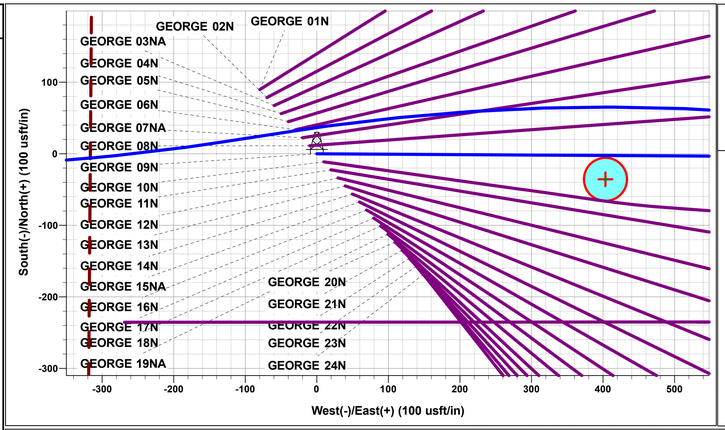
Project: WELD COUNTY, COLORADO (TRUE)
Site: SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)
Well: GEORGE 09N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 1861ft FNL & 2316ft FEL of Sec 21
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	START NUDGE (4°/100ft BUR)
2807.33	40.29	90.34	2726.33	-2.00	339.84	-339.83	339.84	EOB TO 40.29° INC
5847.86	40.29	90.34	5045.48	-13.59	2306.11	-2306.08	2306.15	END OF TANGENT
6855.19	0.00	0.00	5971.81	-15.59	2645.95	-2645.91	2646.00	EOD TO VERTICAL
6955.19	0.00	0.00	6071.81	-15.59	2645.95	-2645.91	2646.00	KOP (8°/100ft BUR)
7892.69	75.00	269.99	6763.60	-15.68	2115.12	-2115.08	3176.82	EP: 1872ft FNL & 200ft FEL of Sec 21
8076.57	89.71	269.99	6788.00	-15.71	1933.38	-1933.34	3358.57	HZ LANDING POINT
8640.03	89.71	269.99	6790.85	-15.80	1369.93	-1369.89	3922.02	END OF TANGENT
9075.48	89.71	278.70	6793.04	17.17	936.15	-936.18	4357.47	EOT TO 278.7° AZ
9175.48	89.71	278.70	6793.54	32.29	837.30	-837.37	4457.47	END OF TANGENT
9610.98	89.71	269.99	6795.74	65.25	403.48	-403.62	4892.96	EOT TO 269.99° AZ
10049.47	89.71	261.22	6797.96	31.68	-33.30	33.22	5331.45	EOT TO 261.22° AZ
10149.47	89.71	261.22	6798.46	16.42	-132.12	132.08	5431.45	END OF TANGENT
10587.97	89.71	269.99	6800.68	-17.15	-568.89	568.93	5869.93	EOT TO 269.99° AZ
18050.99	89.72	269.99	6838.00	-18.18	-8031.82	8031.84	13332.86	BHL: 1873ft FNL & 200ft FWL of Sec 20

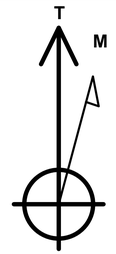


PROPOSED LOCAL COORDINATES:

SHL: 1861ft FNL & 2316ft FEL of Sec 21

EP: 1872ft FNL & 200ft FEL of Sec 21

BHL: 1873ft FNL & 200ft FWL of Sec 20

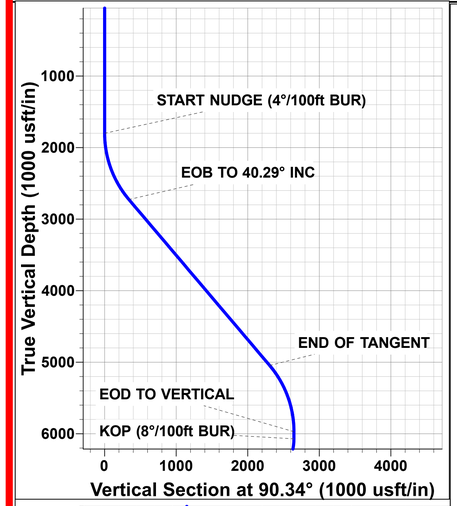


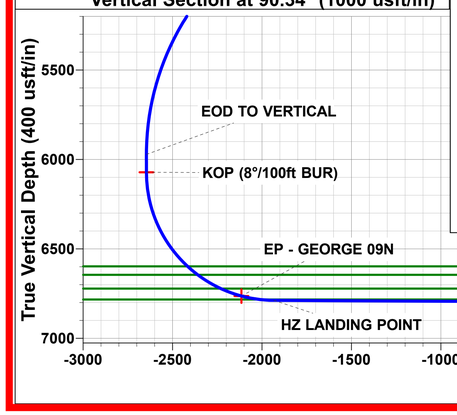
Azimuths to True North
Magnetic North: 7.73°

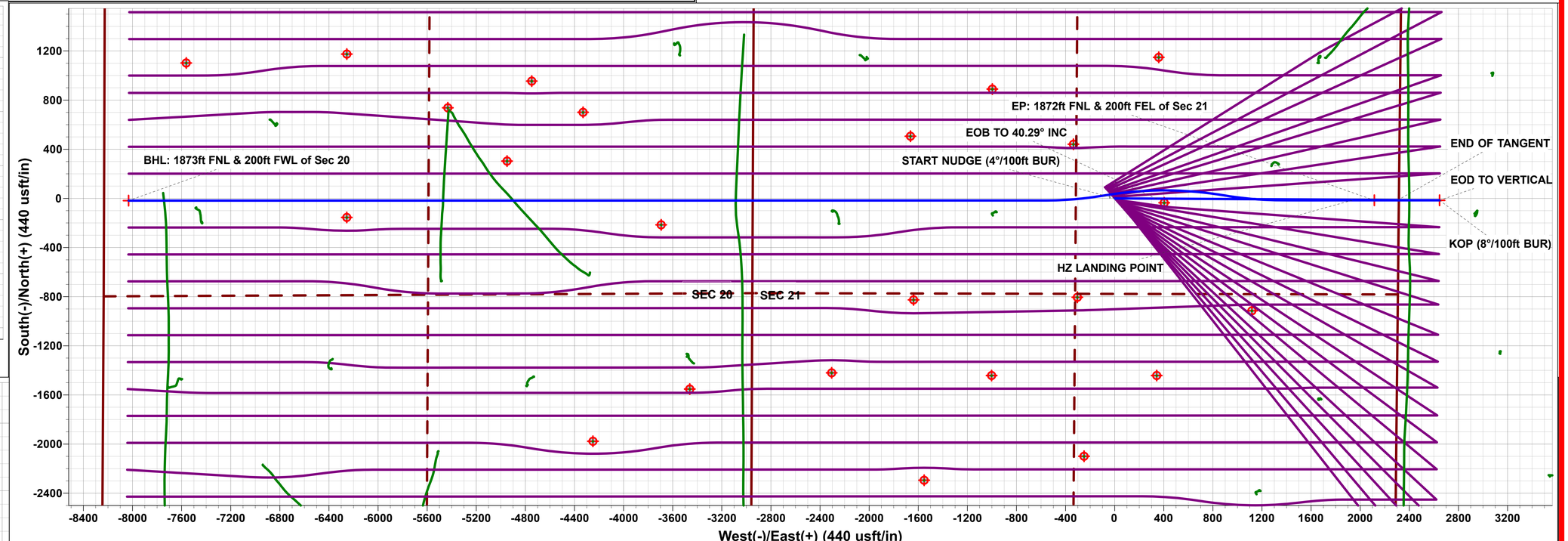
Magnetic Field
Strength: 51929.1nT
Dip Angle: 66.61°
Date: 2021-05-29
Model: IGRF2020

