



Project: **WELD COUNTY, COLORADO (TRUE)**
Site: **NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)**
Well: **SCHRUTE 4N**
Wellbore: **Wellbore #1**
Design: **PROPOSAL #1**

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSection	Departure	Annotation
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.0	START NUDGE (2.50°/100ft)
1676.6	26.92	259.46	1637.5	-45.4	-244.1	-241.0	248.3	EOB TO 26.92° INC
6100.9	26.92	259.46	5582.5	-411.8	-2213.0	-2185.4	2251.0	KOP (8.00°/100ft)
7559.1	90.23	89.96	6613.0	-507.2	-1568.8	-1536.7	3063.8	HZ LANDING POINT/EP
17733.1	90.23	89.96	6573.0	-500.5	8605.2	8619.7	13237.8	TD/BHL



Azimuths to True North
Magnetic North: 7.90°

Magnetic Field

Strength: 52201.3nT
Dip Angle: 66.84°
Date: 4/30/2019
Model: IGRF2015

SHL FOOTAGE: SEC 16

2265	FSL	1747	FWL
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BHL FOOTAGE: SEC 15

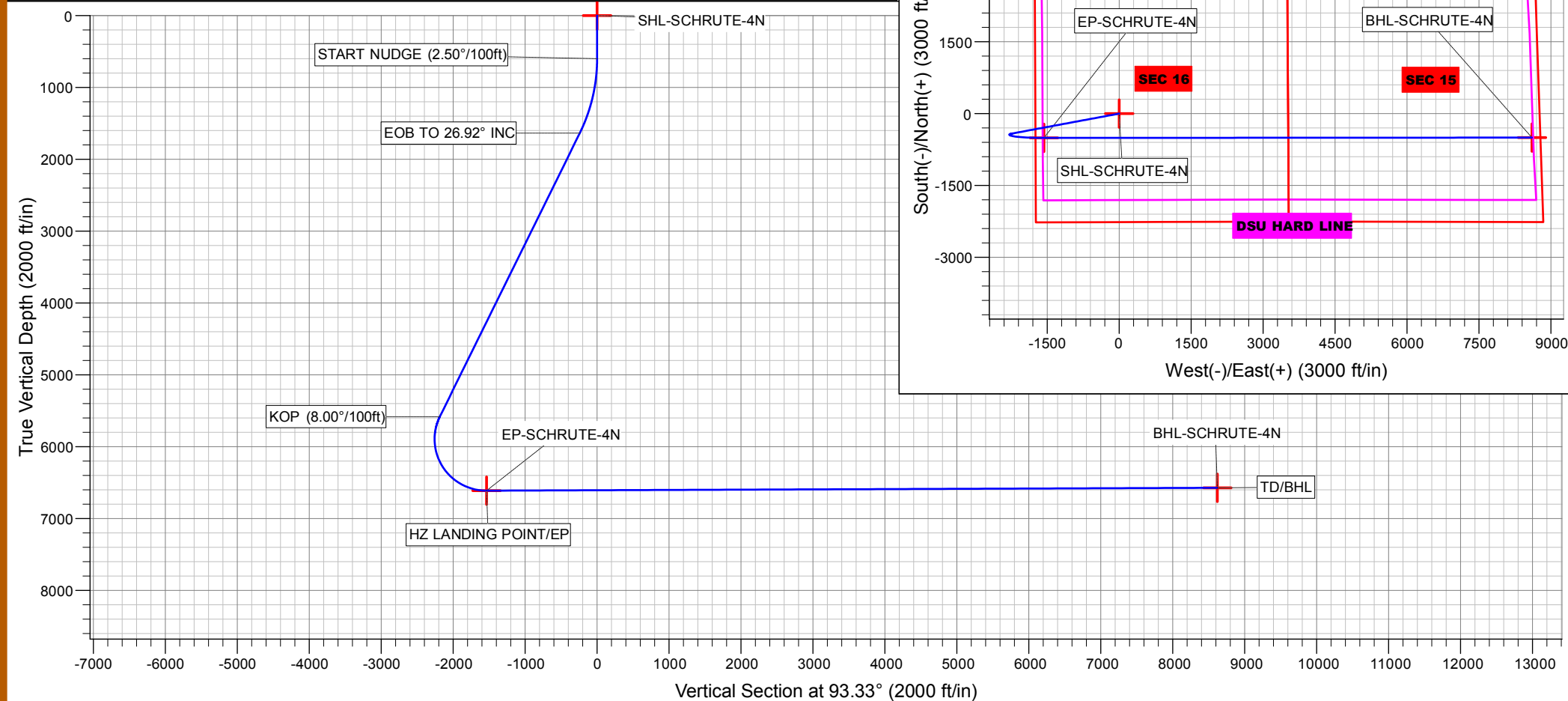
1763	FSL	175	FEL
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EP FOOTAGE: SEC 16

