4	65.2	52.6	12.56	5.190	
2,300.0	2,273.8	2,302.8	2,278.7	7.1	6.9	121.03	119.8	210.9	68.8	55.3	13.42	5.122	
2,400.0	2,371.6	2,402.7	2,376.4	7.5	7.3	119.65	131.0	228.4	72.4	58.1	14.30	5.063	
2,500.0	2,469.4	2,502.6	2,474.2	8.0	7.7	118.41	142.2	245.9	76.1	60.9	15.18	5.011	
2,600.0	2,567.2	2,602.6	2,571.9	8.4	8.2	117.29	153.4	263.4	79.8	63.7	16.07	4.966	
2,700.0	2,665.0	2,702.5	2,669.7	8.8	8.6	116.26	164.5	280.9	83.5	66.6	16.96	4.926	
2,800.0	2,762.9	2,802.4	2,767.4	9.3	9.0	115.32	175.7	298.4	87.3	69.4	17.85	4.890	
2,900.0	2,860.7	2,902.3	2,865.1	9.7	9.5	114.46	186.9	315.9	91.1	72.3	18.74	4.859	
3,000.0	2,958.5	3,002.2	2,962.9	10.2	9.9	113.67	198.1	333.4	94.9	75.2	19.64	4.831	
3,100.0	3,056.3	3,102.2	3,060.6	10.6	10.4	112.94	209.3	350.9	98.7	78.1	20.53	4.806	
3,200.0	3,154.1	3,202.1	3,158.3	11.1	10.8	112.27	220.4	368.4	102.5	81.1	21.43	4.784	
3,300.0	3,251.9	3,302.0	3,256.1	11.5	11.3	111.64	231.6	386.0	106.4	84.0	22.33	4.763	
3,400.0	3,349.8	3,401.9	3,353.8	12.0	11.7	111.06	242.8	403.5	110.2	87.0	23.23	4.745	
3,500.0	3,447.6	3,501.8	3,451.6	12.4	12.2	110.51	254.0	421.0	114.1	90.0	24.13	4.728	
3,600.0	3,545.4	3,601.8	3,549.3	12.8	12.6	110.01	265.2	438.5	118.0	92.9	25.03	4.713	
3,700.0	3,643.2	3,701.7	3,647.0	13.3	13.1	109.53	276.4	456.0	121.8	95.9	25.93	4.699	
3,800.0	3,741.0	3,801.6	3,744.8	13.7	13.5	109.08	287.5	473.5	125.7	98.9	26.83	4.686	
3,900.0	3,838.8	3,901.5	3,842.5	14.2	14.0	108.66	298.7	491.0	129.6	101.9	27.73	4.675	
4,000.0	3,936.6	4,001.4	3,940.2	14.6	14.4	108.27	309.9	508.5	133.5	104.9	28.63	4.664	
4,100.0	4,034.5	4,101.4	4,038.0	15.1	14.8	107.90	321.1	526.0	137.5	107.9	29.53	4.654	
4,200.0	4,132.3	4,201.3	4,135.7	15.5	15.3	107.55	332.3	543.5	141.4	110.9	30.44	4.645	
4,300.0	4,230.1	4,301.2	4,233.4	16.0	15.7	107.21	343.4	561.0	145.3	114.0	31.34	4.636	
4,400.0	4,327.9	4,401.1	4,331.2	16.4	16.2	106.90	354.6	578.5	149.2	117.0	32.24	4.628	
4,500.0	4,425.7	4,501.0	4,428.9	16.9	16.6	106.60	365.8	596.0	153.2	120.0	33.14	4.621	
4,600.0	4,523.5	4,601.0	4,526.7	17.3	17.1	106.31	377.0	613.5	157.1	123.1	34.05	4.614	
4,700.0	4,621.4	4,700.8	4,624.3	17.8	17.5	106.06	388.2	631.0	161.0	126.1	34.94	4.609	
4,800.0	4,719.2	4,800.0	4,721.8	18.2	17.9	106.55	398.1	646.5	165.2	129.5	35.67	4.631	
4,900.0	4,817.0	4,899.3	4,819.9	18.7	18.1	108.18	406.2	659.3	169.8	133.5	36.28	4.679	
5,000.0	4,914.8	4,997.9	4,917.9	19.1	18.4	110.82	412.5	669.1	175.0	138.3	36.74	4.763	

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-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,095.9	5,015.5	19.6	18.6	114.31	416.9	676.0	181.4	144.4	37.02	4.901	
5,200.0	5,110.4	5,192.9	5,112.4	20.0	18.8	118.49	419.5	680.1	189.5	152.4	37.08	5.110	
5,221.3	5,131.3	5,213.5	5,132.9	20.1	18.8	119.45	419.9	680.6	191.4	154.4	37.06	5.166	
5,300.0	5,208.5	5,289.0	5,208.5	20.4	18.9	123.02	420.4	681.4	199.1	162.2	36.89	5.398	
5,400.0	5,307.1	5,387.7	5,307.1	20.7	19.0	126.92	420.4	681.4	208.6	172.0	36.63	5.695	
5,500.0	5,406.3	5,486.8	5,406.3	21.0	19.1	129.76	420.4	681.4	216.7	180.2	36.46	5.942	
5,600.0	5,505.8	5,586.4	5,505.8	21.2	19.3	131.72	420.4	681.4	222.9	186.5	36.40	6.122	
5,700.0	5,605.6	5,686.2	5,605.6	21.4	19.4	132.90	420.4	681.4	226.9	190.4	36.45	6.224	
5,800.0	5,705.6	5,786.2	5,705.6	21.5	19.5	133.38	420.4	681.4	228.6	192.0	36.60	6.245	
5,821.2	5,726.8	5,807.4	5,726.8	21.5	19.6	179.75	420.4	681.4	228.6	195.4	33.21	6.884	
5,900.0	5,805.6	5,886.2	5,805.6	21.6	19.7	179.75	420.4	681.4	228.6	195.2	33.46	6.834	
6,000.0	5,905.6	5,986.2	5,905.6	21.7	19.8	179.75	420.4	681.4	228.6	194.9	33.78	6.769	
6,100.0	6,005.6	6,086.2	6,005.6	21.9	20.0	179.75	420.4	681.4	228.6	194.5	34.10	6.705	
6,200.0	6,105.6	6,186.2	6,105.6	22.0	20.1	179.75	420.4	681.4	228.6	194.2	34.43	6.641	
6,300.0	6,205.6	6,286.2	6,205.6	22.1	20.3	179.75	420.4	681.4	228.6	193.9	34.76	6.578	
6,400.0	6,305.6	6,386.2	6,305.6	22.3	20.4	179.75	420.4	681.4	228.6	193.5	35.09	6.516	
6,500.0	6,405.6	6,486.2	6,405.6	22.4	20.5	179.88	420.4	680.9	228.6	193.2	35.45	6.450	
6,516.1	6,421.7	6,502.2	6,421.6	22.4	20.6	-179.93	420.4	680.1	228.6	193.1	35.54	6.433	
6,600.0	6,505.6	6,585.0	6,503.8	22.5	20.6	-177.50	420.4	670.4	228.9	192.6	36.31	6.304	
6,684.2	6,589.8	6,664.8	6,581.5	22.6	20.5	-172.95	420.4	652.1	230.5	193.0	37.48	6.151	
6,700.0	6,605.6	6,679.3	6,595.3	22.7	20.5	-81.89	420.4	647.9	231.1	193.8	37.31	6.195	
6,750.0	6,655.5	6,724.8	6,638.2	22.7	20.5	-78.62	420.4	632.8	233.6	197.0	36.59	6.383	
6,800.0	6,705.1	6,769.5	6,679.3	22.7	20.4	-75.49	420.4	615.3	236.7	200.9	35.87	6.601	
6,850.0	6,754.1	6,813.5	6,718.7	22.7	20.3	-72.51	420.4	595.6	240.5	205.4	35.14	6.844	
6,900.0	6,802.3	6,857.0	6,756.3	22.7	20.2	-69.69	420.4	573.9	244.8	210.3	34.44	7.108	
6,950.0	6,849.5	6,900.0	6,792.2	22.6	20.1	-67.05	420.4	550.1	249.4	215.7	33.75	7.391	
7,000.0	6,895.5	6,942.1	6,825.8	22.5	20.1	-64.61	420.4	524.8	254.4	221.3	33.09	7.687	
7,050.0	6,939.9	6,984.0	6,857.8	22.4	20.0	-62.34	420.4	497.7	259.5	227.1	32.46	7.995	
7,100.0	6,982.6	7,025.4	6,887.7	22.3	19.9	-60.26	420.4	469.1	264.8	232.9	31.86	8.309	
7,150.0	7,023.4	7,066.5	6,915.8	22.2	19.8	-58.36	420.4	439.1	270.0	238.7	31.30	8.626	
7,200.0	7,062.2	7,107.1	6,941.8	22.1	19.8	-56.64	420.4	407.9	275.2	244.4	30.78	8.940	
7,250.0	7,098.6	7,150.0	6,967.3	22.0	19.8	-55.01	420.4	373.4	280.2	249.9	30.30	9.247	
7,300.0	7,132.5	7,187.5	6,987.8	21.9	19.8	-53.69	420.4	342.1	285.0	255.0	29.93	9.522	
7,350.0	7,163.8	7,227.3	7,007.8	21.8	19.8	-52.45	420.4	307.7	289.5	259.9	29.63	9.771	
7,400.0	7,192.2	7,266.8	7,025.8	21.7	19.9	-51.36	420.4	272.4	293.7	264.2	29.43	9.979	
7,450.0	7,217.8	7,306.2	7,041.6	21.6	20.0	-50.41	420.4	236.5	297.5	268.1	29.36	10.133	
7,500.0	7,240.3	7,350.0	7,057.0	21.6	20.2	-49.52	420.4	195.4	300.9	271.5	29.44	10.223	
7,550.0	7,259.6	7,384.4	7,067.3	21.6	20.5	-48.90	420.4	162.6	303.8	274.2	29.67	10.242	
7,600.0	7,275.7	7,423.2	7,077.0	21.6	20.8	-48.35	420.4	125.0	306.3	276.2	30.07	10.188	
7,650.0	7,288.4	7,462.0	7,084.6	21.8	21.1	-47.91	420.4	86.9	308.3	277.7	30.63	10.064	
7,700.0	7,297.7	7,500.0	7,090.0	22.0	21.5	-47.59	420.4	49.4	309.8	278.4	31.36	9.876	
7,750.0	7,303.6	7,539.4	7,093.6	22.4	22.0	-47.39	420.4	10.1	310.7	278.4	32.28	9.625	
7,800.0	7,305.9	7,578.0	7,095.0	22.9	22.5	-47.30	420.4	-28.5	311.1	277.8	33.33	9.333	
7,809.2	7,306.0	7,586.1	7,095.0	23.0	22.6	-47.30	420.4	-36.5	311.1	277.6	33.55	9.273	
7,819.2	7,306.0	7,594.9	7,095.0	23.2	22.8	-47.29	420.4	-45.3	311.1	277.4	33.76	9.216	
7,900.0	7,306.0	7,675.7	7,094.8	24.3	24.0	-47.27	420.4	-126.1	311.3	275.6	35.64	8.734	
8,000.0	7,306.0	7,775.7	7,094.5	26.0	25.8	-47.24	420.4	-226.1	311.4	273.2	38.25	8.143	
8,100.0	7,306.0	7,875.7	7,094.3	27.9	27.7	-47.20	420.4	-326.1	311.6	270.5	41.12	7.578	
8,200.0	7,306.0	7,975.7	7,094.1	30.0	29.8	-47.17	420.4	-426.1	311.8	267.6	44.21	7.052	
8,300.0	7,306.0	8,075.7	7,093.8	32.2	32.0	-47.14	420.4	-526.1	311.9	264.5	47.47	6.571	
8,400.0	7,306.0	8,175.7	7,093.6	34.4	34.3	-47.10	420.4	-626.1	312.1	261.2	50.87	6.136	
8,500.0	7,306.0	8,275.7	7,093.3	36.8	36.7	-47.07	420.4	-726.1	312.3	257.9	54.37	5.743	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,600.0	7,306.0	8,375.7	7,093.1	39.2	39.1	-47.04	420.4	-826.1	312.4	254.5	57.97	5.389	
8,700.0	7,306.0	8,475.7	7,092.8	41.7	41.6	-47.01	420.4	-926.1	312.6	250.9	61.64	5.071	
8,800.0	7,306.0	8,575.7	7,092.6	44.1	44.1	-46.97	420.4	-1,026.1	312.8	247.4	65.37	4.784	
8,900.0	7,306.0	8,675.6	7,092.4	46.7	46.6	-46.94	420.4	-1,126.1	312.9	243.8	69.15	4.525	
9,000.0	7,306.0	8,775.6	7,092.1	49.2	49.2	-46.91	420.4	-1,226.1	313.1	240.1	72.97	4.290	
9,100.0	7,306.0	8,875.6	7,091.9	51.8	51.8	-46.88	420.4	-1,326.1	313.3	236.4	76.83	4.077	
9,200.0	7,306.0	8,975.6	7,091.6	54.4	54.4	-46.84	420.4	-1,426.1	313.4	232.7	80.71	3.883	
9,300.0	7,306.0	9,075.6	7,091.4	57.1	57.1	-46.81	420.4	-1,526.1	313.6	229.0	84.62	3.706	
9,400.0	7,306.0	9,175.6	7,091.1	59.7	59.7	-46.78	420.4	-1,626.1	313.7	225.2	88.55	3.543	
9,500.0	7,306.0	9,275.6	7,090.9	62.4	62.4	-46.75	420.4	-1,726.1	313.9	221.4	92.50	3.394	
9,600.0	7,306.0	9,375.6	7,090.7	65.0	65.0	-46.72	420.4	-1,826.1	314.1	217.6	96.46	3.256	
9,700.0	7,306.0	9,475.6	7,090.4	67.7	67.7	-46.68	420.4	-1,926.1	314.2	213.8	100.43	3.129	
9,800.0	7,306.0	9,575.6	7,090.2	70.4	70.4	-46.65	420.4	-2,026.1	314.4	210.0	104.42	3.011	
9,900.0	7,306.0	9,675.6	7,089.9	73.1	73.1	-46.62	420.4	-2,126.1	314.6	206.2	108.41	2.902	
10,000.0	7,306.0	9,775.6	7,089.7	75.8	75.8	-46.59	420.4	-2,226.1	314.7	202.3	112.41	2.800	
10,100.0	7,306.0	9,875.6	7,089.4	78.5	78.6	-46.55	420.4	-2,326.1	314.9	198.5	116.42	2.705	
10,200.0	7,306.0	9,975.6	7,089.2	81.2	81.3	-46.52	420.4	-2,426.1	315.1	194.6	120.44	2.616	
10,300.0	7,306.0	10,075.6	7,089.0	84.0	84.0	-46.49	420.4	-2,526.1	315.2	190.8	124.45	2.533	
10,400.0	7,306.0	10,175.6	7,088.7	86.7	86.8	-46.46	420.4	-2,626.1	315.4	186.9	128.47	2.455	
10,500.0	7,306.0	10,275.6	7,088.5	89.4	89.5	-46.43	420.4	-2,726.1	315.6	183.1	132.50	2.382	
10,600.0	7,306.0	10,375.6	7,088.2	92.2	92.2	-46.39	420.4	-2,826.1	315.8	179.2	136.53	2.313	
10,700.0	7,306.0	10,475.6	7,088.0	94.9	95.0	-46.36	420.4	-2,926.1	315.9	175.4	140.55	2.248	
10,800.0	7,306.0	10,575.6	7,087.7	97.6	97.7	-46.33	420.4	-3,026.1	316.1	171.5	144.58	2.186	
10,900.0	7,306.0	10,675.6	7,087.5	100.4	100.5	-46.30	420.4	-3,126.1	316.3	167.6	148.62	2.128	
11,000.0	7,306.0	10,775.6	7,087.3	103.2	103.3	-46.27	420.4	-3,226.1	316.4	163.8	152.65	2.073	
11,100.0	7,306.0	10,875.6	7,087.0	105.9	106.0	-46.24	420.4	-3,326.1	316.6	159.9	156.68	2.021	
11,200.0	7,306.0	10,975.6	7,086.8	108.7	108.8	-46.20	420.4	-3,426.1	316.8	156.0	160.71	1.971	
11,300.0	7,306.0	11,075.6	7,086.5	111.4	111.5	-46.17	420.4	-3,526.1	316.9	152.2	164.74	1.924	
11,400.0	7,306.0	11,175.6	7,086.3	114.2	114.3	-46.14	420.4	-3,626.1	317.1	148.3	168.77	1.879	
11,500.0	7,306.0	11,275.6	7,086.0	117.0	117.1	-46.11	420.4	-3,726.1	317.3	144.5	172.80	1.836	
11,600.0	7,306.0	11,375.6	7,085.8	119.7	119.8	-46.08	420.4	-3,826.1	317.4	140.6	176.83	1.795	
11,700.0	7,306.0	11,475.6	7,085.6	122.5	122.6	-46.05	420.4	-3,926.1	317.6	136.7	180.86	1.756	
11,800.0	7,306.0	11,575.6	7,085.3	125.3	125.4	-46.01	420.4	-4,026.1	317.8	132.9	184.88	1.719	
11,900.0	7,306.0	11,675.7	7,085.1	128.0	128.2	-45.98	420.4	-4,126.1	317.9	129.0	188.90	1.683 SF	
12,000.0	7,306.0	11,702.4	7,085.0	130.8	128.9	-45.97	420.4	-4,152.8	326.4	134.9	191.48	1.705	
12,100.0	7,306.0	11,702.4	7,085.0	133.6	128.9	-45.97	420.4	-4,152.8	362.3	168.8	193.53	1.872	
12,200.0	7,306.0	11,702.4	7,085.0	136.4	128.9	-45.97	420.4	-4,152.8	419.6	224.0	195.59	2.145	
12,300.0	7,306.0	11,702.4	7,085.0	139.1	128.9	-45.97	420.4	-4,152.8	490.7	293.1	197.65	2.483	
12,400.0	7,306.0	11,702.4	7,085.0	141.9	128.9	-45.97	420.4	-4,152.8	570.6	370.8	199.71	2.857	
12,500.0	7,306.0	11,702.4	7,085.0	144.7	128.9	-45.97	420.4	-4,152.8	656.0	454.2	201.77	3.251	
12,600.0	7,306.0	11,702.4	7,085.0	147.5	128.9	-45.97	420.4	-4,152.8	745.0	541.2	203.83	3.655	
12,700.0	7,306.0	11,702.4	7,085.0	150.3	128.9	-45.97	420.4	-4,152.8	836.5	630.6	205.89	4.063	
12,800.0	7,306.0	11,702.4	7,085.0	153.0	128.9	-45.97	420.4	-4,152.8	929.8	721.9	207.95	4.471	
12,900.0	7,306.0	11,702.4	7,085.0	155.8	128.9	-45.97	420.4	-4,152.8	1,024.3	814.3	210.01	4.878	
13,000.0	7,306.0	11,702.4	7,085.0	158.6	128.9	-45.97	420.4	-4,152.8	1,119.8	907.8	212.08	5.280	
13,100.0	7,306.0	11,702.4	7,085.0	161.4	128.9	-45.97	420.4	-4,152.8	1,216.1	1,001.9	214.14	5.679	
13,200.0	7,306.0	11,702.4	7,085.0	164.2	128.9	-45.97	420.4	-4,152.8	1,312.8	1,096.6	216.20	6.072	
13,300.0	7,306.0	11,702.4	7,085.0	167.0	128.9	-45.97	420.4	-4,152.8	1,410.1	1,191.8	218.27	6.460	
13,400.0	7,306.0	11,702.4	7,085.0	169.8	128.9	-45.97	420.4	-4,152.8	1,507.7	1,287.3	220.33	6.843	
13,500.0	7,306.0	11,702.4	7,085.0	172.6	128.9	-45.97	420.4	-4,152.8	1,605.5	1,383.1	222.40	7.219	
13,600.0	7,306.0	11,702.4	7,085.0	175.3	128.9	-45.97	420.4	-4,152.8	1,703.7	1,479.2	224.47	7.590	
13,700.0	7,306.0	11,702.4	7,085.0	178.1	128.9	-45.97	420.4	-4,152.8	1,802.0	1,575.5	226.53	7.955	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,800.0	7,306.0	11,702.4	7,085.0	180.9	128.9	-45.97	420.4	-4,152.8	1,900.5	1,671.9	228.60	8.314	
13,900.0	7,306.0	11,702.4	7,085.0	183.7	128.9	-45.97	420.4	-4,152.8	1,999.2	1,768.5	230.67	8.667	
14,000.0	7,306.0	11,702.4	7,085.0	186.5	128.9	-45.97	420.4	-4,152.8	2,098.0	1,865.3	232.73	9.015	
14,100.0	7,306.0	11,702.4	7,085.0	189.3	128.9	-45.97	420.4	-4,152.8	2,196.9	1,962.1	234.80	9.356	
14,200.0	7,306.0	11,702.4	7,085.0	192.1	128.9	-45.97	420.4	-4,152.8	2,295.9	2,059.0	236.87	9.693	
14,300.0	7,306.0	11,702.4	7,085.0	194.9	128.9	-45.97	420.4	-4,152.8	2,394.9	2,156.0	238.94	10.023	
14,363.6	7,306.0	11,702.4	7,085.0	196.7	128.9	-45.97	420.4	-4,152.8	2,458.0	2,217.7	240.24	10.231	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	0.00	14.9	0.0	14.9				
100.0	100.0	101.0	101.0	0.1	0.1	0.00	14.9	0.0	14.9	14.7	0.20	75.968	
200.0	200.0	201.0	201.0	0.3	0.3	0.00	14.9	0.0	14.9	14.3	0.65	23.121	
300.0	300.0	301.0	301.0	0.5	0.5	0.00	14.9	0.0	14.9	13.8	1.10	13.635	
400.0	400.0	401.0	401.0	0.8	0.8	0.00	14.9	0.0	14.9	13.4	1.55	9.669	
500.0	500.0	501.0	501.0	1.0	1.0	0.00	14.9	0.0	14.9	12.9	1.99	7.490	
566.3	566.3	567.3	567.3	1.1	1.1	0.00	14.9	0.0	14.9	12.6	2.29	6.516	CC
600.0	600.0	601.0	601.0	1.2	1.2	0.00	14.9	0.0	14.9	12.5	2.44	6.113	ES
700.0	700.0	700.6	700.5	1.4	1.4	3.90	16.3	1.1	16.4	13.5	2.89	5.660	
800.0	800.0	800.0	799.8	1.7	1.7	-37.01	20.4	4.4	19.4	16.1	3.33	5.832	
900.0	899.8	899.3	898.7	1.9	1.9	-34.07	27.1	9.8	22.9	19.1	3.78	6.050	
1,000.0	999.5	998.4	997.1	2.1	2.2	-32.76	36.4	17.4	26.5	22.3	4.23	6.262	
1,100.0	1,098.7	1,097.5	1,095.0	2.4	2.4	-32.50	48.4	27.1	30.4	25.6	4.70	6.452	
1,200.0	1,197.5	1,196.4	1,192.1	2.7	2.8	-32.96	63.0	39.0	34.4	29.2	5.20	6.607	
1,299.9	1,295.5	1,296.1	1,289.7	3.0	3.1	-35.03	79.1	52.0	37.2	31.4	5.75	6.466	
1,300.0	1,295.6	1,296.3	1,289.8	3.0	3.1	-35.03	79.1	52.0	37.2	31.4	5.75	6.466	
1,400.0	1,393.4	1,396.2	1,387.6	3.4	3.5	-38.38	95.3	65.1	38.6	32.3	6.37	6.064	
1,500.0	1,491.3	1,496.2	1,485.3	3.7	3.9	-41.48	111.4	78.2	40.2	33.2	7.04	5.715	
1,600.0	1,589.1	1,596.2	1,583.1	4.1	4.3	-44.33	127.6	91.3	41.9	34.2	7.74	5.412	
1,700.0	1,686.9	1,696.1	1,680.9	4.5	4.8	-46.96	143.7	104.4	43.7	35.2	8.48	5.149	
1,800.0	1,784.7	1,796.1	1,778.7	5.0	5.2	-49.37	159.9	117.5	45.6	36.3	9.26	4.922	
1,900.0	1,882.5	1,896.1	1,876.5	5.4	5.6	-51.60	176.0	130.6	47.5	37.5	10.05	4.726	
2,000.0	1,980.3	1,996.0	1,974.2	5.8	6.0	-53.64	192.2	143.7	49.5	38.6	10.87	4.556	
2,100.0	2,078.1	2,096.0	2,072.0	6.2	6.5	-55.52	208.3	156.8	51.6	39.9	11.70	4.408	
2,200.0	2,176.0	2,196.0	2,169.8	6.7	6.9	-57.26	224.5	169.9	53.7	41.2	12.55	4.279	
2,300.0	2,273.8	2,295.9	2,267.6	7.1	7.3	-58.86	240.6	183.0	55.9	42.5	13.41	4.166	
2,400.0	2,371.6	2,395.9	2,365.4	7.5	7.8	-60.34	256.8	196.1	58.1	43.8	14.28	4.067	
2,500.0	2,469.4	2,495.8	2,463.1	8.0	8.2	-61.72	272.9	209.2	60.3	45.2	15.16	3.979	
2,600.0	2,567.2	2,595.8	2,560.9	8.4	8.7	-62.99	289.1	222.3	62.6	46.6	16.04	3.902	
2,700.0	2,665.0	2,695.8	2,658.7	8.8	9.1	-64.17	305.2	235.3	64.9	48.0	16.93	3.834	
2,800.0	2,762.9	2,795.7	2,756.5	9.3	9.5	-65.28	321.3	248.4	67.2	49.4	17.82	3.772	
2,900.0	2,860.7	2,895.7	2,854.3	9.7	10.0	-66.30	337.5	261.5	69.6	50.9	18.72	3.718	
3,000.0	2,958.5	2,995.7	2,952.0	10.2	10.4	-67.26	353.6	274.6	72.0	52.3	19.62	3.668	
3,100.0	3,056.3	3,095.6	3,049.8	10.6	10.9	-68.16	369.8	287.7	74.4	53.8	20.52	3.624	
3,200.0	3,154.1	3,195.6	3,147.6	11.1	11.3	-69.01	385.9	300.8	76.8	55.3	21.42	3.584	
3,300.0	3,251.9	3,295.6	3,245.4	11.5	11.8	-69.80	402.1	313.9	79.2	56.9	22.32	3.547	
3,400.0	3,349.8	3,395.5	3,343.1	12.0	12.2	-70.54	418.2	327.0	81.6	58.4	23.23	3.514	
3,500.0	3,447.6	3,495.5	3,440.9	12.4	12.6	-71.24	434.4	340.1	84.1	59.9	24.13	3.484	
3,600.0	3,545.4	3,595.5	3,538.7	12.8	13.1	-71.90	450.5	353.2	86.5	61.5	25.04	3.456	
3,700.0	3,643.2	3,695.4	3,636.5	13.3	13.5	-72.53	466.7	366.3	89.0	63.1	25.94	3.431	
3,800.0	3,741.0	3,795.4	3,734.3	13.7	14.0	-73.12	482.8	379.4	91.5	64.6	26.85	3.408	
3,900.0	3,838.8	3,895.4	3,832.0	14.2	14.4	-73.68	499.0	392.5	94.0	66.2	27.76	3.386	
4,000.0	3,936.6	3,995.3	3,929.8	14.6	14.9	-74.21	515.1	405.6	96.5	67.8	28.67	3.366	
4,100.0	4,034.5	4,095.3	4,027.6	15.1	15.3	-74.71	531.3	418.7	99.0	69.4	29.57	3.348	
4,200.0	4,132.3	4,195.3	4,125.4	15.5	15.8	-75.19	547.4	431.8	101.5	71.0	30.48	3.331	
4,300.0	4,230.1	4,295.2	4,223.2	16.0	16.2	-75.64	563.6	444.8	104.1	72.7	31.39	3.315	
4,400.0	4,327.9	4,395.2	4,320.9	16.4	16.7	-76.08	579.7	457.9	106.6	74.3	32.30	3.300	
4,500.0	4,425.7	4,495.1	4,418.7	16.9	17.1	-76.49	595.9	471.0	109.1	75.9	33.20	3.286	
4,600.0	4,523.5	4,595.1	4,516.5	17.3	17.6	-76.89	612.0	484.1	111.7	77.5	34.11	3.273	
4,700.0	4,621.4	4,695.1	4,614.3	17.8	18.0	-77.26	628.2	497.2	114.2	79.2	35.02	3.261	
4,800.0	4,719.2	4,795.0	4,712.1	18.2	18.4	-77.62	644.3	510.3	116.8	80.8	35.93	3.250	
4,900.0	4,817.0	4,895.0	4,809.8	18.7	18.9	-77.97	660.5	523.4	119.3	82.5	36.83	3.239	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,995.0	4,907.6	19.1	19.3	-78.30	676.6	536.5	121.9	84.1	37.74	3.229	
5,100.0	5,012.6	5,094.9	5,005.4	19.6	19.8	-78.62	692.8	549.6	124.4	85.8	38.65	3.220	
5,200.0	5,110.4	5,194.9	5,103.2	20.0	20.2	-78.92	708.9	562.7	127.0	87.5	39.55	3.211	
5,221.3	5,131.3	5,216.2	5,124.0	20.1	20.3	-78.99	712.4	565.5	127.6	87.8	39.75	3.209	
5,300.0	5,208.5	5,294.9	5,200.9	20.4	20.7	-78.79	725.1	575.8	129.8	89.4	40.37	3.215	
5,400.0	5,307.1	5,394.7	5,298.6	20.7	21.1	-77.25	741.2	588.9	133.3	92.4	40.93	3.256	
5,500.0	5,406.3	5,494.4	5,396.1	21.0	21.6	-74.42	757.3	601.9	137.8	96.5	41.26	3.339	
5,600.0	5,505.8	5,593.7	5,493.2	21.2	22.0	-70.49	773.3	614.9	143.7	102.4	41.31	3.479	
5,700.0	5,605.6	5,692.6	5,590.0	21.4	22.5	-65.76	789.3	627.9	151.8	110.7	41.04	3.698	
5,800.0	5,705.6	5,791.9	5,687.2	21.5	22.9	-60.51	805.2	640.8	162.4	121.9	40.44	4.015	
5,821.2	5,726.8	5,813.5	5,708.3	21.5	23.0	-13.06	808.5	643.4	164.9	130.6	34.22	4.817	
5,900.0	5,805.6	5,894.1	5,787.7	21.6	23.2	-9.34	819.5	652.4	173.8	138.3	35.57	4.887	
6,000.0	5,905.6	5,997.5	5,890.0	21.7	23.5	-5.84	831.1	661.8	183.8	146.9	36.94	4.976	
6,100.0	6,005.6	6,101.9	5,993.8	21.9	23.8	-3.44	839.9	668.9	191.7	153.7	37.98	5.047	
6,200.0	6,105.6	6,207.0	6,098.6	22.0	24.0	-1.95	845.8	673.7	197.1	158.4	38.73	5.088	
6,300.0	6,205.6	6,312.5	6,204.0	22.1	24.1	-1.25	848.7	676.0	199.8	160.5	39.24	5.092	
6,400.0	6,305.6	6,415.1	6,306.6	22.3	24.2	-1.17	849.0	676.3	200.1	160.5	39.55	5.059	
6,450.5	6,356.1	6,465.6	6,357.1	22.3	24.3	-1.17	849.0	676.3	200.1	160.4	39.70	5.040	
6,500.0	6,405.6	6,514.9	6,406.3	22.4	24.3	-1.43	849.0	675.4	200.1	160.3	39.77	5.031	
6,600.0	6,505.6	6,612.7	6,503.5	22.5	24.4	-4.71	849.0	663.9	200.7	161.6	39.17	5.125	
6,684.2	6,589.8	6,691.6	6,580.0	22.6	24.3	-10.02	849.0	645.1	203.4	165.4	38.00	5.353	
6,700.0	6,605.6	6,705.9	6,593.7	22.7	24.3	78.76	849.0	640.7	204.3	162.0	42.32	4.828	
6,750.0	6,655.5	6,750.0	6,635.1	22.7	24.2	75.06	849.0	625.7	207.7	164.6	43.12	4.817	
6,800.0	6,705.1	6,794.9	6,676.3	22.7	24.2	71.44	849.0	607.9	211.9	168.1	43.74	4.844	
6,850.0	6,754.1	6,838.4	6,715.0	22.7	24.1	68.11	849.0	588.2	216.7	172.6	44.14	4.910	
6,900.0	6,802.3	6,881.2	6,752.0	22.7	24.0	65.00	849.0	566.4	222.1	177.8	44.31	5.013	
6,950.0	6,849.5	6,923.6	6,787.1	22.6	23.9	62.14	849.0	542.9	227.9	183.6	44.25	5.149	
7,000.0	6,895.5	6,965.4	6,820.4	22.5	23.8	59.52	849.0	517.6	233.9	189.9	43.99	5.316	
7,050.0	6,939.9	7,006.7	6,851.8	22.4	23.7	57.13	849.0	490.7	240.0	196.5	43.54	5.513	
7,100.0	6,982.6	7,050.0	6,883.0	22.3	23.6	54.86	849.0	460.7	246.2	203.3	42.91	5.738	
7,150.0	7,023.4	7,088.1	6,908.9	22.2	23.5	53.01	849.0	432.7	252.3	210.1	42.16	5.985	
7,200.0	7,062.2	7,128.3	6,934.6	22.1	23.4	51.25	849.0	401.8	258.3	217.0	41.30	6.254	
7,250.0	7,098.6	7,168.2	6,958.3	22.0	23.3	49.69	849.0	369.8	264.0	223.6	40.37	6.540	
7,300.0	7,132.5	7,207.7	6,980.0	21.9	23.2	48.30	849.0	336.7	269.4	230.0	39.40	6.837	
7,350.0	7,163.8	7,250.0	7,001.1	21.8	23.1	47.02	849.0	300.1	274.5	236.0	38.44	7.141	
7,400.0	7,192.2	7,286.2	7,017.5	21.7	23.0	46.02	849.0	267.9	279.1	241.5	37.55	7.433	
7,450.0	7,217.8	7,325.1	7,033.3	21.6	22.9	45.10	849.0	232.3	283.3	246.5	36.74	7.711	
7,500.0	7,240.3	7,363.8	7,047.0	21.6	22.8	44.32	849.0	196.1	287.0	250.9	36.06	7.957	
7,550.0	7,259.6	7,400.0	7,058.1	21.6	22.8	43.70	849.0	161.6	290.2	254.6	35.56	8.160	
7,600.0	7,275.7	7,440.9	7,068.4	21.6	22.7	43.16	849.0	122.1	292.8	257.5	35.28	8.299	
7,650.0	7,288.4	7,479.3	7,076.1	21.8	22.7	42.76	849.0	84.5	294.8	259.6	35.23	8.368	
7,700.0	7,297.7	7,517.6	7,081.8	22.0	22.7	42.48	849.0	46.6	296.3	260.8	35.44	8.360	
7,750.0	7,303.6	7,550.0	7,084.9	22.4	22.7	42.33	849.0	14.3	297.2	261.3	35.85	8.289	
7,800.0	7,305.9	7,594.1	7,086.9	22.9	22.9	42.27	849.0	-29.7	297.4	260.7	36.63	8.118	
7,809.2	7,306.0	7,601.2	7,087.0	23.0	23.0	42.28	849.0	-36.8	297.3	260.6	36.79	8.082	
7,823.4	7,306.0	7,613.9	7,087.0	23.2	23.1	42.28	849.0	-49.6	297.4	260.3	37.08	8.019	
7,900.0	7,306.0	7,690.6	7,086.8	24.3	24.0	42.26	849.0	-126.2	297.5	258.7	38.75	7.677	
8,000.0	7,306.0	7,790.6	7,086.6	26.0	25.7	42.23	849.0	-226.2	297.6	256.5	41.15	7.232	
8,100.0	7,306.0	7,890.6	7,086.4	27.9	27.6	42.21	849.0	-326.2	297.8	254.0	43.78	6.801	
8,200.0	7,306.0	7,990.6	7,086.3	30.0	29.7	42.18	849.0	-426.2	297.9	251.3	46.59	6.394	
8,300.0	7,306.0	8,090.6	7,086.1	32.2	31.9	42.16	849.0	-526.2	298.0	248.5	49.54	6.016	
8,400.0	7,306.0	8,190.6	7,085.9	34.4	34.2	42.13	849.0	-626.2	298.2	245.6	52.62	5.666	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,500.0	7,306.0	8,290.6	7,085.7	36.8	36.6	42.11	849.0	-726.2	298.3	242.5	55.81	5.346	
8,600.0	7,306.0	8,390.6	7,085.5	39.2	39.0	42.08	849.0	-826.2	298.5	239.4	59.07	5.052	
8,700.0	7,306.0	8,490.6	7,085.3	41.7	41.4	42.06	849.0	-926.2	298.6	236.2	62.41	4.784	
8,800.0	7,306.0	8,590.6	7,085.1	44.1	43.9	42.03	849.0	-1,026.2	298.8	232.9	65.81	4.540	
8,900.0	7,306.0	8,690.6	7,084.9	46.7	46.5	42.01	849.0	-1,126.2	298.9	229.6	69.26	4.316	
9,000.0	7,306.0	8,790.6	7,084.7	49.2	49.0	41.98	849.0	-1,226.2	299.0	226.3	72.75	4.110	
9,100.0	7,306.0	8,890.6	7,084.5	51.8	51.6	41.96	849.0	-1,326.2	299.2	222.9	76.28	3.922	
9,200.0	7,306.0	8,990.6	7,084.3	54.4	54.2	41.93	849.0	-1,426.2	299.3	219.5	79.84	3.749	
9,300.0	7,306.0	9,090.6	7,084.1	57.1	56.8	41.91	849.0	-1,526.2	299.5	216.1	83.43	3.590	
9,400.0	7,306.0	9,190.6	7,083.9	59.7	59.5	41.88	849.0	-1,626.2	299.6	212.6	87.04	3.443	
9,500.0	7,306.0	9,290.6	7,083.7	62.4	62.1	41.86	849.0	-1,726.2	299.8	209.1	90.66	3.306	
9,600.0	7,306.0	9,390.6	7,083.5	65.0	64.8	41.83	849.0	-1,826.2	299.9	205.6	94.31	3.180	
9,700.0	7,306.0	9,490.6	7,083.3	67.7	67.5	41.81	849.0	-1,926.2	300.1	202.1	97.97	3.063	
9,800.0	7,306.0	9,590.6	7,083.1	70.4	70.2	41.78	849.0	-2,026.2	300.2	198.6	101.64	2.954	
9,900.0	7,306.0	9,690.6	7,082.9	73.1	72.9	41.76	849.0	-2,126.2	300.4	195.0	105.33	2.852	
10,000.0	7,306.0	9,790.6	7,082.7	75.8	75.6	41.73	849.0	-2,226.2	300.5	191.5	109.02	2.756	
10,100.0	7,306.0	9,890.5	7,082.5	78.5	78.3	41.71	849.0	-2,326.2	300.6	187.9	112.72	2.667	
10,200.0	7,306.0	9,990.5	7,082.4	81.2	81.0	41.68	849.0	-2,426.2	300.8	184.4	116.43	2.583	
10,300.0	7,306.0	10,090.5	7,082.2	84.0	83.7	41.66	849.0	-2,526.2	300.9	180.8	120.15	2.505	
10,400.0	7,306.0	10,190.5	7,082.0	86.7	86.4	41.63	849.0	-2,626.2	301.1	177.2	123.87	2.431	
10,500.0	7,306.0	10,290.5	7,081.8	89.4	89.2	41.61	849.0	-2,726.1	301.2	173.6	127.60	2.361	
10,600.0	7,306.0	10,390.5	7,081.6	92.2	91.9	41.58	849.0	-2,826.1	301.4	170.1	131.33	2.295	
10,700.0	7,306.0	10,490.5	7,081.4	94.9	94.7	41.56	849.0	-2,926.1	301.5	166.5	135.06	2.233	
10,800.0	7,306.0	10,590.5	7,081.2	97.6	97.4	41.53	849.0	-3,026.1	301.7	162.9	138.79	2.174	
10,900.0	7,306.0	10,690.5	7,081.0	100.4	100.2	41.51	849.0	-3,126.1	301.8	159.3	142.53	2.118	
11,000.0	7,306.0	10,790.5	7,080.8	103.2	102.9	41.48	849.0	-3,226.1	302.0	155.7	146.27	2.064	
11,100.0	7,306.0	10,890.5	7,080.6	105.9	105.7	41.46	849.0	-3,326.1	302.1	152.1	150.01	2.014	
11,200.0	7,306.0	10,990.5	7,080.4	108.7	108.4	41.43	849.0	-3,426.1	302.3	148.5	153.75	1.966	
11,300.0	7,306.0	11,090.5	7,080.2	111.4	111.2	41.41	849.0	-3,526.1	302.4	144.9	157.50	1.920	
11,400.0	7,306.0	11,190.5	7,080.0	114.2	113.9	41.38	849.0	-3,626.1	302.6	141.3	161.24	1.877	
11,500.0	7,306.0	11,290.5	7,079.8	117.0	116.7	41.36	849.0	-3,726.1	302.7	137.7	164.98	1.835	
11,600.0	7,306.0	11,390.5	7,079.6	119.7	119.5	41.33	849.0	-3,826.1	302.9	134.1	168.73	1.795	
11,700.0	7,306.0	11,490.5	7,079.4	122.5	122.2	41.31	849.0	-3,926.1	303.0	130.5	172.47	1.757	
11,800.0	7,306.0	11,590.5	7,079.2	125.3	125.0	41.28	849.0	-4,026.1	303.2	127.0	176.21	1.720	
11,900.0	7,306.0	11,690.5	7,079.0	128.0	127.8	41.26	849.0	-4,126.1	303.3	123.4	179.96	1.685	
12,000.0	7,306.0	11,790.5	7,078.8	130.8	130.6	41.23	849.0	-4,226.1	303.5	119.8	183.70	1.652	
12,100.0	7,306.0	11,890.5	7,078.6	133.6	133.3	41.21	849.0	-4,326.1	303.6	116.2	187.44	1.620	
12,200.0	7,306.0	11,990.5	7,078.4	136.4	136.1	41.18	849.0	-4,426.1	303.8	112.6	191.18	1.589	
12,300.0	7,306.0	12,090.5	7,078.2	139.1	138.9	41.16	849.0	-4,526.1	303.9	109.0	194.92	1.559	
12,400.0	7,306.0	12,190.5	7,078.0	141.9	141.7	41.13	849.0	-4,626.1	304.1	105.4	198.65	1.531	
12,500.0	7,306.0	12,290.5	7,077.8	144.7	144.4	41.11	849.0	-4,726.1	304.2	101.8	202.39	1.503	
12,600.0	7,306.0	12,390.5	7,077.6	147.5	147.2	41.08	849.0	-4,826.1	304.4	98.2	206.12	1.477	Level 3
12,700.0	7,306.0	12,490.5	7,077.4	150.3	150.0	41.06	849.0	-4,926.1	304.5	94.7	209.85	1.451	Level 3
12,800.0	7,306.0	12,590.5	7,077.2	153.0	152.8	41.03	849.0	-5,026.1	304.7	91.1	213.58	1.426	Level 3
12,900.0	7,306.0	12,690.5	7,077.0	155.8	155.6	41.01	849.0	-5,126.1	304.8	87.5	217.31	1.403	Level 3
13,000.0	7,306.0	12,790.5	7,076.8	158.6	158.4	40.98	849.0	-5,226.1	305.0	83.9	221.04	1.380	Level 3
13,100.0	7,306.0	12,890.5	7,076.6	161.4	161.1	40.96	849.0	-5,326.1	305.1	80.4	224.76	1.358	Level 3
13,200.0	7,306.0	12,990.5	7,076.4	164.2	163.9	40.93	849.0	-5,426.1	305.3	76.8	228.49	1.336	Level 3
13,300.0	7,306.0	13,090.5	7,076.2	167.0	166.7	40.91	849.0	-5,526.1	305.4	73.2	232.21	1.315	Level 3
13,400.0	7,306.0	13,190.5	7,076.0	169.8	169.5	40.88	849.0	-5,626.1	305.6	69.7	235.93	1.295	Level 3
13,500.0	7,306.0	13,290.5	7,075.8	172.6	172.3	40.86	849.0	-5,726.1	305.7	66.1	239.64	1.276	Level 3
13,600.0	7,306.0	13,390.5	7,075.6	175.3	175.1	40.83	849.0	-5,826.1	305.9	62.5	243.36	1.257	Level 3