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - GEORGE 09N	6838.00	-18.18	-8031.82	1353454.04	3255654.22	40.300004	-104.583401
EP - GEORGE 09N	6763.60	-15.68	2115.12	1353564.71	3265800.12	40.300015	-104.547024
KOP - GEORGE 09N	6071.81	-15.59	2645.95	1353570.46	3266330.90	40.300015	-104.545121







PDC ENERGY

WELD COUNTY, COLORADO (TRUE)
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)
GEORGE 09N

ORIGINAL WELLBORE
PROPOSAL #1

Anticollision Report

29 May, 2021

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well GEORGE 09N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23ft @ 4743.00usft
Reference Site:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)	**MD Reference:**	KB 23ft @ 4743.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	GEORGE 09N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	Database 1
Reference Design:	PROPOSAL #1	**Offset TVD Reference:**	Offset Datum

Reference PROPOSAL #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 9,999.98usft	**Error Surface:**	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 2021-05-29

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	18,050.99	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)						
ABDN DD BALBOA C20-24D - Wellbore #1 - Wellbore #	15,529.89	7,040.90	2,040.91	1,791.31	8.177	CC
ABDN DD BALBOA C20-24D - Wellbore #1 - Wellbore #	15,600.00	7,040.18	2,042.11	1,790.54	8.117	ES
ABDN DD BALBOA C20-24D - Wellbore #1 - Wellbore #	15,800.00	7,038.09	2,058.71	1,803.07	8.053	SF
ABDN DD DINNEL C27-28D - Wellbore #1 - Wellbore #1	6,846.69	5,996.69	4,050.07	3,985.03	62.267	CC
ABDN DD DINNEL C27-28D - Wellbore #1 - Wellbore #1	6,855.19	6,005.65	4,050.09	3,985.02	62.248	ES
ABDN DD DINNEL C27-28D - Wellbore #1 - Wellbore #1	7,000.00	6,157.19	4,051.29	3,985.92	61.978	SF
ABDN DD DINNEL C27-29D - Wellbore #1 - Wellbore #1	6,959.26	6,108.73	3,412.47	3,350.57	55.127	CC, ES, SF
ABDN DD HANSCOME C28-29D - Wellbore #1 - Wellbo	11,631.52	6,959.35	3,328.00	3,173.09	21.484	CC
ABDN DD HANSCOME C28-29D - Wellbore #1 - Wellbo	11,700.00	6,957.69	3,328.70	3,172.21	21.271	ES
ABDN DD HANSCOME C28-29D - Wellbore #1 - Wellbo	12,500.00	6,939.01	3,439.40	3,269.15	20.202	SF
ABDN DD LEONARD C21-16 - Wellbore #1 - Wellbore #	4,372.78	3,741.87	2,822.83	2,783.30	71.421	CC
ABDN DD LEONARD C21-16 - Wellbore #1 - Wellbore #	4,500.00	3,843.86	2,823.78	2,782.01	67.598	ES
ABDN DD LEONARD C21-16 - Wellbore #1 - Wellbore #	8,900.00	6,785.76	2,948.87	2,864.26	34.852	SF
ABDN VERT BALBOA 20-3 - Wellbore #1 - Wellbore #1	14,749.29	6,819.77	1,434.86	1,221.78	6.734	CC
ABDN VERT BALBOA 20-3 - Wellbore #1 - Wellbore #1	14,800.00	6,819.93	1,435.76	1,221.48	6.701	ES
ABDN VERT BALBOA 20-3 - Wellbore #1 - Wellbore #1	14,900.00	6,820.24	1,442.76	1,227.05	6.688	SF
ABDN VERT BALBOA C20-2 - Wellbore #1 - Design #1	13,480.41	6,807.31	1,534.45	1,220.56	4.889	CC
ABDN VERT BALBOA C20-2 - Wellbore #1 - Design #1	13,500.00	6,807.41	1,534.57	1,220.19	4.881	ES
ABDN VERT BALBOA C20-2 - Wellbore #1 - Design #1	13,600.00	6,807.91	1,539.10	1,222.68	4.864	SF
ABDN VERT CHENOWETH #2 - Wellbore #1 - Wellbore	17,624.34	6,887.79	2,737.16	2,445.77	9.393	CC
ABDN VERT CHENOWETH #2 - Wellbore #1 - Wellbore	17,700.00	6,888.62	2,738.21	2,444.86	9.334	ES
ABDN VERT CHENOWETH #2 - Wellbore #1 - Wellbore	18,000.00	6,891.92	2,762.82	2,464.22	9.253	SF
ABDN VERT CPC OSTER 19-1 - Wellbore #1 - Wellbore	18,050.99	6,940.56	1,481.72	1,243.53	6.221	CC, ES, SF
ABDN VERT HANSCOME C21-18 - Wellbore #1 - Desig	10,311.15	6,774.28	446.64	212.87	1.911	CC, ES, SF
ABDN VERT HANSCOME C21-19 - Wellbore #1 - Desig	11,682.10	6,793.24	523.41	256.13	1.958	CC
ABDN VERT HANSCOME C21-19 - Wellbore #1 - Desig	11,700.00	6,793.33	523.72	256.07	1.957	ES, SF
ABDN VERT HANSCOME C28-1 - Wellbore #1 - Design	11,028.14	6,816.92	4,063.33	3,811.50	16.135	CC
ABDN VERT HANSCOME C28-1 - Wellbore #1 - Design	11,100.00	6,817.29	4,063.97	3,810.44	16.030	ES
ABDN VERT HANSCOME C28-1 - Wellbore #1 - Design	12,100.00	6,822.35	4,202.33	3,928.78	15.362	SF
ABDN VERT HIGHLAND 11-20 - Wellbore #1 - Wellbore	16,390.82	6,842.98	1,290.78	1,033.33	5.014	CC
ABDN VERT HIGHLAND 11-20 - Wellbore #1 - Wellbore	16,400.00	6,843.03	1,290.81	1,033.12	5.009	ES
ABDN VERT HIGHLAND 11-20 - Wellbore #1 - Wellbore	16,500.00	6,843.49	1,295.39	1,036.13	4.997	SF
ABDN VERT JOHNSON C29-29 - Wellbore #1 - Design	16,996.54	6,887.81	3,584.29	3,173.84	8.733	CC
ABDN VERT JOHNSON C29-29 - Wellbore #1 - Design	17,100.00	6,888.32	3,585.78	3,172.62	8.679	ES
ABDN VERT JOHNSON C29-29 - Wellbore #1 - Design	17,500.00	6,890.29	3,619.47	3,198.20	8.592	SF
ABDN VERT LEONARD #1 - Wellbore #1 - Wellbore #1	2,769.48	2,661.67	2,757.95	2,747.94	275.484	CC