1763	FSL	175	FWL
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DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SHL-SCHRUTE-4N	0.0	0.0	0.0	40.3982902	-104.5581569
BHL-SCHRUTE-4N	6573.0	-500.5	8605.2	40.3969121	-104.5272625
EP-SCHRUTE-4N	6613.0	-507.2	-1568.8	40.3968978	-104.5637893



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)
SCHRUTE 4N**

**Wellbore #1
PROPOSAL #1**

Anticollision Report

02 May, 2019



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well SCHRUTE 4N - Slot SCHRUTE 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4633.0ft (Original Well Elev)
Reference Site:	NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)	MD Reference:	WELL @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	SCHRUTE 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM
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:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	5/2/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	17,733.1	PROPOSAL #1 (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)						
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	6,134.8	5,500.0	274.3	247.7	10.279	CC, ES
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	6,150.0	5,500.0	274.9	248.0	10.217	SF
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	6,700.0	6,141.9	951.4	899.5	18.312	SF
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	6,937.7	6,342.5	938.8	888.6	18.713	CC, ES
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	7,000.0	11,218.0	372.1	258.8	3.285	SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	7,036.6	11,218.0	369.5	257.4	3.294	CC, ES
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	7,050.0	11,362.0	545.1	406.9	3.946	SF
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	7,075.7	11,362.0	544.1	406.6	3.957	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	7,007.9	11,295.0	595.0	437.3	3.773	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	7,050.0	11,295.0	597.0	438.5	3.767	SF
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	7,043.8	11,372.0	437.9	315.1	3.564	CC
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	7,050.0	11,372.0	438.0	314.9	3.558	ES, SF
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	7,070.2	11,210.0	885.2	729.7	5.692	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	7,100.0	11,210.0	886.0	729.9	5.677	SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	7,050.0	12,169.0	713.1	529.1	3.875	ES, SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	7,064.7	12,169.0	712.9	529.3	3.883	CC
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	7,050.0	12,156.0	1,131.0	934.1	5.744	SF
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	7,073.5	12,156.0	1,130.7	934.1	5.751	CC, ES
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	7,050.0	12,231.0	935.8	746.4	4.942	SF
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	7,097.5	12,231.0	933.9	745.2	4.950	CC, ES
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	7,050.0	12,242.0	1,654.8	1,454.2	8.251	SF
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	7,100.0	12,242.0	1,653.5	1,453.2	8.257	ES
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	7,102.1	12,242.0	1,653.5	1,453.3	8.257	CC
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	7,100.0	12,233.0	1,441.6	1,244.3	7.308	ES, SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	7,114.6	12,233.0	1,441.4	1,244.3	7.312	CC