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,700.0	7,306.0	13,490.5	7,075.4	178.1	177.9	40.81	849.0	-5,926.1	306.0	59.0	247.07	1.239	Level 2
13,800.0	7,306.0	13,590.5	7,075.1	180.9	180.7	40.78	849.0	-6,026.1	306.2	55.4	250.78	1.221	Level 2
13,900.0	7,306.0	13,690.5	7,074.9	183.7	183.5	40.76	849.0	-6,126.1	306.3	51.9	254.48	1.204	Level 2
14,000.0	7,306.0	13,790.5	7,074.7	186.5	186.2	40.73	849.0	-6,226.1	306.5	48.3	258.19	1.187	Level 2
14,100.0	7,306.0	13,890.5	7,074.5	189.3	189.0	40.71	849.0	-6,326.1	306.6	44.8	261.89	1.171	Level 2
14,200.0	7,306.0	13,990.5	7,074.3	192.1	191.8	40.68	849.0	-6,426.1	306.8	41.2	265.59	1.155	Level 2
14,300.0	7,306.0	14,090.5	7,074.1	194.9	194.6	40.66	849.0	-6,526.1	307.0	37.7	269.28	1.140	Level 2
14,363.6	7,306.0	14,154.1	7,074.0	196.7	196.4	40.64	849.0	-6,589.7	307.1	35.4	271.64	1.130	Level 2, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-179.64	-44.8	-0.3	44.8				
100.0	100.0	100.0	100.0	0.1	0.1	-179.64	-44.8	-0.3	44.8	44.6	0.19	230.415	
200.0	200.0	200.0	200.0	0.3	0.3	-179.64	-44.8	-0.3	44.8	44.2	0.64	69.567	
300.0	300.0	300.0	300.0	0.5	0.5	-179.64	-44.8	-0.3	44.8	43.7	1.09	40.968	
400.0	400.0	400.0	400.0	0.8	0.8	-179.64	-44.8	-0.3	44.8	43.3	1.54	29.033	
500.0	500.0	500.0	500.0	1.0	1.0	-179.64	-44.8	-0.3	44.8	42.8	1.99	22.483	CC
600.0	600.0	599.8	599.8	1.2	1.2	178.15	-45.0	1.5	45.0	42.6	2.43	18.528	ES
700.0	700.0	699.4	699.2	1.4	1.4	171.71	-45.5	6.6	46.0	43.1	2.86	16.065	
800.0	800.0	798.6	798.0	1.7	1.6	117.22	-46.3	15.2	49.5	46.2	3.31	14.964	
900.0	899.8	897.3	896.1	1.9	1.9	110.48	-47.5	27.1	56.9	53.1	3.78	15.037	
1,000.0	999.5	995.5	993.1	2.1	2.2	105.67	-48.9	42.3	67.6	63.3	4.29	15.772	
1,100.0	1,098.7	1,093.1	1,088.8	2.4	2.5	102.55	-50.7	60.6	81.4	76.6	4.84	16.833	
1,200.0	1,197.5	1,191.7	1,185.3	2.7	2.9	101.34	-52.7	81.0	97.2	91.8	5.44	17.852	
1,299.9	1,295.5	1,290.1	1,281.6	3.0	3.3	102.11	-54.7	101.4	113.7	107.6	6.11	18.592	
1,300.0	1,295.6	1,290.3	1,281.7	3.0	3.3	102.12	-54.7	101.4	113.7	107.6	6.11	18.593	
1,400.0	1,393.4	1,388.8	1,378.1	3.4	3.7	103.69	-56.7	121.8	130.6	123.8	6.84	19.095	
1,500.0	1,491.3	1,487.3	1,474.4	3.7	4.2	104.90	-58.7	142.1	147.6	140.0	7.59	19.442	
1,600.0	1,589.1	1,585.8	1,570.8	4.1	4.6	105.87	-60.7	162.5	164.7	156.3	8.36	19.686	
1,700.0	1,686.9	1,684.3	1,667.1	4.5	5.0	106.65	-62.6	182.9	181.8	172.6	9.15	19.863	
1,800.0	1,784.7	1,782.8	1,763.5	5.0	5.5	107.30	-64.6	203.3	198.9	188.9	9.95	19.992	
1,900.0	1,882.5	1,881.3	1,859.8	5.4	5.9	107.84	-66.6	223.7	216.0	205.3	10.75	20.090	
2,000.0	1,980.3	1,979.8	1,956.2	5.8	6.4	108.30	-68.6	244.0	233.2	221.6	11.56	20.164	
2,100.0	2,078.1	2,078.3	2,052.5	6.2	6.8	108.71	-70.6	264.4	250.3	237.9	12.38	20.220	
2,200.0	2,176.0	2,176.8	2,148.9	6.7	7.2	109.06	-72.6	284.8	267.5	254.3	13.20	20.265	
2,300.0	2,273.8	2,275.3	2,245.2	7.1	7.7	109.36	-74.6	305.2	284.7	270.7	14.02	20.300	
2,400.0	2,371.6	2,373.8	2,341.6	7.5	8.1	109.64	-76.5	325.5	301.9	287.0	14.85	20.327	
2,500.0	2,469.4	2,472.3	2,438.0	8.0	8.6	109.88	-78.5	345.9	319.1	303.4	15.68	20.349	
2,600.0	2,567.2	2,570.8	2,534.3	8.4	9.0	110.10	-80.5	366.3	336.3	319.8	16.51	20.367	
2,700.0	2,665.0	2,669.3	2,630.7	8.8	9.5	110.29	-82.5	386.7	353.5	336.1	17.34	20.381	
2,800.0	2,762.9	2,767.8	2,727.0	9.3	9.9	110.47	-84.5	407.0	370.7	352.5	18.18	20.393	
2,900.0	2,860.7	2,866.3	2,823.4	9.7	10.4	110.63	-86.5	427.4	387.9	368.9	19.01	20.402	
3,000.0	2,958.5	2,964.8	2,919.7	10.2	10.8	110.78	-88.5	447.8	405.1	385.3	19.85	20.410	
3,100.0	3,056.3	3,063.3	3,016.1	10.6	11.3	110.92	-90.5	468.2	422.3	401.6	20.69	20.416	
3,200.0	3,154.1	3,161.8	3,112.4	11.1	11.7	111.05	-92.4	488.6	439.5	418.0	21.52	20.421	
3,300.0	3,251.9	3,260.3	3,208.8	11.5	12.2	111.16	-94.4	508.9	456.8	434.4	22.36	20.425	
3,400.0	3,349.8	3,358.8	3,305.1	12.0	12.6	111.27	-96.4	529.3	474.0	450.8	23.20	20.428	
3,500.0	3,447.6	3,457.3	3,401.5	12.4	13.1	111.37	-98.4	549.7	491.2	467.2	24.04	20.430	
3,600.0	3,545.4	3,555.8	3,497.8	12.8	13.5	111.47	-100.4	570.1	508.4	483.6	24.88	20.432	
3,700.0	3,643.2	3,654.3	3,594.2	13.3	14.0	111.55	-102.4	590.4	525.7	499.9	25.73	20.434	
3,800.0	3,741.0	3,752.8	3,690.5	13.7	14.5	111.64	-104.4	610.8	542.9	516.3	26.57	20.435	
3,900.0	3,838.8	3,854.2	3,789.7	14.2	14.9	111.73	-106.4	631.6	560.0	532.6	27.40	20.438	
4,000.0	3,936.6	3,962.4	3,896.2	14.6	15.3	112.11	-108.2	650.8	575.9	547.8	28.18	20.440	
4,100.0	4,034.5	4,070.8	4,003.5	15.1	15.5	112.82	-109.7	665.9	590.3	561.4	28.90	20.425	
4,200.0	4,132.3	4,179.0	4,111.1	15.5	15.8	113.85	-110.8	677.1	603.1	573.5	29.58	20.391	
4,300.0	4,230.1	4,286.8	4,218.7	16.0	16.0	115.18	-111.5	684.1	614.6	584.3	30.20	20.347	
4,400.0	4,327.9	4,393.9	4,325.7	16.4	16.1	116.79	-111.8	687.1	624.9	594.1	30.77	20.307	
4,500.0	4,425.7	4,493.9	4,425.7	16.9	16.2	118.46	-111.8	687.2	634.8	603.5	31.29	20.284	
4,600.0	4,523.5	4,591.7	4,523.5	17.3	16.4	120.06	-111.8	687.2	645.1	613.3	31.80	20.286	
4,700.0	4,621.4	4,689.5	4,621.4	17.8	16.5	121.60	-111.8	687.2	655.9	623.6	32.29	20.313	
4,800.0	4,719.2	4,787.4	4,719.2	18.2	16.6	123.10	-111.8	687.2	667.2	634.5	32.77	20.362	
4,900.0	4,817.0	4,885.2	4,817.0	18.7	16.7	124.55	-111.8	687.2	679.0	645.7	33.23	20.433	
5,000.0	4,914.8	4,983.0	4,914.8	19.1	16.9	125.95	-111.8	687.2	691.2	657.5	33.68	20.521	

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-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,080.8	5,012.6	19.6	17.0	127.30	-111.8	687.2	703.7	669.6	34.12	20.626	
5,200.0	5,110.4	5,178.6	5,110.4	20.0	17.1	128.60	-111.8	687.2	716.7	682.1	34.55	20.745	
5,221.3	5,131.3	5,199.5	5,131.3	20.1	17.2	128.87	-111.8	687.2	719.5	684.9	34.64	20.773	
5,300.0	5,208.5	5,276.6	5,208.5	20.4	17.3	129.95	-111.8	687.2	729.3	694.4	34.96	20.865	
5,400.0	5,307.1	5,375.3	5,307.1	20.7	17.4	131.08	-111.8	687.2	740.0	704.8	35.29	20.969	
5,500.0	5,406.3	5,474.4	5,406.3	21.0	17.6	131.95	-111.8	687.2	748.6	713.0	35.61	21.026	
5,600.0	5,505.8	5,574.0	5,505.8	21.2	17.7	132.58	-111.8	687.2	755.0	719.1	35.90	21.031	
5,700.0	5,605.6	5,673.8	5,605.6	21.4	17.8	132.97	-111.8	687.2	759.1	722.9	36.17	20.985	
5,800.0	5,705.6	5,773.8	5,705.6	21.5	18.0	133.13	-111.8	687.2	760.8	724.4	36.43	20.885	
5,821.2	5,726.8	5,795.0	5,726.8	21.5	18.0	179.49	-111.8	687.2	760.8	729.9	30.92	24.609	
5,900.0	5,805.6	5,873.8	5,805.6	21.6	18.1	179.49	-111.8	687.2	760.8	729.7	31.18	24.400	
6,000.0	5,905.6	5,973.8	5,905.6	21.7	18.3	179.49	-111.8	687.2	760.8	729.3	31.53	24.133	
6,100.0	6,005.6	6,073.8	6,005.6	21.9	18.4	179.49	-111.8	687.2	760.8	729.0	31.87	23.870	
6,200.0	6,105.6	6,173.8	6,105.6	22.0	18.6	179.49	-111.8	687.2	760.8	728.6	32.22	23.611	
6,300.0	6,205.6	6,273.8	6,205.6	22.1	18.8	179.49	-111.8	687.2	760.8	728.3	32.58	23.355	
6,400.0	6,305.6	6,373.8	6,305.6	22.3	18.9	179.49	-111.8	687.2	760.8	727.9	32.93	23.104	
6,500.0	6,405.6	6,474.0	6,405.8	22.4	19.1	179.52	-111.8	686.7	760.8	727.5	33.28	22.859	
6,571.8	6,477.4	6,545.9	6,477.4	22.5	19.1	-180.00	-111.8	680.4	760.8	727.2	33.56	22.671	
6,600.0	6,505.6	6,573.7	6,504.8	22.5	19.1	-179.67	-111.8	676.0	760.8	727.1	33.68	22.593	
6,684.2	6,589.8	6,654.0	6,583.0	22.6	19.1	-178.28	-111.8	657.5	761.2	727.1	34.05	22.353	
6,700.0	6,605.6	6,668.6	6,596.9	22.7	19.0	-87.95	-111.8	653.2	761.3	722.8	38.57	19.737	
6,750.0	6,655.5	6,714.4	6,640.0	22.7	19.0	-86.93	-111.8	637.9	762.0	723.5	38.45	19.816	
6,800.0	6,705.1	6,759.4	6,681.4	22.7	18.9	-85.94	-111.8	620.2	762.9	724.6	38.29	19.923	
6,850.0	6,754.1	6,803.7	6,720.9	22.7	18.9	-84.96	-111.8	600.2	764.0	725.9	38.10	20.052	
6,900.0	6,802.3	6,847.3	6,758.6	22.7	18.8	-84.02	-111.8	578.2	765.3	727.4	37.89	20.199	
6,950.0	6,849.5	6,890.4	6,794.4	22.6	18.7	-83.10	-111.8	554.3	766.7	729.0	37.66	20.358	
7,000.0	6,895.5	6,932.9	6,828.3	22.5	18.7	-82.22	-111.8	528.6	768.3	730.9	37.44	20.521	
7,050.0	6,939.9	6,975.0	6,860.2	22.4	18.7	-81.37	-111.8	501.3	770.0	732.7	37.23	20.683	
7,100.0	6,982.6	7,016.5	6,890.2	22.3	18.7	-80.56	-111.8	472.4	771.7	734.7	37.04	20.836	
7,150.0	7,023.4	7,057.7	6,918.2	22.2	18.7	-79.80	-111.8	442.2	773.5	736.7	36.89	20.972	
7,200.0	7,062.2	7,100.0	6,945.0	22.1	18.7	-79.05	-111.8	409.6	775.4	738.6	36.78	21.080	
7,250.0	7,098.6	7,139.0	6,968.0	22.0	18.8	-78.40	-111.8	378.1	777.2	740.4	36.75	21.145	
7,300.0	7,132.5	7,179.1	6,989.9	21.9	19.0	-77.77	-111.8	344.5	778.9	742.1	36.80	21.164	
7,350.0	7,163.8	7,219.0	7,009.8	21.8	19.1	-77.20	-111.8	309.9	780.6	743.7	36.95	21.128	
7,400.0	7,192.2	7,258.6	7,027.5	21.7	19.4	-76.67	-111.8	274.5	782.2	745.0	37.19	21.032	
7,450.0	7,217.8	7,300.0	7,044.0	21.6	19.6	-76.19	-111.8	236.5	783.7	746.2	37.57	20.863	
7,500.0	7,240.3	7,337.3	7,056.9	21.6	20.0	-75.79	-111.8	201.5	785.1	747.0	38.05	20.631	
7,550.0	7,259.6	7,376.3	7,068.4	21.6	20.3	-75.43	-111.8	164.2	786.3	747.6	38.68	20.330	
7,600.0	7,275.7	7,415.3	7,077.9	21.6	20.7	-75.13	-111.8	126.5	787.3	747.9	39.42	19.970	
7,650.0	7,288.4	7,450.0	7,084.6	21.8	21.1	-74.90	-111.8	92.4	788.2	747.9	40.25	19.583	
7,700.0	7,297.7	7,492.8	7,090.6	22.0	21.7	-74.70	-111.8	50.0	788.8	747.5	41.29	19.102	
7,750.0	7,303.6	7,531.5	7,093.9	22.4	22.2	-74.57	-111.8	11.5	789.3	746.9	42.40	18.614	
7,800.0	7,305.9	7,570.1	7,095.0	22.9	22.8	-74.50	-111.8	-27.1	789.5	745.9	43.60	18.108	
7,809.2	7,306.0	7,578.3	7,095.0	23.0	22.9	-74.50	-111.8	-35.3	789.5	745.7	43.85	18.006	
7,900.0	7,306.0	7,669.1	7,094.8	24.3	24.4	-74.48	-111.8	-126.1	789.6	743.0	46.62	16.938	
8,000.0	7,306.0	7,769.1	7,094.5	26.0	26.2	-74.47	-111.8	-226.1	789.6	739.6	50.02	15.785	
8,100.0	7,306.0	7,869.1	7,094.3	27.9	28.2	-74.45	-111.8	-326.1	789.7	735.9	53.76	14.688	
8,200.0	7,306.0	7,969.1	7,094.1	30.0	30.3	-74.43	-111.8	-426.1	789.8	732.0	57.77	13.671	
8,300.0	7,306.0	8,069.1	7,093.8	32.2	32.5	-74.42	-111.8	-526.1	789.8	727.8	61.99	12.741	
8,400.0	7,306.0	8,169.1	7,093.6	34.4	34.8	-74.40	-111.8	-626.1	789.9	723.5	66.39	11.898	
8,500.0	7,306.0	8,269.1	7,093.3	36.8	37.1	-74.38	-111.8	-726.1	790.0	719.0	70.92	11.138	
8,600.0	7,306.0	8,369.1	7,093.1	39.2	39.6	-74.37	-111.8	-826.1	790.0	714.5	75.58	10.453	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	8,469.1	7,092.9	41.7	42.0	-74.35	-111.8	-926.1	790.1	709.8	80.32	9.836	
8,800.0	7,306.0	8,569.1	7,092.6	44.1	44.6	-74.33	-111.8	-1,026.1	790.2	705.0	85.15	9.280	
8,900.0	7,306.0	8,669.1	7,092.4	46.7	47.1	-74.32	-111.8	-1,126.1	790.2	700.2	90.04	8.776	
9,000.0	7,306.0	8,769.1	7,092.1	49.2	49.7	-74.30	-111.8	-1,226.1	790.3	695.3	94.99	8.320	
9,100.0	7,306.0	8,869.1	7,091.9	51.8	52.3	-74.28	-111.8	-1,326.1	790.4	690.4	99.99	7.905	
9,200.0	7,306.0	8,969.1	7,091.7	54.4	54.9	-74.27	-111.8	-1,426.1	790.4	685.4	105.02	7.526	
9,300.0	7,306.0	9,069.1	7,091.4	57.1	57.5	-74.25	-111.8	-1,526.1	790.5	680.4	110.09	7.180	
9,400.0	7,306.0	9,169.1	7,091.2	59.7	60.2	-74.23	-111.8	-1,626.1	790.6	675.4	115.20	6.863	
9,500.0	7,306.0	9,269.1	7,090.9	62.4	62.9	-74.22	-111.8	-1,726.1	790.6	670.3	120.32	6.571	
9,600.0	7,306.0	9,369.1	7,090.7	65.0	65.5	-74.20	-111.8	-1,826.1	790.7	665.2	125.47	6.302	
9,700.0	7,306.0	9,469.1	7,090.4	67.7	68.2	-74.18	-111.8	-1,926.1	790.8	660.1	130.64	6.053	
9,800.0	7,306.0	9,569.1	7,090.2	70.4	70.9	-74.16	-111.8	-2,026.1	790.8	655.0	135.83	5.822	
9,900.0	7,306.0	9,669.1	7,090.0	73.1	73.6	-74.15	-111.8	-2,126.1	790.9	649.9	141.03	5.608	
10,000.0	7,306.0	9,769.1	7,089.7	75.8	76.3	-74.13	-111.8	-2,226.1	791.0	644.7	146.25	5.408	
10,100.0	7,306.0	9,869.1	7,089.5	78.5	79.1	-74.11	-111.8	-2,326.1	791.0	639.5	151.48	5.222	
10,200.0	7,306.0	9,969.1	7,089.2	81.2	81.8	-74.10	-111.8	-2,426.1	791.1	634.4	156.72	5.048	
10,300.0	7,306.0	10,069.1	7,089.0	84.0	84.5	-74.08	-111.8	-2,526.1	791.2	629.2	161.97	4.885	
10,400.0	7,306.0	10,169.1	7,088.7	86.7	87.3	-74.06	-111.8	-2,626.1	791.2	624.0	167.23	4.731	
10,500.0	7,306.0	10,269.1	7,088.5	89.4	90.0	-74.05	-111.8	-2,726.1	791.3	618.8	172.50	4.587	
10,600.0	7,306.0	10,369.1	7,088.3	92.2	92.7	-74.03	-111.8	-2,826.0	791.4	613.6	177.77	4.452	
10,700.0	7,306.0	10,469.1	7,088.0	94.9	95.5	-74.01	-111.8	-2,926.0	791.4	608.4	183.05	4.324	
10,800.0	7,306.0	10,569.1	7,087.8	97.6	98.2	-74.00	-111.8	-3,026.0	791.5	603.2	188.34	4.203	
10,900.0	7,306.0	10,669.1	7,087.5	100.4	101.0	-73.98	-111.8	-3,126.0	791.6	597.9	193.63	4.088	
11,000.0	7,306.0	10,769.1	7,087.3	103.2	103.8	-73.96	-111.8	-3,226.0	791.6	592.7	198.92	3.980	
11,100.0	7,306.0	10,869.1	7,087.0	105.9	106.5	-73.94	-111.8	-3,326.0	791.7	587.5	204.22	3.877	
11,200.0	7,306.0	10,969.1	7,086.8	108.7	109.3	-73.93	-111.8	-3,426.0	791.8	582.3	209.53	3.779	
11,300.0	7,306.0	11,069.1	7,086.5	111.4	112.1	-73.91	-111.8	-3,526.0	791.9	577.0	214.84	3.686	
11,400.0	7,306.0	11,169.1	7,086.3	114.2	114.8	-73.89	-111.8	-3,626.0	791.9	571.8	220.15	3.597	
11,500.0	7,306.0	11,269.0	7,086.0	117.0	117.6	-73.88	-111.8	-3,726.0	792.0	566.5	225.46	3.513	
11,600.0	7,306.0	11,369.0	7,085.8	119.7	120.4	-73.86	-111.8	-3,826.0	792.1	561.3	230.78	3.432	
11,700.0	7,306.0	11,469.0	7,085.6	122.5	123.1	-73.84	-111.8	-3,926.0	792.1	556.0	236.10	3.355	
11,800.0	7,306.0	11,569.0	7,085.3	125.3	125.9	-73.82	-111.8	-4,026.0	792.2	550.8	241.42	3.281	
11,900.0	7,306.0	11,669.0	7,085.1	128.0	128.7	-73.81	-111.8	-4,126.0	792.3	545.5	246.74	3.211	
12,000.0	7,306.0	11,692.6	7,085.0	130.8	129.3	-73.80	-111.8	-4,149.6	796.0	546.0	250.04	3.184 SF	
12,100.0	7,306.0	11,692.6	7,085.0	133.6	129.3	-73.80	-111.8	-4,149.6	811.8	559.1	252.71	3.212	
12,200.0	7,306.0	11,692.6	7,085.0	136.4	129.3	-73.80	-111.8	-4,149.6	839.3	583.9	255.39	3.286	
12,300.0	7,306.0	11,692.6	7,085.0	139.1	129.3	-73.80	-111.8	-4,149.6	877.4	619.4	258.07	3.400	
12,400.0	7,306.0	11,692.6	7,085.0	141.9	129.3	-73.80	-111.8	-4,149.6	924.8	664.1	260.74	3.547	
12,500.0	7,306.0	11,692.6	7,085.0	144.7	129.3	-73.80	-111.8	-4,149.6	980.1	716.7	263.42	3.721	
12,600.0	7,306.0	11,692.6	7,085.0	147.5	129.3	-73.80	-111.8	-4,149.6	1,042.1	776.0	266.10	3.916	
12,700.0	7,306.0	11,692.6	7,085.0	150.3	129.3	-73.80	-111.8	-4,149.6	1,109.7	840.9	268.78	4.129	
12,800.0	7,306.0	11,692.6	7,085.0	153.0	129.3	-73.80	-111.8	-4,149.6	1,181.9	910.4	271.46	4.354	
12,900.0	7,306.0	11,692.6	7,085.0	155.8	129.3	-73.80	-111.8	-4,149.6	1,257.9	983.7	274.14	4.588	
13,000.0	7,306.0	11,692.6	7,085.0	158.6	129.3	-73.80	-111.8	-4,149.6	1,337.0	1,060.2	276.83	4.830	
13,100.0	7,306.0	11,692.6	7,085.0	161.4	129.3	-73.80	-111.8	-4,149.6	1,418.8	1,139.3	279.51	5.076	
13,200.0	7,306.0	11,692.6	7,085.0	164.2	129.3	-73.80	-111.8	-4,149.6	1,502.8	1,220.6	282.19	5.326	
13,300.0	7,306.0	11,692.6	7,085.0	167.0	129.3	-73.80	-111.8	-4,149.6	1,588.7	1,303.8	284.88	5.577	
13,400.0	7,306.0	11,692.6	7,085.0	169.8	129.3	-73.80	-111.8	-4,149.6	1,676.1	1,388.5	287.56	5.829	
13,500.0	7,306.0	11,692.6	7,085.0	172.6	129.3	-73.80	-111.8	-4,149.6	1,764.8	1,474.6	290.25	6.080	
13,600.0	7,306.0	11,692.6	7,085.0	175.3	129.3	-73.80	-111.8	-4,149.6	1,854.7	1,561.8	292.94	6.332	
13,700.0	7,306.0	11,692.6	7,085.0	178.1	129.3	-73.80	-111.8	-4,149.6	1,945.6	1,650.0	295.62	6.581	
13,800.0	7,306.0	11,692.6	7,085.0	180.9	129.3	-73.80	-111.8	-4,149.6	2,037.4	1,739.1	298.31	6.830	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,900.0	7,306.0	11,692.6	7,085.0	183.7	129.3	-73.80	-111.8	-4,149.6	2,129.9	1,828.9	301.00	7.076	
14,000.0	7,306.0	11,692.6	7,085.0	186.5	129.3	-73.80	-111.8	-4,149.6	2,223.0	1,919.3	303.69	7.320	
14,100.0	7,306.0	11,692.6	7,085.0	189.3	129.3	-73.80	-111.8	-4,149.6	2,316.7	2,010.3	306.37	7.562	
14,200.0	7,306.0	11,692.6	7,085.0	192.1	129.3	-73.80	-111.8	-4,149.6	2,410.9	2,101.8	309.06	7.801	
14,300.0	7,306.0	11,692.6	7,085.0	194.9	129.3	-73.80	-111.8	-4,149.6	2,505.6	2,193.8	311.75	8.037	
14,363.6	7,306.0	11,692.6	7,085.0	196.7	129.3	-73.80	-111.8	-4,149.6	2,565.9	2,252.5	313.46	8.186	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	30.2	0.3	30.2				
100.0	100.0	101.0	101.0	0.1	0.1	0.53	30.2	0.3	30.2	30.0	0.20	153.774	
200.0	200.0	201.0	201.0	0.3	0.3	0.53	30.2	0.3	30.2	29.6	0.65	46.801	
300.0	300.0	301.0	301.0	0.5	0.5	0.53	30.2	0.3	30.2	29.1	1.10	27.600	
400.0	400.0	401.0	401.0	0.8	0.8	0.53	30.2	0.3	30.2	28.7	1.55	19.571	
466.3	466.3	467.3	467.3	0.9	0.9	0.53	30.2	0.3	30.2	28.4	1.84	16.406	CC
500.0	500.0	501.0	501.0	1.0	1.0	0.53	30.2	0.3	30.2	28.2	1.99	15.161	ES
600.0	600.0	600.0	600.0	1.2	1.2	2.20	31.7	1.2	31.8	29.3	2.44	13.014	
700.0	700.0	698.9	698.7	1.4	1.4	6.31	36.1	4.0	36.4	33.5	2.89	12.588	
800.0	800.0	797.4	796.9	1.7	1.7	-36.40	43.2	8.6	42.9	39.5	3.34	12.841	
900.0	899.8	895.7	894.4	1.9	1.9	-34.58	53.2	14.9	49.8	46.1	3.79	13.159	
1,000.0	999.5	993.7	991.3	2.1	2.2	-33.95	66.0	23.1	57.2	52.9	4.25	13.456	
1,100.0	1,098.7	1,091.4	1,087.3	2.4	2.6	-34.12	81.5	33.0	64.8	60.1	4.73	13.705	
1,200.0	1,197.5	1,189.4	1,182.8	2.7	2.9	-34.85	99.8	44.6	72.7	67.5	5.24	13.873	
1,299.9	1,295.5	1,289.1	1,279.7	3.0	3.4	-36.63	119.2	57.0	78.8	73.0	5.80	13.588	
1,300.0	1,295.6	1,289.2	1,279.9	3.0	3.4	-36.64	119.3	57.0	78.8	73.0	5.80	13.587	
1,400.0	1,393.4	1,389.0	1,377.0	3.4	3.8	-38.96	138.8	69.4	83.6	77.1	6.42	13.015	
1,500.0	1,491.3	1,488.9	1,474.1	3.7	4.2	-41.03	158.2	81.9	88.5	81.4	7.08	12.501	
1,600.0	1,589.1	1,588.7	1,571.2	4.1	4.7	-42.89	177.7	94.3	93.5	85.7	7.76	12.040	
1,700.0	1,686.9	1,688.5	1,668.3	4.5	5.1	-44.55	197.2	106.7	98.6	90.1	8.48	11.628	
1,800.0	1,784.7	1,788.3	1,765.5	5.0	5.6	-46.05	216.7	119.1	103.8	94.5	9.21	11.261	
1,900.0	1,882.5	1,888.2	1,862.6	5.4	6.1	-47.40	236.2	131.5	109.0	99.0	9.97	10.935	
2,000.0	1,980.3	1,988.0	1,959.7	5.8	6.6	-48.63	255.7	143.9	114.3	103.5	10.74	10.644	
2,100.0	2,078.1	2,087.8	2,056.8	6.2	7.0	-49.75	275.1	156.4	119.6	108.1	11.52	10.384	
2,200.0	2,176.0	2,187.7	2,153.9	6.7	7.5	-50.78	294.6	168.8	125.0	112.7	12.31	10.152	
2,300.0	2,273.8	2,287.5	2,251.1	7.1	8.0	-51.71	314.1	181.2	130.4	117.3	13.12	9.943	
2,400.0	2,371.6	2,387.3	2,348.2	7.5	8.5	-52.58	333.6	193.6	135.9	122.0	13.93	9.754	
2,500.0	2,469.4	2,487.2	2,445.3	8.0	8.9	-53.38	353.1	206.0	141.4	126.6	14.75	9.584	
2,600.0	2,567.2	2,587.0	2,542.4	8.4	9.4	-54.11	372.6	218.5	146.9	131.3	15.58	9.429	
2,700.0	2,665.0	2,686.8	2,639.6	8.8	9.9	-54.80	392.1	230.9	152.4	136.0	16.41	9.289	
2,800.0	2,762.9	2,786.7	2,736.7	9.3	10.4	-55.44	411.5	243.3	158.0	140.7	17.24	9.160	
2,900.0	2,860.7	2,886.5	2,833.8	9.7	10.8	-56.03	431.0	255.7	163.5	145.4	18.08	9.043	
3,000.0	2,958.5	2,986.3	2,930.9	10.2	11.3	-56.58	450.5	268.1	169.1	150.2	18.93	8.935	
3,100.0	3,056.3	3,086.2	3,028.0	10.6	11.8	-57.10	470.0	280.5	174.7	154.9	19.77	8.835	
3,200.0	3,154.1	3,186.0	3,125.2	11.1	12.3	-57.59	489.5	293.0	180.3	159.7	20.62	8.744	
3,300.0	3,251.9	3,285.8	3,222.3	11.5	12.8	-58.04	509.0	305.4	185.9	164.5	21.47	8.659	
3,400.0	3,349.8	3,385.6	3,319.4	12.0	13.3	-58.48	528.4	317.8	191.6	169.2	22.33	8.580	
3,500.0	3,447.6	3,485.5	3,416.5	12.4	13.7	-58.88	547.9	330.2	197.2	174.0	23.18	8.506	
3,600.0	3,545.4	3,585.3	3,513.6	12.8	14.2	-59.26	567.4	342.6	202.9	178.8	24.04	8.438	
3,700.0	3,643.2	3,685.1	3,610.8	13.3	14.7	-59.63	586.9	355.0	208.5	183.6	24.90	8.374	
3,800.0	3,741.0	3,785.0	3,707.9	13.7	15.2	-59.97	606.4	367.5	214.2	188.4	25.76	8.314	
3,900.0	3,838.8	3,884.8	3,805.0	14.2	15.7	-60.29	625.9	379.9	219.9	193.3	26.63	8.258	
4,000.0	3,936.6	3,984.6	3,902.1	14.6	16.2	-60.60	645.4	392.3	225.6	198.1	27.49	8.206	
4,100.0	4,034.5	4,084.5	3,999.2	15.1	16.6	-60.90	664.8	404.7	231.3	202.9	28.35	8.156	
4,200.0	4,132.3	4,184.3	4,096.4	15.5	17.1	-61.18	684.3	417.1	237.0	207.7	29.22	8.110	
4,300.0	4,230.1	4,284.1	4,193.5	16.0	17.6	-61.44	703.8	429.6	242.7	212.6	30.09	8.066	
4,400.0	4,327.9	4,384.0	4,290.6	16.4	18.1	-61.70	723.3	442.0	248.4	217.4	30.95	8.024	
4,500.0	4,425.7	4,483.8	4,387.7	16.9	18.6	-61.94	742.8	454.4	254.1	222.3	31.82	7.985	
4,600.0	4,523.5	4,583.6	4,484.8	17.3	19.1	-62.17	762.3	466.8	259.8	227.1	32.69	7.947	
4,700.0	4,621.4	4,683.4	4,582.0	17.8	19.5	-62.39	781.7	479.2	265.5	232.0	33.56	7.912	
4,800.0	4,719.2	4,783.3	4,679.1	18.2	20.0	-62.61	801.2	491.6	271.2	236.8	34.43	7.878	
4,900.0	4,817.0	4,883.1	4,776.2	18.7	20.5	-62.81	820.7	504.1	277.0	241.7	35.30	7.846	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,982.9	4,873.3	19.1	21.0	-63.01	840.2	516.5	282.7	246.5	36.17	7.816	
5,100.0	5,012.6	5,082.8	4,970.4	19.6	21.5	-63.19	859.7	528.9	288.4	251.4	37.04	7.787	
5,200.0	5,110.4	5,182.6	5,067.6	20.0	22.0	-63.38	879.2	541.3	294.2	256.3	37.91	7.759	
5,221.3	5,131.3	5,203.9	5,088.3	20.1	22.1	-63.41	883.3	544.0	295.4	257.3	38.10	7.753	
5,300.0	5,208.5	5,282.4	5,164.7	20.4	22.5	-63.45	898.6	553.7	300.4	261.7	38.70	7.761	
5,400.0	5,307.1	5,382.1	5,261.6	20.7	22.9	-63.01	918.1	566.1	308.1	268.9	39.28	7.846	
5,500.0	5,406.3	5,481.4	5,358.3	21.0	23.4	-62.07	937.5	578.5	317.6	277.9	39.68	8.002	
5,600.0	5,505.8	5,580.4	5,454.6	21.2	23.9	-60.70	956.8	590.8	328.8	288.8	39.93	8.234	
5,700.0	5,605.6	5,678.8	5,550.3	21.4	24.4	-58.96	976.0	603.0	342.0	302.0	40.02	8.547	
5,800.0	5,705.6	5,776.6	5,645.5	21.5	24.9	-56.95	995.1	615.2	357.5	317.5	39.95	8.948	
5,821.2	5,726.8	5,797.3	5,665.6	21.5	25.0	-10.14	999.1	617.8	361.1	323.7	37.38	9.659	
5,900.0	5,805.6	5,873.9	5,740.1	21.6	25.3	-8.27	1,014.1	627.3	374.9	336.5	38.36	9.772	
6,000.0	5,905.6	5,977.2	5,840.7	21.7	25.8	-6.01	1,033.8	639.9	392.5	352.9	39.58	9.917	
6,100.0	6,005.6	6,087.6	5,949.1	21.9	26.2	-4.12	1,051.9	651.4	408.0	367.3	40.62	10.043	
6,200.0	6,105.6	6,199.6	6,059.6	22.0	26.5	-2.70	1,066.5	660.7	420.6	379.1	41.49	10.139	
6,300.0	6,205.6	6,312.8	6,172.0	22.1	26.8	-1.68	1,077.7	667.8	430.2	388.0	42.18	10.199	
6,400.0	6,305.6	6,426.8	6,285.7	22.3	27.0	-1.03	1,085.1	672.6	436.6	393.9	42.73	10.218	
6,500.0	6,405.6	6,541.4	6,400.2	22.4	27.1	-0.72	1,088.7	674.8	439.8	396.6	43.14	10.193	
6,600.0	6,505.6	6,647.6	6,506.4	22.5	27.3	-0.76	1,089.0	674.6	440.1	396.7	43.42	10.136	
6,684.2	6,589.8	6,730.3	6,588.7	22.6	27.3	-1.78	1,089.0	666.8	440.3	396.9	43.35	10.155	
6,700.0	6,605.6	6,745.6	6,603.8	22.7	27.3	87.92	1,089.0	664.3	440.3	399.5	40.84	10.782	
6,750.0	6,655.5	6,793.7	6,650.8	22.7	27.3	86.95	1,089.0	654.4	440.7	399.5	41.15	10.709	
6,800.0	6,705.1	6,841.3	6,696.7	22.7	27.2	86.00	1,089.0	641.5	441.1	399.7	41.39	10.657	
6,850.0	6,754.1	6,888.5	6,741.2	22.7	27.2	85.08	1,089.0	625.7	441.7	400.1	41.57	10.626	
6,900.0	6,802.3	6,935.3	6,784.1	22.7	27.1	84.19	1,089.0	607.2	442.4	400.7	41.67	10.616	
6,950.0	6,849.5	6,981.7	6,825.5	22.6	27.0	83.33	1,089.0	586.1	443.1	401.4	41.71	10.624	
7,000.0	6,895.5	7,027.7	6,865.0	22.5	26.9	82.50	1,089.0	562.6	443.9	402.2	41.68	10.650	
7,050.0	6,939.9	7,073.4	6,902.7	22.4	26.8	81.71	1,089.0	536.9	444.8	403.1	41.61	10.690	
7,100.0	6,982.6	7,118.8	6,938.5	22.3	26.7	80.96	1,089.0	508.9	445.6	404.2	41.49	10.742	
7,150.0	7,023.4	7,163.9	6,972.2	22.2	26.6	80.25	1,089.0	479.0	446.6	405.2	41.34	10.802	
7,200.0	7,062.2	7,208.7	7,003.7	22.1	26.5	79.59	1,089.0	447.2	447.5	406.3	41.18	10.865	
7,250.0	7,098.6	7,253.2	7,033.1	22.0	26.4	78.98	1,089.0	413.7	448.4	407.3	41.04	10.926	
7,300.0	7,132.5	7,300.0	7,061.6	21.9	26.3	78.40	1,089.0	376.6	449.3	408.3	40.93	10.977	
7,350.0	7,163.8	7,341.7	7,084.9	21.8	26.2	77.91	1,089.0	342.0	450.1	409.2	40.87	11.012	
7,400.0	7,192.2	7,385.7	7,107.3	21.7	26.0	77.46	1,089.0	304.2	450.8	410.0	40.90	11.024	
7,450.0	7,217.8	7,429.5	7,127.2	21.6	25.9	77.05	1,089.0	265.2	451.6	410.5	41.03	11.007	
7,500.0	7,240.3	7,473.1	7,144.7	21.6	25.8	76.71	1,089.0	225.2	452.2	410.9	41.28	10.955	
7,550.0	7,259.6	7,516.7	7,159.6	21.6	25.7	76.42	1,089.0	184.3	452.7	411.1	41.66	10.866	
7,600.0	7,275.7	7,560.1	7,172.0	21.6	25.6	76.19	1,089.0	142.7	453.2	411.0	42.20	10.738	
7,650.0	7,288.4	7,603.5	7,181.9	21.8	25.5	76.01	1,089.0	100.4	453.5	410.6	42.89	10.572	
7,700.0	7,297.7	7,650.0	7,189.6	22.0	25.4	75.89	1,089.0	54.6	453.7	410.0	43.78	10.364	
7,703.0	7,298.1	7,650.0	7,189.6	22.0	25.4	75.89	1,089.0	54.6	453.7	409.9	43.81	10.357	
7,750.0	7,303.6	7,690.1	7,193.8	22.4	25.3	75.84	1,089.0	14.7	453.8	409.1	44.75	10.141	
7,800.0	7,305.9	7,733.4	7,195.9	22.9	25.2	75.84	1,089.0	-28.5	453.8	407.9	45.90	9.888	
7,809.2	7,306.0	7,741.4	7,196.0	23.0	25.2	75.84	1,089.0	-36.5	453.8	407.7	46.12	9.840	
7,821.0	7,306.0	7,752.0	7,196.0	23.2	25.2	75.84	1,089.0	-47.1	453.8	407.4	46.43	9.773	
7,900.0	7,306.0	7,831.0	7,195.7	24.3	25.0	75.80	1,089.0	-126.1	453.9	405.1	48.77	9.308	
8,000.0	7,306.0	7,931.0	7,195.3	26.0	26.1	75.75	1,089.0	-226.1	454.0	401.9	52.06	8.720	
8,100.0	7,306.0	8,031.0	7,194.8	27.9	28.1	75.70	1,089.0	-326.1	454.1	398.4	55.70	8.152	
8,200.0	7,306.0	8,131.0	7,194.4	30.0	30.2	75.65	1,089.0	-426.1	454.2	394.6	59.62	7.619	
8,300.0	7,306.0	8,231.0	7,194.0	32.2	32.4	75.60	1,089.0	-526.1	454.3	390.6	63.76	7.126	
8,400.0	7,306.0	8,331.0	7,193.6	34.4	34.7	75.55	1,089.0	-626.1	454.4	386.3	68.08	6.675	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,500.0	7,306.0	8,431.0	7,193.2	36.8	37.0	75.50	1,089.0	-726.1	454.5	382.0	72.55	6.265	
8,600.0	7,306.0	8,531.0	7,192.8	39.2	39.4	75.45	1,089.0	-826.1	454.6	377.5	77.14	5.893	
8,700.0	7,306.0	8,631.0	7,192.4	41.7	41.8	75.40	1,089.0	-926.1	454.7	372.9	81.84	5.556	
8,800.0	7,306.0	8,731.0	7,192.0	44.1	44.3	75.35	1,089.0	-1,026.1	454.8	368.2	86.62	5.251	
8,900.0	7,306.0	8,831.0	7,191.5	46.7	46.8	75.30	1,089.0	-1,126.1	454.9	363.5	91.48	4.973	
9,000.0	7,306.0	8,931.0	7,191.1	49.2	49.4	75.25	1,089.0	-1,226.1	455.0	358.6	96.39	4.721	
9,100.0	7,306.0	9,031.0	7,190.7	51.8	51.9	75.20	1,089.0	-1,326.1	455.1	353.8	101.36	4.490	
9,200.0	7,306.0	9,131.0	7,190.3	54.4	54.5	75.15	1,089.0	-1,426.1	455.2	348.9	106.37	4.280	
9,300.0	7,306.0	9,231.0	7,189.9	57.1	57.1	75.10	1,089.0	-1,526.1	455.4	343.9	111.41	4.087	
9,400.0	7,306.0	9,331.0	7,189.5	59.7	59.8	75.05	1,089.0	-1,626.1	455.5	339.0	116.49	3.910	
9,500.0	7,306.0	9,431.0	7,189.1	62.4	62.4	75.00	1,089.0	-1,726.1	455.6	334.0	121.59	3.747	
9,600.0	7,306.0	9,531.0	7,188.7	65.0	65.1	74.95	1,089.0	-1,826.1	455.7	328.9	126.72	3.596	
9,700.0	7,306.0	9,631.0	7,188.3	67.7	67.7	74.90	1,089.0	-1,926.1	455.8	323.9	131.87	3.456	
9,800.0	7,306.0	9,731.0	7,187.8	70.4	70.4	74.85	1,089.0	-2,026.1	455.9	318.8	137.04	3.327	
9,900.0	7,306.0	9,831.0	7,187.4	73.1	73.1	74.80	1,089.0	-2,126.1	456.0	313.8	142.23	3.206	
10,000.0	7,306.0	9,931.0	7,187.0	75.8	75.8	74.75	1,089.0	-2,226.1	456.1	308.7	147.42	3.094	
10,100.0	7,306.0	10,031.0	7,186.6	78.5	78.5	74.70	1,089.0	-2,326.1	456.2	303.6	152.64	2.989	
10,200.0	7,306.0	10,131.0	7,186.2	81.2	81.2	74.65	1,089.0	-2,426.1	456.3	298.5	157.86	2.891	
10,300.0	7,306.0	10,231.0	7,185.8	84.0	83.9	74.60	1,089.0	-2,526.1	456.4	293.3	163.09	2.799	
10,400.0	7,306.0	10,331.0	7,185.4	86.7	86.6	74.55	1,089.0	-2,626.1	456.5	288.2	168.33	2.712	
10,500.0	7,306.0	10,431.0	7,185.0	89.4	89.4	74.50	1,089.0	-2,726.1	456.7	283.1	173.57	2.631	
10,600.0	7,306.0	10,531.0	7,184.5	92.2	92.1	74.45	1,089.0	-2,826.1	456.8	277.9	178.83	2.554	
10,700.0	7,306.0	10,631.0	7,184.1	94.9	94.8	74.40	1,089.0	-2,926.1	456.9	272.8	184.09	2.482	
10,800.0	7,306.0	10,731.0	7,183.7	97.6	97.6	74.35	1,089.0	-3,026.1	457.0	267.6	189.35	2.413	
10,900.0	7,306.0	10,831.0	7,183.3	100.4	100.3	74.30	1,089.0	-3,126.1	457.1	262.5	194.62	2.349	
11,000.0	7,306.0	10,931.0	7,182.9	103.2	103.0	74.25	1,089.0	-3,226.1	457.2	257.3	199.89	2.287	
11,100.0	7,306.0	11,031.0	7,182.5	105.9	105.8	74.20	1,089.0	-3,326.1	457.3	252.2	205.17	2.229	
11,200.0	7,306.0	11,131.0	7,182.1	108.7	108.5	74.15	1,089.0	-3,426.1	457.4	247.0	210.45	2.174	
11,300.0	7,306.0	11,231.0	7,181.7	111.4	111.3	74.10	1,089.0	-3,526.1	457.5	241.8	215.73	2.121	
11,400.0	7,306.0	11,331.0	7,181.2	114.2	114.1	74.05	1,089.0	-3,626.1	457.7	236.7	221.01	2.071	
11,500.0	7,306.0	11,431.0	7,180.8	117.0	116.8	74.00	1,089.1	-3,726.1	457.8	231.5	226.30	2.023	
11,600.0	7,306.0	11,531.0	7,180.4	119.7	119.6	73.95	1,089.1	-3,826.1	457.9	226.3	231.58	1.977	
11,700.0	7,306.0	11,631.0	7,180.0	122.5	122.3	73.90	1,089.1	-3,926.1	458.0	221.1	236.87	1.934	
11,800.0	7,306.0	11,731.0	7,179.6	125.3	125.1	73.85	1,089.1	-4,026.1	458.1	216.0	242.16	1.892	
11,900.0	7,306.0	11,831.0	7,179.2	128.0	127.9	73.80	1,089.1	-4,126.1	458.2	210.8	247.45	1.852	
12,000.0	7,306.0	11,931.0	7,178.8	130.8	130.6	73.75	1,089.1	-4,226.1	458.4	205.6	252.74	1.814	
12,100.0	7,306.0	12,031.0	7,178.4	133.6	133.4	73.70	1,089.1	-4,326.1	458.5	200.4	258.03	1.777	
12,200.0	7,306.0	12,131.0	7,177.9	136.4	136.2	73.66	1,089.1	-4,426.1	458.6	195.3	263.31	1.742	
12,300.0	7,306.0	12,231.0	7,177.5	139.1	139.0	73.61	1,089.1	-4,526.1	458.7	190.1	268.60	1.708	
12,400.0	7,306.0	12,331.0	7,177.1	141.9	141.7	73.56	1,089.1	-4,626.1	458.8	184.9	273.89	1.675	
12,500.0	7,306.0	12,431.0	7,176.7	144.7	144.5	73.51	1,089.1	-4,726.1	458.9	179.8	279.18	1.644	
12,600.0	7,306.0	12,531.0	7,176.3	147.5	147.3	73.46	1,089.1	-4,826.1	459.1	174.6	284.47	1.614	
12,700.0	7,306.0	12,631.0	7,175.9	150.3	150.1	73.41	1,089.1	-4,926.0	459.2	169.4	289.76	1.585	
12,800.0	7,306.0	12,731.0	7,175.5	153.0	152.8	73.36	1,089.1	-5,026.0	459.3	164.2	295.05	1.557	
12,900.0	7,306.0	12,831.0	7,175.1	155.8	155.6	73.31	1,089.1	-5,126.0	459.4	159.1	300.33	1.530	
13,000.0	7,306.0	12,931.0	7,174.6	158.6	158.4	73.26	1,089.1	-5,226.0	459.5	153.9	305.62	1.504	
13,100.0	7,306.0	13,030.9	7,174.2	161.4	161.2	73.21	1,089.1	-5,326.0	459.6	148.7	310.90	1.478	Level 3
13,200.0	7,306.0	13,130.9	7,173.8	164.2	164.0	73.16	1,089.1	-5,426.0	459.8	143.6	316.18	1.454	Level 3
13,300.0	7,306.0	13,230.9	7,173.4	167.0	166.8	73.11	1,089.1	-5,526.0	459.9	138.4	321.46	1.431	Level 3
13,400.0	7,306.0	13,330.9	7,173.0	169.8	169.5	73.06	1,089.1	-5,626.0	460.0	133.3	326.74	1.408	Level 3
13,500.0	7,306.0	13,430.9	7,172.6	172.6	172.3	73.01	1,089.1	-5,726.0	460.1	128.1	332.02	1.386	Level 3
13,600.0	7,306.0	13,530.9	7,172.2	175.3	175.1	72.96	1,089.1	-5,826.0	460.3	123.0	337.30	1.365	Level 3