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

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well GEORGE 09N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23ft @ 4743.00usft
Reference Site:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)	**MD Reference:**	KB 23ft @ 4743.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	GEORGE 09N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	Database 1
Reference Design:	PROPOSAL #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)						
ABDN VERT LEONARD #1 - Wellbore #1 - Wellbore #1	2,900.00	2,757.22	2,759.28	2,747.58	235.784	ES
ABDN VERT LEONARD #1 - Wellbore #1 - Wellbore #1	10,700.00	6,737.03	2,945.84	2,843.03	28.653	SF
ABDN VERT LEONARD 21-14I4 - Wellbore #1 - Design	11,034.28	6,817.95	2,759.12	2,507.18	10.952	CC
ABDN VERT LEONARD 21-14I4 - Wellbore #1 - Design	11,100.00	6,818.29	2,759.90	2,506.43	10.888	ES
ABDN VERT LEONARD 21-14I4 - Wellbore #1 - Design	11,500.00	6,820.32	2,798.15	2,536.75	10.704	SF
ABDN VERT LEONARD 21-6I4 - Wellbore #1 - Wellbore	11,018.06	6,783.03	111.87	-4.52	0.961	Level 3, CC, ES, SF
ABDN VERT PREBISH #1 - Wellbore #1 - Design #1	16,273.36	6,840.24	1,192.56	802.82	3.060	CC
ABDN VERT PREBISH #1 - Wellbore #1 - Design #1	16,300.00	6,840.37	1,192.86	802.45	3.055	ES, SF
ABDN VERT PREBISH #2 - Wellbore #1 - Wellbore #1	17,502.23	6,883.36	57.98	-229.74	0.202	Level 3, CC, ES, SF
ABDN VERT TODD #1 - Wellbore #1 - Wellbore #1	13,606.72	6,749.56	1,273.98	1,091.14	6.968	CC, ES
ABDN VERT TODD #1 - Wellbore #1 - Wellbore #1	13,700.00	6,749.73	1,277.39	1,092.65	6.914	SF
ABDN VERT TODD #2 - Wellbore #1 - Design #1	14,968.27	6,816.75	321.42	-32.43	0.908	Level 3, CC, ES, SF
ABDN VERT UPRC #29-4H - Wellbore #1 - Design #1	17,741.58	6,899.48	4,066.69	3,635.53	9.432	CC
ABDN VERT UPRC #29-4H - Wellbore #1 - Design #1	17,800.00	6,899.77	4,067.11	3,634.38	9.399	ES
ABDN VERT UPRC #29-4H - Wellbore #1 - Design #1	18,050.99	6,901.00	4,078.44	3,639.69	9.296	SF
ABDN VERT VICTOR C19-9 - Wellbore #1 - Wellbore #1	18,050.99	6,900.00	1,579.44	1,335.19	6.466	CC, ES, SF
ABDN VERT VICTOR C29-4 - Wellbore #1 - Design #1	17,600.00	4,554.00	4,692.68	4,363.54	14.257	CC
ABDN VERT VICTOR C29-4 - Wellbore #1 - Design #1	17,700.00	4,554.00	4,693.75	4,362.26	14.159	ES
ABDN VERT VICTOR C29-4 - Wellbore #1 - Design #1	18,050.99	4,554.00	4,714.32	4,375.46	13.912	SF
EXIST DD CHENOWETH C20-25D - Wellbore #1 - Wellb	16,958.81	7,137.68	2,152.42	1,855.95	7.260	CC
EXIST DD CHENOWETH C20-25D - Wellbore #1 - Wellb	17,000.00	7,138.03	2,152.82	1,855.58	7.243	ES
EXIST DD CHENOWETH C20-25D - Wellbore #1 - Wellb	17,100.00	7,138.91	2,157.05	1,858.46	7.224	SF
EXIST DD HANSCOME C28-28D - Wellbore #1 - Wellbo	10,443.42	6,827.39	3,461.56	3,346.22	30.011	CC