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Reference Wellbore	Wellbore #1	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
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NW SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
ABDN HZ CHESNUT 21T-241ST - Wellbore #1 - Wellbo	10,869.2	11,382.0	2,253.1	2,108.0	15.535	CC
ABDN HZ CHESNUT 21T-241ST - Wellbore #1 - Wellbo	11,000.0	11,382.0	2,256.9	2,105.1	14.870	ES
ABDN HZ CHESNUT 21T-241ST - Wellbore #1 - Wellbo	11,800.0	11,382.0	2,437.8	2,255.2	13.351	SF
ABDN HZ KLEIN 19N-202ST - Wellbore #1 - Wellbore #1	8,618.5	15,556.9	2,927.0	2,612.6	9.309	CC
ABDN HZ KLEIN 19N-202ST - Wellbore #1 - Wellbore #1	10,500.0	17,302.0	2,960.9	2,556.4	7.320	ES
ABDN HZ KLEIN 19N-202ST - Wellbore #1 - Wellbore #1	10,600.0	17,302.0	2,967.2	2,561.0	7.304	SF
ABDN VERT KOHLER 1-21 - Wellbore #1 - Wellbore #1	12,142.4	6,499.6	2,347.9	2,199.2	15.791	CC
ABDN VERT KOHLER 1-21 - Wellbore #1 - Wellbore #1	12,200.0	6,501.3	2,348.6	2,198.5	15.640	ES
ABDN VERT KOHLER 1-21 - Wellbore #1 - Wellbore #1	12,600.0	6,513.5	2,392.0	2,234.0	15.138	SF
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,553.7	6,532.7	232.0	46.1	1.248	Level 2, CC, ES, SF
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,842.2	6,535.4	1,099.9	750.3	3.146	CC, ES
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,900.0	6,535.1	1,101.4	750.5	3.138	SF
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,927.4	6,530.1	1,127.3	747.9	2.971	CC, ES
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	16,000.0	6,529.8	1,129.7	748.7	2.965	SF
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	17,120.3	6,469.0	1,229.7	946.0	4.335	CC, ES
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	17,200.0	6,471.6	1,232.2	946.8	4.318	SF
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	17,162.9	6,523.3	97.8	-315.6	0.237	Level 1, CC, ES, SF
ABDN VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	9,332.0	6,534.9	1,286.2	1,207.7	16.383	CC, ES
ABDN VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	9,600.0	6,523.2	1,313.7	1,231.5	15.977	SF
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	100.0	55.7	2,546.9	2,546.8	10,000.000	CC
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	400.0	352.9	2,547.5	2,546.4	2,337.093	ES
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	10,600.0	6,727.0	3,240.9	3,140.2	32.199	SF
ABDN VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	3,084.0	2,878.6	1,338.3	1,317.6	64.501	CC
ABDN VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	3,100.0	2,891.1	1,338.4	1,317.4	64.011	ES
ABDN VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	8,500.0	6,670.4	1,653.9	1,591.9	26.681	SF
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,978.9	6,564.3	306.5	162.7	2.131	CC, ES, SF
ABDN VERT PLATTE VALLEY 2-21 - Wellbore #1 - Well	10,736.5	6,472.4	2,499.5	2,388.0	22.416	CC
ABDN VERT PLATTE VALLEY 2-21 - Wellbore #1 - Well	10,800.0	6,472.2	2,500.3	2,387.2	22.118	ES
ABDN VERT PLATTE VALLEY 2-21 - Wellbore #1 - Well	11,400.0	6,471.0	2,586.0	2,461.8	20.819	SF
EXIST DD BAUER DEBUS 22AD - Wellbore #1 - Wellbo	14,018.0	6,558.7	3,105.8	2,892.6	14.567	CC
EXIST DD BAUER DEBUS 22AD - Wellbore #1 - Wellbo	14,100.0	6,558.4	3,106.8	2,891.6	14.435	ES
EXIST DD BAUER DEBUS 22AD - Wellbore #1 - Wellbo	14,600.0	6,556.9	3,159.8	2,935.2	14.069	SF
EXIST DD BAUER DEBUS 22JD - Wellbore #1 - Wellbor	14,001.9	6,564.2	1,870.4	1,657.6	8.789	CC
EXIST DD BAUER DEBUS 22JD - Wellbore #1 - Wellbor	14,100.0	6,563.3	1,872.9	1,657.4	8.691	ES
EXIST DD BAUER DEBUS 22JD - Wellbore #1 - Wellbor	14,300.0	6,561.6	1,894.0	1,674.7	8.638	SF
EXIST DD BAUER DEBUS 22MD - Wellbore #1 - Wellbo	15,267.4	6,630.5	1,826.2	1,576.6	7.315	CC
EXIST DD BAUER DEBUS 22MD - Wellbore #1 - Wellbo	15,300.0	6,630.2	1,826.5	1,576.1	7.294	ES
EXIST DD BAUER DEBUS 22MD - Wellbore #1 - Wellbo	15,400.0	6,629.3	1,831.0	1,578.6	7.255	SF
EXIST DD BAUER DEBUS 22ND - Wellbore #1 - Wellbo	15,275.5	6,648.0	3,051.5	2,801.5	12.203	CC
EXIST DD BAUER DEBUS 22ND - Wellbore #1 - Wellbo	15,400.0	6,648.6	3,054.1	2,800.4	12.040	ES
EXIST DD BAUER DEBUS 22ND - Wellbore #1 - Wellbo	15,800.0	6,650.8	3,096.3	2,833.9	11.799	SF
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,658.9	6,587.7	1,857.1	1,570.7	6.485	CC
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,700.0	6,587.6	1,857.5	1,569.9	6.459	ES
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,900.0	6,587.4	1,872.7	1,581.0	6.420	SF
EXIST DD DOUGHMAN 22VD - Wellbore #1 - Wellbore	17,733.1	6,630.9	3,076.5	2,760.2	9.727	CC, ES, SF
EXIST DD FRENZEL B 15-6 - Wellbore #1 - Wellbore #1	14,734.9	6,878.0	1,643.8	1,392.7	6.547	CC
EXIST DD FRENZEL B 15-6 - Wellbore #1 - Wellbore #1	14,800.0	6,878.7	1,645.1	1,392.1	6.501	ES
EXIST DD FRENZEL B 15-6 - Wellbore #1 - Wellbore #1	14,900.0	6,879.7	1,652.1	1,396.7	6.470	SF
EXIST DD GLOVER USX B 15-02CD - Wellbore #1 - We	15,830.1	6,219.1	2,631.4	2,375.5	10.281	CC
EXIST DD GLOVER USX B 15-02CD - Wellbore #1 - We	15,900.0	6,216.8	2,632.3	2,374.8	10.220	ES
EXIST DD GLOVER USX B 15-02CD - Wellbore #1 - We	16,200.0	6,206.9	2,657.3	2,394.2	10.100	SF
EXIST DD KLEIN B15-13D - Wellbore #1 - Wellbore #1	13,348.9	6,806.0	1,133.0	923.4	5.405	CC, ES