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-404
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-404	**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 #2	**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
13,700.0	7,306.0	13,630.9	7,171.7	178.1	177.9	72.92	1,089.1	-5,926.0	460.4	117.8	342.57	1.344	Level 3
13,800.0	7,306.0	13,730.9	7,171.3	180.9	180.7	72.87	1,089.1	-6,026.0	460.5	112.7	347.85	1.324	Level 3
13,900.0	7,306.0	13,830.9	7,170.9	183.7	183.5	72.82	1,089.1	-6,126.0	460.6	107.5	353.12	1.304	Level 3
14,000.0	7,306.0	13,930.9	7,170.5	186.5	186.3	72.77	1,089.1	-6,226.0	460.7	102.4	358.39	1.286	Level 3
14,100.0	7,306.0	14,030.9	7,170.1	189.3	189.1	72.72	1,089.1	-6,326.0	460.9	97.2	363.66	1.267	Level 3
14,200.0	7,306.0	14,130.9	7,169.7	192.1	191.8	72.67	1,089.1	-6,426.0	461.0	92.1	368.92	1.250	Level 2
14,300.0	7,306.0	14,230.9	7,169.3	194.9	194.6	72.62	1,089.1	-6,526.0	461.1	86.9	374.19	1.232	Level 2
14,363.6	7,306.0	14,294.5	7,169.0	196.7	196.4	72.59	1,089.1	-6,589.6	461.2	83.7	377.53	1.222	Level 2, SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-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	0.0	0.0	0.0	0.0	-179.46	-29.9	-0.3	29.9				
100.0	100.0	100.0	100.0	0.1	0.1	-179.46	-29.9	-0.3	29.9	29.7	0.19	153.635	
200.0	200.0	200.0	200.0	0.3	0.3	-179.46	-29.9	-0.3	29.9	29.2	0.64	46.386	
300.0	300.0	300.0	300.0	0.5	0.5	-179.46	-29.9	-0.3	29.9	28.8	1.09	27.316	
400.0	400.0	400.0	400.0	0.8	0.8	-179.46	-29.9	-0.3	29.9	28.3	1.54	19.358	
500.0	500.0	500.0	500.0	1.0	1.0	-179.46	-29.9	-0.3	29.9	27.9	1.99	14.991	
600.0	600.0	600.0	600.0	1.2	1.2	-179.46	-29.9	-0.3	29.9	27.4	2.44	12.231	
700.0	700.0	700.0	700.0	1.4	1.4	-179.46	-29.9	-0.3	29.9	27.0	2.89	10.330	CC, ES
800.0	800.0	800.0	800.0	1.7	1.7	136.47	-29.9	-0.3	31.1	27.8	3.34	9.320	
900.0	899.8	899.8	899.8	1.9	1.9	142.31	-29.9	-0.3	35.1	31.3	3.78	9.275	
1,000.0	999.5	1,000.2	1,000.2	2.1	2.1	147.44	-29.4	1.4	41.5	37.2	4.22	9.818	
1,100.0	1,098.7	1,100.7	1,100.5	2.4	2.3	149.69	-28.0	6.5	49.2	44.6	4.66	10.564	
1,200.0	1,197.5	1,201.3	1,200.7	2.7	2.6	150.05	-25.7	15.0	58.2	53.1	5.12	11.374	
1,299.9	1,295.5	1,301.8	1,300.5	3.0	2.8	149.23	-22.4	26.8	68.3	62.7	5.61	12.184	
1,300.0	1,295.6	1,301.9	1,300.6	3.0	2.8	149.23	-22.4	26.9	68.4	62.8	5.61	12.184	
1,400.0	1,393.4	1,402.7	1,400.1	3.4	3.1	147.13	-18.2	42.1	78.2	72.1	6.17	12.675	
1,500.0	1,491.3	1,503.5	1,499.0	3.7	3.4	143.42	-13.1	60.8	86.6	79.8	6.81	12.717	
1,600.0	1,589.1	1,603.0	1,596.3	4.1	3.8	139.50	-7.7	80.7	94.7	87.2	7.52	12.597	
1,700.0	1,686.9	1,702.4	1,693.6	4.5	4.1	136.22	-2.2	100.7	103.1	94.9	8.27	12.479	
1,800.0	1,784.7	1,801.9	1,790.9	5.0	4.5	133.43	3.3	120.7	111.9	102.8	9.04	12.369	
1,900.0	1,882.5	1,901.4	1,888.3	5.4	4.9	131.05	8.7	140.6	120.8	111.0	9.85	12.270	
2,000.0	1,980.3	2,000.9	1,985.6	5.8	5.3	129.00	14.2	160.6	129.9	119.3	10.67	12.183	
2,100.0	2,078.1	2,100.4	2,082.9	6.2	5.8	127.22	19.7	180.5	139.2	127.7	11.50	12.107	
2,200.0	2,176.0	2,199.9	2,180.2	6.7	6.2	125.67	25.1	200.5	148.6	136.3	12.34	12.040	
2,300.0	2,273.8	2,299.3	2,277.5	7.1	6.6	124.30	30.6	220.4	158.1	144.9	13.19	11.983	
2,400.0	2,371.6	2,398.8	2,374.8	7.5	7.0	123.08	36.1	240.4	167.6	153.6	14.05	11.932	
2,500.0	2,469.4	2,498.3	2,472.1	8.0	7.5	122.00	41.5	260.3	177.3	162.4	14.91	11.888	
2,600.0	2,567.2	2,597.8	2,569.4	8.4	7.9	121.03	47.0	280.3	187.0	171.2	15.78	11.850	
2,700.0	2,665.0	2,697.3	2,666.7	8.8	8.3	120.15	52.4	300.2	196.7	180.0	16.65	11.816	
2,800.0	2,762.9	2,796.7	2,764.0	9.3	8.8	119.36	57.9	320.2	206.5	189.0	17.52	11.787	
2,900.0	2,860.7	2,896.2	2,861.3	9.7	9.2	118.64	63.4	340.1	216.3	197.9	18.39	11.760	
3,000.0	2,958.5	2,995.7	2,958.6	10.2	9.7	117.98	68.8	360.1	226.1	206.9	19.27	11.737	
3,100.0	3,056.3	3,095.2	3,055.9	10.6	10.1	117.38	74.3	380.0	236.0	215.8	20.14	11.716	
3,200.0	3,154.1	3,194.7	3,153.3	11.1	10.5	116.82	79.8	400.0	245.9	224.9	21.02	11.698	
3,300.0	3,251.9	3,294.2	3,250.6	11.5	11.0	116.31	85.2	419.9	255.8	233.9	21.90	11.681	
3,400.0	3,349.8	3,393.6	3,347.9	12.0	11.4	115.84	90.7	439.9	265.7	243.0	22.78	11.666	
3,500.0	3,447.6	3,493.1	3,445.2	12.4	11.9	115.40	96.2	459.8	275.7	252.0	23.66	11.652	
3,600.0	3,545.4	3,592.6	3,542.5	12.8	12.3	114.99	101.6	479.8	285.6	261.1	24.54	11.640	
3,700.0	3,643.2	3,692.1	3,639.8	13.3	12.8	114.61	107.1	499.7	295.6	270.2	25.42	11.629	
3,800.0	3,741.0	3,791.6	3,737.1	13.7	13.2	114.25	112.6	519.7	305.6	279.3	26.30	11.619	
3,900.0	3,838.8	3,891.1	3,834.4	14.2	13.7	113.92	118.0	539.6	315.6	288.4	27.19	11.609	
4,000.0	3,936.6	3,990.5	3,931.7	14.6	14.1	113.60	123.5	559.6	325.6	297.6	28.07	11.601	
4,100.0	4,034.5	4,090.0	4,029.0	15.1	14.6	113.31	129.0	579.6	335.6	306.7	28.95	11.593	
4,200.0	4,132.3	4,189.5	4,126.3	15.5	15.0	113.03	134.4	599.5	345.7	315.8	29.84	11.586	
4,300.0	4,230.1	4,289.0	4,223.6	16.0	15.5	112.77	139.9	619.5	355.7	325.0	30.72	11.579	
4,400.0	4,327.9	4,389.2	4,321.8	16.4	15.9	112.63	145.2	638.9	365.7	334.1	31.56	11.587	
4,500.0	4,425.7	4,489.8	4,421.0	16.9	16.2	113.01	149.7	655.3	375.4	343.1	32.28	11.628	
4,600.0	4,523.5	4,590.2	4,520.5	17.3	16.5	113.88	153.3	668.2	384.8	351.9	32.93	11.685	
4,700.0	4,621.4	4,690.2	4,619.9	17.8	16.7	115.22	155.9	677.8	394.2	360.7	33.51	11.764	
4,800.0	4,719.2	4,789.4	4,718.9	18.2	16.9	116.98	157.6	684.0	403.7	369.7	34.00	11.873	
4,900.0	4,817.0	4,887.6	4,817.1	18.7	17.0	119.11	158.4	686.9	413.6	379.2	34.40	12.023	
5,000.0	4,914.8	4,985.3	4,914.8	19.1	17.1	121.48	158.4	687.1	424.3	389.6	34.72	12.219	