EXIST DD HANSCOME C28-28D - Wellbore #1 - Wellbo	10,500.00	6,827.19	3,462.58	3,346.06	29.718	ES
EXIST DD HANSCOME C28-28D - Wellbore #1 - Wellbo	11,500.00	6,823.73	3,666.38	3,533.31	27.552	SF
EXIST DD HANSCOME C28-30D - Wellbore #1 - Wellbo	12,914.85	6,981.46	3,305.96	3,125.13	18.282	CC
EXIST DD HANSCOME C28-30D - Wellbore #1 - Wellbo	13,000.00	6,982.63	3,307.06	3,124.24	18.089	ES
EXIST DD HANSCOME C28-30D - Wellbore #1 - Wellbo	13,600.00	6,990.78	3,376.20	3,182.69	17.447	SF
EXIST DD HANSCOME C29-27D - Wellbore #1 - Wellbo	14,298.75	6,955.89	3,263.05	3,044.98	14.963	CC
EXIST DD HANSCOME C29-27D - Wellbore #1 - Wellbo	14,400.00	6,955.62	3,264.62	3,043.76	14.781	ES
EXIST DD HANSCOME C29-27D - Wellbore #1 - Wellbo	15,000.00	6,954.06	3,337.56	3,104.67	14.331	SF
EXIST DD LONG C20-21D - Wellbore #1 - Wellbore #1	15,501.91	7,057.29	656.00	407.58	2.641	CC, ES, SF
EXIST DD LONG C20-22D - Wellbore #1 - Wellbore #1	14,294.72	7,170.80	597.68	372.96	2.660	CC, ES, SF
EXIST DD NOVACEK C28-27D - Wellbore #1 - Wellbore	0.00	0.00	3,200.36			
EXIST DD NOVACEK C28-27D - Wellbore #1 - Wellbore	3,400.00	2,647.67	3,202.04	3,177.40	129.946	ES
EXIST DD NOVACEK C28-27D - Wellbore #1 - Wellbore	10,587.97	6,890.32	3,801.14	3,686.03	33.021	SF
EXIST HZ HANSCOME C21-79HN - Wellbore #1 - Wellb	13,104.94	9,513.43	102.52	26.60	1.350	Level 3, CC, ES, SF
EXIST HZ KLINGENBERG C20-780 - SIDETRACK - SID	17,700.00	10,108.69	359.64	247.39	3.204	SF
EXIST HZ KLINGENBERG C20-780 - SIDETRACK - SID	17,764.33	10,116.38	353.92	243.84	3.215	CC, ES
EXIST HZ KLINGENBERG C20-780 - VERTICAL PILOT	17,750.95	6,889.96	3,145.73	2,838.60	10.242	CC
EXIST HZ KLINGENBERG C20-780 - VERTICAL PILOT	17,800.00	6,889.96	3,146.11	2,837.67	10.200	ES
EXIST HZ KLINGENBERG C20-780 - VERTICAL PILOT	18,050.99	6,889.95	3,160.00	2,846.14	10.068	SF
EXIST HZ THOMPSON C28-79HN - Wellbore #1 - Wellb	12,934.45	10,884.00	3,927.00	3,749.27	22.096	CC
EXIST HZ THOMPSON C28-79HN - Wellbore #1 - Wellb	13,000.00	10,884.00	3,927.54	3,748.44	21.929	ES
EXIST HZ THOMPSON C28-79HN - Wellbore #1 - Wellb	14,700.00	10,884.00	4,305.65	4,082.54	19.299	SF
EXIST VERT API #20-6I4 - Wellbore #1 - Design #1	16,273.85	6,851.24	137.15	-252.71	0.352	Level 3, CC, ES, SF
EXIST VERT API 20-4I4 - Wellbore #1 - Design #1	17,581.55	6,879.69	1,120.22	693.87	2.627	CC
EXIST VERT API 20-4I4 - Wellbore #1 - Design #1	17,600.00	6,879.78	1,120.37	693.56	2.625	ES, SF
EXIST VERT BALBOA 20-1 - Wellbore #1 - Design #1	13,616.31	6,830.99	2,684.52	2,366.60	8.444	CC
EXIST VERT BALBOA 20-1 - Wellbore #1 - Design #1	13,700.00	6,831.41	2,685.82	2,365.78	8.392	ES
EXIST VERT BALBOA 20-1 - Wellbore #1 - Design #1	14,000.00	6,832.92	2,711.80	2,385.74	8.317	SF
EXIST VERT BALBOA C20-23 - Wellbore #1 - Design #1	14,268.85	6,826.26	1,959.36	1,624.13	5.845	CC