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

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Summary						
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NW SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
EXIST DD KLEIN B15-13D - Wellbore #1 - Wellbore #1	13,400.0	6,806.0	1,134.2	923.6	5.385	SF
EXIST DD P&H 22CD - Wellbore #1 - Wellbore #1	16,691.6	6,728.8	3,072.5	2,783.5	10.632	CC
EXIST DD P&H 22CD - Wellbore #1 - Wellbore #1	16,800.0	6,730.6	3,074.4	2,782.7	10.540	ES
EXIST DD P&H 22CD - Wellbore #1 - Wellbore #1	17,100.0	6,762.0	3,099.8	2,802.5	10.426	SF
EXIST HZ CHESNUT 21T-321 - Wellbore #1 - Wellbore	11,661.6	11,342.0	2,253.4	2,101.0	14.793	CC
EXIST HZ CHESNUT 21T-321 - Wellbore #1 - Wellbore	11,800.0	11,342.0	2,257.6	2,098.8	14.216	ES
EXIST HZ CHESNUT 21T-321 - Wellbore #1 - Wellbore	12,500.0	11,342.0	2,404.3	2,218.2	12.922	SF
EXIST HZ CHESNUT 21Q-321 - Wellbore #1 - Wellbore	10,599.6	11,710.0	2,257.7	2,112.9	15.587	CC
EXIST HZ CHESNUT 21Q-321 - Wellbore #1 - Wellbore	10,700.0	11,710.0	2,260.0	2,110.0	15.075	ES
EXIST HZ CHESNUT 21Q-321 - Wellbore #1 - Wellbore	11,500.0	11,710.0	2,430.6	2,250.0	13.456	SF
EXIST HZ CHESNUT 21T-201 - Wellbore #1 - Wellbore	11,435.8	11,172.0	2,253.9	2,104.3	15.073	CC
EXIST HZ CHESNUT 21T-201 - Wellbore #1 - Wellbore	11,500.0	11,172.0	2,254.8	2,102.0	14.761	ES
EXIST HZ CHESNUT 21T-201 - Wellbore #1 - Wellbore	12,300.0	11,172.0	2,413.9	2,228.7	13.038	SF
EXIST HZ CHESNUT 21T-221 - Wellbore #1 - Survey #1	11,906.9	11,155.0	2,254.0	2,098.0	14.449	CC
EXIST HZ CHESNUT 21T-221 - Wellbore #1 - Survey #1	12,000.0	11,155.0	2,255.9	2,096.0	14.106	ES
EXIST HZ CHESNUT 21T-221 - Wellbore #1 - Survey #1	12,800.0	11,155.0	2,424.5	2,234.8	12.781	SF
EXIST HZ CHESNUT 21T-301 - Wellbore #1 - Wellbore	11,134.7	11,103.0	2,508.7	2,361.7	17.071	CC
EXIST HZ CHESNUT 21T-301 - Wellbore #1 - Wellbore	11,200.0	11,103.0	2,509.5	2,359.5	16.728	ES
EXIST HZ CHESNUT 21T-301 - Wellbore #1 - Wellbore	12,100.0	11,103.0	2,688.0	2,504.6	14.659	SF
EXIST HZ CHESNUT 21Y-341 - Wellbore #1 - Wellbore	12,193.1	11,272.0	2,251.7	2,089.9	13.920	CC
EXIST HZ CHESNUT 21Y-341 - Wellbore #1 - Wellbore	12,300.0	11,272.0	2,254.2	2,089.0	13.643	ES
EXIST HZ CHESNUT 21Y-341 - Wellbore #1 - Wellbore	13,000.0	11,272.0	2,391.9	2,201.7	12.572	SF
EXIST HZ CHESNUT 21Y-401 - Wellbore #1 - Wellbore	12,440.2	11,376.0	2,259.5	2,091.2	13.428	CC
EXIST HZ CHESNUT 21Y-401 - Wellbore #1 - Wellbore	12,500.0	11,376.0	2,260.3	2,090.7	13.325	ES
EXIST HZ CHESNUT 21Y-401 - Wellbore #1 - Wellbore	13,200.0	11,376.0	2,383.8	2,192.5	12.459	SF