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-404
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-404	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-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
5,100.0	5,012.6	5,083.1	5,012.6	19.6	17.3	123.78	158.4	687.1	435.7	400.7	35.02	12.440	
5,200.0	5,110.4	5,181.0	5,110.4	20.0	17.4	125.96	158.4	687.1	447.7	412.4	35.30	12.682	
5,221.3	5,131.3	5,201.8	5,131.3	20.1	17.4	126.41	158.4	687.1	450.4	415.0	35.36	12.737	
5,300.0	5,208.5	5,279.0	5,208.5	20.4	17.5	128.08	158.4	687.1	459.8	424.2	35.54	12.935	
5,400.0	5,307.1	5,377.6	5,307.1	20.7	17.7	129.79	158.4	687.1	470.1	434.4	35.73	13.158	
5,500.0	5,406.3	5,476.8	5,406.3	21.0	17.8	131.10	158.4	687.1	478.6	442.6	35.92	13.322	
5,600.0	5,505.8	5,576.3	5,505.8	21.2	18.0	132.04	158.4	687.1	484.9	448.7	36.13	13.421	
5,700.0	5,605.6	5,676.1	5,605.6	21.4	18.1	132.62	158.4	687.1	488.9	452.5	36.34	13.453	
5,800.0	5,705.6	5,776.1	5,705.6	21.5	18.3	132.85	158.4	687.1	490.6	454.0	36.56	13.417	
5,821.2	5,726.8	5,797.3	5,726.8	21.5	18.3	179.22	158.4	687.1	490.6	459.4	31.26	15.696	
5,900.0	5,805.6	5,876.1	5,805.6	21.6	18.4	179.22	158.4	687.1	490.6	459.1	31.52	15.566	
6,000.0	5,905.6	5,976.1	5,905.6	21.7	18.6	179.22	158.4	687.1	490.6	458.8	31.86	15.398	
6,100.0	6,005.6	6,076.1	6,005.6	21.9	18.7	179.22	158.4	687.1	490.6	458.4	32.21	15.232	
6,200.0	6,105.6	6,176.1	6,105.6	22.0	18.9	179.22	158.4	687.1	490.6	458.1	32.56	15.069	
6,300.0	6,205.6	6,276.1	6,205.6	22.1	19.0	179.22	158.4	687.1	490.6	457.7	32.91	14.908	
6,400.0	6,305.6	6,376.1	6,305.6	22.3	19.2	179.22	158.4	687.1	490.6	457.4	33.26	14.750	
6,500.0	6,405.6	6,476.1	6,405.6	22.4	19.3	179.22	158.4	687.1	490.6	457.0	33.62	14.594	
6,600.0	6,505.6	6,576.3	6,505.8	22.5	19.5	179.27	158.4	686.6	490.6	456.6	33.98	14.438	
6,672.1	6,577.7	6,648.5	6,577.7	22.6	19.5	-180.00	158.4	680.4	490.6	456.2	34.33	14.290	
6,684.2	6,589.8	6,660.5	6,589.5	22.6	19.5	-179.80	158.4	678.7	490.6	456.2	34.40	14.261	
6,700.0	6,605.6	6,676.0	6,604.9	22.7	19.5	-89.52	158.4	676.1	490.6	451.6	39.02	12.573	
6,750.0	6,655.5	6,724.9	6,652.7	22.7	19.5	-88.64	158.4	665.9	490.7	451.8	38.91	12.612	
6,800.0	6,705.1	6,773.3	6,699.2	22.7	19.5	-87.77	158.4	652.7	491.0	452.2	38.75	12.670	
6,850.0	6,754.1	6,821.2	6,744.3	22.7	19.4	-86.92	158.4	636.5	491.3	452.8	38.55	12.746	
6,900.0	6,802.3	6,868.7	6,787.8	22.7	19.4	-86.09	158.4	617.5	491.7	453.4	38.31	12.834	
6,950.0	6,849.5	6,915.7	6,829.5	22.6	19.3	-85.28	158.4	595.9	492.3	454.2	38.06	12.933	
7,000.0	6,895.5	6,962.4	6,869.5	22.5	19.2	-84.49	158.4	571.8	492.9	455.1	37.80	13.038	
7,050.0	6,939.9	7,008.6	6,907.5	22.4	19.1	-83.73	158.4	545.4	493.6	456.0	37.55	13.144	
7,100.0	6,982.6	7,054.5	6,943.4	22.3	19.1	-83.01	158.4	516.8	494.3	457.0	37.32	13.245	
7,150.0	7,023.4	7,100.0	6,977.1	22.2	19.0	-82.32	158.4	486.3	495.1	458.0	37.12	13.336	
7,200.0	7,062.2	7,145.4	7,008.7	22.1	19.0	-81.66	158.4	453.8	495.9	458.9	36.98	13.408	
7,250.0	7,098.6	7,190.4	7,038.0	22.0	19.1	-81.05	158.4	419.6	496.7	459.8	36.92	13.454	
7,300.0	7,132.5	7,235.1	7,064.9	21.9	19.1	-80.48	158.4	383.9	497.5	460.5	36.94	13.468	
7,350.0	7,163.8	7,279.6	7,089.5	21.8	19.2	-79.95	158.4	346.8	498.3	461.2	37.06	13.444	
7,400.0	7,192.2	7,323.9	7,111.5	21.7	19.4	-79.47	158.4	308.4	499.0	461.7	37.31	13.376	
7,450.0	7,217.8	7,368.0	7,131.1	21.6	19.6	-79.03	158.4	268.9	499.8	462.1	37.68	13.264	
7,500.0	7,240.3	7,412.0	7,148.1	21.6	19.9	-78.64	158.4	228.4	500.4	462.2	38.19	13.104	
7,550.0	7,259.6	7,455.7	7,162.6	21.6	20.3	-78.30	158.4	187.1	501.0	462.2	38.83	12.901	
7,600.0	7,275.7	7,500.0	7,174.7	21.6	20.7	-78.01	158.4	144.5	501.5	461.9	39.63	12.655	
7,650.0	7,288.4	7,542.9	7,183.8	21.8	21.1	-77.77	158.4	102.5	502.0	461.4	40.56	12.376	
7,700.0	7,297.7	7,586.4	7,190.5	22.0	21.7	-77.59	158.4	59.6	502.3	460.7	41.62	12.069	
7,750.0	7,303.6	7,629.8	7,194.6	22.4	22.2	-77.45	158.4	16.4	502.6	459.8	42.80	11.742	
7,800.0	7,305.9	7,673.2	7,196.0	22.9	22.9	-77.37	158.4	-26.9	502.7	458.7	44.08	11.406	
7,809.2	7,306.0	7,681.3	7,196.0	23.0	23.0	-77.36	158.4	-35.1	502.8	458.4	44.32	11.343	
7,900.0	7,306.0	7,772.1	7,195.4	24.3	24.4	-77.30	158.4	-125.9	502.9	455.8	47.09	10.678	
8,000.0	7,306.0	7,872.1	7,194.7	26.0	26.2	-77.22	158.4	-225.9	503.0	452.5	50.51	9.959	
8,100.0	7,306.0	7,972.1	7,194.1	27.9	28.2	-77.15	158.4	-325.9	503.2	448.9	54.27	9.272	
8,200.0	7,306.0	8,072.1	7,193.4	30.0	30.3	-77.08	158.4	-425.9	503.3	445.0	58.29	8.635	
8,300.0	7,306.0	8,172.1	7,192.8	32.2	32.5	-77.01	158.4	-525.9	503.5	440.9	62.53	8.051	
8,400.0	7,306.0	8,272.1	7,192.1	34.4	34.8	-76.93	158.4	-625.9	503.6	436.7	66.95	7.522	
8,500.0	7,306.0	8,372.1	7,191.5	36.8	37.1	-76.86	158.4	-725.8	503.8	432.2	71.51	7.044	
8,600.0	7,306.0	8,472.1	7,190.8	39.2	39.5	-76.79	158.4	-825.8	503.9	427.7	76.19	6.614	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-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
8,700.0	7,306.0	8,572.1	7,190.2	41.7	42.0	-76.72	158.4	-925.8	504.1	423.1	80.96	6.226	
8,800.0	7,306.0	8,672.1	7,189.5	44.1	44.5	-76.65	158.4	-1,025.8	504.2	418.4	85.81	5.876	
8,900.0	7,306.0	8,772.1	7,188.9	46.7	47.0	-76.57	158.4	-1,125.8	504.4	413.6	90.73	5.559	
9,000.0	7,306.0	8,872.1	7,188.2	49.2	49.6	-76.50	158.4	-1,225.8	504.5	408.8	95.70	5.272	
9,100.0	7,306.0	8,972.1	7,187.6	51.8	52.2	-76.43	158.4	-1,325.8	504.7	403.9	100.72	5.011	
9,200.0	7,306.0	9,072.1	7,186.9	54.4	54.8	-76.36	158.4	-1,425.8	504.8	399.0	105.77	4.773	
9,300.0	7,306.0	9,172.1	7,186.3	57.1	57.5	-76.28	158.4	-1,525.8	505.0	394.1	110.86	4.555	
9,400.0	7,306.0	9,272.1	7,185.6	59.7	60.1	-76.21	158.4	-1,625.8	505.1	389.1	115.98	4.355	
9,500.0	7,306.0	9,372.1	7,185.0	62.4	62.8	-76.14	158.4	-1,725.8	505.3	384.2	121.12	4.172	
9,600.0	7,306.0	9,472.1	7,184.3	65.0	65.5	-76.07	158.4	-1,825.8	505.4	379.2	126.28	4.002	
9,700.0	7,306.0	9,572.1	7,183.6	67.7	68.1	-76.00	158.4	-1,925.8	505.6	374.1	131.46	3.846	
9,800.0	7,306.0	9,672.1	7,183.0	70.4	70.8	-75.92	158.4	-2,025.8	505.8	369.1	136.66	3.701	
9,900.0	7,306.0	9,772.1	7,182.3	73.1	73.5	-75.85	158.4	-2,125.8	505.9	364.0	141.87	3.566	
10,000.0	7,306.0	9,872.1	7,181.7	75.8	76.3	-75.78	158.4	-2,225.8	506.1	359.0	147.09	3.441	
10,100.0	7,306.0	9,972.1	7,181.0	78.5	79.0	-75.71	158.4	-2,325.8	506.2	353.9	152.32	3.323	
10,200.0	7,306.0	10,072.1	7,180.4	81.2	81.7	-75.64	158.4	-2,425.8	506.4	348.8	157.56	3.214	
10,300.0	7,306.0	10,172.1	7,179.7	84.0	84.4	-75.56	158.4	-2,525.8	506.6	343.7	162.81	3.111	
10,400.0	7,306.0	10,272.1	7,179.1	86.7	87.2	-75.49	158.4	-2,625.8	506.7	338.7	168.06	3.015	
10,500.0	7,306.0	10,372.1	7,178.4	89.4	89.9	-75.42	158.4	-2,725.8	506.9	333.6	173.32	2.925	
10,600.0	7,306.0	10,472.1	7,177.7	92.2	92.6	-75.35	158.4	-2,825.8	507.0	328.5	178.58	2.839	
10,700.0	7,306.0	10,572.1	7,177.1	94.9	95.4	-75.28	158.4	-2,925.8	507.2	323.4	183.85	2.759	
10,800.0	7,306.0	10,672.1	7,176.4	97.6	98.1	-75.20	158.5	-3,025.7	507.4	318.3	189.12	2.683	
10,900.0	7,306.0	10,772.1	7,175.8	100.4	100.9	-75.13	158.5	-3,125.7	507.5	313.1	194.40	2.611	
11,000.0	7,306.0	10,872.1	7,175.1	103.2	103.7	-75.06	158.5	-3,225.7	507.7	308.0	199.67	2.543	
11,100.0	7,306.0	10,972.1	7,174.4	105.9	106.4	-74.99	158.5	-3,325.7	507.9	302.9	204.95	2.478	
11,200.0	7,306.0	11,072.1	7,173.8	108.7	109.2	-74.92	158.5	-3,425.7	508.1	297.8	210.23	2.417	
11,300.0	7,306.0	11,172.0	7,173.1	111.4	111.9	-74.84	158.5	-3,525.7	508.2	292.7	215.51	2.358	
11,400.0	7,306.0	11,272.0	7,172.5	114.2	114.7	-74.77	158.5	-3,625.7	508.4	287.6	220.79	2.303	
11,500.0	7,306.0	11,372.0	7,171.8	117.0	117.5	-74.70	158.5	-3,725.7	508.6	282.5	226.07	2.250	
11,600.0	7,306.0	11,472.0	7,171.2	119.7	120.2	-74.63	158.5	-3,825.7	508.7	277.4	231.35	2.199	
11,700.0	7,306.0	11,572.0	7,170.5	122.5	123.0	-74.56	158.5	-3,925.7	508.9	272.3	236.63	2.151	
11,800.0	7,306.0	11,672.0	7,169.8	125.3	125.8	-74.49	158.5	-4,025.7	509.1	267.2	241.90	2.104	
11,900.0	7,306.0	11,772.0	7,169.2	128.0	128.6	-74.41	158.5	-4,125.7	509.3	262.1	247.18	2.060	
12,000.0	7,306.0	11,797.6	7,169.0	130.8	129.3	-74.40	158.5	-4,151.2	514.9	264.3	250.52	2.055 SF	
12,100.0	7,306.0	11,797.6	7,169.0	133.6	129.3	-74.40	158.5	-4,151.2	538.7	285.5	253.21	2.127	
12,200.0	7,306.0	11,797.6	7,169.0	136.4	129.3	-74.40	158.5	-4,151.2	579.0	323.1	255.89	2.263	
12,300.0	7,306.0	11,797.6	7,169.0	139.1	129.3	-74.40	158.5	-4,151.2	632.7	374.1	258.57	2.447	
12,400.0	7,306.0	11,797.6	7,169.0	141.9	129.3	-74.40	158.5	-4,151.2	696.7	435.4	261.26	2.667	
12,500.0	7,306.0	11,797.6	7,169.0	144.7	129.3	-74.40	158.5	-4,151.2	768.4	504.5	263.94	2.911	
12,600.0	7,306.0	11,797.6	7,169.0	147.5	129.3	-74.40	158.5	-4,151.2	845.9	579.3	266.63	3.173	
12,700.0	7,306.0	11,797.6	7,169.0	150.3	129.3	-74.40	158.5	-4,151.2	927.7	658.4	269.32	3.445	
12,800.0	7,306.0	11,797.6	7,169.0	153.0	129.3	-74.40	158.5	-4,151.2	1,012.8	740.8	272.00	3.723	
12,900.0	7,306.0	11,797.6	7,169.0	155.8	129.3	-74.40	158.5	-4,151.2	1,100.3	825.7	274.69	4.006	
13,000.0	7,306.0	11,797.6	7,169.0	158.6	129.3	-74.40	158.5	-4,151.2	1,189.9	912.5	277.38	4.290	
13,100.0	7,306.0	11,797.6	7,169.0	161.4	129.3	-74.40	158.5	-4,151.2	1,281.0	1,000.9	280.07	4.574	
13,200.0	7,306.0	11,797.6	7,169.0	164.2	129.3	-74.40	158.5	-4,151.2	1,373.3	1,090.5	282.77	4.857	
13,300.0	7,306.0	11,797.6	7,169.0	167.0	129.3	-74.40	158.5	-4,151.2	1,466.6	1,181.2	285.46	5.138	
13,400.0	7,306.0	11,797.6	7,169.0	169.8	129.3	-74.40	158.5	-4,151.2	1,560.8	1,272.7	288.15	5.417	
13,500.0	7,306.0	11,797.6	7,169.0	172.6	129.3	-74.40	158.5	-4,151.2	1,655.7	1,364.8	290.84	5.693	
13,600.0	7,306.0	11,797.6	7,169.0	175.3	129.3	-74.40	158.5	-4,151.2	1,751.1	1,457.5	293.54	5.965	
13,700.0	7,306.0	11,797.6	7,169.0	178.1	129.3	-74.40	158.5	-4,151.2	1,847.0	1,550.8	296.23	6.235	
13,800.0	7,306.0	11,797.6	7,169.0	180.9	129.3	-74.40	158.5	-4,151.2	1,943.3	1,644.4	298.93	6.501	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design NE SW SEC. 21 T4N R67W 6th P.M. - SHARON 21O-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
13,900.0	7,306.0	11,797.6	7,169.0	183.7	129.3	-74.40	158.5	-4,151.2	2,040.0	1,738.4	301.62	6.763	
14,000.0	7,306.0	11,797.6	7,169.0	186.5	129.3	-74.40	158.5	-4,151.2	2,137.0	1,832.6	304.32	7.022	
14,100.0	7,306.0	11,797.6	7,169.0	189.3	129.3	-74.40	158.5	-4,151.2	2,234.2	1,927.2	307.01	7.277	
14,200.0	7,306.0	11,797.6	7,169.0	192.1	129.3	-74.40	158.5	-4,151.2	2,331.7	2,022.0	309.71	7.529	
14,300.0	7,306.0	11,797.6	7,169.0	194.9	129.3	-74.40	158.5	-4,151.2	2,429.4	2,117.0	312.41	7.776	
14,363.6	7,306.0	11,797.6	7,169.0	196.7	129.3	-74.40	158.5	-4,151.2	2,491.5	2,177.4	314.12	7.932	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-106.01	-1,138.5	-3,967.6	4,127.9				
100.0	100.0	57.3	57.3	0.1	0.1	-106.01	-1,138.5	-3,967.6	4,127.7	4,127.6	0.16	N/A	
200.0	200.0	153.7	153.7	0.3	0.2	-106.01	-1,138.5	-3,967.7	4,127.8	4,127.3	0.49	8,395.542	
300.0	300.0	250.0	250.0	0.5	0.3	-106.01	-1,138.6	-3,967.9	4,128.0	4,127.2	0.82	5,016.882	
400.0	400.0	346.3	346.3	0.8	0.4	-106.01	-1,138.7	-3,968.1	4,128.3	4,127.1	1.15	3,577.436	
500.0	500.0	442.7	442.7	1.0	0.5	-106.01	-1,138.8	-3,968.5	4,128.6	4,127.2	1.49	2,779.986	
600.0	600.0	539.0	539.0	1.2	0.6	-106.01	-1,138.9	-3,968.9	4,129.1	4,127.3	1.82	2,273.375	
700.0	700.0	644.7	644.7	1.4	0.8	-106.01	-1,139.0	-3,969.4	4,129.6	4,127.3	2.23	1,851.147	
800.0	800.0	755.0	755.0	1.7	1.0	-152.35	-1,138.7	-3,969.7	4,131.3	4,128.7	2.67	1,549.220	
900.0	899.8	834.2	834.2	1.9	1.2	-152.33	-1,138.7	-3,970.0	4,136.3	4,133.3	3.05	1,355.019	
1,000.0	999.5	933.9	933.9	2.1	1.4	-152.31	-1,138.7	-3,970.7	4,144.7	4,141.2	3.49	1,188.771	
1,100.0	1,098.7	1,036.0	1,036.0	2.4	1.6	-152.28	-1,138.7	-3,971.3	4,156.1	4,152.1	3.92	1,059.918	
1,200.0	1,197.5	1,122.7	1,122.7	2.7	1.8	-152.23	-1,138.8	-3,971.9	4,170.6	4,166.3	4.34	961.422	
1,299.9	1,295.5	1,219.8	1,219.8	3.0	2.0	-152.18	-1,138.5	-3,972.8	4,188.4	4,183.6	4.79	874.901	
1,300.0	1,295.6	1,219.9	1,219.9	3.0	2.0	-152.18	-1,138.5	-3,972.8	4,188.4	4,183.6	4.79	874.794	
1,400.0	1,393.4	1,320.1	1,320.1	3.4	2.2	-152.30	-1,138.1	-3,973.7	4,207.7	4,202.4	5.25	801.084	
1,500.0	1,491.3	1,430.4	1,430.4	3.7	2.4	-152.44	-1,137.8	-3,974.5	4,226.7	4,221.0	5.74	736.099	
1,600.0	1,589.1	1,521.9	1,521.8	4.1	2.6	-152.55	-1,137.3	-3,975.2	4,245.8	4,239.6	6.21	684.040	
1,700.0	1,686.9	1,617.6	1,617.6	4.5	2.8	-152.67	-1,136.6	-3,976.0	4,265.0	4,258.3	6.69	637.659	
1,800.0	1,784.7	1,698.3	1,698.3	5.0	3.0	-152.76	-1,136.3	-3,976.9	4,284.4	4,277.3	7.14	599.942	
1,900.0	1,882.5	2,065.0	2,064.3	5.4	3.8	-153.03	-1,119.5	-3,972.5	4,299.4	4,291.2	8.18	525.594	
2,000.0	1,980.3	2,111.7	2,110.7	5.8	3.9	-153.02	-1,114.0	-3,972.0	4,313.5	4,304.9	8.58	502.448	
2,100.0	2,078.1	2,158.0	2,156.5	6.2	4.0	-153.00	-1,107.8	-3,972.2	4,328.8	4,319.8	8.99	481.491	
2,200.0	2,176.0	2,377.8	2,373.0	6.7	4.6	-152.79	-1,070.0	-3,974.6	4,343.5	4,333.6	9.88	439.497	
2,300.0	2,273.8	2,439.0	2,432.6	7.1	4.8	-152.69	-1,056.4	-3,975.5	4,357.0	4,346.7	10.37	420.064	
2,400.0	2,371.6	2,521.7	2,512.6	7.5	5.1	-152.51	-1,035.3	-3,978.0	4,371.2	4,360.2	10.98	398.273	
2,500.0	2,469.4	2,626.0	2,612.1	8.0	5.5	-152.23	-1,004.5	-3,982.7	4,385.5	4,373.8	11.71	374.394	
2,600.0	2,567.2	2,698.5	2,681.0	8.4	5.8	-152.03	-982.4	-3,986.2	4,400.1	4,387.8	12.33	356.790	
2,700.0	2,665.0	2,788.0	2,766.4	8.8	6.2	-151.79	-956.0	-3,990.8	4,415.3	4,402.3	13.02	339.122	
2,800.0	2,762.9	2,953.0	2,924.8	9.3	6.9	-151.40	-909.9	-3,997.1	4,429.7	4,415.7	14.03	315.636	
2,900.0	2,860.7	3,071.5	3,039.0	9.7	7.4	-151.15	-878.8	-4,000.0	4,443.4	4,428.5	14.86	299.107	
3,000.0	2,958.5	3,183.6	3,147.5	10.2	7.9	-150.93	-850.4	-4,001.9	4,456.6	4,440.9	15.66	284.580	
3,100.0	3,056.3	3,254.2	3,215.7	10.6	8.2	-150.79	-832.5	-4,003.2	4,470.1	4,453.8	16.29	274.431	
3,200.0	3,154.1	3,342.5	3,301.3	11.1	8.6	-150.62	-810.7	-4,005.1	4,484.1	4,467.1	16.99	263.888	
3,300.0	3,251.9	3,505.2	3,459.0	11.5	9.3	-150.33	-770.8	-4,007.6	4,497.6	4,479.5	18.03	249.406	
3,400.0	3,349.8	3,601.1	3,551.8	12.0	9.8	-150.15	-746.5	-4,008.3	4,510.1	4,491.3	18.79	240.018	
3,500.0	3,447.6	3,669.9	3,618.3	12.4	10.1	-150.02	-728.8	-4,009.2	4,523.3	4,503.8	19.43	232.778	
3,600.0	3,545.4	3,749.0	3,694.5	12.8	10.5	-149.85	-707.7	-4,010.9	4,536.9	4,516.8	20.13	225.329	
3,700.0	3,643.2	3,830.4	3,772.7	13.3	10.9	-149.67	-685.2	-4,013.2	4,551.0	4,530.1	20.87	218.056	
3,800.0	3,741.0	3,909.0	3,848.0	13.7	11.3	-149.49	-663.0	-4,015.9	4,565.6	4,544.0	21.60	211.349	
3,900.0	3,838.8	3,991.3	3,926.9	14.2	11.7	-149.31	-639.7	-4,019.0	4,580.6	4,558.2	22.35	204.921	
4,000.0	3,936.6	4,246.1	4,171.6	14.6	13.0	-148.76	-569.3	-4,025.3	4,595.3	4,571.3	23.98	191.663	
4,100.0	4,034.5	4,316.1	4,238.7	15.1	13.4	-148.60	-549.3	-4,026.0	4,607.6	4,582.9	24.67	186.781	
4,200.0	4,132.3	4,450.6	4,367.1	15.5	14.1	-148.29	-509.4	-4,026.8	4,619.4	4,593.7	25.74	179.490	
4,300.0	4,230.1	4,521.2	4,434.1	16.0	14.5	-148.11	-487.0	-4,027.7	4,631.6	4,605.1	26.47	174.995	
4,400.0	4,327.9	4,593.0	4,502.3	16.4	14.9	-147.93	-464.6	-4,029.0	4,644.4	4,617.2	27.21	170.699	
4,500.0	4,425.7	4,670.8	4,576.2	16.9	15.3	-147.73	-440.3	-4,030.8	4,657.8	4,629.9	27.99	166.424	
4,600.0	4,523.5	4,737.5	4,639.5	17.3	15.7	-147.56	-419.3	-4,032.7	4,671.8	4,643.1	28.70	162.757	
4,700.0	4,621.4	4,799.8	4,698.8	17.8	16.0	-147.41	-400.4	-4,034.8	4,686.5	4,657.1	29.39	159.461	
4,800.0	4,719.2	4,874.0	4,769.7	18.2	16.4	-147.24	-378.6	-4,037.8	4,702.1	4,671.9	30.13	156.049	
4,900.0	4,817.0	4,955.0	4,847.7	18.7	16.8	-147.08	-357.0	-4,040.9	4,718.1	4,687.3	30.88	152.808	
5,000.0	4,914.8	5,048.1	4,938.4	19.1	17.3	-146.95	-336.1	-4,043.7	4,734.2	4,702.6	31.63	149.700	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	5,111.0	5,000.1	19.6	17.5	-146.89	-324.3	-4,045.3	4,750.8	4,718.6	32.20	147.543	
5,200.0	5,110.4	5,177.9	5,066.1	20.0	17.7	-146.85	-313.7	-4,047.3	4,768.1	4,735.3	32.77	145.506	
5,221.3	5,131.3	5,197.9	5,085.9	20.1	17.8	-146.84	-310.7	-4,047.9	4,771.9	4,739.0	32.91	145.015	
5,300.0	5,208.5	5,290.8	5,177.9	20.4	18.1	-146.95	-298.1	-4,050.4	4,784.8	4,751.3	33.47	142.954	
5,400.0	5,307.1	5,475.1	5,361.2	20.7	18.6	-147.06	-279.3	-4,051.8	4,797.3	4,763.0	34.24	140.098	
5,500.0	5,406.3	5,561.1	5,447.0	21.0	18.8	-147.16	-272.8	-4,051.4	4,806.3	4,771.6	34.68	138.582	
5,600.0	5,505.8	5,636.3	5,522.0	21.2	18.9	-147.22	-267.9	-4,051.2	4,812.8	4,777.8	35.05	137.328	
5,700.0	5,605.6	5,715.0	5,600.6	21.4	19.1	-147.24	-263.5	-4,051.3	4,816.9	4,781.5	35.37	136.190	
5,800.0	5,705.6	5,778.2	5,663.7	21.5	19.2	-147.23	-260.8	-4,051.6	4,818.6	4,783.0	35.60	135.338	
5,821.2	5,726.8	5,791.7	5,677.3	21.5	19.2	-100.88	-260.3	-4,051.7	4,818.7	4,786.1	32.58	147.919	
5,900.0	5,805.6	5,844.2	5,729.7	21.6	19.3	-100.86	-258.9	-4,052.2	4,819.1	4,786.3	32.77	147.038	
6,000.0	5,905.6	5,927.4	5,812.8	21.7	19.5	-100.84	-257.3	-4,053.5	4,820.1	4,787.1	33.07	145.759	
6,100.0	6,005.6	6,048.4	5,933.9	21.9	19.6	-100.84	-257.6	-4,054.3	4,820.8	4,787.4	33.43	144.196	
6,200.0	6,105.6	6,168.2	6,053.6	22.0	19.7	-100.85	-258.5	-4,054.8	4,821.4	4,787.6	33.79	142.673	
6,300.0	6,205.6	6,248.7	6,134.2	22.1	19.8	-100.85	-258.7	-4,055.0	4,821.8	4,787.7	34.09	141.462	
6,400.0	6,305.6	6,319.5	6,205.0	22.3	19.9	-100.85	-259.0	-4,055.6	4,822.7	4,788.3	34.36	140.348	
6,500.0	6,405.6	6,394.6	6,280.0	22.4	20.0	-100.86	-259.5	-4,056.8	4,824.2	4,789.6	34.65	139.232	
6,600.0	6,505.6	6,502.2	6,387.7	22.5	20.2	-100.86	-259.9	-4,058.7	4,826.1	4,791.1	35.00	137.906	
6,684.2	6,589.8	6,607.0	6,492.4	22.6	20.3	-100.86	-260.3	-4,060.0	4,827.1	4,791.8	35.31	136.695	
6,700.0	6,605.6	6,623.0	6,508.4	22.7	20.3	-10.86	-260.3	-4,060.1	4,827.1	4,789.0	38.15	126.531	
6,750.0	6,655.5	6,666.6	6,552.0	22.7	20.4	-10.90	-260.3	-4,060.7	4,824.9	4,786.9	38.04	126.849	
6,800.0	6,705.1	6,702.6	6,588.1	22.7	20.4	-10.99	-260.4	-4,061.2	4,819.5	4,781.7	37.74	127.685	
6,850.0	6,754.1	6,743.0	6,628.4	22.7	20.5	-11.15	-260.5	-4,061.9	4,810.7	4,773.4	37.29	129.007	
6,900.0	6,802.3	6,820.2	6,705.6	22.7	20.6	-11.39	-260.9	-4,063.0	4,798.6	4,761.8	36.72	130.692	
6,950.0	6,849.5	6,872.1	6,757.5	22.6	20.7	-11.70	-261.2	-4,063.5	4,782.9	4,746.9	35.95	133.032	
7,000.0	6,895.5	6,915.1	6,800.5	22.5	20.7	-12.09	-261.4	-4,064.0	4,764.0	4,729.0	35.03	136.005	
7,050.0	6,939.9	6,973.2	6,858.6	22.4	20.8	-12.58	-261.7	-4,064.5	4,742.0	4,708.0	33.98	139.543	
7,100.0	6,982.6	7,032.2	6,917.6	22.3	20.9	-13.20	-261.9	-4,064.9	4,716.8	4,684.0	32.81	143.752	
7,150.0	7,023.4	7,070.5	6,955.8	22.2	20.9	-13.91	-261.8	-4,065.1	4,688.7	4,657.2	31.51	148.794	
7,200.0	7,062.2	7,106.9	6,992.2	22.1	21.0	-14.77	-261.7	-4,065.4	4,657.9	4,627.8	30.12	154.627	
7,250.0	7,098.6	7,154.2	7,039.6	22.0	21.1	-15.86	-261.4	-4,065.7	4,624.5	4,595.8	28.70	161.150	
7,300.0	7,132.5	7,203.2	7,088.5	21.9	21.1	-17.21	-261.0	-4,065.9	4,588.6	4,561.4	27.26	168.310	
7,350.0	7,163.8	7,310.3	7,195.7	21.8	21.3	-19.22	-260.5	-4,065.2	4,550.2	4,524.2	25.97	175.209	
7,400.0	7,192.2	7,343.0	7,228.3	21.7	21.3	-21.37	-260.4	-4,064.6	4,509.5	4,484.7	24.73	182.351	
7,450.0	7,217.8	7,372.1	7,257.4	21.6	21.4	-24.11	-260.4	-4,064.1	4,466.9	4,443.2	23.78	187.869	
7,500.0	7,240.3	7,397.4	7,282.8	21.6	21.4	-27.65	-260.4	-4,063.7	4,422.8	4,399.5	23.31	189.747	
7,550.0	7,259.6	7,412.6	7,298.0	21.6	21.4	-32.24	-260.4	-4,063.4	4,377.4	4,353.8	23.56	185.834	
7,600.0	7,275.7	7,424.2	7,309.5	21.6	21.4	-38.39	-260.3	-4,063.2	4,330.8	4,306.0	24.83	174.409	
7,650.0	7,288.4	7,433.2	7,318.6	21.8	21.5	-46.81	-260.3	-4,063.0	4,283.3	4,255.9	27.42	156.208	
7,700.0	7,297.7	7,439.7	7,325.1	22.0	21.5	-58.32	-260.3	-4,062.9	4,235.2	4,203.9	31.32	135.209	
7,750.0	7,303.6	7,443.6	7,328.9	22.4	21.5	-73.36	-260.3	-4,062.8	4,186.7	4,150.9	35.72	117.206	
7,800.0	7,305.9	7,444.8	7,330.1	22.9	21.5	-90.81	-260.3	-4,062.8	4,137.9	4,099.1	38.76	106.751	
7,809.2	7,306.0	7,444.7	7,330.1	23.0	21.5	-94.06	-260.3	-4,062.8	4,128.9	4,089.9	39.04	105.771	
7,900.0	7,306.0	7,443.6	7,329.0	24.3	21.5	-93.99	-260.3	-4,062.8	4,040.4	4,000.0	40.41	99.977	
8,000.0	7,306.0	7,442.4	7,327.7	26.0	21.5	-93.91	-260.3	-4,062.9	3,943.1	3,900.9	42.13	93.586	
8,100.0	7,306.0	7,441.1	7,326.5	27.9	21.5	-93.84	-260.3	-4,062.9	3,845.8	3,801.8	44.03	87.349	
8,200.0	7,306.0	7,439.8	7,325.2	30.0	21.5	-93.76	-260.3	-4,062.9	3,748.8	3,702.7	46.07	81.379	
8,300.0	7,306.0	7,438.6	7,323.9	32.2	21.5	-93.67	-260.3	-4,062.9	3,651.8	3,603.6	48.22	75.737	
8,400.0	7,306.0	7,437.2	7,322.6	34.4	21.5	-93.59	-260.3	-4,062.9	3,555.1	3,504.6	50.46	70.449	
8,500.0	7,306.0	7,435.9	7,321.3	36.8	21.5	-93.51	-260.3	-4,063.0	3,458.5	3,405.7	52.79	65.520	
8,600.0	7,306.0	7,434.6	7,319.9	39.2	21.5	-93.43	-260.3	-4,063.0	3,362.2	3,307.0	55.17	60.940	
8,700.0	7,306.0	7,433.2	7,318.6	41.7	21.5	-93.34	-260.3	-4,063.0	3,266.0	3,208.4	57.61	56.693	