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

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well GEORGE 09N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23ft @ 4743.00usft
Reference Site:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)	**MD Reference:**	KB 23ft @ 4743.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	GEORGE 09N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	Database 1
Reference Design:	PROPOSAL #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)						
EXIST VERT BALBOA C20-23 - Wellbore #1 - Design #1	14,300.00	6,826.42	1,959.60	1,623.57	5.832	ES
EXIST VERT BALBOA C20-23 - Wellbore #1 - Design #1	14,500.00	6,827.42	1,972.94	1,633.09	5.805	SF
EXIST VERT BALBOA C20-4 - Wellbore #1 - Design #1	15,080.87	6,847.31	2,756.92	2,399.55	7.714	CC
EXIST VERT BALBOA C20-4 - Wellbore #1 - Design #1	15,100.00	6,847.41	2,756.99	2,399.11	7.704	ES
EXIST VERT BALBOA C20-4 - Wellbore #1 - Design #1	15,400.00	6,848.90	2,775.33	2,410.96	7.617	SF
EXIST VERT BALBOA C20-9X - Wellbore #1 - Wellbore	13,498.66	6,762.30	1,261.25	1,081.69	7.024	CC
EXIST VERT BALBOA C20-9X - Wellbore #1 - Wellbore	13,500.00	6,762.32	1,261.25	1,081.66	7.023	ES
EXIST VERT BALBOA C20-9X - Wellbore #1 - Wellbore	13,600.00	6,764.01	1,265.31	1,083.72	6.968	SF
EXIST VERT BORYS C22-20 - Wellbore #1 - Design #1	6,955.19	6,009.81	1,302.13	1,149.47	8.529	CC, ES
EXIST VERT BORYS C22-20 - Wellbore #1 - Design #1	7,050.00	6,104.34	1,307.69	1,153.19	8.464	SF
EXIST VERT CANTRELL #1 - Wellbore #1 - Design #1	6,955.19	5,991.81	2,198.78	2,035.49	13.466	CC, ES
EXIST VERT CANTRELL #1 - Wellbore #1 - Design #1	7,150.00	6,184.22	2,218.39	2,051.62	13.302	SF
EXIST VERT CANTRELL 22-12 - Wellbore #1 - Wellbore	6,847.57	5,887.85	1,339.54	1,280.51	22.694	CC, ES
EXIST VERT CANTRELL 22-12 - Wellbore #1 - Wellbore	6,955.19	5,994.84	1,339.74	1,280.65	22.671	SF
EXIST VERT CONRAD #1 - Wellbore #1 - Design #1	6,955.19	5,984.81	2,067.92	1,907.96	12.928	CC, ES
EXIST VERT CONRAD #1 - Wellbore #1 - Design #1	7,150.00	6,177.22	2,089.19	1,925.73	12.781	SF
EXIST VERT CPC-JOHNSON 29-1 - Wellbore #1 - Desig	13,515.12	6,840.48	3,913.71	3,598.27	12.407	CC
EXIST VERT CPC-JOHNSON 29-1 - Wellbore #1 - Desig	13,600.00	6,840.91	3,914.63	3,596.99	12.324	ES
EXIST VERT CPC-JOHNSON 29-1 - Wellbore #1 - Desig	14,300.00	6,844.42	3,991.64	3,659.35	12.013	SF
EXIST VERT DARLENE DINNEL #1 - Wellbore #1 - Des	6,955.19	6,003.81	3,186.68	3,012.47	18.292	CC
EXIST VERT DARLENE DINNEL #1 - Wellbore #1 - Des	7,000.00	6,048.59	3,187.39	3,012.28	18.202	ES
EXIST VERT DARLENE DINNEL #1 - Wellbore #1 - Des	7,300.00	6,335.45	3,228.64	3,048.76	17.949	SF
EXIST VERT HAMLIN C21-22 - Wellbore #1 - Design #1	8,831.71	6,753.82	907.35	700.74	4.392	CC, ES
EXIST VERT HAMLIN C21-22 - Wellbore #1 - Design #1	8,900.00	6,754.16	910.73	703.01	4.384	SF
EXIST VERT HANSCOME 28-4 - Wellbore #1 - Wellbore	12,365.80	6,845.90	4,189.20	4,039.32	27.950	CC
EXIST VERT HANSCOME 28-4 - Wellbore #1 - Wellbore	12,500.00	6,846.81	4,191.35	4,038.11	27.351	ES
EXIST VERT HANSCOME 28-4 - Wellbore #1 - Wellbore	13,700.00	6,853.95	4,396.53	4,220.75	25.011	SF
EXIST VERT HANSCOME C21-20 - Wellbore #1 - Desig	11,657.31	6,808.11	808.49	541.53	3.029	CC, ES
EXIST VERT HANSCOME C21-20 - Wellbore #1 - Desig	11,700.00	6,808.33	809.62	541.83	3.023	SF
EXIST VERT HANSCOME C21-21 - Wellbore #1 - Desig	10,380.61	6,795.63	797.60	561.52	3.378	CC, ES
EXIST VERT HANSCOME C21-21 - Wellbore #1 - Desig	10,400.00	6,795.73	797.90	561.63	3.377	SF
EXIST VERT HANSCOME C21-24 - Wellbore #1 - Desig	10,403.48	6,796.74	2,092.30	1,855.62	8.840	CC, ES
EXIST VERT HANSCOME C21-24 - Wellbore #1 - Desig	10,587.97	6,797.68	2,106.33	1,866.52	8.783	SF
EXIST VERT HERBST #1 - Wellbore #1 - Wellbore #1	6,901.49	5,951.38	2,745.62	2,682.65	43.608	CC, ES
EXIST VERT HERBST #1 - Wellbore #1 - Wellbore #1	6,955.19	6,000.00	2,745.69	2,682.70	43.591	SF
EXIST VERT HERBST 22-6I4 - Wellbore #1 - Design #1	6,955.19	6,002.81	1,229.85	1,086.73	8.593	CC, ES
EXIST VERT HERBST 22-6I4 - Wellbore #1 - Design #1	7,050.00	6,097.34	1,235.99	1,090.93	8.521	SF
EXIST VERT HERBST C22-25 - Wellbore #1 - Wellbore	6,822.66	5,848.20	2,414.61	2,355.62	40.937	CC, ES
EXIST VERT HERBST C22-25 - Wellbore #1 - Wellbore	6,955.19	5,983.88	2,415.37	2,356.32	40.903	SF
EXIST VERT HERBST C27-30 - Wellbore #1 - Design #1	7,470.00	6,496.42	3,584.32	3,392.86	18.721	CC
EXIST VERT HERBST C27-30 - Wellbore #1 - Design #1	7,550.00	6,553.56	3,584.75	3,392.19	18.616	ES
EXIST VERT HERBST C27-30 - Wellbore #1 - Design #1	8,000.00	6,736.52	3,613.58	3,416.39	18.325	SF
EXIST VERT HERBST, CONRAD #1 - Wellbore #1 - Des	6,955.19	6,009.81	4,388.34	4,210.17	24.631	CC
EXIST VERT HERBST, CONRAD #1 - Wellbore #1 - Des	7,000.00	6,054.59	4,388.86	4,209.79	24.509	ES
EXIST VERT HERBST, CONRAD #1 - Wellbore #1 - Des	7,450.00	6,466.18	4,451.92	4,265.96	23.940	SF
EXIST VERT HIGHLAND 12-20 - Wellbore #1 - Wellbore	17,618.17	6,847.13	1,453.17	1,162.11	4.993	CC, ES
EXIST VERT HIGHLAND 12-20 - Wellbore #1 - Wellbore	17,700.00	6,846.94	1,455.48	1,162.76	4.972	SF
EXIST VERT JOHNSON C29-28 - Wellbore #1 - Design	15,811.93	6,862.95	3,252.12	2,874.74	8.618	CC
EXIST VERT JOHNSON C29-28 - Wellbore #1 - Design	15,900.00	6,863.39	3,253.32	2,873.63	8.568	ES
EXIST VERT JOHNSON C29-28 - Wellbore #1 - Design	16,300.00	6,865.37	3,288.54	2,900.87	8.483	SF
EXIST VERT JOHNSON R C29-2 - Wellbore #1 - Design	14,961.34	6,869.72	4,024.74	3,670.03	11.346	CC
EXIST VERT JOHNSON R C29-2 - Wellbore #1 - Design	15,100.00	6,870.41	4,027.13	3,668.80	11.239	ES