EXIST HZ CHESNUT 27G-221 - Wellbore #1 - Wellbore	13,143.9	13,336.0	2,249.8	2,056.1	11.612	CC
EXIST HZ CHESNUT 27G-221 - Wellbore #1 - Wellbore	13,300.0	13,336.0	2,255.3	2,051.2	11.053	ES
EXIST HZ CHESNUT 27G-221 - Wellbore #1 - Wellbore	14,100.0	13,336.0	2,444.6	2,196.7	9.863	SF
EXIST HZ CHESNUT 27G-301 - Wellbore #1 - Wellbore	12,788.4	13,480.0	2,308.8	2,119.3	12.187	CC
EXIST HZ CHESNUT 27G-301 - Wellbore #1 - Wellbore	12,900.0	13,480.0	2,311.5	2,114.4	11.726	ES
EXIST HZ CHESNUT 27G-301 - Wellbore #1 - Wellbore	13,800.0	13,480.0	2,520.7	2,274.9	10.256	SF
EXIST HZ CHESNUT 27K-201 - Wellbore #1 - Wellbore	14,101.4	13,284.0	2,252.9	2,036.9	10.433	CC, ES
EXIST HZ CHESNUT 27K-201 - Wellbore #1 - Wellbore	15,000.0	13,284.0	2,425.5	2,170.5	9.513	SF
EXIST HZ CHESNUT 27K-341 - Wellbore #1 - Wellbore	13,461.1	13,382.0	2,252.9	2,053.2	11.279	CC
EXIST HZ CHESNUT 27K-341 - Wellbore #1 - Wellbore	13,600.0	13,382.0	2,257.2	2,049.8	10.886	ES
EXIST HZ CHESNUT 27K-341 - Wellbore #1 - Wellbore	14,400.0	13,382.0	2,440.7	2,191.0	9.775	SF
EXIST HZ CHESNUT 27K-401 - Wellbore #1 - Wellbore	13,758.7	13,407.0	2,253.0	2,046.3	10.900	CC
EXIST HZ CHESNUT 27K-401 - Wellbore #1 - Wellbore	13,900.0	13,407.0	2,257.4	2,044.9	10.620	ES
EXIST HZ CHESNUT 27K-401 - Wellbore #1 - Wellbore	14,700.0	13,407.0	2,441.7	2,188.7	9.651	SF
EXIST HZ CHESNUT 27K-421 - Wellbore #1 - Wellbore	14,398.9	13,455.0	2,260.9	2,034.1	9.969	CC
EXIST HZ CHESNUT 27K-421 - Wellbore #1 - Wellbore	14,400.0	13,455.0	2,260.9	2,034.1	9.969	ES
EXIST HZ CHESNUT 27K-421 - Wellbore #1 - Wellbore	15,300.0	13,455.0	2,433.8	2,175.2	9.411	SF
EXIST HZ CHESNUT 27O-201 - Wellbore #1 - Wellbore	14,900.0	13,300.0	2,321.2	2,065.1	9.063	SF
EXIST HZ CHESNUT 27O-201 - Wellbore #1 - Wellbore	15,100.0	13,300.0	2,311.8	2,057.7	9.098	ES
EXIST HZ CHESNUT 27O-201 - Wellbore #1 - Wellbore	15,107.9	13,300.0	2,311.8	2,057.8	9.101	CC
EXIST HZ CHESNUT 27O-341 - Wellbore #1 - Wellbore	14,773.8	13,340.0	2,311.7	2,071.3	9.615	CC, ES
EXIST HZ CHESNUT 27O-341 - Wellbore #1 - Wellbore	15,600.0	13,340.0	2,455.0	2,194.8	9.438	SF
EXIST HZ HOLMAN B15-65HNM - Wellbore #1 - Wellbo	16,185.6	10,401.1	896.3	529.1	2.441	CC
EXIST HZ HOLMAN B15-65HNM - Wellbore #1 - Wellbo	16,200.0	10,388.5	896.3	529.1	2.441	ES, SF
EXIST HZ HOLMAN B15-66HN - Wellbore #1 - Wellbore	13,881.8	12,684.0	1,362.3	993.9	3.698	CC
EXIST HZ HOLMAN B15-66HN - Wellbore #1 - Wellbore	13,900.0	12,684.0	1,362.4	993.5	3.693	ES
EXIST HZ HOLMAN B15-66HN - Wellbore #1 - Wellbore	14,000.0	12,657.1	1,367.1	996.8	3.692	SF