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-404
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-404	**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 #2	**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
8,800.0	7,306.0	7,431.9	7,317.2	44.1	21.5	-93.26	-260.3	-4,063.0	3,170.1	3,110.0	60.09	52.756	
8,900.0	7,306.0	7,430.5	7,315.8	46.7	21.5	-93.17	-260.3	-4,063.0	3,074.4	3,011.8	62.61	49.107	
9,000.0	7,306.0	7,429.1	7,314.4	49.2	21.4	-93.08	-260.3	-4,063.1	2,979.1	2,913.9	65.16	45.722	
9,100.0	7,306.0	7,427.7	7,313.0	51.8	21.4	-92.99	-260.3	-4,063.1	2,884.0	2,816.3	67.73	42.581	
9,200.0	7,306.0	7,426.2	7,311.6	54.4	21.4	-92.90	-260.3	-4,063.1	2,789.3	2,719.0	70.33	39.661	
9,300.0	7,306.0	7,424.8	7,310.1	57.1	21.4	-92.81	-260.3	-4,063.1	2,695.0	2,622.1	72.95	36.945	
9,400.0	7,306.0	7,423.3	7,308.7	59.7	21.4	-92.72	-260.3	-4,063.2	2,601.1	2,525.5	75.58	34.415	
9,500.0	7,306.0	7,421.8	7,307.2	62.4	21.4	-92.62	-260.3	-4,063.2	2,507.7	2,429.4	78.23	32.055	
9,600.0	7,306.0	7,420.3	7,305.7	65.0	21.4	-92.53	-260.4	-4,063.2	2,414.8	2,333.9	80.89	29.852	
9,700.0	7,306.0	7,418.8	7,304.1	67.7	21.4	-92.43	-260.4	-4,063.3	2,322.4	2,238.9	83.57	27.792	
9,800.0	7,306.0	7,417.2	7,302.6	70.4	21.4	-92.33	-260.4	-4,063.3	2,230.8	2,144.5	86.25	25.864	
9,900.0	7,306.0	7,415.6	7,301.0	73.1	21.4	-92.24	-260.4	-4,063.3	2,139.9	2,050.9	88.94	24.059	
10,000.0	7,306.0	7,414.1	7,299.4	75.8	21.4	-92.14	-260.4	-4,063.3	2,049.8	1,958.2	91.64	22.367	
10,100.0	7,306.0	7,412.4	7,297.8	78.5	21.4	-92.03	-260.4	-4,063.4	1,960.7	1,866.4	94.35	20.781	
10,200.0	7,306.0	7,410.8	7,296.2	81.2	21.4	-91.93	-260.4	-4,063.4	1,872.7	1,775.6	97.07	19.293	
10,300.0	7,306.0	7,409.1	7,294.5	84.0	21.4	-91.83	-260.4	-4,063.4	1,786.0	1,686.2	99.79	17.897	
10,400.0	7,306.0	7,407.5	7,292.8	86.7	21.4	-91.72	-260.4	-4,063.5	1,700.7	1,598.2	102.51	16.590	
10,500.0	7,306.0	7,405.8	7,291.1	89.4	21.4	-91.61	-260.4	-4,063.5	1,617.1	1,511.8	105.24	15.365	
10,600.0	7,306.0	7,401.0	7,286.4	92.2	21.4	-91.31	-260.4	-4,063.6	1,535.4	1,427.5	107.97	14.221	
10,700.0	7,306.0	7,401.0	7,286.4	94.9	21.4	-91.31	-260.4	-4,063.6	1,456.1	1,345.4	110.71	13.152	
10,800.0	7,306.0	7,400.5	7,285.8	97.6	21.4	-91.28	-260.4	-4,063.6	1,379.4	1,265.9	113.46	12.158	
10,900.0	7,306.0	7,398.5	7,283.9	100.4	21.4	-91.16	-260.4	-4,063.6	1,305.9	1,189.7	116.20	11.238	
11,000.0	7,306.0	7,396.6	7,282.0	103.2	21.4	-91.04	-260.4	-4,063.7	1,236.1	1,117.1	118.95	10.391	
11,100.0	7,306.0	7,394.7	7,280.0	105.9	21.4	-90.92	-260.4	-4,063.7	1,170.7	1,049.0	121.70	9.619	
11,200.0	7,306.0	7,392.8	7,278.2	108.7	21.4	-90.80	-260.4	-4,063.7	1,110.4	986.0	124.45	8.922	
11,300.0	7,306.0	7,390.9	7,276.3	111.4	21.4	-90.68	-260.4	-4,063.8	1,056.2	929.0	127.21	8.303	
11,400.0	7,306.0	7,389.1	7,274.4	114.2	21.4	-90.56	-260.4	-4,063.8	1,009.1	879.1	129.97	7.764	
11,500.0	7,306.0	7,387.2	7,272.6	117.0	21.4	-90.44	-260.4	-4,063.8	969.9	837.2	132.72	7.308	
11,600.0	7,306.0	7,385.4	7,270.7	119.7	21.4	-90.33	-260.4	-4,063.9	939.8	804.4	135.48	6.937	
11,700.0	7,306.0	7,383.5	7,268.9	122.5	21.4	-90.21	-260.4	-4,063.9	919.7	781.4	138.25	6.653	
11,800.0	7,306.0	7,381.7	7,267.1	125.3	21.4	-90.10	-260.4	-4,063.9	910.1	769.1	141.01	6.455	
11,837.4	7,306.0	7,381.1	7,266.4	126.3	21.4	-90.06	-260.4	-4,064.0	909.4	767.3	142.04	6.402	CC, ES
11,900.0	7,306.0	7,379.9	7,265.3	128.0	21.4	-89.99	-260.4	-4,064.0	911.5	767.8	143.77	6.340	
12,000.0	7,306.0	7,378.2	7,263.5	130.8	21.4	-89.88	-260.4	-4,064.0	923.8	777.3	146.54	6.304	SF
12,100.0	7,306.0	7,376.4	7,261.8	133.6	21.4	-89.76	-260.4	-4,064.0	946.5	797.2	149.30	6.340	
12,200.0	7,306.0	7,374.6	7,260.0	136.4	21.4	-89.65	-260.4	-4,064.1	979.0	826.9	152.07	6.438	
12,300.0	7,306.0	7,372.9	7,258.3	139.1	21.4	-89.54	-260.4	-4,064.1	1,020.3	865.4	154.84	6.589	
12,400.0	7,306.0	7,371.2	7,256.5	141.9	21.4	-89.44	-260.4	-4,064.1	1,069.3	911.7	157.61	6.785	
12,500.0	7,306.0	7,369.5	7,254.8	144.7	21.4	-89.33	-260.4	-4,064.2	1,125.1	964.8	160.37	7.016	
12,600.0	7,306.0	7,367.8	7,253.1	147.5	21.4	-89.22	-260.4	-4,064.2	1,186.8	1,023.6	163.14	7.274	
12,700.0	7,306.0	7,366.1	7,251.4	150.3	21.4	-89.11	-260.4	-4,064.2	1,253.3	1,087.4	165.91	7.554	
12,800.0	7,306.0	7,364.4	7,249.8	153.0	21.4	-89.01	-260.4	-4,064.3	1,324.1	1,155.5	168.68	7.850	
12,900.0	7,306.0	7,362.7	7,248.1	155.8	21.4	-88.90	-260.4	-4,064.3	1,398.5	1,227.0	171.45	8.157	
13,000.0	7,306.0	7,361.1	7,246.4	158.6	21.4	-88.80	-260.4	-4,064.3	1,475.9	1,301.7	174.22	8.471	
13,100.0	7,306.0	7,359.4	7,244.8	161.4	21.3	-88.70	-260.4	-4,064.3	1,555.9	1,378.9	176.99	8.790	
13,200.0	7,306.0	7,357.8	7,243.2	164.2	21.3	-88.59	-260.4	-4,064.4	1,638.0	1,458.3	179.77	9.112	
13,300.0	7,306.0	7,356.2	7,241.6	167.0	21.3	-88.49	-260.4	-4,064.4	1,722.1	1,539.6	182.54	9.434	
13,400.0	7,306.0	7,354.6	7,240.0	169.8	21.3	-88.39	-260.4	-4,064.4	1,807.8	1,622.5	185.31	9.756	
13,500.0	7,306.0	7,353.0	7,238.4	172.6	21.3	-88.29	-260.4	-4,064.5	1,894.9	1,706.8	188.08	10.075	
13,600.0	7,306.0	7,351.4	7,236.8	175.3	21.3	-88.19	-260.4	-4,064.5	1,983.2	1,792.3	190.85	10.391	
13,700.0	7,306.0	7,349.8	7,235.2	178.1	21.3	-88.09	-260.4	-4,064.5	2,072.5	1,878.9	193.62	10.704	
13,800.0	7,306.0	7,348.3	7,233.6	180.9	21.3	-87.99	-260.4	-4,064.5	2,162.8	1,966.4	196.39	11.013	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,346.7	7,232.1	183.7	21.3	-87.90	-260.4	-4,064.6	2,253.9	2,054.8	199.16	11.317	
14,000.0	7,306.0	7,345.2	7,230.6	186.5	21.3	-87.80	-260.4	-4,064.6	2,345.7	2,143.8	201.93	11.617	
14,100.0	7,306.0	7,343.7	7,229.0	189.3	21.3	-87.70	-260.4	-4,064.6	2,438.2	2,233.5	204.70	11.911	
14,200.0	7,306.0	7,342.2	7,227.5	192.1	21.3	-87.61	-260.4	-4,064.6	2,531.3	2,323.8	207.47	12.201	
14,300.0	7,306.0	7,340.7	7,226.0	194.9	21.3	-87.51	-260.4	-4,064.7	2,624.8	2,414.6	210.24	12.485	
14,363.6	7,306.0	7,339.7	7,225.1	196.7	21.3	-87.45	-260.4	-4,064.7	2,684.5	2,472.5	212.00	12.663	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-106.31	-1,160.4	-3,965.4	4,131.9				
100.0	100.0	60.1	60.1	0.1	0.1	-106.31	-1,160.3	-3,965.4	4,131.7	4,131.5	0.16	N/A	
200.0	200.0	161.2	161.2	0.3	0.2	-106.31	-1,160.3	-3,965.3	4,131.6	4,131.1	0.50	8,261.195	
300.0	300.0	262.3	262.3	0.5	0.3	-106.31	-1,160.3	-3,965.3	4,131.6	4,130.7	0.84	4,938.637	
400.0	400.0	363.3	363.3	0.8	0.4	-106.31	-1,160.2	-3,965.2	4,131.5	4,130.3	1.17	3,522.044	
500.0	500.0	464.4	464.4	1.0	0.5	-106.31	-1,160.1	-3,965.2	4,131.4	4,129.9	1.51	2,736.933	
600.0	600.0	1,821.6	1,797.9	1.2	5.0	-105.52	-1,054.5	-3,796.3	4,130.0	4,124.8	5.28	781.555	
700.0	700.0	1,909.0	1,880.7	1.4	5.5	-105.36	-1,036.8	-3,774.3	4,100.2	4,094.4	5.80	707.519	
800.0	800.0	2,002.0	1,968.6	1.7	6.1	-151.82	-1,017.4	-3,750.9	4,071.6	4,065.6	6.01	677.369	
900.0	899.8	2,072.1	2,034.9	1.9	6.5	-151.95	-1,002.6	-3,733.4	4,046.4	4,039.9	6.46	626.454	
1,000.0	999.5	2,136.3	2,095.8	2.1	6.8	-152.06	-989.3	-3,718.2	4,025.2	4,018.3	6.88	584.804	
1,100.0	1,098.7	2,298.0	2,249.6	2.4	7.7	-152.09	-958.3	-3,679.0	4,007.4	3,999.8	7.63	525.493	
1,200.0	1,197.5	2,421.5	2,366.4	2.7	8.5	-152.17	-934.6	-3,646.8	3,990.4	3,982.1	8.28	481.786	
1,299.9	1,295.5	2,580.3	2,516.3	3.0	9.5	-152.23	-902.7	-3,605.3	3,976.4	3,967.3	9.09	437.554	
1,300.0	1,295.6	2,580.5	2,516.5	3.0	9.5	-152.23	-902.6	-3,605.2	3,976.4	3,967.3	9.09	437.505	
1,400.0	1,393.4	2,679.4	2,609.3	3.4	10.1	-152.17	-881.7	-3,578.4	3,962.4	3,952.7	9.73	407.292	
1,500.0	1,491.3	2,751.0	2,676.7	3.7	10.6	-152.13	-866.2	-3,559.6	3,949.2	3,938.9	10.27	384.509	
1,600.0	1,589.1	2,783.4	2,707.3	4.1	10.8	-152.11	-859.2	-3,551.4	3,937.0	3,926.3	10.67	369.093	
1,700.0	1,686.9	2,844.0	2,764.8	4.5	11.1	-152.08	-846.7	-3,537.1	3,926.4	3,915.2	11.17	351.582	
1,800.0	1,784.7	2,966.0	2,880.6	5.0	11.9	-152.00	-821.1	-3,508.3	3,916.0	3,904.1	11.91	328.821	
1,900.0	1,882.5	3,031.0	2,942.1	5.4	12.2	-151.96	-807.3	-3,492.7	3,905.3	3,892.8	12.45	313.739	
2,000.0	1,980.3	3,125.0	3,031.4	5.8	12.8	-151.90	-787.6	-3,470.8	3,895.2	3,882.1	13.09	297.686	
2,100.0	2,078.1	3,185.3	3,088.8	6.2	13.1	-151.86	-775.2	-3,457.2	3,885.9	3,872.3	13.60	285.687	
2,200.0	2,176.0	3,285.0	3,183.9	6.7	13.7	-151.81	-755.5	-3,434.8	3,877.0	3,862.8	14.26	271.943	
2,300.0	2,273.8	3,383.3	3,277.9	7.1	14.2	-151.79	-737.8	-3,412.0	3,868.0	3,853.1	14.89	259.689	
2,400.0	2,371.6	3,508.8	3,397.8	7.5	14.9	-151.75	-714.7	-3,382.9	3,858.9	3,843.2	15.64	246.743	
2,500.0	2,469.4	3,638.7	3,521.3	8.0	15.7	-151.70	-689.5	-3,351.7	3,848.4	3,832.0	16.42	234.357	
2,600.0	2,567.2	3,732.6	3,610.7	8.4	16.3	-151.67	-671.6	-3,329.1	3,838.2	3,821.2	17.07	224.907	
2,700.0	2,665.0	3,874.0	3,745.1	8.8	17.1	-151.63	-645.1	-3,294.2	3,827.5	3,809.6	17.88	214.041	
2,800.0	2,762.9	3,955.1	3,822.1	9.3	17.6	-151.60	-629.6	-3,274.0	3,816.3	3,797.9	18.49	206.432	
2,900.0	2,860.7	4,024.7	3,888.3	9.7	18.0	-151.58	-616.1	-3,257.1	3,805.8	3,786.8	19.05	199.775	
3,000.0	2,958.5	4,098.9	3,959.0	10.2	18.4	-151.55	-601.8	-3,239.7	3,796.1	3,776.5	19.63	193.407	
3,100.0	3,056.3	4,213.2	4,068.2	10.6	19.1	-151.52	-581.2	-3,212.9	3,786.8	3,766.4	20.34	186.160	
3,200.0	3,154.1	4,389.1	4,235.0	11.1	20.2	-151.46	-547.6	-3,168.3	3,774.8	3,753.5	21.30	177.213	
3,300.0	3,251.9	4,468.7	4,310.6	11.5	20.7	-151.44	-532.7	-3,148.3	3,763.5	3,741.6	21.90	171.812	
3,400.0	3,349.8	4,611.4	4,445.5	12.0	21.6	-151.38	-504.2	-3,111.7	3,751.3	3,728.5	22.76	164.821	
3,500.0	3,447.6	4,690.2	4,520.0	12.4	22.1	-151.35	-488.5	-3,091.4	3,739.1	3,715.7	23.37	159.989	
3,600.0	3,545.4	4,788.0	4,612.6	12.8	22.7	-151.30	-469.2	-3,066.5	3,727.3	3,703.2	24.05	154.952	
3,700.0	3,643.2	4,868.3	4,688.6	13.3	23.2	-151.27	-453.1	-3,046.2	3,715.6	3,690.9	24.68	150.567	
3,800.0	3,741.0	4,935.6	4,752.4	13.7	23.6	-151.23	-439.3	-3,029.8	3,704.6	3,679.4	25.25	146.708	
3,900.0	3,838.8	4,999.0	4,812.7	14.2	24.0	-151.19	-426.5	-3,014.9	3,694.6	3,668.8	25.81	143.146	
4,000.0	3,936.6	5,079.4	4,889.3	14.6	24.4	-151.15	-410.6	-2,996.4	3,685.4	3,658.9	26.43	139.461	
4,100.0	4,034.5	5,169.2	4,975.1	15.1	24.9	-151.12	-394.0	-2,976.0	3,676.5	3,649.4	27.06	135.847	
4,200.0	4,132.3	5,324.0	5,122.9	15.5	25.8	-151.07	-365.6	-2,939.4	3,666.9	3,639.0	27.94	131.236	
4,300.0	4,230.1	5,373.0	5,169.5	16.0	26.1	-151.05	-356.2	-2,927.6	3,657.0	3,628.6	28.44	128.575	
4,400.0	4,327.9	5,438.3	5,231.8	16.4	26.5	-151.03	-344.0	-2,912.5	3,648.1	3,619.1	28.99	125.820	
4,500.0	4,425.7	5,466.0	5,258.4	16.9	26.7	-151.03	-339.2	-2,906.5	3,641.0	3,611.6	29.41	123.804	
4,600.0	4,523.5	5,525.2	5,315.5	17.3	27.0	-151.02	-329.5	-2,894.4	3,635.3	3,605.4	29.92	121.514	
4,700.0	4,621.4	5,560.0	5,349.3	17.8	27.1	-151.02	-324.2	-2,887.8	3,631.3	3,600.9	30.34	119.668	
4,800.0	4,719.2	5,612.2	5,400.2	18.2	27.4	-151.02	-316.7	-2,878.5	3,628.7	3,597.9	30.81	117.764	
4,900.0	4,817.0	5,653.0	5,440.0	18.7	27.5	-151.03	-311.3	-2,871.8	3,627.8	3,596.5	31.25	116.098	
4,907.0	4,823.8	5,653.0	5,440.0	18.7	27.5	-151.03	-311.3	-2,871.8	3,627.8	3,596.5	31.27	116.016	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	5,714.4	5,500.2	19.1	27.8	-151.06	-304.1	-2,862.4	3,628.2	3,596.4	31.72	114.386	
5,100.0	5,012.6	5,773.6	5,558.5	19.6	28.0	-151.10	-298.2	-2,853.7	3,629.7	3,597.5	32.17	112.815	
5,200.0	5,110.4	5,840.0	5,624.0	20.0	28.2	-151.15	-292.1	-2,844.6	3,632.3	3,599.7	32.64	111.293	
5,221.3	5,131.3	5,840.0	5,624.0	20.1	28.2	-151.15	-292.1	-2,844.6	3,633.0	3,600.3	32.71	111.085	
5,300.0	5,208.5	5,893.2	5,676.5	20.4	28.4	-151.20	-287.2	-2,837.9	3,635.1	3,602.1	33.01	110.116	
5,400.0	5,307.1	5,958.0	5,740.6	20.7	28.6	-151.23	-281.4	-2,830.5	3,636.0	3,602.7	33.34	109.043	
5,500.0	5,406.3	6,025.0	5,807.0	21.0	28.8	-151.22	-275.3	-2,823.2	3,634.6	3,601.0	33.66	107.993	
5,600.0	5,505.8	6,082.5	5,864.0	21.2	29.0	-151.18	-270.3	-2,817.6	3,631.2	3,597.3	33.91	107.081	
5,700.0	5,605.6	6,119.0	5,900.2	21.4	29.1	-151.11	-267.4	-2,814.4	3,626.2	3,592.1	34.08	106.388	
5,800.0	5,705.6	6,212.0	5,992.7	21.5	29.3	-150.99	-261.0	-2,807.3	3,619.3	3,585.0	34.35	105.365	
5,821.2	5,726.8	6,212.0	5,992.7	21.5	29.3	-104.62	-261.0	-2,807.3	3,617.5	3,569.8	47.75	75.760	
5,900.0	5,805.6	6,244.0	6,024.6	21.6	29.4	-104.60	-259.2	-2,805.3	3,611.4	3,563.5	47.91	75.386	
6,000.0	5,905.6	6,306.0	6,086.5	21.7	29.5	-104.58	-256.5	-2,802.0	3,605.0	3,556.8	48.16	74.856	
6,100.0	6,005.6	6,344.0	6,124.4	21.9	29.6	-104.56	-255.3	-2,800.3	3,599.8	3,551.5	48.35	74.446	
6,200.0	6,105.6	6,399.0	6,179.4	22.0	29.6	-104.56	-254.5	-2,798.4	3,596.1	3,547.5	48.58	74.023	
6,300.0	6,205.6	6,464.9	6,245.3	22.1	29.7	-104.56	-254.1	-2,796.8	3,593.4	3,544.6	48.81	73.623	
6,400.0	6,305.6	6,540.4	6,320.8	22.3	29.8	-104.56	-253.8	-2,795.4	3,591.6	3,542.5	49.04	73.231	
6,500.0	6,405.6	6,614.1	6,394.4	22.4	29.9	-104.56	-253.8	-2,794.5	3,590.3	3,541.1	49.27	72.867	
6,592.5	6,498.1	6,680.0	6,460.3	22.5	29.9	-104.57	-254.1	-2,794.1	3,590.0	3,540.5	49.48	72.558	
6,600.0	6,505.6	6,680.0	6,460.3	22.5	29.9	-104.57	-254.1	-2,794.1	3,590.0	3,540.5	49.49	72.542	
6,684.2	6,589.8	6,759.4	6,539.7	22.6	30.0	-104.58	-254.7	-2,794.1	3,590.1	3,540.4	49.69	72.252	
6,700.0	6,605.6	6,773.0	6,553.3	22.7	30.0	-14.58	-254.8	-2,794.1	3,590.0	3,553.4	36.58	98.138	
6,750.0	6,655.5	6,820.0	6,600.4	22.7	30.1	-14.65	-255.1	-2,794.2	3,587.4	3,551.2	36.26	98.926	
6,800.0	6,705.1	6,867.0	6,647.3	22.7	30.1	-14.80	-255.4	-2,794.4	3,581.5	3,545.8	35.76	100.156	
6,850.0	6,754.1	6,908.4	6,688.7	22.7	30.1	-15.03	-255.7	-2,794.5	3,572.4	3,537.3	35.07	101.875	
6,900.0	6,802.3	6,950.1	6,730.4	22.7	30.2	-15.35	-256.2	-2,794.8	3,560.0	3,525.8	34.20	104.100	
6,950.0	6,849.5	6,987.6	6,767.9	22.6	30.2	-15.76	-256.6	-2,795.0	3,544.6	3,511.4	33.16	106.889	
7,000.0	6,895.5	7,023.1	6,803.4	22.5	30.2	-16.27	-256.9	-2,795.4	3,526.1	3,494.1	31.97	110.284	
7,050.0	6,939.9	7,054.0	6,834.3	22.4	30.2	-16.89	-257.2	-2,795.9	3,504.7	3,474.0	30.65	114.346	
7,100.0	6,982.6	7,090.6	6,870.9	22.3	30.3	-17.65	-257.5	-2,796.5	3,480.4	3,451.2	29.23	119.084	
7,150.0	7,023.4	7,122.3	6,902.6	22.2	30.3	-18.57	-257.8	-2,797.1	3,453.5	3,425.8	27.73	124.529	
7,200.0	7,062.2	7,154.9	6,935.2	22.1	30.3	-19.67	-258.2	-2,797.9	3,423.9	3,397.7	26.22	130.562	
7,250.0	7,098.6	7,198.0	6,978.2	22.0	30.3	-21.07	-258.8	-2,798.8	3,391.8	3,367.0	24.79	136.797	
7,300.0	7,132.5	7,238.0	7,018.3	21.9	30.4	-22.77	-259.5	-2,799.5	3,357.2	3,333.7	23.55	142.540	
7,350.0	7,163.8	7,280.0	7,060.2	21.8	30.4	-24.89	-260.3	-2,800.2	3,320.3	3,297.7	22.69	146.363	
7,400.0	7,192.2	7,318.5	7,098.8	21.7	30.4	-27.48	-260.9	-2,800.7	3,281.4	3,259.0	22.41	146.427	
7,450.0	7,217.8	7,347.2	7,127.5	21.6	30.4	-30.61	-261.3	-2,801.1	3,240.5	3,217.6	22.93	141.328	
7,500.0	7,240.3	7,368.0	7,148.2	21.6	30.4	-34.41	-261.6	-2,801.3	3,198.0	3,173.6	24.42	130.960	
7,550.0	7,259.6	7,385.9	7,166.2	21.6	30.5	-39.15	-261.8	-2,801.6	3,154.2	3,127.2	27.02	116.746	
7,600.0	7,275.7	7,401.0	7,181.2	21.6	30.5	-45.11	-262.0	-2,801.8	3,109.2	3,078.5	30.71	101.230	
7,650.0	7,288.4	7,413.1	7,193.3	21.8	30.5	-52.55	-262.2	-2,801.9	3,063.2	3,027.9	35.33	86.693	
7,700.0	7,297.7	7,422.1	7,202.3	22.0	30.5	-61.69	-262.3	-2,802.1	3,016.5	2,976.1	40.44	74.602	
7,750.0	7,303.6	7,431.5	7,211.8	22.4	30.5	-72.67	-262.5	-2,802.2	2,969.4	2,924.1	45.27	65.590	
7,800.0	7,305.9	7,515.3	7,295.6	22.9	30.6	-89.65	-262.9	-2,802.4	2,921.9	2,872.6	49.26	59.314	
7,809.2	7,306.0	7,514.6	7,294.8	23.0	30.6	-91.84	-262.9	-2,802.4	2,913.2	2,863.7	49.50	58.847	
7,900.0	7,306.0	7,501.2	7,281.4	24.3	30.6	-91.00	-263.0	-2,802.5	2,827.1	2,776.2	50.84	55.612	
8,000.0	7,306.0	7,494.9	7,275.1	26.0	30.6	-90.61	-263.0	-2,802.5	2,732.6	2,680.1	52.54	52.013	
8,100.0	7,306.0	7,491.6	7,271.8	27.9	30.5	-90.39	-263.0	-2,802.5	2,638.6	2,584.1	54.43	48.480	
8,200.0	7,306.0	7,489.4	7,269.7	30.0	30.5	-90.26	-263.0	-2,802.5	2,544.9	2,488.5	56.46	45.073	
8,300.0	7,306.0	7,488.0	7,268.2	32.2	30.5	-90.17	-262.9	-2,802.5	2,451.9	2,393.2	58.62	41.828	
8,400.0	7,306.0	7,487.0	7,267.2	34.4	30.5	-90.11	-262.9	-2,802.5	2,359.3	2,298.4	60.87	38.761	
8,500.0	7,306.0	7,486.2	7,266.4	36.8	30.5	-90.06	-262.9	-2,802.5	2,267.4	2,204.2	63.20	35.878	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,600.0	7,306.0	7,485.6	7,265.8	39.2	30.5	-90.02	-262.9	-2,802.5	2,176.2	2,110.6	65.59	33.180	
8,700.0	7,306.0	7,485.1	7,265.3	41.7	30.5	-89.99	-262.9	-2,802.5	2,085.9	2,017.8	68.03	30.659	
8,800.0	7,306.0	7,484.6	7,264.9	44.1	30.5	-89.96	-262.9	-2,802.5	1,996.4	1,925.9	70.52	28.309	
8,900.0	7,306.0	7,484.3	7,264.5	46.7	30.5	-89.94	-262.9	-2,802.5	1,908.0	1,834.9	73.05	26.120	
9,000.0	7,306.0	7,484.0	7,264.2	49.2	30.5	-89.92	-262.9	-2,802.5	1,820.8	1,745.2	75.60	24.084	
9,100.0	7,306.0	7,483.7	7,264.0	51.8	30.5	-89.90	-262.9	-2,802.5	1,735.0	1,656.8	78.18	22.191	
9,200.0	7,306.0	7,483.5	7,263.7	54.4	30.5	-89.89	-262.9	-2,802.5	1,650.7	1,569.9	80.79	20.433	
9,300.0	7,306.0	7,483.3	7,263.5	57.1	30.5	-89.88	-262.9	-2,802.5	1,568.3	1,484.9	83.41	18.802	
9,400.0	7,306.0	7,483.2	7,263.4	59.7	30.5	-89.87	-262.9	-2,802.5	1,488.1	1,402.1	86.05	17.293	
9,500.0	7,306.0	7,483.0	7,263.2	62.4	30.5	-89.86	-262.9	-2,802.5	1,410.4	1,321.7	88.71	15.900	
9,600.0	7,306.0	7,482.9	7,263.1	65.0	30.5	-89.85	-262.9	-2,802.5	1,335.7	1,244.3	91.38	14.618	
9,700.0	7,306.0	7,482.7	7,263.0	67.7	30.5	-89.84	-262.9	-2,802.5	1,264.5	1,170.4	94.06	13.444	
9,800.0	7,306.0	7,482.6	7,262.9	70.4	30.5	-89.83	-262.9	-2,802.5	1,197.4	1,100.6	96.75	12.377	
9,900.0	7,306.0	7,482.5	7,262.8	73.1	30.5	-89.83	-262.9	-2,802.5	1,135.1	1,035.7	99.44	11.415	
10,000.0	7,306.0	7,482.4	7,262.7	75.8	30.5	-89.82	-262.9	-2,802.5	1,078.6	976.4	102.15	10.559	
10,100.0	7,306.0	7,482.4	7,262.6	78.5	30.5	-89.82	-262.9	-2,802.5	1,028.7	923.8	104.87	9.809	
10,200.0	7,306.0	7,482.3	7,262.5	81.2	30.5	-89.81	-262.9	-2,802.5	986.4	878.8	107.59	9.168	
10,300.0	7,306.0	7,482.2	7,262.4	84.0	30.5	-89.81	-262.9	-2,802.5	952.8	842.5	110.31	8.637	
10,400.0	7,306.0	7,482.1	7,262.4	86.7	30.5	-89.80	-262.9	-2,802.5	928.8	815.7	113.04	8.216	
10,500.0	7,306.0	7,482.1	7,262.3	89.4	30.5	-89.80	-262.9	-2,802.5	915.1	799.3	115.78	7.904	
10,575.9	7,306.0	7,482.0	7,262.3	91.5	30.5	-89.80	-262.9	-2,802.5	911.9	794.1	117.86	7.737	CC
10,600.0	7,306.0	7,482.0	7,262.2	92.2	30.5	-89.80	-262.9	-2,802.5	912.3	793.7	118.52	7.697	ES
10,700.0	7,306.0	7,482.0	7,262.2	94.9	30.5	-89.79	-262.9	-2,802.5	920.3	799.1	121.27	7.589	
10,800.0	7,306.0	7,481.9	7,262.1	97.6	30.5	-89.79	-262.9	-2,802.5	939.1	815.0	124.01	7.572	SF
10,900.0	7,306.0	7,481.9	7,262.1	100.4	30.5	-89.79	-262.9	-2,802.5	967.8	841.0	126.76	7.635	
11,000.0	7,306.0	7,481.8	7,262.0	103.2	30.5	-89.78	-262.9	-2,802.5	1,005.7	876.2	129.52	7.765	
11,100.0	7,306.0	7,481.8	7,262.0	105.9	30.5	-89.78	-262.9	-2,802.5	1,051.8	919.5	132.28	7.951	
11,200.0	7,306.0	7,481.7	7,262.0	108.7	30.5	-89.78	-262.9	-2,802.5	1,105.0	970.0	135.04	8.183	
11,300.0	7,306.0	7,481.7	7,261.9	111.4	30.5	-89.78	-262.9	-2,802.5	1,164.4	1,026.6	137.80	8.450	
11,400.0	7,306.0	7,481.7	7,261.9	114.2	30.5	-89.77	-262.9	-2,802.5	1,229.1	1,088.5	140.56	8.744	
11,500.0	7,306.0	7,481.6	7,261.8	117.0	30.5	-89.77	-262.9	-2,802.5	1,298.3	1,154.9	143.33	9.058	
11,600.0	7,306.0	7,481.6	7,261.8	119.7	30.5	-89.77	-262.9	-2,802.5	1,371.2	1,225.1	146.10	9.386	
11,700.0	7,306.0	7,481.6	7,261.8	122.5	30.5	-89.77	-262.9	-2,802.5	1,447.5	1,298.6	148.87	9.723	
11,800.0	7,306.0	7,481.5	7,261.8	125.3	30.5	-89.77	-262.9	-2,802.5	1,526.4	1,374.8	151.64	10.066	
11,900.0	7,306.0	7,481.5	7,261.7	128.0	30.5	-89.76	-262.9	-2,802.5	1,607.7	1,453.3	154.42	10.412	
12,000.0	7,306.0	7,481.5	7,261.7	130.8	30.5	-89.76	-262.9	-2,802.5	1,691.0	1,533.8	157.19	10.758	
12,100.0	7,306.0	7,481.5	7,261.7	133.6	30.5	-89.76	-262.9	-2,802.5	1,776.1	1,616.1	159.97	11.102	
12,200.0	7,306.0	7,481.4	7,261.7	136.4	30.5	-89.76	-262.9	-2,802.5	1,862.6	1,699.8	162.75	11.445	
12,300.0	7,306.0	7,481.4	7,261.6	139.1	30.5	-89.76	-262.9	-2,802.5	1,950.4	1,784.9	165.53	11.783	
12,400.0	7,306.0	7,481.4	7,261.6	141.9	30.5	-89.76	-262.9	-2,802.5	2,039.3	1,871.0	168.31	12.117	
12,500.0	7,306.0	7,481.4	7,261.6	144.7	30.5	-89.75	-262.9	-2,802.5	2,129.2	1,958.1	171.09	12.445	
12,600.0	7,306.0	7,481.4	7,261.6	147.5	30.5	-89.75	-262.9	-2,802.5	2,220.0	2,046.1	173.87	12.768	
12,700.0	7,306.0	7,481.3	7,261.5	150.3	30.5	-89.75	-262.9	-2,802.5	2,311.5	2,134.9	176.65	13.085	
12,800.0	7,306.0	7,481.3	7,261.5	153.0	30.5	-89.75	-262.9	-2,802.5	2,403.8	2,224.3	179.44	13.396	
12,900.0	7,306.0	7,481.3	7,261.5	155.8	30.5	-89.75	-262.9	-2,802.5	2,496.6	2,314.3	182.22	13.701	
13,000.0	7,306.0	7,481.3	7,261.5	158.6	30.5	-89.75	-262.9	-2,802.5	2,589.9	2,404.9	185.01	13.999	
13,100.0	7,306.0	7,481.3	7,261.5	161.4	30.5	-89.75	-262.9	-2,802.5	2,683.7	2,495.9	187.80	14.291	
13,200.0	7,306.0	7,481.2	7,261.5	164.2	30.5	-89.75	-262.9	-2,802.5	2,778.0	2,587.4	190.58	14.576	
13,300.0	7,306.0	7,481.2	7,261.4	167.0	30.5	-89.75	-262.9	-2,802.5	2,872.6	2,679.3	193.37	14.855	
13,400.0	7,306.0	7,481.2	7,261.4	169.8	30.5	-89.74	-262.9	-2,802.5	2,967.6	2,771.5	196.16	15.129	
13,500.0	7,306.0	7,481.2	7,261.4	172.6	30.5	-89.74	-262.9	-2,802.5	3,063.0	2,864.0	198.95	15.395	
13,600.0	7,306.0	7,481.2	7,261.4	175.3	30.5	-89.74	-262.9	-2,802.5	3,158.6	2,956.8	201.74	15.656	

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-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,481.2	7,261.4	178.1	30.5	-89.74	-262.9	-2,802.5	3,254.4	3,049.9	204.53	15.912	
13,800.0	7,306.0	7,481.2	7,261.4	180.9	30.5	-89.74	-262.9	-2,802.5	3,350.5	3,143.2	207.32	16.161	
13,900.0	7,306.0	7,481.1	7,261.4	183.7	30.5	-89.74	-262.9	-2,802.5	3,446.9	3,236.8	210.12	16.405	
14,000.0	7,306.0	7,481.1	7,261.4	186.5	30.5	-89.74	-262.9	-2,802.5	3,543.4	3,330.5	212.91	16.643	
14,100.0	7,306.0	7,481.1	7,261.3	189.3	30.5	-89.74	-262.9	-2,802.5	3,640.1	3,424.4	215.70	16.876	
14,200.0	7,306.0	7,481.1	7,261.3	192.1	30.5	-89.74	-262.9	-2,802.5	3,737.0	3,518.5	218.49	17.104	
14,300.0	7,306.0	7,481.1	7,261.3	194.9	30.5	-89.74	-262.9	-2,802.5	3,834.1	3,612.8	221.29	17.326	
14,363.6	7,306.0	7,481.1	7,261.3	196.7	30.5	-89.74	-262.9	-2,802.5	3,895.8	3,672.8	223.06	17.465	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-142.92	-703.5	-531.7	881.8				
100.0	100.0	102.6	102.6	0.1	0.1	-142.92	-703.5	-531.7	881.8	881.6	0.20	4,325.797	
200.0	200.0	201.8	201.8	0.3	0.2	-142.94	-703.8	-531.6	882.0	881.4	0.53	1,658.922	
300.0	300.0	301.0	301.0	0.5	0.3	-142.96	-704.2	-531.4	882.2	881.4	0.86	1,026.477	
400.0	400.0	400.2	400.2	0.8	0.4	-142.99	-704.8	-531.2	882.5	881.4	1.19	743.347	
500.0	500.0	499.4	499.3	1.0	0.5	-143.04	-705.5	-530.9	883.0	881.5	1.52	582.796	
600.0	600.0	598.5	598.5	1.2	0.6	-143.09	-706.4	-530.6	883.5	881.6	1.84	479.413	
700.0	700.0	697.7	697.7	1.4	0.7	-143.15	-707.4	-530.2	884.1	881.9	2.17	407.299	
800.0	800.0	842.2	842.1	1.7	1.0	170.42	-706.4	-527.3	884.1	881.4	2.69	329.251	
900.0	899.8	994.7	994.1	1.9	1.4	170.24	-700.0	-517.3	882.0	878.7	3.22	273.652	
1,000.0	999.5	1,156.2	1,154.1	2.1	1.8	170.15	-685.2	-501.3	877.6	873.8	3.80	230.968	
1,100.0	1,098.7	1,278.6	1,274.4	2.4	2.2	170.25	-667.5	-486.6	870.7	866.4	4.30	202.542	
1,200.0	1,197.5	1,393.2	1,386.5	2.7	2.6	170.37	-649.5	-471.4	865.5	860.7	4.79	180.569	
1,299.9	1,295.5	1,525.7	1,515.4	3.0	3.2	170.59	-625.7	-452.2	861.3	855.9	5.35	161.068	
1,300.0	1,295.6	1,525.9	1,515.6	3.0	3.2	170.59	-625.7	-452.2	861.3	855.9	5.35	161.042	
1,400.0	1,393.4	1,668.1	1,652.1	3.4	3.9	170.74	-595.6	-426.4	853.6	847.6	5.99	142.521	
1,500.0	1,491.3	1,783.1	1,761.6	3.7	4.6	170.71	-569.9	-401.7	843.1	836.5	6.58	128.155	
1,600.0	1,589.1	1,880.3	1,853.6	4.1	5.1	170.69	-547.4	-380.1	831.3	824.2	7.11	116.972	
1,700.0	1,686.9	1,979.7	1,948.0	4.5	5.7	170.66	-524.9	-358.6	820.3	812.7	7.65	107.240	
1,800.0	1,784.7	2,080.7	2,043.7	5.0	6.3	170.60	-501.9	-336.0	808.8	800.6	8.21	98.497	
1,900.0	1,882.5	2,169.1	2,127.6	5.4	6.8	170.53	-482.3	-316.5	797.9	789.2	8.73	91.379	
2,000.0	1,980.3	2,265.3	2,219.4	5.8	7.3	170.51	-461.4	-296.3	788.2	779.0	9.27	85.050	
2,100.0	2,078.1	2,374.4	2,323.2	6.2	7.9	170.47	-437.5	-273.0	778.0	768.2	9.86	78.940	
2,200.0	2,176.0	2,456.5	2,401.4	6.7	8.4	170.37	-420.1	-255.0	768.1	757.8	10.37	74.080	
2,300.0	2,273.8	2,571.4	2,511.0	7.1	9.0	170.29	-396.0	-230.7	758.9	747.9	10.98	69.126	
2,400.0	2,371.6	2,671.5	2,606.2	7.5	9.6	170.29	-373.2	-209.5	748.2	736.6	11.55	64.788	
2,500.0	2,469.4	2,766.7	2,696.8	8.0	10.2	170.38	-351.0	-190.3	737.6	725.5	12.09	61.010	
2,600.0	2,567.2	2,853.5	2,779.7	8.4	10.6	170.57	-330.9	-174.6	728.4	715.8	12.60	57.832	
2,700.0	2,665.0	2,962.8	2,884.2	8.8	11.2	170.83	-305.4	-154.9	719.1	705.9	13.17	54.599	
2,800.0	2,762.9	3,063.7	2,980.3	9.3	11.8	170.84	-283.3	-134.1	709.4	695.6	13.74	51.613	
2,900.0	2,860.7	3,168.1	3,079.7	9.7	12.4	170.83	-259.8	-111.9	698.9	684.6	14.33	48.763	
3,000.0	2,958.5	3,269.8	3,176.3	10.2	13.1	170.86	-236.6	-90.6	688.2	673.3	14.91	46.154	
3,100.0	3,056.3	3,371.5	3,272.9	10.6	13.7	170.77	-213.8	-67.8	676.9	661.4	15.50	43.667	
3,200.0	3,154.1	3,477.1	3,372.8	11.1	14.3	170.63	-190.1	-43.5	665.3	649.2	16.12	41.281	
3,300.0	3,251.9	3,579.9	3,469.8	11.5	15.0	170.49	-166.3	-19.3	652.7	635.9	16.73	39.019	
3,400.0	3,349.8	3,681.9	3,565.9	12.0	15.6	170.21	-143.2	6.1	639.6	622.3	17.35	36.857	
3,500.0	3,447.6	3,782.8	3,660.9	12.4	16.3	169.93	-120.1	31.3	626.4	608.4	17.98	34.840	
3,600.0	3,545.4	3,909.5	3,778.6	12.8	17.2	169.68	-87.2	64.3	609.6	590.9	18.70	32.597	
3,700.0	3,643.2	4,008.1	3,869.9	13.3	17.9	169.67	-59.4	89.0	591.8	572.5	19.31	30.656	
3,800.0	3,741.0	4,100.9	3,955.8	13.7	18.5	169.78	-32.4	111.4	573.8	554.0	19.87	28.877	
3,900.0	3,838.8	4,183.8	4,033.3	14.2	19.1	169.82	-10.1	130.8	558.2	537.8	20.41	27.354	
4,000.0	3,936.6	4,274.3	4,118.6	14.6	19.6	169.74	11.6	151.8	545.1	524.1	20.98	25.986	
4,100.0	4,034.5	4,380.3	4,218.3	15.1	20.3	169.40	36.1	178.2	531.7	510.1	21.64	24.573	
4,200.0	4,132.3	4,474.6	4,306.7	15.5	20.9	169.05	58.2	202.3	517.7	495.4	22.27	23.245	
4,300.0	4,230.1	4,568.2	4,395.3	16.0	21.5	168.85	79.5	224.0	505.7	482.8	22.87	22.110	
4,400.0	4,327.9	4,661.8	4,483.9	16.4	22.1	168.84	101.9	244.4	493.7	470.2	23.44	21.061	
4,500.0	4,425.7	4,747.3	4,565.6	16.9	22.6	168.89	120.6	261.3	484.4	460.5	23.97	20.213	
4,600.0	4,523.5	4,835.4	4,650.2	17.3	23.0	168.75	137.5	278.8	477.5	453.0	24.52	19.474	
4,700.0	4,621.4	4,924.8	4,736.7	17.8	23.5	168.49	151.9	296.1	473.5	448.4	25.10	18.867	
4,800.0	4,719.2	5,023.8	4,832.6	18.2	23.9	168.19	167.6	314.9	469.9	444.2	25.70	18.281	
4,900.0	4,817.0	5,112.4	4,918.8	18.7	24.4	167.99	180.8	330.6	467.9	441.6	26.26	17.816	
4,922.6	4,839.1	5,131.8	4,937.7	18.8	24.4	167.95	183.5	333.8	467.8	441.4	26.38	17.732	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	5,198.4	5,003.0	19.1	24.7	167.88	192.0	343.9	468.7	441.9	26.78	17.501	
5,100.0	5,012.6	5,285.9	5,089.3	19.6	25.0	167.89	202.1	355.2	472.3	445.1	27.27	17.319	
5,200.0	5,110.4	5,375.3	5,177.7	20.0	25.3	168.00	211.0	364.9	478.4	450.6	27.74	17.246	
5,221.3	5,131.3	5,394.7	5,196.9	20.1	25.4	168.03	212.8	366.8	479.9	452.1	27.84	17.242	
5,300.0	5,208.5	5,466.0	5,267.6	20.4	25.6	168.16	218.8	373.4	485.4	457.2	28.14	17.248	
5,400.0	5,307.1	5,555.2	5,356.3	20.7	25.8	168.27	225.2	380.5	491.0	462.6	28.46	17.254	
5,500.0	5,406.3	5,642.0	5,442.8	21.0	26.0	168.34	229.9	386.0	495.6	466.9	28.73	17.250	
5,600.0	5,505.8	5,739.0	5,539.6	21.2	26.1	168.38	234.1	390.9	498.4	469.4	28.98	17.197	
5,700.0	5,605.6	5,834.4	5,634.8	21.4	26.3	168.43	238.2	394.5	498.7	469.5	29.18	17.088	
5,800.0	5,705.6	5,928.2	5,728.5	21.5	26.5	168.57	242.1	396.3	496.5	467.2	29.31	16.938	
5,821.2	5,726.8	5,947.3	5,747.6	21.5	26.5	-145.04	242.9	396.5	495.8	448.4	47.46	10.447	
5,900.0	5,805.6	6,018.8	5,819.0	21.6	26.6	-144.91	245.1	396.6	493.7	446.0	47.66	10.358	
6,000.0	5,905.6	6,116.2	5,916.4	21.7	26.7	-144.74	247.4	396.5	491.9	444.0	47.92	10.265	
6,100.0	6,005.6	6,210.5	6,010.7	21.9	26.8	-144.61	248.7	396.0	491.0	442.9	48.16	10.196	
6,200.0	6,105.6	6,310.0	6,110.2	22.0	26.9	-144.51	249.4	395.5	490.8	442.4	48.40	10.140	
6,300.0	6,205.6	6,409.8	6,210.0	22.1	27.0	-144.43	250.0	395.0	490.5	441.9	48.64	10.085	
6,400.0	6,305.6	6,509.4	6,309.6	22.3	27.1	-144.38	250.4	394.8	490.4	441.5	48.88	10.034	
6,489.2	6,394.8	6,598.1	6,398.3	22.4	27.2	-144.33	250.7	394.5	490.3	441.2	49.09	9.988	
6,500.0	6,405.6	6,608.6	6,408.8	22.4	27.2	-144.32	250.7	394.4	490.3	441.2	49.11	9.983	
6,600.0	6,505.6	6,706.7	6,506.9	22.5	27.3	-144.26	250.8	393.8	490.6	441.3	49.35	9.942	
6,684.2	6,589.8	6,789.8	6,590.1	22.6	27.3	-144.21	250.7	393.2	491.1	441.5	49.55	9.911	
6,700.0	6,605.6	6,805.3	6,605.5	22.7	27.4	-54.22	250.6	393.1	491.1	458.9	32.16	15.270	
6,750.0	6,655.5	6,854.2	6,654.5	22.7	27.4	-54.54	250.4	392.7	489.8	457.7	32.13	15.247	
6,800.0	6,705.1	6,904.0	6,704.2	22.7	27.4	-55.32	250.2	392.2	486.6	454.5	32.15	15.138	
6,850.0	6,754.1	6,953.2	6,753.4	22.7	27.5	-56.58	250.0	391.8	481.5	449.3	32.25	14.930	
6,900.0	6,802.3	7,001.5	6,801.7	22.7	27.5	-58.31	249.8	391.3	474.7	442.2	32.50	14.607	
6,950.0	6,849.5	7,048.9	6,849.1	22.6	27.6	-60.51	249.6	390.8	466.4	433.5	32.94	14.160	
7,000.0	6,895.5	7,095.0	6,895.2	22.5	27.6	-63.20	249.4	390.4	456.9	423.3	33.62	13.591	
7,050.0	6,939.9	7,139.6	6,939.8	22.4	27.6	-66.34	249.1	390.1	446.6	412.0	34.55	12.925	
7,100.0	6,982.6	7,182.9	6,983.1	22.3	27.7	-69.90	248.9	389.9	436.0	400.2	35.74	12.199	
7,150.0	7,023.4	7,224.3	7,024.5	22.2	27.7	-73.77	248.7	389.6	425.6	388.5	37.09	11.473	
7,200.0	7,062.2	7,263.6	7,063.8	22.1	27.8	-77.85	248.6	389.5	416.1	377.6	38.52	10.802	
7,250.0	7,098.6	7,300.4	7,100.6	22.0	27.8	-81.96	248.4	389.4	408.3	368.4	39.89	10.235	
7,300.0	7,132.5	7,334.5	7,134.7	21.9	27.8	-85.94	248.3	389.4	402.9	361.8	41.09	9.805	
7,350.0	7,163.8	7,365.9	7,166.1	21.8	27.9	-89.60	248.2	389.5	400.8	358.7	42.06	9.528	
7,352.8	7,165.5	7,367.6	7,167.8	21.8	27.9	-89.80	248.2	389.5	400.8	358.7	42.11	9.517	CC, ES
7,400.0	7,192.2	7,394.4	7,194.6	21.7	27.9	-92.80	248.1	389.5	402.7	359.9	42.79	9.411	SF
7,450.0	7,217.8	7,419.9	7,220.1	21.6	27.9	-95.41	248.1	389.6	409.0	365.7	43.29	9.449	
7,500.0	7,240.3	7,442.2	7,242.4	21.6	27.9	-97.30	248.0	389.7	420.2	376.6	43.64	9.630	
7,550.0	7,259.6	7,461.3	7,261.5	21.6	28.0	-98.42	248.0	389.7	436.3	392.4	43.91	9.937	
7,600.0	7,275.7	7,477.0	7,277.2	21.6	28.0	-98.69	248.0	389.8	457.1	413.0	44.18	10.348	
7,650.0	7,288.4	7,489.3	7,289.5	21.8	28.0	-98.05	247.9	389.9	482.3	437.8	44.50	10.838	
7,700.0	7,297.7	7,498.2	7,298.4	22.0	28.0	-96.46	247.9	389.9	511.2	466.3	44.89	11.387	
7,750.0	7,303.6	7,503.7	7,303.9	22.4	28.0	-93.87	247.9	390.0	543.4	498.1	45.35	11.983	
7,800.0	7,305.9	7,505.7	7,305.9	22.9	28.0	-90.26	247.9	390.0	578.3	532.5	45.80	12.626	
7,809.2	7,306.0	7,505.7	7,305.9	23.0	28.0	-89.49	247.9	390.0	585.0	539.1	45.88	12.750	
7,900.0	7,306.0	7,505.0	7,305.2	24.3	28.0	-89.38	247.9	390.0	654.0	606.8	47.25	13.840	
8,000.0	7,306.0	7,505.0	7,305.2	26.0	28.0	-89.38	247.9	390.0	735.6	686.6	48.98	15.017	
8,100.0	7,306.0	7,505.0	7,305.2	27.9	28.0	-89.38	247.9	390.0	821.2	770.3	50.89	16.138	
8,200.0	7,306.0	7,503.2	7,303.3	30.0	28.0	-89.12	247.9	390.0	909.8	856.9	52.91	17.194	
8,300.0	7,306.0	7,502.5	7,302.7	32.2	28.0	-89.03	247.9	390.0	1,000.5	945.4	55.07	18.169	
8,400.0	7,306.0	7,501.9	7,302.1	34.4	28.0	-88.94	247.9	390.0	1,092.8	1,035.5	57.31	19.068	