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well GEORGE 09N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23ft @ 4743.00usft
Reference Site:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)	**MD Reference:**	KB 23ft @ 4743.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	GEORGE 09N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	Database 1
Reference Design:	PROPOSAL #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)						
EXIST VERT JOHNSON R C29-2 - Wellbore #1 - Design	15,700.00	6,873.39	4,091.96	3,721.31	11.040	SF
EXIST VERT JOHNSTON #22-4 - Wellbore #1 - Wellbor	6,974.31	6,022.05	1,107.91	1,048.95	18.791	CC, ES, SF
EXIST VERT JULIE C21-25 - Wellbore #1 - Design #1	11,571.45	6,832.68	2,277.03	2,011.70	8.582	CC
EXIST VERT JULIE C21-25 - Wellbore #1 - Design #1	11,600.00	6,832.82	2,277.21	2,011.19	8.560	ES
EXIST VERT JULIE C21-25 - Wellbore #1 - Design #1	11,900.00	6,834.34	2,300.61	2,028.57	8.457	SF
EXIST VERT KLEIN #1 - Wellbore #1 - Design #1	12,316.38	6,834.45	2,746.80	2,462.71	9.669	CC
EXIST VERT KLEIN #1 - Wellbore #1 - Design #1	12,400.00	6,834.87	2,748.07	2,461.91	9.603	ES
EXIST VERT KLEIN #1 - Wellbore #1 - Design #1	12,800.00	6,836.89	2,789.05	2,495.02	9.486	SF
EXIST VERT KLEIN 21-12 - Wellbore #1 - Design #1	12,324.41	6,810.49	1,402.52	1,118.66	4.941	CC, ES
EXIST VERT KLEIN 21-12 - Wellbore #1 - Design #1	12,400.00	6,810.87	1,404.55	1,119.01	4.919	SF
EXIST VERT LEHFELDT C27-04 - Wellbore #1 - Design	6,955.19	6,015.81	4,269.02	4,086.58	23.399	CC
EXIST VERT LEHFELDT C27-04 - Wellbore #1 - Design	7,250.00	6,302.36	4,270.89	4,083.07	22.739	ES
EXIST VERT LEHFELDT C27-04 - Wellbore #1 - Design	7,950.00	6,720.20	4,323.21	4,126.94	22.027	SF
EXIST VERT LEONARD #2 - Wellbore #1 - Wellbore #1	12,260.62	6,780.87	188.87	41.47	1.281	Level 3, CC, ES, SF
EXIST VERT LEONARD #3 - Wellbore #1 - Design #1	11,021.72	6,822.89	1,424.67	1,172.89	5.658	CC, ES
EXIST VERT LEONARD #3 - Wellbore #1 - Design #1	11,200.00	6,823.80	1,435.79	1,180.74	5.629	SF
EXIST VERT LEONARD #4 - Wellbore #1 - Design #1	2,906.04	2,773.62	33.32	-32.83	0.504	Level 3, CC
EXIST VERT LEONARD #4 - Wellbore #1 - Design #1	9,610.98	6,767.74	100.95	-119.26	0.458	Level 3, ES, SF
EXIST VERT LEONARD 21-10 - Wellbore #1 - Design #1	2,823.99	2,719.04	1,439.88	1,375.87	22.496	CC
EXIST VERT LEONARD 21-10 - Wellbore #1 - Design #1	9,800.00	6,776.70	1,506.31	1,282.68	6.736	ES
EXIST VERT LEONARD 21-10 - Wellbore #1 - Design #1	9,900.00	6,777.21	1,509.74	1,284.97	6.717	SF
EXIST VERT LEONARD 21-16I4 - Wellbore #1 - Wellbor	4,093.51	3,666.15	2,370.06	2,340.56	80.342	CC
EXIST VERT LEONARD 21-16I4 - Wellbore #1 - Wellbor	8,760.91	6,737.63	2,387.16	2,315.31	33.226	ES
EXIST VERT LEONARD 21-16I4 - Wellbore #1 - Wellbor	9,500.00	6,735.28	2,541.86	2,460.87	31.389	SF
EXIST VERT LONG C20-17 - Wellbore #1 - Design #1	14,348.91	6,797.66	718.31	381.47	2.133	CC, ES, SF
EXIST VERT LONG C20-18 - Wellbore #1 - Design #1	15,450.68	6,829.15	755.10	387.99	2.057	CC, ES, SF
EXIST VERT LYMAN #1 - Wellbore #1 - Wellbore #1	6,946.01	5,985.60	321.90	294.72	11.846	CC
EXIST VERT LYMAN #1 - Wellbore #1 - Wellbore #1	6,955.19	5,994.67	321.90	294.66	11.817	ES
EXIST VERT LYMAN #1 - Wellbore #1 - Wellbore #1	7,000.00	6,040.54	323.17	295.70	11.763	SF
EXIST VERT NIX #1 - Wellbore #1 - Design #1	8,424.21	6,739.75	4,194.82	3,993.47	20.834	CC
EXIST VERT NIX #1 - Wellbore #1 - Design #1	8,500.00	6,740.14	4,195.51	3,993.35	20.754	ES
EXIST VERT NIX #1 - Wellbore #1 - Design #1	9,000.00	6,742.66	4,256.40	4,048.12	20.436	SF
EXIST VERT NOVACEK #1 - Wellbore #1 - Design #1	2,809.29	2,711.83	4,081.19	4,017.51	64.092	CC
EXIST VERT NOVACEK #1 - Wellbore #1 - Design #1	10,224.04	6,782.84	4,122.44	3,890.53	17.776	ES
EXIST VERT NOVACEK #1 - Wellbore #1 - Design #1	10,900.00	6,786.27	4,238.74	3,995.25	17.408	SF
EXIST VERT OSTER PM C19-8 - Wellbore #1 - Design #	18,050.99	6,903.00	693.09	528.45	4.210	CC, ES, SF
EXIST VERT PREBISH C20-19 - Wellbore #1 - Wellbore	16,844.36	6,866.63	618.59	348.83	2.293	CC, ES, SF
EXIST VERT THOUTT #2 - Wellbore #1 - Wellbore #1	4,867.20	4,420.45	1,620.26	1,578.85	39.129	CC
EXIST VERT THOUTT #2 - Wellbore #1 - Wellbore #1	8,346.86	6,902.18	1,624.89	1,557.93	24.268	ES
EXIST VERT THOUTT #2 - Wellbore #1 - Wellbore #1	8,600.00	6,903.19	1,644.49	1,575.64	23.884	SF
EXIST VERT TODD #20-2 - Wellbore #1 - Design #1	14,767.23	6,812.75	972.36	624.02	2.791	CC
EXIST VERT TODD #20-2 - Wellbore #1 - Design #1	14,800.00	6,812.91	972.92	623.82	2.787	ES, SF
EXIST VERT TODD 20-8 - Wellbore #1 - Design #1	13,713.22	6,805.48	197.75	-122.23	0.618	Level 3, CC, ES, SF
EXIST VERT TRAVELERS 21-8I4 - Wellbore #1 - Wellbo	8,741.81	6,730.23	283.11	211.53	3.955	CC, ES, SF
EXIST VERT VICTOR C19-16 - Wellbore #1 - Design #1	18,050.99	6,916.00	2,872.40	2,447.27	6.757	CC, ES, SF
GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #	576.68	574.63	118.33	115.98	50.243	CC
GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #	600.00	597.66	118.38	115.91	47.868	ES
GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,121.45	1,752.93	1,158.04	2.947	SF
GEORGE 02N - ORIGINAL WELLBORE - PROPOSAL #	710.84	709.19	101.95	98.99	34.350	CC, ES
GEORGE 02N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,000.00	1,534.20	938.92	2.577	SF
GEORGE 03NA - ORIGINAL WELLBORE - PROPOSAL	820.58	819.06	85.97	82.51	24.860	CC, ES
GEORGE 03NA - ORIGINAL WELLBORE - PROPOSAL	18,050.99	17,952.53	1,318.75	725.34	2.222	SF