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

PDC Energy
Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well SCHRUTE 4N - Slot SCHRUTE 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4633.0ft (Original Well Elev)
Reference Site:	NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)	MD Reference:	WELL @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	SCHRUTE 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,356.2	17,440.0	1,845.4	1,446.0	4.620	CC
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,400.0	17,440.0	1,845.9	1,445.8	4.613	ES, SF
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	10,300.0	8,512.4	103.6	16.5	1.190	Level 2, ES, SF
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	10,384.7	8,451.0	84.8	35.7	1.729	CC
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	11,453.0	7,443.3	7.3	-44.3	0.141	Level 1, CC, SF
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	11,500.0	7,411.5	35.9	-83.3	0.301	Level 1, ES
EXIST HZ KLEIN 19M-232 - Wellbore #1 - Wellbore #1	6,684.7	16,918.0	5,975.8	5,871.1	57.047	CC, ES
EXIST HZ KLEIN 19M-232 - Wellbore #1 - Wellbore #1	6,800.0	16,918.0	5,985.6	5,880.5	56.929	SF
EXIST HZ KLEIN 19N-312 - Wellbore #1 - Wellbore #1	10,360.6	17,429.0	2,587.1	2,186.2	6.453	CC
EXIST HZ KLEIN 19N-312 - Wellbore #1 - Wellbore #1	10,400.0	17,429.0	2,587.4	2,185.6	6.440	ES
EXIST HZ KLEIN 19N-312 - Wellbore #1 - Wellbore #1	10,600.0	17,429.0	2,598.1	2,193.1	6.415	SF
EXIST HZ LEDFORD #22T-221 - Wellbore #1 - Wellbore	17,032.9	11,032.0	2,259.3	1,961.1	7.577	CC
EXIST HZ LEDFORD #22T-221 - Wellbore #1 - Wellbore	17,100.0	11,032.0	2,260.3	1,958.8	7.496	ES
EXIST HZ LEDFORD #22T-221 - Wellbore #1 - Wellbore	17,500.0	11,032.0	2,307.1	1,989.1	7.255	SF
EXIST HZ LEDFORD #22T-321 - Wellbore #1 - Wellbore	16,791.3	11,138.0	2,261.1	1,966.8	7.684	CC
EXIST HZ LEDFORD #22T-321 - Wellbore #1 - Wellbore	16,900.0	11,138.0	2,263.7	1,963.8	7.548	ES
EXIST HZ LEDFORD #22T-321 - Wellbore #1 - Wellbore	17,300.0	11,138.0	2,317.6	2,001.5	7.331	SF
EXIST HZ LEDFORD #22Y-341 - Wellbore #1 - Wellbore	17,504.8	11,072.0	2,264.5	1,956.9	7.361	CC
EXIST HZ LEDFORD #22Y-341 - Wellbore #1 - Wellbore	17,600.0	11,072.0	2,266.5	1,955.3	7.284	ES
EXIST HZ LEDFORD #22Y-341 - Wellbore #1 - Wellbore	17,733.1	11,072.0	2,276.0	1,959.9	7.200	SF
EXIST HZ LEDFORD #22Y-401 - Wellbore #1 - Wellbore	17,733.1	11,110.0	2,271.6	1,958.1	7.246	CC, ES, SF
EXIST HZ PETERSON 14W-234 - Wellbore #1 - Wellbor	17,733.1	10,840.0	728.7	550.2	4.082	CC, ES, SF
EXIST HZ PETERSON 14W-434 - Wellbore #1 - Wellbor	17,733.1	10,990.0	912.1	609.4	3.013	CC, ES, SF
EXIST HZ PETERSON 14X-234 - Wellbore #1 - Wellbore	17,733.1	10,848.0	1,311.3	952.6	3.656	CC, ES, SF