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-404
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-404	**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 #2	**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
8,500.0	7,306.0	7,501.2	7,301.4	36.8	28.0	-88.85	247.9	390.0	1,186.4	1,126.8	59.64	19.894	
8,600.0	7,306.0	7,500.6	7,300.8	39.2	28.0	-88.76	247.9	390.0	1,281.0	1,219.0	62.02	20.653	
8,700.0	7,306.0	7,500.0	7,300.2	41.7	28.0	-88.67	247.9	390.0	1,376.3	1,311.9	64.46	21.351	
8,800.0	7,306.0	7,499.4	7,299.6	44.1	28.0	-88.58	247.9	389.9	1,472.3	1,405.3	66.94	21.992	
8,900.0	7,306.0	7,498.8	7,299.0	46.7	28.0	-88.49	247.9	389.9	1,568.7	1,499.3	69.46	22.584	
9,000.0	7,306.0	7,498.2	7,298.3	49.2	28.0	-88.41	247.9	389.9	1,665.6	1,593.6	72.01	23.130	
9,100.0	7,306.0	7,497.6	7,297.7	51.8	28.0	-88.32	247.9	389.9	1,762.8	1,688.2	74.58	23.636	
9,200.0	7,306.0	7,497.0	7,297.2	54.4	28.0	-88.24	247.9	389.9	1,860.3	1,783.1	77.18	24.104	
9,300.0	7,306.0	7,496.4	7,296.6	57.1	28.0	-88.15	247.9	389.9	1,958.1	1,878.3	79.79	24.539	
9,400.0	7,306.0	7,495.8	7,296.0	59.7	28.0	-88.07	247.9	389.9	2,056.1	1,973.6	82.42	24.945	
9,500.0	7,306.0	7,495.2	7,295.4	62.4	28.0	-87.99	247.9	389.9	2,154.2	2,069.2	85.07	25.323	
9,600.0	7,306.0	7,494.6	7,294.8	65.0	28.0	-87.90	247.9	389.9	2,252.6	2,164.8	87.73	25.677	
9,700.0	7,306.0	7,494.1	7,294.3	67.7	28.0	-87.82	247.9	389.9	2,351.0	2,260.6	90.40	26.008	
9,800.0	7,306.0	7,493.5	7,293.7	70.4	28.0	-87.74	247.9	389.9	2,449.6	2,356.5	93.08	26.318	
9,900.0	7,306.0	7,492.9	7,293.1	73.1	28.0	-87.66	247.9	389.9	2,548.3	2,452.6	95.76	26.611	
10,000.0	7,306.0	7,492.4	7,292.6	75.8	28.0	-87.58	247.9	389.9	2,647.1	2,548.7	98.46	26.886	
10,100.0	7,306.0	7,491.8	7,292.0	78.5	28.0	-87.50	247.9	389.9	2,746.0	2,644.8	101.16	27.145	
10,200.0	7,306.0	7,491.3	7,291.5	81.2	28.0	-87.43	247.9	389.9	2,845.0	2,741.1	103.87	27.390	
10,300.0	7,306.0	7,490.7	7,290.9	84.0	28.0	-87.35	247.9	389.9	2,944.0	2,837.4	106.58	27.622	
10,400.0	7,306.0	7,490.2	7,290.4	86.7	28.0	-87.27	247.9	389.9	3,043.1	2,933.8	109.30	27.842	
10,500.0	7,306.0	7,489.7	7,289.8	89.4	28.0	-87.19	247.9	389.9	3,142.2	3,030.2	112.02	28.051	
10,600.0	7,306.0	7,489.1	7,289.3	92.2	28.0	-87.12	247.9	389.9	3,241.4	3,126.7	114.75	28.249	
10,700.0	7,306.0	7,488.6	7,288.8	94.9	28.0	-87.04	247.9	389.9	3,340.7	3,223.2	117.47	28.438	
10,800.0	7,306.0	7,488.1	7,288.3	97.6	28.0	-86.97	247.9	389.9	3,440.0	3,319.8	120.21	28.617	
10,900.0	7,306.0	7,487.6	7,287.7	100.4	28.0	-86.90	247.9	389.9	3,539.3	3,416.4	122.94	28.788	
11,000.0	7,306.0	7,487.0	7,287.2	103.2	28.0	-86.82	247.9	389.9	3,638.7	3,513.0	125.68	28.952	
11,100.0	7,306.0	7,486.5	7,286.7	105.9	28.0	-86.75	247.9	389.9	3,738.1	3,609.7	128.42	29.108	
11,200.0	7,306.0	7,486.0	7,286.2	108.7	28.0	-86.68	247.9	389.9	3,837.5	3,706.4	131.16	29.258	
11,300.0	7,306.0	7,485.5	7,285.7	111.4	28.0	-86.61	247.9	389.9	3,937.0	3,803.1	133.91	29.401	
11,400.0	7,306.0	7,485.0	7,285.2	114.2	28.0	-86.53	247.9	389.9	4,036.5	3,899.8	136.66	29.538	
11,500.0	7,306.0	7,484.5	7,284.7	117.0	28.0	-86.46	247.9	389.9	4,136.0	3,996.6	139.40	29.669	
11,600.0	7,306.0	7,484.0	7,284.2	119.7	28.0	-86.39	247.9	389.9	4,235.6	4,093.4	142.15	29.796	
11,700.0	7,306.0	7,483.5	7,283.7	122.5	28.0	-86.32	247.9	389.9	4,335.1	4,190.2	144.90	29.917	
11,800.0	7,306.0	7,483.1	7,283.2	125.3	28.0	-86.26	247.9	389.8	4,434.7	4,287.0	147.66	30.034	
11,900.0	7,306.0	7,482.6	7,282.8	128.0	28.0	-86.19	247.9	389.8	4,534.3	4,383.9	150.41	30.147	
12,000.0	7,306.0	7,482.1	7,282.3	130.8	28.0	-86.12	247.9	389.8	4,633.9	4,480.7	153.16	30.255	
12,100.0	7,306.0	7,481.6	7,281.8	133.6	28.0	-86.05	247.9	389.8	4,733.5	4,577.6	155.92	30.359	
12,200.0	7,306.0	7,481.2	7,281.3	136.4	28.0	-85.99	248.0	389.8	4,833.2	4,674.5	158.67	30.460	
12,300.0	7,306.0	7,480.7	7,280.9	139.1	28.0	-85.92	248.0	389.8	4,932.8	4,771.4	161.43	30.557	
12,400.0	7,306.0	7,480.2	7,280.4	141.9	28.0	-85.85	248.0	389.8	5,032.5	4,868.3	164.19	30.651	
12,500.0	7,306.0	7,479.8	7,280.0	144.7	28.0	-85.79	248.0	389.8	5,132.2	4,965.3	166.94	30.742	
12,600.0	7,306.0	7,479.3	7,279.5	147.5	28.0	-85.72	248.0	389.8	5,231.9	5,062.2	169.70	30.830	
12,700.0	7,306.0	7,478.9	7,279.1	150.3	28.0	-85.66	248.0	389.8	5,331.6	5,159.1	172.46	30.915	
12,800.0	7,306.0	7,478.4	7,278.6	153.0	28.0	-85.59	248.0	389.8	5,431.3	5,256.1	175.22	30.997	
12,900.0	7,306.0	7,478.0	7,278.2	155.8	28.0	-85.53	248.0	389.8	5,531.1	5,353.1	177.98	31.077	
13,000.0	7,306.0	7,477.5	7,277.7	158.6	28.0	-85.47	248.0	389.8	5,630.8	5,450.1	180.74	31.155	
13,100.0	7,306.0	7,477.1	7,277.3	161.4	28.0	-85.41	248.0	389.8	5,730.5	5,547.1	183.50	31.230	
13,200.0	7,306.0	7,476.6	7,276.8	164.2	28.0	-85.34	248.0	389.8	5,830.3	5,644.0	186.26	31.302	
13,300.0	7,306.0	7,476.2	7,276.4	167.0	28.0	-85.28	248.0	389.8	5,930.1	5,741.1	189.02	31.373	
13,400.0	7,306.0	7,475.8	7,276.0	169.8	28.0	-85.22	248.0	389.8	6,029.8	5,838.1	191.78	31.442	
13,500.0	7,306.0	7,475.4	7,275.5	172.6	28.0	-85.16	248.0	389.8	6,129.6	5,935.1	194.54	31.509	
13,600.0	7,306.0	7,474.9	7,275.1	175.3	28.0	-85.10	248.0	389.8	6,229.4	6,032.1	197.30	31.574	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,474.5	7,274.7	178.1	28.0	-85.04	248.0	389.8	6,329.2	6,129.1	200.06	31.637	
13,800.0	7,306.0	7,474.1	7,274.3	180.9	28.0	-84.98	248.0	389.8	6,429.0	6,226.2	202.82	31.698	
13,900.0	7,306.0	7,473.7	7,273.9	183.7	28.0	-84.92	248.0	389.8	6,528.8	6,323.2	205.58	31.758	
14,000.0	7,306.0	7,473.3	7,273.5	186.5	28.0	-84.86	248.0	389.8	6,628.6	6,420.3	208.34	31.816	
14,100.0	7,306.0	7,472.9	7,273.0	189.3	28.0	-84.81	248.0	389.8	6,728.4	6,517.3	211.10	31.873	
14,200.0	7,306.0	7,472.4	7,272.6	192.1	28.0	-84.75	248.0	389.8	6,828.3	6,614.4	213.86	31.928	
14,300.0	7,306.0	7,472.0	7,272.2	194.9	28.0	-84.69	248.0	389.8	6,928.1	6,711.5	216.62	31.982	
14,363.6	7,306.0	7,471.8	7,272.0	196.7	28.0	-84.65	248.0	389.8	6,991.5	6,773.2	218.38	32.016	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-143.66	-742.1	-545.9	921.2				
100.0	100.0	103.5	103.5	0.1	0.1	-143.66	-742.0	-546.0	921.2	921.0	0.20	4,497.819	
200.0	200.0	203.4	203.4	0.3	0.2	-143.64	-741.9	-546.1	921.3	920.7	0.53	1,726.625	
300.0	300.0	303.4	303.4	0.5	0.3	-143.62	-741.8	-546.4	921.3	920.4	0.86	1,068.386	
400.0	400.0	403.4	403.4	0.8	0.4	-143.60	-741.5	-546.7	921.3	920.1	1.19	773.512	
500.0	500.0	503.3	503.3	1.0	0.5	-143.56	-741.2	-547.2	921.3	919.8	1.52	606.207	
600.0	600.0	603.3	603.3	1.2	0.6	-143.52	-740.8	-547.8	921.3	919.5	1.85	498.411	
700.0	700.0	703.3	703.3	1.4	0.7	-143.47	-740.3	-548.4	921.3	919.2	2.18	423.169	
800.0	800.0	803.9	803.9	1.7	1.0	170.26	-739.7	-549.3	923.0	920.4	2.62	351.695	
900.0	899.8	902.4	902.4	1.9	1.2	170.37	-739.0	-550.2	928.2	925.2	3.06	303.726	
1,000.0	999.5	998.5	998.5	2.1	1.4	170.51	-738.4	-551.5	937.1	933.6	3.49	268.892	
1,100.0	1,098.7	1,102.9	1,102.9	2.4	1.6	170.68	-738.0	-553.0	949.7	945.8	3.92	242.031	
1,200.0	1,197.5	1,272.3	1,272.1	2.7	1.9	170.90	-733.3	-549.4	961.9	957.4	4.46	215.767	
1,299.9	1,295.5	1,413.7	1,412.8	3.0	2.2	171.03	-723.4	-539.8	971.1	966.1	4.96	195.717	
1,300.0	1,295.6	1,413.9	1,413.0	3.0	2.2	171.03	-723.4	-539.8	971.1	966.1	4.96	195.692	
1,400.0	1,393.4	1,572.7	1,570.1	3.4	2.7	171.37	-704.5	-526.2	977.1	971.6	5.55	176.192	
1,500.0	1,491.3	1,700.6	1,695.6	3.7	3.1	171.61	-684.8	-511.2	978.3	972.2	6.08	160.850	
1,600.0	1,589.1	1,832.3	1,824.0	4.1	3.6	171.83	-662.0	-493.0	976.7	970.0	6.64	147.027	
1,700.0	1,686.9	1,918.6	1,908.0	4.5	3.9	171.98	-646.4	-480.7	974.2	967.1	7.10	137.155	
1,800.0	1,784.7	2,029.6	2,016.1	5.0	4.3	172.06	-627.7	-463.6	971.9	964.3	7.62	127.519	
1,900.0	1,882.5	2,141.0	2,124.0	5.4	4.8	172.20	-606.9	-446.2	968.0	959.9	8.16	118.661	
2,000.0	1,980.3	2,236.8	2,217.0	5.8	5.2	172.34	-588.9	-431.4	964.2	955.6	8.66	111.382	
2,100.0	2,078.1	2,340.3	2,317.4	6.2	5.7	172.47	-569.8	-415.1	960.5	951.3	9.18	104.651	
2,200.0	2,176.0	2,442.0	2,415.9	6.7	6.1	172.56	-550.9	-398.4	956.2	946.5	9.70	98.568	
2,300.0	2,273.8	2,561.8	2,531.7	7.1	6.7	172.62	-528.6	-377.5	951.3	941.1	10.28	92.572	
2,400.0	2,371.6	2,661.0	2,627.3	7.5	7.2	172.62	-509.5	-358.7	944.8	934.0	10.81	87.407	
2,500.0	2,469.4	2,754.0	2,717.0	8.0	7.6	172.69	-491.5	-342.3	939.2	927.9	11.32	82.962	
2,600.0	2,567.2	2,830.1	2,790.9	8.4	7.9	172.77	-477.5	-330.2	935.3	923.5	11.78	79.375	
2,700.0	2,665.0	2,940.0	2,897.6	8.8	8.5	172.91	-457.6	-313.2	932.0	919.6	12.33	75.556	
2,800.0	2,762.9	3,034.0	2,988.8	9.3	8.9	173.01	-440.5	-298.3	928.4	915.6	12.85	72.260	
2,900.0	2,860.7	3,112.0	3,064.8	9.7	9.2	173.12	-427.1	-286.9	926.4	913.1	13.31	69.577	
3,000.0	2,958.5	3,216.3	3,166.6	10.2	9.7	173.30	-409.4	-272.8	925.3	911.5	13.85	66.821	
3,064.6	3,021.7	3,267.1	3,216.2	10.5	9.9	173.38	-400.9	-265.9	924.8	910.7	14.15	65.362	
3,100.0	3,056.3	3,294.2	3,242.8	10.6	10.0	173.41	-396.9	-262.2	925.0	910.6	14.31	64.627	
3,200.0	3,154.1	3,380.8	3,327.8	11.1	10.3	173.44	-385.3	-250.6	926.7	911.9	14.79	62.640	
3,300.0	3,251.9	3,477.6	3,422.9	11.5	10.7	173.43	-373.4	-237.5	929.3	914.0	15.30	60.741	
3,400.0	3,349.8	3,587.6	3,531.0	12.0	11.1	173.33	-360.5	-221.2	931.6	915.7	15.84	58.798	
3,500.0	3,447.6	3,680.9	3,622.5	12.4	11.5	173.15	-350.3	-206.1	933.5	917.1	16.35	57.089	
3,600.0	3,545.4	3,778.0	3,717.9	12.8	11.9	173.05	-339.3	-191.7	936.0	919.1	16.87	55.498	
3,700.0	3,643.2	3,896.5	3,834.2	13.3	12.3	173.11	-323.3	-176.0	937.8	920.4	17.43	53.799	
3,800.0	3,741.0	4,005.2	3,940.5	13.7	12.8	173.25	-305.9	-161.2	937.4	919.4	17.97	52.150	
3,816.8	3,757.5	4,019.5	3,954.5	13.8	12.8	173.27	-303.7	-159.3	937.4	919.3	18.06	51.914	
3,900.0	3,838.8	4,092.2	4,025.7	14.2	13.1	173.38	-292.5	-149.9	937.9	919.4	18.46	50.803	
4,000.0	3,936.6	4,187.3	4,119.0	14.6	13.5	173.49	-278.8	-137.9	939.4	920.5	18.97	49.535	
4,100.0	4,034.5	4,293.5	4,223.2	15.1	13.9	173.62	-263.3	-124.5	940.8	921.3	19.50	48.254	
4,200.0	4,132.3	4,390.6	4,318.4	15.5	14.3	173.70	-249.1	-111.5	941.7	921.7	20.01	47.064	
4,300.0	4,230.1	4,478.1	4,404.3	16.0	14.7	173.78	-236.9	-100.4	943.6	923.1	20.49	46.044	
4,400.0	4,327.9	4,555.4	4,480.5	16.4	15.0	173.85	-227.1	-91.4	947.2	926.2	20.95	45.215	
4,500.0	4,425.7	4,617.0	4,541.5	16.9	15.2	173.94	-220.5	-85.7	953.9	932.6	21.36	44.655	
4,600.0	4,523.5	4,710.0	4,633.8	17.3	15.4	174.07	-212.0	-78.8	963.0	941.1	21.84	44.099	
4,700.0	4,621.4	4,785.8	4,709.2	17.8	15.6	174.18	-206.3	-74.1	974.0	951.7	22.27	43.741	
4,800.0	4,719.2	4,867.2	4,790.4	18.2	15.8	174.29	-201.4	-70.2	987.1	964.4	22.71	43.473	

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-404
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-404	**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 #2	**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
4,900.0	4,817.0	4,944.6	4,867.7	18.7	16.0	174.37	-198.1	-67.1	1,002.0	978.9	23.13	43.319	
5,000.0	4,914.8	5,021.9	4,944.9	19.1	16.1	174.44	-196.2	-65.0	1,019.2	995.6	23.55	43.275	
5,100.0	5,012.6	5,106.2	5,029.2	19.6	16.2	174.53	-195.1	-64.0	1,038.1	1,014.1	23.98	43.289	
5,200.0	5,110.4	5,199.6	5,122.6	20.0	16.4	174.64	-194.4	-63.4	1,057.8	1,033.4	24.42	43.313	
5,221.3	5,131.3	5,220.0	5,143.0	20.1	16.4	174.66	-194.2	-63.3	1,062.0	1,037.5	24.52	43.319	
5,300.0	5,208.5	5,295.4	5,218.4	20.4	16.5	174.77	-193.8	-63.0	1,076.7	1,051.9	24.85	43.322	
5,400.0	5,307.1	5,392.1	5,315.1	20.7	16.6	174.89	-193.2	-62.9	1,092.6	1,067.3	25.23	43.304	
5,500.0	5,406.3	5,489.7	5,412.7	21.0	16.8	174.98	-192.8	-63.0	1,105.1	1,079.5	25.57	43.212	
5,600.0	5,505.8	5,586.7	5,509.7	21.2	16.9	175.06	-192.3	-63.2	1,114.3	1,088.5	25.88	43.057	
5,700.0	5,605.6	5,682.5	5,605.5	21.4	17.0	175.11	-192.3	-63.4	1,120.4	1,094.3	26.15	42.846	
5,800.0	5,705.6	5,779.6	5,702.6	21.5	17.2	175.12	-192.7	-63.7	1,123.4	1,097.0	26.39	42.574	
5,821.2	5,726.8	5,800.4	5,723.4	21.5	17.2	-138.53	-192.8	-63.7	1,123.6	1,084.9	38.65	29.068	
5,900.0	5,805.6	5,877.9	5,800.9	21.6	17.3	-138.54	-193.4	-63.9	1,124.1	1,085.3	38.85	28.938	
6,000.0	5,905.6	5,977.9	5,900.8	21.7	17.4	-138.55	-194.2	-64.1	1,124.9	1,085.8	39.10	28.768	
6,100.0	6,005.6	6,079.0	6,002.0	21.9	17.6	-138.57	-194.9	-64.3	1,125.6	1,086.2	39.36	28.595	
6,200.0	6,105.6	6,179.0	6,102.0	22.0	17.7	-138.59	-195.6	-64.5	1,126.2	1,086.6	39.62	28.422	
6,300.0	6,205.6	6,278.6	6,201.6	22.1	17.8	-138.59	-196.0	-65.0	1,126.8	1,086.9	39.89	28.250	
6,400.0	6,305.6	6,380.8	6,303.7	22.3	18.0	-138.58	-196.4	-65.5	1,127.4	1,087.2	40.16	28.072	
6,500.0	6,405.6	6,483.3	6,406.3	22.4	18.1	-138.56	-196.5	-65.9	1,127.8	1,087.3	40.44	27.889	
6,600.0	6,505.6	6,580.9	6,503.9	22.5	18.2	-138.55	-196.6	-66.3	1,128.1	1,087.4	40.71	27.709	
6,684.2	6,589.8	6,663.1	6,586.0	22.6	18.4	-138.54	-196.8	-66.8	1,128.6	1,087.6	40.95	27.563	
6,700.0	6,605.6	6,678.6	6,601.6	22.7	18.4	-48.55	-196.8	-66.9	1,128.6	1,098.9	29.72	37.976	
6,750.0	6,655.5	6,727.9	6,650.9	22.7	18.5	-48.74	-197.0	-67.2	1,127.0	1,097.3	29.70	37.948	
6,800.0	6,705.1	6,776.9	6,699.9	22.7	18.5	-49.20	-197.2	-67.5	1,123.3	1,093.6	29.64	37.890	
6,850.0	6,754.1	6,825.4	6,748.3	22.7	18.6	-49.94	-197.5	-67.8	1,117.2	1,087.7	29.57	37.785	
6,900.0	6,802.3	6,873.6	6,796.5	22.7	18.7	-50.95	-197.7	-68.2	1,109.1	1,079.6	29.49	37.606	
6,950.0	6,849.5	6,921.3	6,844.3	22.6	18.7	-52.26	-198.0	-68.5	1,098.9	1,069.5	29.45	37.320	
7,000.0	6,895.5	6,967.8	6,890.8	22.5	18.8	-53.85	-198.2	-68.7	1,086.8	1,057.3	29.46	36.893	
7,050.0	6,939.9	7,012.8	6,935.7	22.4	18.9	-55.72	-198.5	-69.0	1,072.9	1,043.4	29.56	36.295	
7,100.0	6,982.6	7,056.2	6,979.2	22.3	18.9	-57.87	-198.7	-69.2	1,057.5	1,027.7	29.79	35.503	
7,150.0	7,023.4	7,097.9	7,020.9	22.2	19.0	-60.28	-198.9	-69.3	1,040.8	1,010.6	30.16	34.513	
7,200.0	7,062.2	7,137.4	7,060.4	22.1	19.0	-62.93	-199.1	-69.4	1,023.0	992.3	30.67	33.349	
7,250.0	7,098.6	7,174.5	7,097.4	22.0	19.1	-65.77	-199.3	-69.5	1,004.4	973.1	31.33	32.056	
7,300.0	7,132.5	7,209.0	7,131.9	21.9	19.1	-68.74	-199.4	-69.5	985.4	953.3	32.10	30.692	
7,350.0	7,163.8	7,240.6	7,163.6	21.8	19.2	-71.78	-199.6	-69.4	966.2	933.3	32.96	29.319	
7,400.0	7,192.2	7,269.4	7,192.4	21.7	19.2	-74.81	-199.7	-69.4	947.4	913.5	33.84	27.994	
7,450.0	7,217.8	7,295.2	7,218.2	21.6	19.3	-77.74	-199.9	-69.3	929.2	894.5	34.73	26.757	
7,500.0	7,240.3	7,317.8	7,240.8	21.6	19.3	-80.50	-200.0	-69.3	912.0	876.4	35.58	25.634	
7,550.0	7,259.6	7,337.2	7,260.1	21.6	19.3	-82.99	-200.1	-69.2	896.3	859.9	36.39	24.633	
7,600.0	7,275.7	7,353.2	7,276.2	21.6	19.4	-85.16	-200.2	-69.1	882.3	845.2	37.14	23.753	
7,650.0	7,288.4	7,365.8	7,288.8	21.8	19.4	-86.95	-200.2	-69.1	870.5	832.6	37.87	22.987	
7,700.0	7,297.7	7,375.0	7,297.9	22.0	19.4	-88.33	-200.3	-69.0	861.1	822.5	38.57	22.324	
7,750.0	7,303.6	7,380.6	7,303.6	22.4	19.4	-89.25	-200.3	-69.0	854.3	815.0	39.27	21.755	
7,800.0	7,305.9	7,382.8	7,305.8	22.9	19.4	-89.71	-200.3	-69.0	850.4	810.4	39.97	21.273	
7,809.2	7,306.0	7,382.8	7,305.8	23.0	19.4	-89.75	-200.3	-69.0	849.9	809.8	40.11	21.193	
7,842.4	7,306.0	7,382.7	7,305.6	23.5	19.4	-89.74	-200.3	-69.0	849.3	808.7	40.61	20.914	CC, ES
7,900.0	7,306.0	7,382.4	7,305.3	24.3	19.4	-89.72	-200.3	-69.0	851.3	809.8	41.49	20.519	
8,000.0	7,306.0	7,381.9	7,304.9	26.0	19.4	-89.69	-200.3	-69.0	863.8	820.6	43.21	19.990	
8,100.0	7,306.0	7,381.4	7,304.4	27.9	19.4	-89.66	-200.3	-69.0	887.5	842.4	45.11	19.673	
8,200.0	7,306.0	7,381.0	7,303.9	30.0	19.4	-89.62	-200.3	-69.0	921.5	874.3	47.16	19.541	SF
8,300.0	7,306.0	7,380.5	7,303.5	32.2	19.4	-89.59	-200.3	-69.0	964.7	915.4	49.32	19.562	
8,400.0	7,306.0	7,380.0	7,303.0	34.4	19.4	-89.56	-200.3	-69.0	1,016.0	964.4	51.57	19.701	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
8,500.0	7,306.0	7,379.6	7,302.5	36.8	19.4	-89.53	-200.3	-69.0	1,074.1	1,020.2	53.90	19.928	
8,600.0	7,306.0	7,379.1	7,302.1	39.2	19.4	-89.50	-200.3	-69.0	1,138.1	1,081.8	56.29	20.217	
8,700.0	7,306.0	7,378.7	7,301.6	41.7	19.4	-89.47	-200.3	-69.0	1,207.0	1,148.2	58.74	20.549	
8,800.0	7,306.0	7,378.2	7,301.2	44.1	19.4	-89.44	-200.3	-69.0	1,279.9	1,218.7	61.22	20.906	
8,900.0	7,306.0	7,377.8	7,300.7	46.7	19.4	-89.41	-200.3	-69.0	1,356.4	1,292.6	63.75	21.277	
9,000.0	7,306.0	7,377.3	7,300.3	49.2	19.4	-89.38	-200.3	-69.0	1,435.7	1,369.4	66.30	21.654	
9,100.0	7,306.0	7,376.9	7,299.8	51.8	19.4	-89.35	-200.3	-69.0	1,517.5	1,448.6	68.88	22.030	
9,200.0	7,306.0	7,376.4	7,299.4	54.4	19.4	-89.32	-200.3	-69.0	1,601.3	1,529.9	71.49	22.401	
9,300.0	7,306.0	7,376.0	7,298.9	57.1	19.4	-89.29	-200.3	-69.0	1,687.0	1,612.8	74.11	22.763	
9,400.0	7,306.0	7,375.5	7,298.5	59.7	19.4	-89.26	-200.3	-69.0	1,774.1	1,697.3	76.75	23.116	
9,500.0	7,306.0	7,375.1	7,298.0	62.4	19.4	-89.23	-200.3	-69.0	1,862.5	1,783.1	79.40	23.457	
9,600.0	7,306.0	7,374.6	7,297.6	65.0	19.4	-89.20	-200.3	-69.0	1,952.0	1,869.9	82.07	23.786	
9,700.0	7,306.0	7,374.2	7,297.2	67.7	19.4	-89.17	-200.2	-69.1	2,042.5	1,957.8	84.74	24.102	
9,800.0	7,306.0	7,373.8	7,296.7	70.4	19.4	-89.14	-200.2	-69.1	2,133.9	2,046.4	87.43	24.406	
9,900.0	7,306.0	7,373.3	7,296.3	73.1	19.4	-89.11	-200.2	-69.1	2,226.0	2,135.8	90.13	24.698	
10,000.0	7,306.0	7,372.9	7,295.9	75.8	19.4	-89.08	-200.2	-69.1	2,318.7	2,225.9	92.83	24.977	
10,100.0	7,306.0	7,372.5	7,295.4	78.5	19.4	-89.05	-200.2	-69.1	2,412.0	2,316.5	95.54	25.245	
10,200.0	7,306.0	7,372.0	7,295.0	81.2	19.4	-89.02	-200.2	-69.1	2,505.9	2,407.6	98.26	25.502	
10,300.0	7,306.0	7,371.6	7,294.6	84.0	19.4	-88.99	-200.2	-69.1	2,600.2	2,499.2	100.98	25.748	
10,400.0	7,306.0	7,371.2	7,294.1	86.7	19.4	-88.96	-200.2	-69.1	2,694.9	2,591.2	103.71	25.984	
10,500.0	7,306.0	7,370.8	7,293.7	89.4	19.4	-88.94	-200.2	-69.1	2,790.0	2,683.5	106.45	26.210	
10,600.0	7,306.0	7,370.3	7,293.3	92.2	19.4	-88.91	-200.2	-69.1	2,885.4	2,776.2	109.18	26.427	
10,700.0	7,306.0	7,369.9	7,292.9	94.9	19.4	-88.88	-200.2	-69.1	2,981.1	2,869.2	111.93	26.635	
10,800.0	7,306.0	7,369.5	7,292.5	97.6	19.4	-88.85	-200.2	-69.1	3,077.1	2,962.4	114.67	26.834	
10,900.0	7,306.0	7,369.1	7,292.1	100.4	19.4	-88.82	-200.2	-69.1	3,173.3	3,055.9	117.42	27.026	
11,000.0	7,306.0	7,368.7	7,291.6	103.2	19.4	-88.80	-200.2	-69.1	3,269.8	3,149.6	120.17	27.210	
11,100.0	7,306.0	7,368.3	7,291.2	105.9	19.4	-88.77	-200.2	-69.1	3,366.4	3,243.5	122.92	27.386	
11,200.0	7,306.0	7,367.9	7,290.8	108.7	19.4	-88.74	-200.2	-69.1	3,463.3	3,337.6	125.68	27.556	
11,300.0	7,306.0	7,367.5	7,290.4	111.4	19.4	-88.71	-200.2	-69.1	3,560.3	3,431.9	128.44	27.720	
11,400.0	7,306.0	7,367.0	7,290.0	114.2	19.4	-88.68	-200.2	-69.1	3,657.5	3,526.3	131.20	27.877	
11,500.0	7,306.0	7,366.6	7,289.6	117.0	19.4	-88.66	-200.2	-69.1	3,754.9	3,620.9	133.96	28.029	
11,600.0	7,306.0	7,366.2	7,289.2	119.7	19.4	-88.63	-200.2	-69.1	3,852.3	3,715.6	136.73	28.175	
11,700.0	7,306.0	7,365.8	7,288.8	122.5	19.4	-88.60	-200.2	-69.1	3,949.9	3,810.4	139.49	28.316	
11,800.0	7,306.0	7,365.4	7,288.4	125.3	19.4	-88.58	-200.2	-69.1	4,047.6	3,905.4	142.26	28.452	
11,900.0	7,306.0	7,365.0	7,288.0	128.0	19.4	-88.55	-200.2	-69.1	4,145.5	4,000.4	145.03	28.583	
12,000.0	7,306.0	7,364.6	7,287.6	130.8	19.4	-88.52	-200.2	-69.1	4,243.4	4,095.6	147.80	28.710	
12,100.0	7,306.0	7,364.3	7,287.2	133.6	19.4	-88.50	-200.2	-69.1	4,341.4	4,190.8	150.58	28.832	
12,200.0	7,306.0	7,363.9	7,286.8	136.4	19.4	-88.47	-200.2	-69.1	4,439.5	4,286.2	153.35	28.950	
12,300.0	7,306.0	7,363.5	7,286.4	139.1	19.4	-88.44	-200.2	-69.1	4,537.7	4,381.6	156.13	29.065	
12,400.0	7,306.0	7,363.1	7,286.0	141.9	19.4	-88.42	-200.2	-69.1	4,636.0	4,477.1	158.90	29.175	
12,500.0	7,306.0	7,362.7	7,285.7	144.7	19.4	-88.39	-200.2	-69.1	4,734.3	4,572.7	161.68	29.283	
12,600.0	7,306.0	7,362.3	7,285.3	147.5	19.4	-88.37	-200.2	-69.1	4,832.7	4,668.3	164.46	29.386	
12,700.0	7,306.0	7,361.9	7,284.9	150.3	19.4	-88.34	-200.2	-69.1	4,931.2	4,764.0	167.23	29.487	
12,800.0	7,306.0	7,361.5	7,284.5	153.0	19.4	-88.31	-200.2	-69.1	5,029.8	4,859.7	170.01	29.584	
12,900.0	7,306.0	7,361.2	7,284.1	155.8	19.4	-88.29	-200.2	-69.1	5,128.3	4,955.6	172.79	29.679	
13,000.0	7,306.0	7,360.8	7,283.7	158.6	19.4	-88.26	-200.2	-69.1	5,227.0	5,051.4	175.58	29.771	
13,100.0	7,306.0	7,360.4	7,283.4	161.4	19.4	-88.24	-200.2	-69.1	5,325.7	5,147.3	178.36	29.860	
13,200.0	7,306.0	7,360.0	7,283.0	164.2	19.4	-88.21	-200.2	-69.1	5,424.4	5,243.3	181.14	29.946	
13,300.0	7,306.0	7,359.7	7,282.6	167.0	19.4	-88.19	-200.2	-69.1	5,523.2	5,339.3	183.92	30.030	
13,400.0	7,306.0	7,359.3	7,282.2	169.8	19.4	-88.16	-200.2	-69.1	5,622.0	5,435.3	186.71	30.112	
13,500.0	7,306.0	7,358.9	7,281.9	172.6	19.4	-88.14	-200.2	-69.1	5,720.9	5,531.4	189.49	30.191	
13,600.0	7,306.0	7,358.5	7,281.5	175.3	19.4	-88.11	-200.2	-69.1	5,819.8	5,627.6	192.27	30.268	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,358.2	7,281.1	178.1	19.4	-88.09	-200.2	-69.1	5,918.8	5,723.7	195.06	30.343	
13,800.0	7,306.0	7,357.8	7,280.8	180.9	19.4	-88.06	-200.2	-69.1	6,017.8	5,819.9	197.84	30.417	
13,900.0	7,306.0	7,357.4	7,280.4	183.7	19.4	-88.04	-200.2	-69.1	6,116.8	5,916.1	200.63	30.488	
14,000.0	7,306.0	7,357.1	7,280.0	186.5	19.4	-88.01	-200.2	-69.1	6,215.8	6,012.4	203.42	30.557	
14,100.0	7,306.0	7,356.7	7,279.7	189.3	19.4	-87.99	-200.2	-69.1	6,314.9	6,108.7	206.20	30.625	
14,200.0	7,306.0	7,356.4	7,279.3	192.1	19.4	-87.96	-200.2	-69.1	6,414.0	6,205.0	208.99	30.690	
14,300.0	7,306.0	7,356.0	7,279.0	194.9	19.4	-87.94	-200.2	-69.1	6,513.1	6,301.4	211.78	30.754	
14,363.6	7,306.0	7,355.8	7,278.7	196.7	19.4	-87.92	-200.2	-69.1	6,576.1	6,362.6	213.55	30.794	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-143.30	-723.1	-538.9	901.9				
100.0	100.0	101.8	101.8	0.1	0.1	-143.30	-723.2	-539.0	902.0	901.8	0.20	4,431.266	
200.0	200.0	200.1	200.1	0.3	0.2	-143.30	-723.4	-539.3	902.3	901.7	0.53	1,699.003	ES
300.0	300.0	298.4	298.4	0.5	0.3	-143.29	-723.7	-539.6	902.7	901.9	0.86	1,051.456	
400.0	400.0	396.7	396.7	0.8	0.4	-143.28	-724.1	-540.2	903.4	902.2	1.19	761.680	
500.0	500.0	495.0	495.0	1.0	0.5	-143.26	-724.6	-540.9	904.2	902.7	1.51	597.431	
600.0	600.0	593.3	593.3	1.2	0.6	-143.24	-725.2	-541.7	905.3	903.4	1.84	491.720	
700.0	700.0	691.6	691.6	1.4	0.7	-143.22	-726.0	-542.7	906.5	904.3	2.17	418.025	
800.0	800.0	791.6	791.6	1.7	0.9	170.46	-726.8	-543.9	909.5	907.0	2.59	351.520	
900.0	899.8	889.7	889.7	1.9	1.1	170.52	-727.6	-545.1	916.1	913.1	3.02	303.359	
1,000.0	999.5	1,014.5	1,014.4	2.1	1.4	170.72	-726.5	-546.5	924.7	921.2	3.49	264.703	
1,100.0	1,098.7	1,113.9	1,113.7	2.4	1.6	171.10	-722.4	-549.3	935.1	931.2	3.92	238.419	
1,200.0	1,197.5	1,196.3	1,195.8	2.7	1.8	171.61	-717.8	-554.8	950.3	945.9	4.34	218.728	
1,299.9	1,295.5	1,281.0	1,279.8	3.0	2.0	172.34	-712.0	-563.8	970.4	965.6	4.79	202.435	
1,300.0	1,295.6	1,281.1	1,279.9	3.0	2.0	172.34	-711.9	-563.8	970.4	965.6	4.79	202.415	
1,400.0	1,393.4	1,359.0	1,356.8	3.4	2.2	173.18	-706.0	-574.5	993.8	988.5	5.26	189.004	
1,500.0	1,491.3	1,432.9	1,429.6	3.7	2.5	174.03	-700.7	-586.5	1,019.4	1,013.7	5.74	177.659	
1,600.0	1,589.1	1,513.2	1,508.2	4.1	2.8	174.98	-695.2	-601.6	1,047.2	1,041.0	6.26	167.269	
1,700.0	1,686.9	1,595.0	1,587.6	4.5	3.1	176.08	-688.2	-619.8	1,076.5	1,069.7	6.82	157.851	
1,800.0	1,784.7	1,672.1	1,662.0	5.0	3.5	177.18	-680.9	-639.0	1,107.3	1,099.9	7.39	149.765	
1,900.0	1,882.5	1,746.8	1,733.5	5.4	3.9	178.28	-673.5	-659.5	1,140.1	1,132.1	7.99	142.768	
2,000.0	1,980.3	1,833.9	1,816.3	5.8	4.4	179.57	-664.4	-684.7	1,174.2	1,165.6	8.66	135.630	
2,100.0	2,078.1	1,918.0	1,896.1	6.2	4.8	-179.21	-655.3	-709.6	1,209.1	1,199.7	9.33	129.638	
2,200.0	2,176.0	1,993.8	1,968.1	6.7	5.3	-178.19	-647.9	-732.0	1,245.2	1,235.3	9.94	125.297	
2,300.0	2,273.8	2,096.0	2,065.3	7.1	5.9	-176.92	-638.8	-762.4	1,282.3	1,271.7	10.66	120.280	
2,400.0	2,371.6	2,175.0	2,140.3	7.5	6.3	-175.96	-631.0	-786.1	1,319.5	1,308.2	11.29	116.905	
2,500.0	2,469.4	2,262.3	2,223.2	8.0	6.8	-174.98	-623.2	-812.3	1,357.7	1,345.7	11.94	113.725	
2,600.0	2,567.2	2,357.8	2,313.9	8.4	7.4	-173.96	-614.7	-840.8	1,396.0	1,383.4	12.62	110.641	
2,700.0	2,665.0	2,482.4	2,432.4	8.8	8.1	-172.70	-602.0	-877.0	1,433.6	1,420.2	13.44	106.692	
2,800.0	2,762.9	2,562.0	2,507.9	9.3	8.6	-171.87	-592.4	-900.4	1,470.6	1,456.5	14.09	104.374	
2,900.0	2,860.7	2,648.0	2,588.9	9.7	9.1	-170.95	-580.8	-926.8	1,508.3	1,493.5	14.81	101.847	
3,000.0	2,958.5	2,750.1	2,684.8	10.2	9.8	-169.85	-565.7	-958.7	1,546.3	1,530.7	15.62	98.968	
3,100.0	3,056.3	2,860.4	2,788.8	10.6	10.5	-168.77	-549.6	-991.6	1,583.5	1,567.1	16.44	96.324	
3,200.0	3,154.1	2,943.4	2,867.4	11.1	11.1	-168.02	-538.0	-1,015.6	1,620.7	1,603.6	17.11	94.707	
3,300.0	3,251.9	3,039.1	2,958.0	11.5	11.7	-167.20	-524.7	-1,043.4	1,658.3	1,640.5	17.85	92.915	
3,400.0	3,349.8	3,142.0	3,055.8	12.0	12.3	-166.39	-510.9	-1,072.3	1,695.6	1,677.0	18.59	91.226	
3,500.0	3,447.6	3,228.1	3,137.9	12.4	12.8	-165.78	-500.2	-1,095.9	1,732.9	1,713.7	19.24	90.049	
3,600.0	3,545.4	3,314.0	3,219.8	12.8	13.3	-165.19	-489.5	-1,119.6	1,770.6	1,750.7	19.91	88.927	
3,700.0	3,643.2	3,390.8	3,292.8	13.3	13.8	-164.68	-480.1	-1,141.2	1,809.0	1,788.5	20.54	88.071	
3,800.0	3,741.0	3,478.2	3,375.9	13.7	14.3	-164.12	-469.6	-1,166.2	1,848.1	1,826.9	21.22	87.080	
3,900.0	3,838.8	3,569.2	3,462.2	14.2	14.9	-163.53	-457.8	-1,192.7	1,887.4	1,865.5	21.93	86.076	
4,000.0	3,936.6	3,713.3	3,599.2	14.6	15.7	-162.66	-438.7	-1,232.9	1,925.9	1,903.0	22.85	84.289	
4,100.0	4,034.5	3,831.4	3,712.9	15.1	16.4	-162.08	-424.6	-1,261.8	1,961.8	1,938.2	23.62	83.048	
4,200.0	4,132.3	3,927.6	3,805.2	15.5	16.9	-161.59	-411.9	-1,285.6	1,997.7	1,973.4	24.32	82.143	
4,300.0	4,230.1	4,014.9	3,888.9	16.0	17.4	-161.14	-399.5	-1,307.3	2,033.5	2,008.5	25.00	81.355	
4,400.0	4,327.9	4,108.9	3,978.8	16.4	18.0	-160.66	-386.2	-1,331.1	2,069.8	2,044.1	25.70	80.548	
4,500.0	4,425.7	4,193.0	4,059.6	16.9	18.4	-160.27	-374.9	-1,351.8	2,105.9	2,079.5	26.34	79.957	
4,600.0	4,523.5	4,259.6	4,123.7	17.3	18.8	-160.02	-367.8	-1,368.3	2,143.1	2,116.2	26.89	79.688	
4,700.0	4,621.4	4,358.3	4,218.8	17.8	19.3	-159.68	-358.1	-1,392.8	2,180.8	2,153.2	27.56	79.119	
4,800.0	4,719.2	4,484.6	4,341.0	18.2	19.9	-159.30	-346.6	-1,422.4	2,217.6	2,189.3	28.31	78.327	
4,900.0	4,817.0	4,621.9	4,474.8	18.7	20.6	-158.99	-336.1	-1,451.3	2,252.9	2,223.9	29.06	77.532	
5,000.0	4,914.8	4,809.9	4,659.8	19.1	21.3	-158.77	-325.3	-1,483.0	2,285.2	2,255.3	29.88	76.483	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,100.0	5,012.6	4,993.8	4,842.2	19.6	21.8	-158.73	-317.9	-1,505.4	2,314.2	2,283.6	30.61	75.616	
5,200.0	5,110.4	5,159.6	5,007.4	20.0	22.2	-158.81	-313.5	-1,518.3	2,339.7	2,308.5	31.22	74.940	
5,221.3	5,131.3	5,198.1	5,045.9	20.1	22.2	-158.85	-313.0	-1,520.3	2,344.7	2,313.4	31.35	74.795	
5,300.0	5,208.5	5,308.4	5,156.1	20.4	22.4	-159.12	-312.3	-1,524.0	2,361.2	2,329.3	31.86	74.103	
5,400.0	5,307.1	5,408.0	5,255.6	20.7	22.5	-159.36	-312.1	-1,526.6	2,378.8	2,346.4	32.38	73.474	
5,500.0	5,406.3	5,504.3	5,351.9	21.0	22.6	-159.54	-312.2	-1,529.0	2,393.2	2,360.4	32.83	72.897	
5,600.0	5,505.8	5,602.0	5,449.6	21.2	22.8	-159.69	-312.7	-1,531.4	2,404.6	2,371.4	33.23	72.360	
5,700.0	5,605.6	5,712.1	5,559.6	21.4	22.9	-159.79	-313.6	-1,533.8	2,412.5	2,378.9	33.59	71.820	
5,800.0	5,705.6	5,815.3	5,662.8	21.5	23.0	-159.84	-314.3	-1,535.7	2,416.8	2,382.9	33.89	71.317	
5,821.2	5,726.8	5,838.2	5,685.7	21.5	23.1	-113.49	-314.4	-1,536.1	2,417.3	2,377.7	39.55	61.123	
5,900.0	5,805.6	5,933.6	5,781.1	21.6	23.2	-113.49	-315.1	-1,537.4	2,418.4	2,378.6	39.78	60.800	
6,000.0	5,905.6	6,041.8	5,889.3	21.7	23.3	-113.51	-315.9	-1,538.1	2,419.4	2,379.3	40.06	60.399	
6,100.0	6,005.6	6,144.9	5,992.4	21.9	23.4	-113.52	-316.8	-1,538.6	2,420.1	2,379.8	40.33	60.008	
6,200.0	6,105.6	6,244.4	6,091.9	22.0	23.5	-113.54	-317.7	-1,539.0	2,420.8	2,380.2	40.60	59.628	
6,300.0	6,205.6	6,342.8	6,190.3	22.1	23.6	-113.55	-318.6	-1,539.3	2,421.5	2,380.7	40.87	59.251	
6,400.0	6,305.6	6,442.2	6,289.7	22.3	23.7	-113.57	-319.6	-1,539.8	2,422.4	2,381.2	41.14	58.875	
6,500.0	6,405.6	6,544.7	6,392.2	22.4	23.8	-113.59	-320.9	-1,540.1	2,423.1	2,381.7	41.43	58.492	
6,600.0	6,505.6	6,645.1	6,492.5	22.5	23.9	-113.62	-322.1	-1,540.3	2,423.8	2,382.1	41.71	58.115	
6,684.2	6,589.8	6,734.5	6,581.9	22.6	24.0	-113.64	-323.0	-1,540.5	2,424.3	2,382.3	41.95	57.789	
6,700.0	6,605.6	6,751.6	6,599.0	22.7	24.0	-23.65	-323.1	-1,540.5	2,424.2	2,387.6	36.63	66.182	
6,750.0	6,655.5	6,797.1	6,644.6	22.7	24.1	-23.75	-323.5	-1,540.6	2,421.8	2,385.2	36.65	66.088	
6,800.0	6,705.1	6,840.6	6,688.0	22.7	24.1	-23.99	-324.0	-1,540.7	2,416.4	2,379.9	36.55	66.116	
6,850.0	6,754.1	6,887.2	6,734.7	22.7	24.2	-24.38	-324.6	-1,540.9	2,407.9	2,371.6	36.35	66.249	
6,900.0	6,802.3	6,934.8	6,782.2	22.7	24.3	-24.91	-325.2	-1,541.1	2,396.4	2,360.3	36.05	66.481	
6,950.0	6,849.5	6,979.8	6,827.2	22.6	24.3	-25.60	-325.8	-1,541.4	2,381.8	2,346.1	35.65	66.807	
7,000.0	6,895.5	7,023.1	6,870.6	22.5	24.4	-26.46	-326.5	-1,541.6	2,364.3	2,329.1	35.18	67.200	
7,050.0	6,939.9	7,063.7	6,911.2	22.4	24.4	-27.51	-327.3	-1,541.8	2,344.1	2,309.4	34.66	67.629	
7,100.0	6,982.6	7,102.0	6,949.4	22.3	24.5	-28.76	-328.0	-1,542.1	2,321.1	2,287.0	34.11	68.041	
7,150.0	7,023.4	7,139.8	6,987.2	22.2	24.5	-30.24	-328.6	-1,542.5	2,295.7	2,262.1	33.59	68.352	
7,200.0	7,062.2	7,180.8	7,028.2	22.1	24.5	-32.06	-329.4	-1,542.9	2,267.7	2,234.6	33.14	68.422	
7,250.0	7,098.6	7,219.4	7,066.8	22.0	24.6	-34.19	-330.0	-1,543.3	2,237.5	2,204.6	32.84	68.140	
7,300.0	7,132.5	7,253.5	7,100.9	21.9	24.6	-36.67	-330.6	-1,543.6	2,205.1	2,172.3	32.73	67.372	
7,350.0	7,163.8	7,284.6	7,131.9	21.8	24.7	-39.56	-331.2	-1,543.9	2,170.7	2,137.8	32.90	65.970	
7,400.0	7,192.2	7,312.9	7,160.2	21.7	24.7	-42.91	-331.7	-1,544.2	2,134.6	2,101.2	33.43	63.850	
7,450.0	7,217.8	7,339.5	7,186.9	21.6	24.7	-46.81	-332.2	-1,544.4	2,097.0	2,062.6	34.37	61.011	
7,500.0	7,240.3	7,363.4	7,210.8	21.6	24.8	-51.29	-332.6	-1,544.6	2,058.0	2,022.3	35.72	57.613	
7,550.0	7,259.6	7,384.0	7,231.4	21.6	24.8	-56.35	-333.0	-1,544.8	2,017.9	1,980.5	37.43	53.912	
7,600.0	7,275.7	7,401.2	7,248.5	21.6	24.8	-61.95	-333.3	-1,544.9	1,976.9	1,937.6	39.39	50.192	
7,650.0	7,288.4	7,414.8	7,262.2	21.8	24.8	-68.02	-333.6	-1,545.0	1,935.3	1,893.9	41.44	46.704	
7,700.0	7,297.7	7,425.0	7,272.3	22.0	24.8	-74.41	-333.7	-1,545.1	1,893.3	1,849.9	43.40	43.623	
7,750.0	7,303.6	7,431.5	7,278.9	22.4	24.9	-80.89	-333.9	-1,545.1	1,851.2	1,806.1	45.12	41.031	
7,800.0	7,305.9	7,434.4	7,281.7	22.9	24.9	-87.25	-333.9	-1,545.1	1,809.1	1,762.6	46.48	38.921	
7,809.2	7,306.0	7,434.5	7,281.8	23.0	24.9	-88.39	-333.9	-1,545.1	1,801.4	1,754.7	46.69	38.581	
7,900.0	7,306.0	7,435.1	7,282.5	24.3	24.9	-88.43	-333.9	-1,545.1	1,726.0	1,677.9	48.08	35.902	
8,000.0	7,306.0	7,435.8	7,283.2	26.0	24.9	-88.47	-333.9	-1,545.1	1,644.8	1,595.0	49.81	33.024	
8,100.0	7,306.0	7,436.5	7,283.8	27.9	24.9	-88.50	-333.9	-1,545.2	1,565.8	1,514.1	51.71	30.278	
8,200.0	7,306.0	7,437.2	7,284.5	30.0	24.9	-88.54	-334.0	-1,545.2	1,489.3	1,435.5	53.76	27.700	
8,300.0	7,306.0	7,437.8	7,285.2	32.2	24.9	-88.58	-334.0	-1,545.2	1,415.7	1,359.8	55.93	25.312	
8,400.0	7,306.0	7,438.5	7,285.9	34.4	24.9	-88.62	-334.0	-1,545.2	1,345.6	1,287.4	58.19	23.124	
8,500.0	7,306.0	7,439.2	7,286.5	36.8	24.9	-88.66	-334.0	-1,545.2	1,279.4	1,218.9	60.53	21.138	
8,600.0	7,306.0	7,439.8	7,287.2	39.2	24.9	-88.70	-334.0	-1,545.2	1,217.9	1,154.9	62.92	19.354	
8,700.0	7,306.0	7,440.5	7,287.8	41.7	24.9	-88.74	-334.0	-1,545.2	1,161.7	1,096.3	65.37	17.769	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	7,441.1	7,288.5	44.1	24.9	-88.77	-334.0	-1,545.2	1,111.6	1,043.8	67.87	16.380	
8,900.0	7,306.0	7,441.8	7,289.1	46.7	24.9	-88.81	-334.0	-1,545.2	1,068.6	998.3	70.40	15.180	
9,000.0	7,306.0	7,442.4	7,289.7	49.2	24.9	-88.85	-334.1	-1,545.2	1,033.6	960.6	72.96	14.167	
9,100.0	7,306.0	7,443.0	7,290.4	51.8	24.9	-88.89	-334.1	-1,545.2	1,007.3	931.7	75.54	13.334	
9,200.0	7,306.0	7,443.6	7,291.0	54.4	24.9	-88.92	-334.1	-1,545.2	990.4	912.2	78.15	12.673	
9,300.0	7,306.0	7,444.3	7,291.6	57.1	24.9	-88.96	-334.1	-1,545.2	983.4	902.6	80.78	12.174	
9,318.6	7,306.0	7,444.4	7,291.7	57.6	24.9	-88.96	-334.1	-1,545.2	983.3	902.0	81.27	12.098	
9,400.0	7,306.0	7,444.9	7,292.2	59.7	24.9	-88.99	-334.1	-1,545.2	986.6	903.2	83.42	11.827	
9,500.0	7,306.0	7,445.5	7,292.8	62.4	24.9	-89.03	-334.1	-1,545.2	999.8	913.8	86.08	11.615	
9,600.0	7,306.0	7,446.1	7,293.5	65.0	24.9	-89.07	-334.1	-1,545.2	1,022.7	934.0	88.76	11.523 SF	
9,700.0	7,306.0	7,446.7	7,294.1	67.7	24.9	-89.10	-334.1	-1,545.2	1,054.6	963.2	91.44	11.534	
9,800.0	7,306.0	7,447.3	7,294.7	70.4	24.9	-89.14	-334.1	-1,545.2	1,094.8	1,000.6	94.13	11.630	
9,900.0	7,306.0	7,447.9	7,295.3	73.1	24.9	-89.17	-334.2	-1,545.2	1,142.3	1,045.4	96.83	11.796	
10,000.0	7,306.0	7,448.5	7,295.8	75.8	24.9	-89.20	-334.2	-1,545.2	1,196.3	1,096.7	99.54	12.018	
10,100.0	7,306.0	7,449.1	7,296.4	78.5	24.9	-89.24	-334.2	-1,545.2	1,255.9	1,153.7	102.26	12.282	
10,200.0	7,306.0	7,449.7	7,297.0	81.2	24.9	-89.27	-334.2	-1,545.2	1,320.5	1,215.5	104.98	12.578	
10,300.0	7,306.0	7,450.2	7,297.6	84.0	24.9	-89.31	-334.2	-1,545.2	1,389.2	1,281.5	107.71	12.897	
10,400.0	7,306.0	7,450.8	7,298.2	86.7	24.9	-89.34	-334.2	-1,545.2	1,461.6	1,351.1	110.45	13.233	
10,500.0	7,306.0	7,451.4	7,298.7	89.4	24.9	-89.37	-334.2	-1,545.2	1,537.0	1,423.8	113.19	13.579	
10,600.0	7,306.0	7,451.9	7,299.3	92.2	24.9	-89.41	-334.2	-1,545.2	1,615.1	1,499.2	115.93	13.932	
10,700.0	7,306.0	7,452.5	7,299.9	94.9	24.9	-89.44	-334.2	-1,545.3	1,695.6	1,576.9	118.68	14.287	
10,800.0	7,306.0	7,453.1	7,300.4	97.6	24.9	-89.47	-334.2	-1,545.3	1,778.0	1,656.6	121.43	14.642	
10,900.0	7,306.0	7,453.6	7,301.0	100.4	24.9	-89.50	-334.3	-1,545.3	1,862.1	1,737.9	124.18	14.995	
11,000.0	7,306.0	7,454.2	7,301.5	103.2	24.9	-89.53	-334.3	-1,545.3	1,947.8	1,820.8	126.94	15.344	
11,100.0	7,306.0	7,454.7	7,302.1	105.9	24.9	-89.57	-334.3	-1,545.3	2,034.7	1,905.0	129.70	15.688	
11,200.0	7,306.0	7,455.3	7,302.6	108.7	24.9	-89.60	-334.3	-1,545.3	2,122.8	1,990.3	132.46	16.025	
11,300.0	7,306.0	7,455.8	7,303.1	111.4	24.9	-89.63	-334.3	-1,545.3	2,211.9	2,076.7	135.23	16.357	
11,400.0	7,306.0	7,456.3	7,303.7	114.2	24.9	-89.66	-334.3	-1,545.3	2,301.9	2,163.9	138.00	16.681	
11,500.0	7,306.0	7,456.9	7,304.2	117.0	24.9	-89.69	-334.3	-1,545.3	2,392.7	2,251.9	140.77	16.998	
11,600.0	7,306.0	7,457.4	7,304.7	119.7	24.9	-89.72	-334.3	-1,545.3	2,484.2	2,340.7	143.54	17.307	
11,700.0	7,306.0	7,457.9	7,305.3	122.5	24.9	-89.75	-334.3	-1,545.3	2,576.4	2,430.0	146.31	17.609	
11,800.0	7,306.0	7,458.4	7,305.8	125.3	24.9	-89.78	-334.3	-1,545.3	2,669.1	2,520.0	149.09	17.903	
11,900.0	7,306.0	7,458.9	7,306.3	128.0	24.9	-89.81	-334.4	-1,545.3	2,762.3	2,610.4	151.86	18.189	
12,000.0	7,306.0	7,459.5	7,306.8	130.8	24.9	-89.84	-334.4	-1,545.3	2,855.9	2,701.3	154.64	18.468	
12,100.0	7,306.0	7,460.0	7,307.3	133.6	24.9	-89.87	-334.4	-1,545.3	2,950.0	2,792.6	157.42	18.740	
12,200.0	7,306.0	7,460.5	7,307.8	136.4	24.9	-89.90	-334.4	-1,545.3	3,044.5	2,884.3	160.20	19.004	
12,300.0	7,306.0	7,461.0	7,308.3	139.1	24.9	-89.93	-334.4	-1,545.3	3,139.3	2,976.3	162.98	19.262	
12,400.0	7,306.0	7,461.5	7,308.8	141.9	24.9	-89.96	-334.4	-1,545.3	3,234.4	3,068.6	165.76	19.512	
12,500.0	7,306.0	7,462.0	7,309.3	144.7	24.9	-89.99	-334.4	-1,545.3	3,329.8	3,161.3	168.55	19.756	
12,600.0	7,306.0	7,462.5	7,309.8	147.5	24.9	-90.02	-334.4	-1,545.3	3,425.5	3,254.2	171.33	19.993	
12,700.0	7,306.0	7,462.9	7,310.3	150.3	24.9	-90.05	-334.4	-1,545.3	3,521.4	3,347.3	174.12	20.224	
12,800.0	7,306.0	7,463.4	7,310.8	153.0	24.9	-90.07	-334.4	-1,545.3	3,617.5	3,440.6	176.90	20.449	
12,900.0	7,306.0	7,463.9	7,311.3	155.8	24.9	-90.10	-334.4	-1,545.3	3,713.9	3,534.2	179.69	20.668	
13,000.0	7,306.0	7,464.4	7,311.7	158.6	24.9	-90.13	-334.5	-1,545.3	3,810.4	3,627.9	182.48	20.881	
13,100.0	7,306.0	7,464.9	7,312.2	161.4	24.9	-90.16	-334.5	-1,545.3	3,907.1	3,721.8	185.27	21.089	
13,200.0	7,306.0	7,465.3	7,312.7	164.2	24.9	-90.19	-334.5	-1,545.3	4,003.9	3,815.9	188.05	21.291	
13,300.0	7,306.0	7,465.8	7,313.2	167.0	24.9	-90.21	-334.5	-1,545.3	4,100.9	3,910.1	190.84	21.488	
13,400.0	7,306.0	7,466.3	7,313.6	169.8	24.9	-90.24	-334.5	-1,545.3	4,198.1	4,004.5	193.64	21.680	
13,500.0	7,306.0	7,466.7	7,314.1	172.6	24.9	-90.27	-334.5	-1,545.3	4,295.4	4,098.9	196.43	21.868	
13,600.0	7,306.0	7,467.2	7,314.5	175.3	24.9	-90.29	-334.5	-1,545.3	4,392.8	4,193.6	199.22	22.050	
13,700.0	7,306.0	7,467.7	7,315.0	178.1	24.9	-90.32	-334.5	-1,545.3	4,490.3	4,288.3	202.01	22.228	
13,800.0	7,306.0	7,468.1	7,315.5	180.9	24.9	-90.35	-334.5	-1,545.3	4,587.9	4,383.1	204.80	22.402	