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well GEORGE 09N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23ft @ 4743.00usft
Reference Site:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)	**MD Reference:**	KB 23ft @ 4743.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	GEORGE 09N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	Database 1
Reference Design:	PROPOSAL #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)						
GEORGE 04N - ORIGINAL WELLBORE - PROPOSAL #	930.25	929.89	69.36	65.41	17.556	CC, ES
GEORGE 04N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,988.98	1,017.98	421.61	1.707	SF
GEORGE 05N - ORIGINAL WELLBORE - PROPOSAL #	1,010.42	1,009.78	54.51	50.23	12.721	CC, ES
GEORGE 05N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,909.84	878.43	283.81	1.477	Level 3, SF
GEORGE 06N - ORIGINAL WELLBORE - PROPOSAL #	1,087.69	1,087.77	39.45	34.84	8.546	CC
GEORGE 06N - ORIGINAL WELLBORE - PROPOSAL #	1,100.00	1,099.94	39.50	34.82	8.450	ES
GEORGE 06N - ORIGINAL WELLBORE - PROPOSAL #	18,048.55	17,950.05	657.35	60.31	1.101	Level 3, SF
GEORGE 07NA - ORIGINAL WELLBORE - PROPOSAL	1,150.13	1,149.84	25.13	20.25	5.148	CC
GEORGE 07NA - ORIGINAL WELLBORE - PROPOSAL	18,050.99	17,841.50	453.03	-15.21	0.968	Level 3, ES, SF
GEORGE 08N - ORIGINAL WELLBORE - PROPOSAL #	1,187.43	1,186.73	11.95	6.91	2.371	CC
GEORGE 08N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,878.45	228.53	-151.44	0.601	Level 3, ES, SF
GEORGE 10N - ORIGINAL WELLBORE - PROPOSAL #	1,700.00	1,700.00	15.00	7.64	2.037	CC
GEORGE 10N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,972.60	228.53	-150.08	0.604	Level 3, ES, SF
GEORGE 11N - ORIGINAL WELLBORE - PROPOSAL #	1,600.00	1,600.00	30.00	23.08	4.338	CC
GEORGE 11N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,998.79	438.21	-117.38	0.789	Level 3, ES, SF
GEORGE 12N - ORIGINAL WELLBORE - PROPOSAL #	1,500.00	1,500.00	45.01	38.54	6.960	CC, ES
GEORGE 12N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,950.86	660.48	73.84	1.126	Level 3, SF
GEORGE 13N - ORIGINAL WELLBORE - PROPOSAL #	1,400.00	1,400.00	60.01	53.99	9.973	CC, ES
GEORGE 13N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,996.19	876.39	276.11	1.460	Level 3, SF
GEORGE 14N - ORIGINAL WELLBORE - PROPOSAL #	1,300.00	1,300.00	75.04	69.47	13.478	CC, ES
GEORGE 14N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	17,957.14	1,096.40	496.90	1.829	SF
GEORGE 15NA - ORIGINAL WELLBORE - PROPOSAL	1,200.00	1,199.00	89.99	84.88	17.592	CC, ES
GEORGE 15NA - ORIGINAL WELLBORE - PROPOSAL	18,050.99	17,946.74	1,319.58	723.31	2.213	SF
GEORGE 16N - ORIGINAL WELLBORE - PROPOSAL #	1,100.00	1,099.00	104.99	100.33	22.501	CC, ES
GEORGE 16N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,062.11	1,533.67	934.85	2.561	SF
GEORGE 17N - ORIGINAL WELLBORE - PROPOSAL #	1,000.00	999.00	119.95	115.73	28.447	CC, ES
GEORGE 17N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,032.10	1,753.94	1,155.98	2.933	SF
GEORGE 18N - ORIGINAL WELLBORE - PROPOSAL #	900.00	899.00	134.96	131.20	35.827	CC, ES
GEORGE 18N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,133.22	1,971.84	1,374.55	3.301	SF
GEORGE 19NA - ORIGINAL WELLBORE - PROPOSAL	800.00	798.00	149.96	146.65	45.234	CC, ES
GEORGE 19NA - ORIGINAL WELLBORE - PROPOSAL	18,050.99	18,103.37	2,193.72	1,596.92	3.676	SF
GEORGE 20N - ORIGINAL WELLBORE - PROPOSAL #	700.00	698.00	164.99	162.13	57.574	CC, ES
GEORGE 20N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,243.97	2,410.01	1,813.76	4.042	SF
GEORGE 21N - ORIGINAL WELLBORE - PROPOSAL #	600.00	598.00	179.95	177.53	74.475	CC, ES
GEORGE 21N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,236.72	2,629.91	2,034.43	4.416	SF
GEORGE 22N - ORIGINAL WELLBORE - PROPOSAL #	500.00	497.00	194.99	193.02	99.258	CC, ES
GEORGE 22N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,293.26	2,849.06	2,253.61	4.785	SF
GEORGE 23N - ORIGINAL WELLBORE - PROPOSAL #	400.00	397.00	209.94	208.43	138.584	CC, ES
GEORGE 23N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,420.02	3,067.29	2,472.45	5.156	SF
GEORGE 24N - ORIGINAL WELLBORE - PROPOSAL #	300.00	296.00	224.93	223.86	211.569	CC, ES
GEORGE 24N - ORIGINAL WELLBORE - PROPOSAL #	18,050.99	18,452.96	3,287.13	2,693.47	5.537	SF