EXIST HZ PETERSON 14X-304 - Wellbore #1 - Wellbore	17,733.1	10,906.0	788.6	584.4	3.862	CC, ES, SF
EXIST HZ PETERSON 14X-414 - Wellbore #1 - Wellbore	17,733.1	10,970.0	703.1	647.8	12.715	CC, ES, SF
EXIST HZ PETERSON 14X-434 - Wellbore #1 - Wellbore	17,733.1	10,917.0	941.0	656.3	3.305	CC, ES, SF
EXIST HZ PETERSON 14Y-304 - Wellbore #1 - Wellbore	17,733.1	10,979.0	1,853.1	1,460.6	4.721	CC, ES, SF
EXIST HZ PETERSON 14Y-414 - Wellbore #1 - Wellbore	17,733.1	10,969.0	1,552.2	1,175.5	4.121	CC, ES, SF
EXIST HZ SAPPINGTON #22Q-221 - Wellbore #1 - Well	15,906.3	11,096.0	2,258.6	1,994.4	8.550	CC
EXIST HZ SAPPINGTON #22Q-221 - Wellbore #1 - Well	16,000.0	11,096.0	2,260.6	1,992.7	8.439	ES
EXIST HZ SAPPINGTON #22Q-221 - Wellbore #1 - Well	16,400.0	11,096.0	2,311.9	2,030.2	8.206	SF
EXIST HZ SAPPINGTON #22Q-301 - Wellbore #1 - Well	15,511.1	11,190.0	2,260.2	2,003.7	8.812	CC
EXIST HZ SAPPINGTON #22Q-301 - Wellbore #1 - Well	15,600.0	11,190.0	2,262.0	2,001.3	8.677	ES
EXIST HZ SAPPINGTON #22Q-301 - Wellbore #1 - Well	16,100.0	11,190.0	2,335.7	2,056.7	8.372	SF
EXIST HZ SAPPINGTON #22T-341 - Wellbore #1 - Well	16,216.2	11,116.0	2,261.9	1,990.5	8.334	CC
EXIST HZ SAPPINGTON #22T-341 - Wellbore #1 - Well	16,300.0	11,116.0	2,263.4	1,989.5	8.262	ES
EXIST HZ SAPPINGTON #22T-341 - Wellbore #1 - Well	16,700.0	11,116.0	2,313.0	2,027.1	8.089	SF
EXIST HZ SAPPINGTON 22T-201 - Wellbore #1 - Wellb	16,567.4	11,066.0	2,259.1	1,977.0	8.010	CC
EXIST HZ SAPPINGTON 22T-201 - Wellbore #1 - Wellb	16,600.0	11,066.0	2,259.3	1,976.7	7.993	ES
EXIST HZ SAPPINGTON 22T-201 - Wellbore #1 - Wellb	17,000.0	11,066.0	2,300.1	2,009.1	7.903	SF
EXIST HZ SEYLER STATE B15-79HNM - Wellbore #1 -	12,512.0	6,844.8	1.4	-76.2	0.019	Level 1, CC, ES, SF
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,099.7	6,536.0	1,109.1	935.5	6.387	CC
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,100.0	6,536.0	1,109.1	935.5	6.387	ES
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,200.0	6,536.1	1,113.6	938.0	6.342	SF
EXIST VERT JOSHUA 1 - Wellbore #1 - Wellbore #1	14,594.7	6,555.4	2,291.5	2,077.4	10.701	CC
EXIST VERT JOSHUA 1 - Wellbore #1 - Wellbore #1	14,700.0	6,556.1	2,294.0	2,077.1	10.579	ES
EXIST VERT JOSHUA 1 - Wellbore #1 - Wellbore #1	14,900.0	6,557.4	2,311.8	2,091.1	10.474	SF
EXIST VERT KALEB 1 - Wellbore #1 - Wellbore #1	13,397.0	6,449.4	2,256.1	2,074.7	12.436	CC
EXIST VERT KALEB 1 - Wellbore #1 - Wellbore #1	13,500.0	6,452.2	2,258.5	2,074.4	12.270	ES
EXIST VERT KALEB 1 - Wellbore #1 - Wellbore #1	13,800.0	6,460.5	2,291.8	2,102.2	12.088	SF
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbo	16,952.1	6,642.4	1,315.6	1,037.0	4.723	CC