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-404
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-404	**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 #2	**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
13,900.0	7,306.0	7,468.6	7,315.9	183.7	24.9	-90.37	-334.5	-1,545.3	4,685.6	4,478.0	207.60	22.571	
14,000.0	7,306.0	7,469.0	7,316.4	186.5	24.9	-90.40	-334.5	-1,545.3	4,783.5	4,573.1	210.39	22.736	
14,100.0	7,306.0	7,469.5	7,316.8	189.3	24.9	-90.43	-334.5	-1,545.3	4,881.4	4,668.2	213.18	22.897	
14,200.0	7,306.0	7,469.9	7,317.3	192.1	24.9	-90.45	-334.6	-1,545.3	4,979.4	4,763.4	215.98	23.055	
14,300.0	7,306.0	7,470.4	7,317.7	194.9	24.9	-90.48	-334.6	-1,545.4	5,077.4	4,858.7	218.77	23.209	
14,363.6	7,306.0	7,470.6	7,318.0	196.7	24.9	-90.49	-334.6	-1,545.4	5,139.8	4,919.2	220.55	23.305	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	-136.24	-543.9	-520.8	753.1				
100.0	100.0	88.9	88.9	0.1	0.1	-136.24	-543.8	-520.8	753.0	752.9	0.15	4,868.505	
116.9	116.9	105.5	105.5	0.1	0.1	-136.24	-543.8	-520.8	753.0	752.8	0.21	3,671.182	CC
200.0	200.0	184.1	184.1	0.3	0.1	-136.22	-543.9	-521.1	753.2	752.8	0.47	1,613.434	ES
300.0	300.0	287.2	287.2	0.5	0.2	-136.22	-544.1	-521.5	753.7	752.9	0.78	972.242	
400.0	400.0	381.4	381.4	0.8	0.3	-136.21	-544.4	-521.9	754.2	753.1	1.06	712.013	
500.0	500.0	482.1	482.1	1.0	0.4	-136.20	-545.0	-522.7	755.2	753.8	1.35	559.436	
600.0	600.0	579.5	579.5	1.2	0.4	-136.18	-545.5	-523.5	756.1	754.5	1.63	464.011	
700.0	700.0	681.8	681.7	1.4	0.5	-136.12	-545.8	-524.8	757.3	755.4	1.91	397.442	
800.0	800.0	782.1	782.0	1.7	0.5	177.57	-546.1	-525.8	759.8	757.6	2.20	345.798	
900.0	899.8	877.3	877.3	1.9	0.6	177.58	-546.8	-526.5	766.2	763.7	2.48	308.946	
1,000.0	999.5	976.1	976.0	2.1	0.6	177.61	-547.8	-527.7	776.4	773.7	2.77	280.024	
1,100.0	1,098.7	1,075.4	1,075.3	2.4	0.7	177.63	-548.9	-528.7	790.1	787.0	3.07	257.541	
1,200.0	1,197.5	1,177.0	1,177.0	2.7	0.7	177.68	-549.8	-529.8	807.1	803.7	3.36	240.063	
1,299.9	1,295.5	1,272.0	1,271.9	3.0	0.7	177.76	-550.2	-531.1	827.3	823.6	3.66	225.995	
1,300.0	1,295.6	1,272.1	1,272.1	3.0	0.7	177.76	-550.2	-531.1	827.3	823.6	3.66	225.980	
1,400.0	1,393.4	1,371.8	1,371.7	3.4	0.8	177.84	-550.9	-532.4	849.5	845.6	3.94	215.723	
1,500.0	1,491.3	1,468.8	1,468.7	3.7	0.8	177.93	-551.3	-533.5	871.4	867.2	4.22	206.690	
1,600.0	1,589.1	1,563.7	1,563.6	4.1	0.9	177.99	-552.2	-534.6	893.6	889.1	4.50	198.537	
1,700.0	1,686.9	1,660.2	1,660.1	4.5	0.9	178.07	-553.0	-536.1	916.0	911.2	4.79	191.214	
1,800.0	1,784.7	1,762.9	1,762.8	5.0	0.9	178.15	-553.6	-537.6	938.2	933.1	5.08	184.812	
1,900.0	1,882.5	1,863.2	1,863.1	5.4	1.0	178.25	-553.6	-538.9	959.8	954.4	5.36	179.071	
2,000.0	1,980.3	1,955.6	1,955.4	5.8	1.0	178.33	-553.7	-540.1	981.6	975.9	5.65	173.763	
2,100.0	2,078.1	2,051.0	2,050.8	6.2	1.1	178.40	-554.4	-541.6	1,003.9	998.0	5.95	168.646	
2,200.0	2,176.0	2,152.7	2,152.5	6.7	1.1	178.46	-555.1	-542.9	1,026.1	1,019.8	6.27	163.727	
2,300.0	2,273.8	2,250.7	2,250.5	7.1	1.2	178.50	-555.6	-543.8	1,047.9	1,041.3	6.58	159.311	
2,400.0	2,371.6	2,345.4	2,345.2	7.5	1.2	178.56	-556.1	-545.1	1,069.9	1,063.0	6.88	155.393	
2,500.0	2,469.4	2,441.7	2,441.5	8.0	1.3	178.64	-556.4	-546.7	1,092.1	1,084.9	7.19	151.810	
2,600.0	2,567.2	2,540.4	2,540.2	8.4	1.3	178.70	-556.9	-548.2	1,114.3	1,106.8	7.50	148.482	
2,700.0	2,665.0	2,638.3	2,638.1	8.8	1.4	178.76	-557.5	-549.6	1,136.4	1,128.6	7.81	145.422	
2,800.0	2,762.9	2,735.2	2,735.0	9.3	1.4	178.81	-557.9	-551.0	1,158.6	1,150.4	8.12	142.625	
2,900.0	2,860.7	2,832.8	2,832.5	9.7	1.5	178.88	-558.2	-552.7	1,180.7	1,172.3	8.43	140.053	
3,000.0	2,958.5	2,931.8	2,931.5	10.2	1.5	178.96	-558.3	-554.5	1,202.8	1,194.1	8.74	137.680	
3,100.0	3,056.3	3,030.0	3,029.7	10.6	1.6	179.05	-558.0	-556.5	1,224.8	1,215.8	9.04	135.451	
3,200.0	3,154.1	3,126.2	3,125.9	11.1	1.6	179.13	-557.9	-558.3	1,246.9	1,237.5	9.35	133.392	
3,300.0	3,251.9	3,223.7	3,223.4	11.5	1.6	179.20	-558.1	-560.0	1,269.0	1,259.4	9.65	131.478	
3,400.0	3,349.8	3,326.1	3,325.7	12.0	1.7	179.28	-557.8	-562.0	1,290.9	1,281.0	9.95	129.685	
3,500.0	3,447.6	3,426.7	3,426.3	12.4	1.7	179.39	-556.8	-564.1	1,312.5	1,302.2	10.25	127.986	
3,600.0	3,545.4	3,522.5	3,522.1	12.8	1.8	179.51	-555.6	-566.4	1,334.1	1,323.5	10.55	126.411	
3,700.0	3,643.2	3,619.4	3,619.0	13.3	1.8	179.64	-554.2	-569.0	1,355.8	1,344.9	10.85	124.935	
3,800.0	3,741.0	3,721.8	3,721.3	13.7	1.8	179.78	-552.5	-571.7	1,377.3	1,366.2	11.15	123.517	
3,900.0	3,838.8	3,821.5	3,821.0	14.2	1.9	179.92	-550.4	-574.3	1,398.5	1,387.1	11.45	122.148	
4,000.0	3,936.6	3,912.0	3,911.4	14.6	1.9	-179.96	-548.7	-576.8	1,420.0	1,408.3	11.75	120.889	
4,100.0	4,034.5	4,002.7	4,002.1	15.1	1.9	-179.84	-547.4	-579.6	1,442.0	1,430.0	12.04	119.729	
4,200.0	4,132.3	4,111.0	4,110.2	15.5	2.0	-179.73	-546.1	-582.4	1,463.9	1,451.5	12.35	118.574	
4,300.0	4,230.1	4,217.3	4,216.6	16.0	2.0	-179.65	-544.8	-584.2	1,485.0	1,472.4	12.65	117.427	
4,400.0	4,327.9	4,313.8	4,313.0	16.4	2.0	-179.58	-543.7	-585.5	1,506.0	1,493.0	12.94	116.368	
4,500.0	4,425.7	4,410.6	4,409.8	16.9	2.1	-179.52	-542.6	-586.9	1,527.0	1,513.8	13.24	115.358	
4,600.0	4,523.5	4,511.1	4,510.4	17.3	2.1	-179.47	-541.6	-588.1	1,548.0	1,534.5	13.53	114.379	
4,700.0	4,621.4	4,610.5	4,609.7	17.8	2.1	-179.43	-540.7	-588.9	1,568.8	1,555.0	13.83	113.425	
4,800.0	4,719.2	4,700.0	4,699.2	18.2	2.2	-179.40	-540.2	-589.8	1,589.8	1,575.7	14.13	112.536	
4,900.0	4,817.0	4,789.3	4,788.5	18.7	2.2	-179.36	-539.8	-591.1	1,611.4	1,597.0	14.42	111.717	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
5,000.0	4,914.8	4,895.2	4,894.4	19.1	2.2	-179.32	-539.3	-592.8	1,633.0	1,618.3	14.72	110.905	
5,100.0	5,012.6	5,000.0	4,999.2	19.6	2.3	-179.28	-538.5	-593.9	1,654.0	1,639.0	15.03	110.083	
5,200.0	5,110.4	5,093.8	5,093.0	20.0	2.3	-179.26	-537.8	-594.7	1,675.0	1,659.6	15.32	109.318	
5,221.3	5,131.3	5,113.2	5,112.3	20.1	2.3	-179.25	-537.7	-594.9	1,679.5	1,664.1	15.39	109.163	
5,300.0	5,208.5	5,184.6	5,183.8	20.4	2.3	-179.23	-537.5	-595.7	1,695.2	1,679.7	15.56	108.982	
5,400.0	5,307.1	5,288.3	5,287.4	20.7	2.3	-179.22	-537.3	-596.8	1,712.3	1,696.6	15.72	108.919	
5,500.0	5,406.3	5,395.2	5,394.3	21.0	2.4	-179.22	-537.4	-597.1	1,725.5	1,709.6	15.86	108.765	
5,600.0	5,505.8	5,498.1	5,497.2	21.2	2.3	-179.23	-537.4	-597.0	1,734.8	1,718.9	15.98	108.577	
5,700.0	5,605.6	5,600.0	5,599.2	21.4	2.3	-179.23	-537.1	-596.9	1,740.5	1,724.5	16.08	108.275	
5,800.0	5,705.6	5,689.4	5,688.5	21.5	2.3	-179.23	-537.0	-597.0	1,743.0	1,726.9	16.16	107.831	
5,821.2	5,726.8	5,708.1	5,707.3	21.5	2.3	-132.87	-537.0	-597.1	1,743.2	1,719.6	23.61	73.826	
5,900.0	5,805.6	5,777.8	5,776.9	21.6	2.4	-132.87	-537.4	-597.5	1,743.8	1,720.0	23.71	73.554	
6,000.0	5,905.6	5,879.7	5,878.8	21.7	2.4	-132.87	-538.0	-598.3	1,744.8	1,720.9	23.85	73.147	
6,100.0	6,005.6	5,986.1	5,985.2	21.9	2.4	-132.85	-538.1	-599.2	1,745.5	1,721.5	24.00	72.714	
6,200.0	6,105.6	6,091.3	6,090.5	22.0	2.4	-132.84	-538.1	-599.7	1,745.8	1,721.7	24.14	72.327	
6,300.0	6,205.6	6,196.4	6,195.5	22.1	2.4	-132.85	-538.4	-599.5	1,745.9	1,721.6	24.27	71.937	
6,400.0	6,305.6	6,297.3	6,296.4	22.3	2.4	-132.87	-538.8	-599.0	1,745.8	1,721.4	24.40	71.536	
6,500.0	6,405.6	6,398.0	6,397.2	22.4	2.4	-132.87	-538.7	-598.9	1,745.6	1,721.1	24.54	71.135	
6,577.7	6,483.3	6,472.6	6,471.8	22.5	2.4	-132.87	-538.5	-598.9	1,745.6	1,720.9	24.65	70.826	
6,600.0	6,505.6	6,494.0	6,493.2	22.5	2.4	-132.87	-538.5	-598.9	1,745.6	1,720.9	24.68	70.739	
6,684.2	6,589.8	6,574.8	6,573.9	22.6	2.4	-132.88	-538.8	-598.9	1,745.7	1,720.9	24.79	70.414	
6,700.0	6,605.6	6,590.0	6,589.1	22.7	2.4	-42.89	-538.9	-598.8	1,745.6	1,727.7	17.90	97.531	
6,750.0	6,655.5	6,638.3	6,637.5	22.7	2.4	-43.06	-539.2	-598.7	1,743.7	1,725.8	17.89	97.454	
6,800.0	6,705.1	6,686.5	6,685.6	22.7	2.4	-43.46	-539.6	-598.7	1,739.3	1,721.4	17.90	97.148	
6,850.0	6,754.1	6,734.1	6,733.3	22.7	2.4	-44.07	-540.0	-598.6	1,732.4	1,714.5	17.93	96.631	
6,900.0	6,802.3	6,781.0	6,780.1	22.7	2.4	-44.90	-540.5	-598.6	1,723.1	1,705.2	17.97	95.913	
6,950.0	6,849.5	6,826.2	6,825.3	22.6	2.5	-45.95	-540.9	-598.5	1,711.6	1,693.5	18.02	95.002	
7,000.0	6,895.5	6,869.8	6,868.9	22.5	2.5	-47.23	-541.3	-598.6	1,697.8	1,679.7	18.08	93.890	
7,050.0	6,939.9	6,912.1	6,911.3	22.4	2.5	-48.74	-541.7	-598.8	1,682.0	1,663.8	18.17	92.549	
7,100.0	6,982.6	6,952.9	6,952.1	22.3	2.5	-50.49	-542.1	-599.1	1,664.2	1,645.9	18.30	90.949	
7,150.0	7,023.4	6,992.1	6,991.2	22.2	2.5	-52.48	-542.4	-599.5	1,644.7	1,626.2	18.47	89.065	
7,200.0	7,062.2	7,035.5	7,034.6	22.1	2.5	-54.84	-542.7	-599.9	1,623.5	1,604.8	18.70	86.838	
7,250.0	7,098.6	7,077.7	7,076.9	22.0	2.5	-57.50	-542.8	-600.2	1,600.7	1,581.7	18.99	84.299	
7,300.0	7,132.5	7,117.0	7,116.1	21.9	2.5	-60.40	-542.9	-600.4	1,576.6	1,557.3	19.34	81.513	
7,350.0	7,163.8	7,153.0	7,152.1	21.8	2.5	-63.51	-542.9	-600.5	1,551.4	1,531.7	19.75	78.566	
7,400.0	7,192.2	7,185.7	7,184.8	21.7	2.5	-66.77	-542.8	-600.5	1,525.4	1,505.2	20.19	75.551	
7,450.0	7,217.8	7,200.0	7,199.1	21.6	2.5	-69.59	-542.8	-600.5	1,498.9	1,478.3	20.63	72.670	
7,500.0	7,240.3	7,200.0	7,199.1	21.6	2.5	-71.94	-542.8	-600.5	1,472.6	1,451.5	21.07	69.900	
7,550.0	7,259.6	7,200.0	7,199.1	21.6	2.5	-74.27	-542.8	-600.5	1,446.5	1,424.9	21.55	67.134	
7,600.0	7,275.7	7,200.0	7,199.1	21.6	2.5	-76.58	-542.8	-600.5	1,420.9	1,398.8	22.07	64.387	
7,650.0	7,288.4	7,200.0	7,199.1	21.8	2.5	-78.84	-542.8	-600.5	1,395.9	1,373.3	22.63	61.672	
7,700.0	7,297.7	7,200.0	7,199.1	22.0	2.5	-81.02	-542.8	-600.5	1,371.7	1,348.4	23.25	59.001	
7,750.0	7,303.6	7,200.0	7,199.1	22.4	2.5	-83.10	-542.8	-600.5	1,348.4	1,324.5	23.91	56.388	
7,800.0	7,305.9	7,200.0	7,199.1	22.9	2.5	-85.08	-542.8	-600.5	1,326.2	1,301.6	24.63	53.848	
7,809.2	7,306.0	7,200.0	7,199.1	23.0	2.5	-85.42	-542.8	-600.5	1,322.2	1,297.5	24.77	53.390	
7,900.0	7,306.0	7,200.0	7,199.1	24.3	2.5	-85.42	-542.8	-600.5	1,286.1	1,259.9	26.14	49.195	
8,000.0	7,306.0	7,200.0	7,199.1	26.0	2.5	-85.42	-542.8	-600.5	1,252.7	1,224.8	27.87	44.956	
8,100.0	7,306.0	7,200.0	7,199.1	27.9	2.5	-85.42	-542.8	-600.5	1,226.6	1,196.8	29.76	41.209	
8,200.0	7,306.0	7,200.0	7,199.1	30.0	2.5	-85.42	-542.8	-600.5	1,208.2	1,176.4	31.81	37.985	
8,300.0	7,306.0	7,200.0	7,199.1	32.2	2.5	-85.42	-542.8	-600.5	1,197.9	1,163.9	33.96	35.269	
8,373.9	7,306.0	7,200.0	7,199.1	33.8	2.5	-85.42	-542.8	-600.5	1,195.6	1,159.9	35.63	33.557	
8,400.0	7,306.0	7,200.0	7,199.1	34.4	2.5	-85.42	-542.8	-600.5	1,195.9	1,159.6	36.21	33.021	