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well GEORGE 09N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23ft @ 4743.00usft
Reference Site:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)	**MD Reference:**	KB 23ft @ 4743.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	GEORGE 09N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	Database 1
Reference Design:	PROPOSAL #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)						
ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo	12,037.03	6,744.86	1,159.67	1,018.14	8.194	CC, ES
ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo	12,200.00	6,747.68	1,171.06	1,026.90	8.123	SF
ABDN VERT CHENOWTH #1 - Wellbore #1 - Design #1	11,015.66	6,788.86	906.88	655.93	3.614	CC, ES
ABDN VERT CHENOWTH #1 - Wellbore #1 - Design #1	11,100.00	6,789.29	910.79	658.33	3.608	SF
DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1	7,850.00	18,757.30	2,210.40	1,844.97	6.049	SF
DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1	9,600.00	17,032.92	2,127.90	1,787.85	6.258	ES
DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1	9,612.52	17,020.41	2,127.87	1,787.93	6.260	CC
DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1	7,858.67	18,931.07	2,066.96	1,699.13	5.619	SF
DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1	9,684.62	17,071.12	1,912.86	1,572.92	5.627	CC
DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1	9,700.00	17,061.90	1,912.93	1,572.87	5.625	ES
EXIST DD CRICKET C22-30D - Wellbore #1 - Wellbore #	4,911.56	3,994.42	1,771.18	1,722.15	36.122	CC
EXIST DD CRICKET C22-30D - Wellbore #1 - Wellbore #	7,740.95	6,768.78	1,786.68	1,708.31	22.798	ES
EXIST DD CRICKET C22-30D - Wellbore #1 - Wellbore #	7,800.00	6,796.64	1,787.48	1,709.05	22.792	SF
EXIST HZ STOCKLEY C22-79HN - Wellbore #1 - Wellbo	7,627.99	8,340.25	79.74	46.07	2.368	CC
EXIST HZ STOCKLEY C22-79HN - Wellbore #1 - Wellbo	7,650.00	8,339.87	83.05	43.86	2.119	ES
EXIST HZ STOCKLEY C22-79HN - Wellbore #1 - Wellbo	7,700.00	8,339.07	110.07	56.57	2.057	SF
EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig	9,643.24	6,763.91	1,083.29	862.56	4.908	CC, ES
EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig	9,700.00	6,764.19	1,085.34	863.46	4.892	SF
EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We	9,169.91	6,736.10	1,937.04	1,859.17	24.874	CC
EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We	9,175.48	6,736.09	1,937.05	1,859.11	24.854	ES
EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We	9,400.00	6,735.79	1,959.37	1,879.13	24.419	SF
EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1	8,350.12	6,730.81	1,117.59	1,050.52	16.663	CC, ES
EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1	8,500.00	6,729.67	1,127.60	1,059.45	16.547	SF

Offset Design: SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE) - ABDN DD BALBOA C20-24D - Wellbore #1 - Wellbore #1

Offset Site Error: 0.00 usft

Survey Program: 378-MWD

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	35.81	35.81	0.00	0.04	-119.17	-3,262.75	-5,845.39	6,694.34				
100.00	100.00	135.28	135.28	0.09	0.15	-119.17	-3,262.79	-5,845.38	6,694.34	6,694.11	0.24	N/A	
200.00	200.00	1,526.67	1,506.15	0.31	4.42	-118.04	-3,085.24	-5,792.44	6,684.64	6,680.30	4.34	1,540.274	
300.00	300.00	1,589.00	1,566.12	0.54	4.72	-117.93	-3,068.80	-5,788.22	6,665.90	6,661.16	4.74	1,407.784	
400.00	400.00	1,675.37	1,649.35	0.76	5.11	-117.78	-3,046.46	-5,782.43	6,647.53	6,642.29	5.24	1,268.778	
500.00	500.00	1,793.48	1,763.25	0.99	5.67	-117.58	-3,016.39	-5,773.77	6,628.81	6,622.91	5.90	1,123.327	
600.00	600.00	1,845.00	1,812.91	1.21	5.93	-117.49	-3,003.15	-5,770.35	6,610.67	6,604.35	6.32	1,046.789	
700.00	700.00	1,919.16	1,884.47	1.44	6.28	-117.36	-2,984.22	-5,765.77	6,593.08	6,586.25	6.82	966.335	
800.00	800.00	2,122.91	2,081.34	1.66	7.26	-117.03	-2,933.85	-5,751.00	6,575.14	6,567.29	7.84	838.453	
900.00	900.00	2,242.64	2,196.70	1.88	7.88	-116.82	-2,903.25	-5,741.44	6,556.10	6,547.54	8.56	766.149	
1,000.00	1,000.00	2,334.92	2,285.40	2.11	8.36	-116.66	-2,878.86	-5,734.25	6,536.85	6,527.69	9.17	713.074	
1,100.00	1,100.00	2,419.01	2,366.28	2.33	8.79	-116.51	-2,856.75	-5,727.82	6,517.87	6,508.13	9.74	668.987	
1,200.00	1,200.00	2,567.51	2,508.93	2.56	9.56	-116.23	-2,817.05	-5,716.64	6,498.93	6,488.33	10.60	613.180	
1,300.00	1,300.00	2,678.21	2,615.04	2.78	10.16	-116.02	-2,786.82	-5,707.56	6,479.08	6,467.77	11.31	572.874	
1,400.00	1,400.00	2,801.44	2,732.83	3.01	10.84	-115.78	-2,751.92	-5,697.99	6,459.25	6,447.16	12.10	534.007	
1,500.00	1,500.00	2,881.10	2,808.95	3.23	11.28	-115.62	-2,729.29	-5,691.73	6,439.35	6,426.66	12.69	507.544	
1,600.00	1,600.00	2,957.00	2,881.49	3.46	11.69	-115.47	-2,707.76	-5,685.79	6,419.61	6,406.35	13.26	484.039	
1,700.00	1,700.00	3,001.09	2,923.67	3.68	11.93	-115.38	-2,695.35	-5,682.55	6,400.54	6,386.84	13.70	467.249	
1,800.00	1,800.00	3,042.00	2,962.93	3.91	12.15	-115.29	-2,684.13	-5,679.93	6,382.49	6,368.37	14.12	451.982	
1,900.00	1,899.92	3,215.38	3,129.33	4.12	13.07	155.00	-2,636.89	-5,668.20	6,367.53	6,352.42	15.10	421.561	

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