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-404
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-404	**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 #2	**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	7,306.0	7,200.0	7,199.1	36.8	2.5	-85.42	-542.8	-600.5	1,202.2	1,163.7	38.54	31.192	
8,600.0	7,306.0	7,200.0	7,199.1	39.2	2.5	-85.42	-542.8	-600.5	1,216.8	1,175.8	40.93	29.727	
8,700.0	7,306.0	7,200.0	7,199.1	41.7	2.5	-85.42	-542.8	-600.5	1,239.2	1,195.9	43.37	28.572	
8,800.0	7,306.0	7,200.0	7,199.1	44.1	2.5	-85.42	-542.8	-600.5	1,269.2	1,223.4	45.86	27.678	
8,900.0	7,306.0	7,200.0	7,199.1	46.7	2.5	-85.42	-542.8	-600.5	1,306.2	1,257.8	48.38	27.000	
9,000.0	7,306.0	7,200.0	7,199.1	49.2	2.5	-85.42	-542.8	-600.5	1,349.6	1,298.6	50.93	26.500	
9,100.0	7,306.0	7,200.0	7,199.1	51.8	2.5	-85.42	-542.8	-600.5	1,398.8	1,345.3	53.50	26.143	
9,200.0	7,306.0	7,200.0	7,199.1	54.4	2.5	-85.42	-542.8	-600.5	1,453.2	1,397.1	56.10	25.902	
9,300.0	7,306.0	7,200.0	7,199.1	57.1	2.5	-85.42	-542.8	-600.5	1,512.3	1,453.6	58.72	25.754	
9,400.0	7,306.0	7,200.0	7,199.1	59.7	2.5	-85.42	-542.8	-600.5	1,575.5	1,514.1	61.36	25.678	
9,500.0	7,306.0	7,200.0	7,199.1	62.4	2.5	-85.42	-542.8	-600.5	1,642.4	1,578.4	64.00	25.660 SF	
9,600.0	7,306.0	7,200.0	7,199.1	65.0	2.5	-85.42	-542.8	-600.5	1,712.5	1,645.8	66.67	25.687	
9,700.0	7,306.0	7,200.0	7,199.1	67.7	2.5	-85.42	-542.8	-600.5	1,785.4	1,716.1	69.34	25.749	
9,800.0	7,306.0	7,200.0	7,199.1	70.4	2.5	-85.42	-542.8	-600.5	1,860.9	1,788.9	72.02	25.838	
9,900.0	7,306.0	7,200.0	7,199.1	73.1	2.5	-85.42	-542.8	-600.5	1,938.6	1,863.9	74.71	25.947	
10,000.0	7,306.0	7,200.0	7,199.1	75.8	2.5	-85.42	-542.8	-600.5	2,018.3	1,940.9	77.41	26.071	
10,100.0	7,306.0	7,200.0	7,199.1	78.5	2.5	-85.42	-542.8	-600.5	2,099.7	2,019.6	80.12	26.206	
10,200.0	7,306.0	7,200.0	7,199.1	81.2	2.5	-85.42	-542.8	-600.5	2,182.6	2,099.8	82.83	26.349	
10,300.0	7,306.0	7,200.0	7,199.1	84.0	2.5	-85.42	-542.8	-600.5	2,267.0	2,181.4	85.55	26.498	
10,400.0	7,306.0	7,200.0	7,199.1	86.7	2.5	-85.42	-542.8	-600.5	2,352.5	2,264.2	88.28	26.649	
10,500.0	7,306.0	7,200.0	7,199.1	89.4	2.5	-85.42	-542.8	-600.5	2,439.2	2,348.2	91.01	26.802	
10,600.0	7,306.0	7,200.0	7,199.1	92.2	2.5	-85.42	-542.8	-600.5	2,526.8	2,433.1	93.74	26.956	
10,700.0	7,306.0	7,200.0	7,199.1	94.9	2.5	-85.42	-542.8	-600.5	2,615.3	2,518.9	96.48	27.109	
10,800.0	7,306.0	7,200.0	7,199.1	97.6	2.5	-85.42	-542.8	-600.5	2,704.7	2,605.4	99.22	27.260	
10,900.0	7,306.0	7,200.0	7,199.1	100.4	2.5	-85.42	-542.8	-600.5	2,794.7	2,692.7	101.96	27.410	
11,000.0	7,306.0	7,200.0	7,199.1	103.2	2.5	-85.42	-542.8	-600.5	2,885.4	2,780.7	104.71	27.557	
11,100.0	7,306.0	7,200.0	7,199.1	105.9	2.5	-85.42	-542.8	-600.5	2,976.7	2,869.3	107.46	27.702	
11,200.0	7,306.0	7,200.0	7,199.1	108.7	2.5	-85.42	-542.8	-600.5	3,068.5	2,958.3	110.21	27.843	
11,300.0	7,306.0	7,200.0	7,199.1	111.4	2.5	-85.42	-542.8	-600.5	3,160.9	3,047.9	112.96	27.982	
11,400.0	7,306.0	7,200.0	7,199.1	114.2	2.5	-85.42	-542.8	-600.5	3,253.7	3,138.0	115.72	28.117	
11,500.0	7,306.0	7,200.0	7,199.1	117.0	2.5	-85.42	-542.8	-600.5	3,346.9	3,228.4	118.48	28.249	
11,600.0	7,306.0	7,200.0	7,199.1	119.7	2.5	-85.42	-542.8	-600.5	3,440.5	3,319.2	121.24	28.377	
11,700.0	7,306.0	7,200.0	7,199.1	122.5	2.5	-85.42	-542.8	-600.5	3,534.4	3,410.4	124.00	28.503	
11,800.0	7,306.0	7,200.0	7,199.1	125.3	2.5	-85.42	-542.8	-600.5	3,628.7	3,501.9	126.77	28.625	
11,900.0	7,306.0	7,200.0	7,199.1	128.0	2.5	-85.42	-542.8	-600.5	3,723.2	3,593.7	129.53	28.744	
12,000.0	7,306.0	7,200.0	7,199.1	130.8	2.5	-85.42	-542.8	-600.5	3,818.1	3,685.8	132.30	28.859	
12,100.0	7,306.0	7,200.0	7,199.1	133.6	2.5	-85.42	-542.8	-600.5	3,913.2	3,778.1	135.07	28.972	
12,200.0	7,306.0	7,200.0	7,199.1	136.4	2.5	-85.42	-542.8	-600.5	4,008.5	3,870.7	137.84	29.081	
12,300.0	7,306.0	7,200.0	7,199.1	139.1	2.5	-85.42	-542.8	-600.5	4,104.1	3,963.5	140.61	29.188	
12,400.0	7,306.0	7,200.0	7,199.1	141.9	2.5	-85.42	-542.8	-600.5	4,199.8	4,056.4	143.38	29.291	
12,500.0	7,306.0	7,200.0	7,199.1	144.7	2.5	-85.42	-542.8	-600.5	4,295.8	4,149.6	146.15	29.392	
12,600.0	7,306.0	7,200.0	7,199.1	147.5	2.5	-85.42	-542.8	-600.5	4,391.9	4,243.0	148.93	29.490	
12,700.0	7,306.0	7,200.0	7,199.1	150.3	2.5	-85.42	-542.8	-600.5	4,488.2	4,336.5	151.70	29.586	
12,800.0	7,306.0	7,200.0	7,199.1	153.0	2.5	-85.42	-542.8	-600.5	4,584.7	4,430.2	154.48	29.678	
12,900.0	7,306.0	7,200.0	7,199.1	155.8	2.5	-85.42	-542.8	-600.5	4,681.3	4,524.0	157.26	29.769	
13,000.0	7,306.0	7,200.0	7,199.1	158.6	2.5	-85.42	-542.8	-600.5	4,778.1	4,618.0	160.03	29.856	
13,100.0	7,306.0	7,200.0	7,199.1	161.4	2.5	-85.42	-542.8	-600.5	4,874.9	4,712.1	162.81	29.942	
13,200.0	7,306.0	7,200.0	7,199.1	164.2	2.5	-85.42	-542.8	-600.5	4,971.9	4,806.4	165.59	30.025	
13,300.0	7,306.0	7,200.0	7,199.1	167.0	2.5	-85.42	-542.8	-600.5	5,069.1	4,900.7	168.37	30.106	
13,400.0	7,306.0	7,200.0	7,199.1	169.8	2.5	-85.42	-542.8	-600.5	5,166.3	4,995.1	171.15	30.185	
13,500.0	7,306.0	7,200.0	7,199.1	172.6	2.5	-85.42	-542.8	-600.5	5,263.6	5,089.7	173.93	30.262	
13,600.0	7,306.0	7,200.0	7,199.1	175.3	2.5	-85.42	-542.8	-600.5	5,361.1	5,184.4	176.72	30.337	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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
13,700.0	7,306.0	7,200.0	7,199.1	178.1	2.5	-85.42	-542.8	-600.5	5,458.6	5,279.1	179.50	30.410	
13,800.0	7,306.0	7,200.0	7,199.1	180.9	2.5	-85.42	-542.8	-600.5	5,556.2	5,373.9	182.28	30.482	
13,900.0	7,306.0	7,200.0	7,199.1	183.7	2.5	-85.42	-542.8	-600.5	5,653.9	5,468.8	185.06	30.551	
14,000.0	7,306.0	7,200.0	7,199.1	186.5	2.5	-85.42	-542.8	-600.5	5,751.7	5,563.8	187.85	30.619	
14,100.0	7,306.0	7,200.0	7,199.1	189.3	2.5	-85.42	-542.8	-600.5	5,849.5	5,658.9	190.63	30.685	
14,200.0	7,306.0	7,200.0	7,199.1	192.1	2.5	-85.42	-542.8	-600.5	5,947.5	5,754.0	193.42	30.749	
14,300.0	7,306.0	7,200.0	7,199.1	194.9	2.5	-85.42	-542.8	-600.5	6,045.5	5,849.3	196.20	30.812	
14,363.6	7,306.0	7,200.0	7,199.1	196.7	2.5	-85.42	-542.8	-600.5	6,107.8	5,909.8	197.97	30.851	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	179.32	-1,192.4	14.2	1,192.5				
100.0	100.0	100.0	100.0	0.1	0.1	179.32	-1,192.4	14.2	1,192.5	1,192.3	0.19	6,133.283	
200.0	200.0	200.0	200.0	0.3	0.3	179.32	-1,192.4	14.2	1,192.5	1,191.8	0.64	1,851.761	
300.0	300.0	300.0	300.0	0.5	0.5	179.32	-1,192.4	14.2	1,192.5	1,191.4	1.09	1,090.503	
400.0	400.0	436.7	436.7	0.8	0.9	179.20	-1,190.2	16.7	1,190.9	1,189.3	1.62	734.236	
500.0	500.0	572.9	572.5	1.0	1.2	178.84	-1,183.8	24.0	1,186.3	1,184.1	2.17	547.415	
600.0	600.0	707.8	706.4	1.2	1.5	178.24	-1,173.4	36.1	1,178.7	1,176.0	2.76	427.442	
700.0	700.0	840.9	837.7	1.4	2.0	177.40	-1,159.0	52.7	1,168.3	1,164.9	3.42	341.560	
800.0	800.0	954.2	948.6	1.7	2.4	130.39	-1,143.9	70.0	1,156.8	1,152.8	3.99	290.234	
900.0	899.8	1,053.0	1,045.2	1.9	2.8	129.92	-1,130.4	85.5	1,147.4	1,142.8	4.56	251.505	
1,000.0	999.5	1,152.2	1,142.3	2.1	3.2	129.53	-1,116.9	101.1	1,140.3	1,135.1	5.16	221.002	
1,100.0	1,098.7	1,251.8	1,239.8	2.4	3.7	129.24	-1,103.3	116.7	1,135.5	1,129.7	5.78	196.386	
1,200.0	1,197.5	1,351.7	1,337.4	2.7	4.1	129.04	-1,089.7	132.4	1,132.9	1,126.5	6.43	176.249	
1,265.4	1,261.7	1,417.0	1,401.3	2.9	4.4	128.97	-1,080.8	142.6	1,132.5	1,125.6	6.87	164.793	CC
1,299.9	1,295.5	1,451.5	1,435.1	3.0	4.5	128.95	-1,076.1	148.0	1,132.6	1,125.5	7.11	159.374	
1,300.0	1,295.6	1,451.6	1,435.2	3.0	4.5	128.95	-1,076.1	148.1	1,132.6	1,125.5	7.11	159.353	
1,400.0	1,393.4	1,551.6	1,533.0	3.4	5.0	128.92	-1,062.4	163.8	1,133.4	1,125.5	7.82	144.925	
1,500.0	1,491.3	1,651.6	1,630.8	3.7	5.4	128.89	-1,048.8	179.5	1,134.1	1,125.6	8.55	132.661	
1,600.0	1,589.1	1,751.6	1,728.6	4.1	5.9	128.86	-1,035.1	195.2	1,134.9	1,125.6	9.29	122.166	
1,700.0	1,686.9	1,851.6	1,826.5	4.5	6.3	128.83	-1,021.5	210.8	1,135.6	1,125.6	10.04	113.117	
1,800.0	1,784.7	1,951.6	1,924.3	5.0	6.8	128.80	-1,007.9	226.5	1,136.4	1,125.6	10.80	105.256	
1,900.0	1,882.5	2,051.6	2,022.1	5.4	7.2	128.77	-994.2	242.2	1,137.2	1,125.6	11.56	98.376	
2,000.0	1,980.3	2,151.6	2,119.9	5.8	7.6	128.74	-980.6	257.9	1,137.9	1,125.6	12.33	92.313	
2,100.0	2,078.1	2,251.6	2,217.7	6.2	8.1	128.71	-966.9	273.6	1,138.7	1,125.6	13.10	86.935	
2,200.0	2,176.0	2,351.6	2,315.5	6.7	8.5	128.68	-953.3	289.3	1,139.4	1,125.6	13.87	82.136	
2,300.0	2,273.8	2,451.6	2,413.3	7.1	9.0	128.65	-939.7	305.0	1,140.2	1,125.6	14.65	77.831	
2,400.0	2,371.6	2,551.6	2,511.1	7.5	9.4	128.62	-926.0	320.7	1,141.0	1,125.5	15.43	73.948	
2,500.0	2,469.4	2,651.6	2,608.9	8.0	9.9	128.59	-912.4	336.4	1,141.7	1,125.5	16.21	70.429	
2,600.0	2,567.2	2,751.6	2,706.7	8.4	10.3	128.56	-898.7	352.1	1,142.5	1,125.5	16.99	67.227	
2,700.0	2,665.0	2,851.6	2,804.5	8.8	10.8	128.53	-885.1	367.8	1,143.2	1,125.5	17.78	64.302	
2,800.0	2,762.9	2,951.6	2,902.4	9.3	11.2	128.50	-871.5	383.5	1,144.0	1,125.4	18.57	61.620	
2,900.0	2,860.7	3,051.6	3,000.2	9.7	11.7	128.47	-857.8	399.2	1,144.8	1,125.4	19.35	59.151	
3,000.0	2,958.5	3,151.6	3,098.0	10.2	12.1	128.44	-844.2	414.9	1,145.5	1,125.4	20.14	56.873	
3,100.0	3,056.3	3,251.6	3,195.8	10.6	12.6	128.41	-830.5	430.6	1,146.3	1,125.4	20.93	54.763	
3,200.0	3,154.1	3,351.6	3,293.6	11.1	13.0	128.38	-816.9	446.3	1,147.1	1,125.3	21.72	52.805	
3,300.0	3,251.9	3,451.6	3,391.4	11.5	13.5	128.35	-803.3	462.0	1,147.8	1,125.3	22.51	50.982	
3,400.0	3,349.8	3,551.6	3,489.2	12.0	13.9	128.32	-789.6	477.7	1,148.6	1,125.3	23.31	49.281	
3,500.0	3,447.6	3,651.5	3,587.0	12.4	14.4	128.29	-776.0	493.4	1,149.4	1,125.3	24.10	47.690	
3,600.0	3,545.4	3,751.5	3,684.8	12.8	14.8	128.27	-762.3	509.1	1,150.1	1,125.2	24.89	46.200	
3,700.0	3,643.2	3,851.5	3,782.6	13.3	15.3	128.24	-748.7	524.8	1,150.9	1,125.2	25.69	44.801	
3,800.0	3,741.0	3,951.5	3,880.5	13.7	15.7	128.21	-735.1	540.4	1,151.7	1,125.2	26.48	43.484	
3,900.0	3,838.8	4,051.5	3,978.3	14.2	16.2	128.18	-721.4	556.1	1,152.4	1,125.1	27.28	42.243	
4,000.0	3,936.6	4,151.5	4,076.1	14.6	16.6	128.15	-707.8	571.8	1,153.2	1,125.1	28.08	41.072	
4,100.0	4,034.5	4,251.5	4,173.9	15.1	17.1	128.12	-694.1	587.5	1,154.0	1,125.1	28.87	39.965	
4,200.0	4,132.3	4,351.5	4,271.7	15.5	17.5	128.09	-680.5	603.2	1,154.7	1,125.0	29.67	38.916	
4,300.0	4,230.1	4,451.5	4,369.5	16.0	18.0	128.06	-666.9	618.9	1,155.5	1,125.0	30.47	37.922	
4,400.0	4,327.9	4,551.5	4,467.3	16.4	18.4	128.03	-653.2	634.6	1,156.3	1,125.0	31.27	36.977	
4,500.0	4,425.7	4,646.8	4,560.6	16.9	18.9	128.01	-640.3	649.5	1,157.1	1,125.0	32.04	36.117	
4,600.0	4,523.5	4,727.8	4,640.1	17.3	19.2	128.05	-630.3	661.0	1,159.1	1,126.4	32.68	35.471	
4,700.0	4,621.4	4,800.0	4,711.4	17.8	19.4	128.17	-622.7	669.7	1,162.7	1,129.5	33.24	34.982	
4,800.0	4,719.2	4,889.2	4,799.8	18.2	19.6	128.42	-614.9	678.7	1,168.0	1,134.2	33.79	34.567	
4,900.0	4,817.0	4,969.3	4,879.5	18.7	19.8	128.73	-609.5	685.0	1,175.0	1,140.7	34.28	34.275	

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-404
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-404	**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 #2	**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
5,000.0	4,914.8	5,049.0	4,958.8	19.1	19.9	129.12	-605.5	689.6	1,183.6	1,148.9	34.73	34.081	
5,100.0	5,012.6	5,127.9	5,037.7	19.6	20.1	129.59	-603.0	692.4	1,194.1	1,158.9	35.14	33.979	
5,200.0	5,110.4	5,206.1	5,115.9	20.0	20.2	130.13	-601.9	693.7	1,206.3	1,170.7	35.51	33.966	
5,221.3	5,131.3	5,222.7	5,132.4	20.1	20.2	130.25	-601.9	693.7	1,209.1	1,173.5	35.59	33.975	
5,300.0	5,208.5	5,298.7	5,208.5	20.4	20.3	130.94	-601.9	693.7	1,219.2	1,183.4	35.79	34.065	
5,400.0	5,307.1	5,397.3	5,307.1	20.7	20.4	131.68	-601.9	693.7	1,230.1	1,194.0	36.01	34.157	
5,500.0	5,406.3	5,496.5	5,406.3	21.0	20.5	132.25	-601.9	693.7	1,238.7	1,202.5	36.23	34.187	
5,600.0	5,505.8	5,596.0	5,505.8	21.2	20.6	132.66	-601.9	693.7	1,245.1	1,208.7	36.45	34.156	
5,700.0	5,605.6	5,695.9	5,605.6	21.4	20.8	132.93	-601.9	693.7	1,249.2	1,212.5	36.67	34.063	
5,800.0	5,705.6	5,795.8	5,705.6	21.5	20.9	133.03	-601.9	693.7	1,250.9	1,214.0	36.89	33.909	
5,821.2	5,726.8	5,817.0	5,726.8	21.5	20.9	179.39	-601.9	693.7	1,250.9	1,216.1	34.84	35.907	
5,900.0	5,805.6	5,895.8	5,805.6	21.6	21.0	179.39	-601.9	693.7	1,250.9	1,215.9	35.07	35.670	
6,000.0	5,905.6	5,995.8	5,905.6	21.7	21.1	179.39	-601.9	693.7	1,250.9	1,215.6	35.37	35.363	
6,100.0	6,005.6	6,095.8	6,005.6	21.9	21.3	179.39	-601.9	693.7	1,250.9	1,215.3	35.68	35.058	
6,200.0	6,105.6	6,195.8	6,105.6	22.0	21.4	179.39	-601.9	693.7	1,250.9	1,214.9	35.99	34.756	
6,300.0	6,205.6	6,295.8	6,205.6	22.1	21.5	179.39	-601.9	693.7	1,250.9	1,214.6	36.31	34.456	
6,400.0	6,305.6	6,395.8	6,305.6	22.3	21.7	179.39	-601.9	693.7	1,250.9	1,214.3	36.62	34.158	
6,500.0	6,405.6	6,495.8	6,405.6	22.4	21.8	179.39	-601.9	693.7	1,250.9	1,214.0	36.94	33.863	
6,600.0	6,505.6	6,596.6	6,506.3	22.5	22.0	179.45	-601.9	692.4	1,250.9	1,213.7	37.27	33.562	
6,684.2	6,589.8	6,681.1	6,590.1	22.6	22.0	179.91	-601.9	682.3	1,250.9	1,213.3	37.62	33.250	
6,695.1	6,600.7	6,691.8	6,600.7	22.7	22.0	-90.00	-601.9	680.3	1,250.9	1,211.5	39.34	31.795	
6,700.0	6,605.6	6,696.6	6,605.4	22.7	22.0	-89.96	-601.9	679.4	1,250.9	1,211.5	39.34	31.797	
6,750.0	6,655.5	6,745.5	6,652.9	22.7	21.9	-89.56	-601.9	668.0	1,250.9	1,211.6	39.26	31.859	
6,800.0	6,705.1	6,793.7	6,699.0	22.7	21.9	-89.17	-601.9	653.7	1,251.0	1,211.9	39.14	31.964	
6,850.0	6,754.1	6,841.5	6,743.5	22.7	21.8	-88.78	-601.9	636.4	1,251.2	1,212.2	38.97	32.104	
6,900.0	6,802.3	6,888.7	6,786.3	22.7	21.7	-88.40	-601.9	616.5	1,251.4	1,212.6	38.77	32.273	
6,950.0	6,849.5	6,935.4	6,827.3	22.6	21.6	-88.03	-601.9	594.0	1,251.6	1,213.1	38.56	32.461	
7,000.0	6,895.5	6,981.7	6,866.3	22.5	21.5	-87.66	-601.9	569.2	1,251.9	1,213.6	38.33	32.659	
7,050.0	6,939.9	7,027.6	6,903.4	22.4	21.4	-87.31	-601.9	542.2	1,252.3	1,214.2	38.11	32.856	
7,100.0	6,982.6	7,073.0	6,938.3	22.3	21.3	-86.98	-601.9	513.1	1,252.7	1,214.7	37.92	33.038	
7,150.0	7,023.4	7,118.1	6,971.0	22.2	21.2	-86.65	-601.9	482.2	1,253.0	1,215.3	37.75	33.191	
7,200.0	7,062.2	7,162.8	7,001.5	22.1	21.1	-86.35	-601.9	449.5	1,253.5	1,215.8	37.64	33.300	
7,250.0	7,098.6	7,207.2	7,029.7	22.0	21.1	-86.05	-601.9	415.2	1,253.9	1,216.3	37.60	33.348	
7,300.0	7,132.5	7,250.0	7,054.9	21.9	21.0	-85.79	-601.9	380.5	1,254.3	1,216.7	37.64	33.324	
7,350.0	7,163.8	7,295.1	7,079.1	21.8	20.9	-85.53	-601.9	342.4	1,254.7	1,216.9	37.79	33.200	
7,400.0	7,192.2	7,338.7	7,100.1	21.7	20.9	-85.29	-601.9	304.3	1,255.1	1,217.1	38.06	32.977	
7,450.0	7,217.8	7,382.1	7,118.7	21.6	20.9	-85.08	-601.9	265.1	1,255.5	1,217.1	38.46	32.649	
7,500.0	7,240.3	7,425.3	7,134.9	21.6	21.0	-84.88	-601.9	225.1	1,255.9	1,216.9	38.98	32.216	
7,550.0	7,259.6	7,468.3	7,148.5	21.6	21.1	-84.71	-601.9	184.3	1,256.2	1,216.6	39.65	31.685	
7,600.0	7,275.7	7,511.1	7,159.6	21.6	21.3	-84.56	-601.9	142.9	1,256.5	1,216.1	40.45	31.065	
7,650.0	7,288.4	7,553.9	7,168.3	21.8	21.5	-84.44	-601.9	101.1	1,256.8	1,215.4	41.38	30.371	
7,700.0	7,297.7	7,600.0	7,174.8	22.0	21.9	-84.33	-601.9	55.4	1,257.0	1,214.5	42.48	29.589	
7,750.0	7,303.6	7,639.0	7,177.9	22.4	22.3	-84.26	-601.9	16.5	1,257.2	1,213.6	43.62	28.822	
7,800.0	7,305.9	7,681.7	7,179.0	22.9	22.8	-84.21	-601.9	-26.1	1,257.3	1,212.4	44.89	28.010	
7,809.2	7,306.0	7,690.9	7,179.0	23.0	23.0	-84.20	-601.9	-35.3	1,257.3	1,212.2	45.15	27.846	
7,900.0	7,306.0	7,781.7	7,178.6	24.3	24.3	-84.19	-601.9	-126.1	1,257.3	1,209.4	47.95	26.222	
8,000.0	7,306.0	7,881.7	7,178.3	26.0	26.0	-84.17	-601.9	-226.1	1,257.4	1,206.0	51.40	24.460	
8,100.0	7,306.0	7,981.7	7,177.9	27.9	28.0	-84.15	-601.9	-326.1	1,257.4	1,202.2	55.21	22.776	
8,200.0	7,306.0	8,081.7	7,177.5	30.0	30.0	-84.14	-601.9	-426.1	1,257.4	1,198.2	59.29	21.207	
8,300.0	7,306.0	8,181.7	7,177.2	32.2	32.2	-84.12	-601.9	-526.1	1,257.5	1,193.9	63.61	19.769	
8,400.0	7,306.0	8,281.7	7,176.8	34.4	34.5	-84.10	-601.9	-626.1	1,257.5	1,189.4	68.11	18.463	
8,500.0	7,306.0	8,381.7	7,176.4	36.8	36.9	-84.09	-601.9	-726.1	1,257.6	1,184.8	72.76	17.284	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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	7,306.0	8,481.7	7,176.1	39.2	39.3	-84.07	-601.9	-826.1	1,257.6	1,180.1	77.53	16.220	
8,700.0	7,306.0	8,581.7	7,175.7	41.7	41.7	-84.05	-601.9	-926.1	1,257.6	1,175.2	82.41	15.261	
8,800.0	7,306.0	8,681.7	7,175.3	44.1	44.2	-84.04	-601.9	-1,026.1	1,257.7	1,170.3	87.37	14.395	
8,900.0	7,306.0	8,781.7	7,175.0	46.7	46.8	-84.02	-601.9	-1,126.1	1,257.7	1,165.3	92.40	13.611	
9,000.0	7,306.0	8,881.7	7,174.6	49.2	49.3	-84.00	-601.9	-1,226.1	1,257.7	1,160.3	97.49	12.901	
9,100.0	7,306.0	8,981.7	7,174.2	51.8	51.9	-83.99	-601.9	-1,326.1	1,257.8	1,155.2	102.64	12.255	
9,200.0	7,306.0	9,081.7	7,173.9	54.4	54.5	-83.97	-601.9	-1,426.1	1,257.8	1,150.0	107.82	11.666	
9,300.0	7,306.0	9,181.7	7,173.5	57.1	57.2	-83.95	-601.9	-1,526.1	1,257.9	1,144.8	113.05	11.127	
9,400.0	7,306.0	9,281.7	7,173.1	59.7	59.8	-83.94	-601.9	-1,626.1	1,257.9	1,139.6	118.30	10.633	
9,500.0	7,306.0	9,381.7	7,172.8	62.4	62.5	-83.92	-601.9	-1,726.1	1,257.9	1,134.4	123.59	10.179	
9,600.0	7,306.0	9,481.7	7,172.4	65.0	65.1	-83.90	-601.9	-1,826.1	1,258.0	1,129.1	128.90	9.760	
9,700.0	7,306.0	9,581.7	7,172.1	67.7	67.8	-83.89	-601.9	-1,926.1	1,258.0	1,123.8	134.23	9.372	
9,800.0	7,306.0	9,681.7	7,171.7	70.4	70.5	-83.87	-601.9	-2,026.1	1,258.1	1,118.5	139.58	9.013	
9,900.0	7,306.0	9,781.7	7,171.3	73.1	73.2	-83.85	-601.9	-2,126.1	1,258.1	1,113.1	144.95	8.680	
10,000.0	7,306.0	9,881.7	7,171.0	75.8	75.9	-83.84	-601.9	-2,226.1	1,258.1	1,107.8	150.33	8.369	
10,100.0	7,306.0	9,981.7	7,170.6	78.5	78.6	-83.82	-601.9	-2,326.1	1,258.2	1,102.4	155.73	8.079	
10,200.0	7,306.0	10,081.7	7,170.2	81.2	81.4	-83.81	-601.9	-2,426.1	1,258.2	1,097.1	161.13	7.808	
10,300.0	7,306.0	10,181.7	7,169.9	84.0	84.1	-83.79	-601.9	-2,526.1	1,258.2	1,091.7	166.55	7.555	
10,400.0	7,306.0	10,281.7	7,169.5	86.7	86.8	-83.77	-601.9	-2,626.1	1,258.3	1,086.3	171.98	7.316	
10,500.0	7,306.0	10,381.7	7,169.1	89.4	89.6	-83.76	-601.9	-2,726.1	1,258.3	1,080.9	177.42	7.092	
10,600.0	7,306.0	10,481.7	7,168.8	92.2	92.3	-83.74	-601.9	-2,826.1	1,258.4	1,075.5	182.87	6.881	
10,700.0	7,306.0	10,581.7	7,168.4	94.9	95.0	-83.72	-601.9	-2,926.1	1,258.4	1,070.1	188.32	6.682	
10,800.0	7,306.0	10,681.7	7,168.1	97.6	97.8	-83.71	-601.9	-3,026.1	1,258.4	1,064.7	193.78	6.494	
10,900.0	7,306.0	10,781.7	7,167.7	100.4	100.5	-83.69	-601.8	-3,126.1	1,258.5	1,059.2	199.25	6.316	
11,000.0	7,306.0	10,881.7	7,167.3	103.2	103.3	-83.67	-601.8	-3,226.1	1,258.5	1,053.8	204.72	6.147	
11,100.0	7,306.0	10,981.7	7,167.0	105.9	106.1	-83.66	-601.8	-3,326.1	1,258.6	1,048.4	210.20	5.987	
11,200.0	7,306.0	11,081.7	7,166.6	108.7	108.8	-83.64	-601.8	-3,426.1	1,258.6	1,042.9	215.69	5.835	
11,300.0	7,306.0	11,181.7	7,166.2	111.4	111.6	-83.62	-601.8	-3,526.1	1,258.6	1,037.5	221.17	5.691	
11,400.0	7,306.0	11,281.7	7,165.9	114.2	114.3	-83.61	-601.8	-3,626.1	1,258.7	1,032.0	226.66	5.553	
11,500.0	7,306.0	11,381.7	7,165.5	117.0	117.1	-83.59	-601.8	-3,726.1	1,258.7	1,026.6	232.16	5.422	
11,600.0	7,306.0	11,481.7	7,165.2	119.7	119.9	-83.58	-601.8	-3,826.1	1,258.7	1,021.1	237.66	5.297	
11,700.0	7,306.0	11,581.7	7,164.8	122.5	122.6	-83.56	-601.8	-3,926.1	1,258.8	1,015.6	243.16	5.177	
11,800.0	7,306.0	11,681.7	7,164.4	125.3	125.4	-83.54	-601.8	-4,026.1	1,258.8	1,010.2	248.66	5.062	
11,900.0	7,306.0	11,781.7	7,164.1	128.0	128.2	-83.53	-601.8	-4,126.1	1,258.9	1,004.7	254.17	4.953	
12,000.0	7,306.0	11,802.2	7,164.0	130.8	128.8	-83.52	-601.8	-4,146.6	1,261.4	1,003.9	257.49	4.899 ES	
12,100.0	7,306.0	11,802.2	7,164.0	133.6	128.8	-83.52	-601.8	-4,146.6	1,271.7	1,011.4	260.25	4.886 SF	
12,200.0	7,306.0	11,802.2	7,164.0	136.4	128.8	-83.52	-601.8	-4,146.6	1,289.6	1,026.6	263.01	4.903	
12,300.0	7,306.0	11,802.2	7,164.0	139.1	128.8	-83.52	-601.8	-4,146.6	1,315.0	1,049.2	265.78	4.948	
12,400.0	7,306.0	11,802.2	7,164.0	141.9	128.8	-83.52	-601.8	-4,146.6	1,347.3	1,078.7	268.54	5.017	
12,500.0	7,306.0	11,802.2	7,164.0	144.7	128.8	-83.52	-601.8	-4,146.6	1,386.1	1,114.8	271.31	5.109	
12,600.0	7,306.0	11,802.2	7,164.0	147.5	128.8	-83.52	-601.8	-4,146.6	1,430.8	1,156.7	274.07	5.220	
12,700.0	7,306.0	11,802.2	7,164.0	150.3	128.8	-83.52	-601.8	-4,146.6	1,480.9	1,204.1	276.84	5.349	
12,800.0	7,306.0	11,802.2	7,164.0	153.0	128.8	-83.52	-601.8	-4,146.6	1,536.0	1,256.3	279.61	5.493	
12,900.0	7,306.0	11,802.2	7,164.0	155.8	128.8	-83.52	-601.8	-4,146.6	1,595.4	1,313.0	282.37	5.650	
13,000.0	7,306.0	11,802.2	7,164.0	158.6	128.8	-83.52	-601.8	-4,146.6	1,658.7	1,373.5	285.14	5.817	
13,100.0	7,306.0	11,802.2	7,164.0	161.4	128.8	-83.52	-601.8	-4,146.6	1,725.4	1,437.5	287.91	5.993	
13,200.0	7,306.0	11,802.2	7,164.0	164.2	128.8	-83.52	-601.8	-4,146.6	1,795.3	1,504.6	290.68	6.176	
13,300.0	7,306.0	11,802.2	7,164.0	167.0	128.8	-83.52	-601.8	-4,146.6	1,867.9	1,574.5	293.46	6.365	
13,400.0	7,306.0	11,802.2	7,164.0	169.8	128.8	-83.52	-601.8	-4,146.6	1,943.0	1,646.7	296.23	6.559	
13,500.0	7,306.0	11,802.2	7,164.0	172.6	128.8	-83.52	-601.8	-4,146.6	2,020.2	1,721.2	299.00	6.756	
13,600.0	7,306.0	11,802.2	7,164.0	175.3	128.8	-83.52	-601.8	-4,146.6	2,099.3	1,797.5	301.77	6.957	
13,700.0	7,306.0	11,802.2	7,164.0	178.1	128.8	-83.52	-601.8	-4,146.6	2,180.2	1,875.6	304.55	7.159	

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-404
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-404	**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 #2	**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

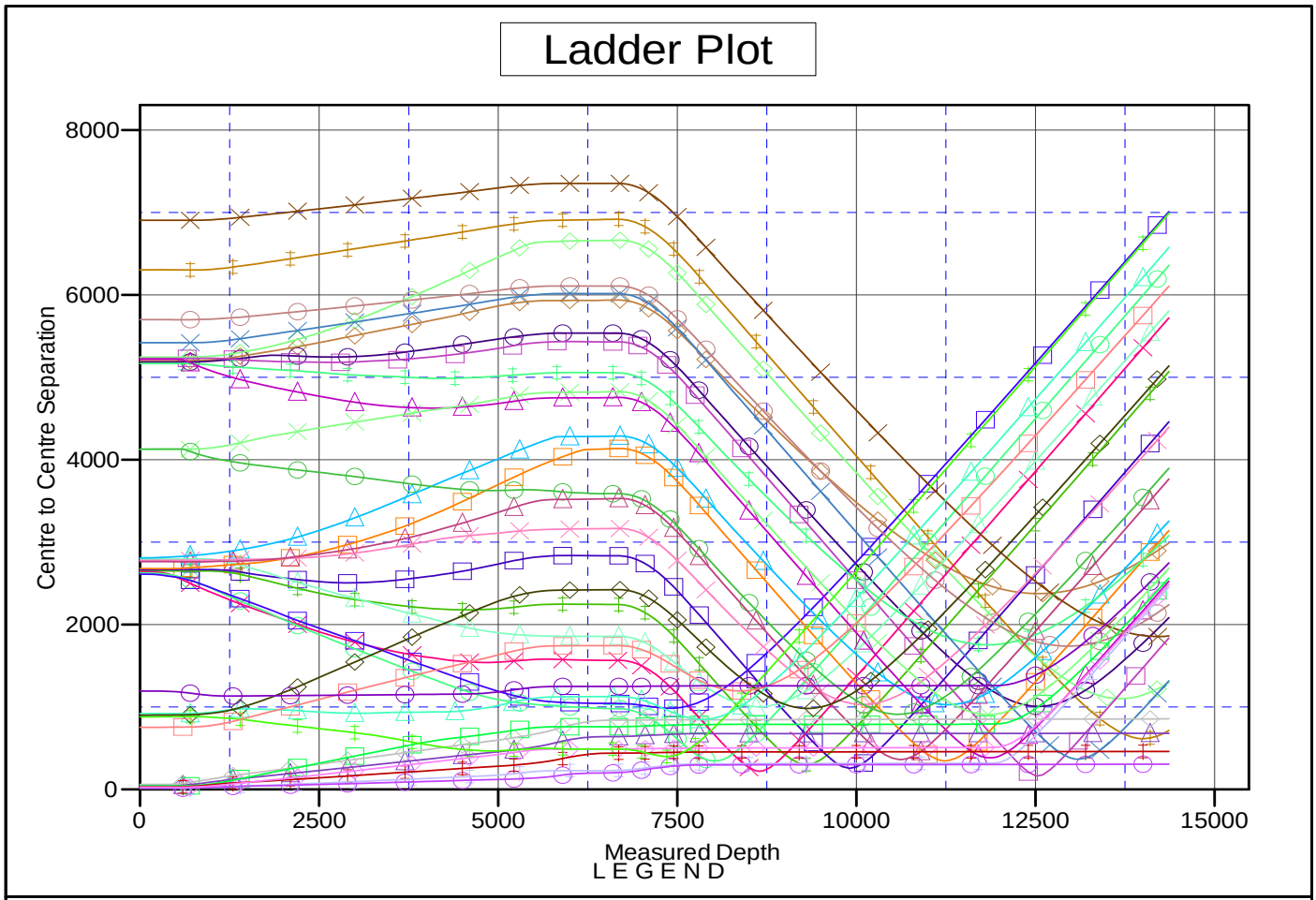
Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

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
13,800.0	7,306.0	11,802.2	7,164.0	180.9	128.8	-83.52	-601.8	-4,146.6	2,262.6	1,955.2	307.32	7.362	
13,900.0	7,306.0	11,802.2	7,164.0	183.7	128.8	-83.52	-601.8	-4,146.6	2,346.3	2,036.2	310.10	7.566	
14,000.0	7,306.0	11,802.2	7,164.0	186.5	128.8	-83.52	-601.8	-4,146.6	2,431.3	2,118.4	312.87	7.771	
14,100.0	7,306.0	11,802.2	7,164.0	189.3	128.8	-83.52	-601.8	-4,146.6	2,517.4	2,201.7	315.65	7.975	
14,200.0	7,306.0	11,802.2	7,164.0	192.1	128.8	-83.52	-601.8	-4,146.6	2,604.4	2,286.0	318.43	8.179	
14,300.0	7,306.0	11,802.2	7,164.0	194.9	128.8	-83.52	-601.8	-4,146.6	2,692.4	2,371.2	321.20	8.382	
14,363.6	7,306.0	11,802.2	7,164.0	196.7	128.8	-83.52	-601.8	-4,146.6	2,748.8	2,425.8	322.97	8.511	

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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-404
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.39°



Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well SHARON 21O-404
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-404	**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 #2	**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-404
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.39°