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

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well SCHRUTE 4N - Slot SCHRUTE 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4633.0ft (Original Well Elev)
Reference Site:	NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)	MD Reference:	WELL @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	SCHRUTE 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbo	17,000.0	6,642.5	1,316.5	1,036.8	4.708	ES, SF
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,959.7	6,520.0	298.6	-81.6	0.785	Level 1, CC, ES, SF
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,717.4	6,537.9	229.9	-116.4	0.664	Level 1, CC, ES, SF
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,144.9	6,528.3	1,272.4	887.0	3.302	CC
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,200.0	6,528.0	1,273.6	886.9	3.294	ES, SF
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,607.9	6,520.8	446.0	176.6	1.655	CC, ES, SF
EXIST VERT LUCAS 1 - Wellbore #1 - Wellbore #1	17,330.2	6,590.9	2,501.2	2,211.5	8.635	CC
EXIST VERT LUCAS 1 - Wellbore #1 - Wellbore #1	17,400.0	6,590.4	2,502.1	2,210.6	8.583	ES
EXIST VERT LUCAS 1 - Wellbore #1 - Wellbore #1	17,600.0	6,589.0	2,515.7	2,220.1	8.511	SF
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,850.0	6,575.8	157.5	42.5	1.369	Level 3, CC, ES, SF
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore	9,475.6	6,582.9	174.8	93.1	2.138	CC, ES, SF
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	3,850.3	3,555.7	85.7	-10.8	0.888	Level 1, CC, ES, SF
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,710.2	6,543.2	1,363.4	1,252.3	12.271	CC, ES
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,900.0	6,546.0	1,376.5	1,261.8	11.997	SF
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	12,026.5	6,457.7	1,367.2	1,222.7	9.460	CC, ES
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	12,200.0	6,462.3	1,378.2	1,230.2	9.312	SF
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,392.3	6,571.6	2,246.3	2,117.9	17.495	CC
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,400.0	6,571.6	2,246.4	2,117.8	17.468	ES
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,900.0	6,571.1	2,303.0	2,164.7	16.648	SF
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	655.6	654.1	1,959.9	1,958.1	1,096.625	CC, ES
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	10,700.0	6,600.0	2,263.6	2,156.0	21.039	SF
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	100.0	70.4	1,516.8	1,516.7	10,000.000	CC
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	300.0	269.7	1,516.9	1,516.2	2,111.229	ES
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	9,400.0	6,624.2	1,990.5	1,912.7	25.571	SF
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	2,039.1	1,955.0	530.2	519.8	50.976	CC, ES
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	8,800.0	6,586.9	884.0	816.2	13.038	SF
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	9,996.6	6,588.9	784.7	691.1	8.381	CC
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	10,000.0	6,588.9	784.7	691.0	8.374	ES
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	10,100.0	6,587.4	791.5	695.9	8.282	SF
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,360.0	6,569.4	880.2	752.7	6.902	CC
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,400.0	6,569.4	881.1	752.6	6.858	ES, SF
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,343.6	6,575.4	455.7	329.2	3.601	CC, ES, SF
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	9,959.8	6,575.9	643.8	551.1	6.942	CC, ES
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	10,000.0	6,574.6	645.1	551.7	6.906	SF
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	8,840.5	6,599.0	290.5	93.5	1.475	Level 3, CC, ES, SF
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	602.4	578.0	986.7	985.1	604.396	CC, ES
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,800.0	6,584.0	1,411.4	1,323.3	16.027	SF
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,682.6	6,576.4	1,651.1	1,540.9	14.985	CC
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,700.0	6,576.4	1,651.2	1,540.6	14.926	ES
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	11,000.0	6,577.9	1,681.3	1,565.0	14.453	SF
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	12,019.3	6,562.7	1,662.3	1,517.4	11.469	CC
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	12,100.0	6,563.0	1,664.3	1,517.3	11.328	ES
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	12,300.0	6,563.6	1,685.8	1,535.5	11.214	SF
EXIST VERT TREBOR B14-5 - Wellbore #1 - Wellbore #	17,733.1	6,533.3	2,025.5	1,745.5	7.233	CC, ES, SF
EXIST VERT TROY 1 - Wellbore #1 - Wellbore #1	16,066.4	6,555.4	2,525.4	2,270.8	9.916	CC
EXIST VERT TROY 1 - Wellbore #1 - Wellbore #1	16,100.0	6,554.8	2,525.6	2,270.1	9.881	ES
EXIST VERT TROY 1 - Wellbore #1 - Wellbore #1	16,400.0	6,549.7	2,547.4	2,285.5	9.729	SF
SCHRUTE 10N - Wellbore #1 - PROPOSAL #1	600.0	600.0	90.0	87.6	37.167	CC, ES
SCHRUTE 10N - Wellbore #1 - PROPOSAL #1	17,600.0	17,969.5	1,616.8	1,030.6	2.758	SF
SCHRUTE 1N - Wellbore #1 - PROPOSAL #1	203.3	203.3	45.0	44.3	70.505	CC
SCHRUTE 1N - Wellbore #1 - PROPOSAL #1	300.0	299.2	45.4	44.3	42.550	ES
SCHRUTE 1N - Wellbore #1 - PROPOSAL #1	17,733.1	17,735.9	774.0	180.7	1.304	Level 3, SF

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

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well SCHRUTE 4N - Slot SCHRUTE 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4633.0ft (Original Well Elev)
Reference Site:	NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)	MD Reference:	WELL @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	SCHRUTE 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
SCHRUTE 2N - Wellbore #1 - PROPOSAL #1	400.0	400.0	30.0	28.5	19.725	CC
SCHRUTE 2N - Wellbore #1 - PROPOSAL #1	17,733.1	17,660.0	514.2	-82.6	0.862	Level 1, ES, SF
SCHRUTE 3N - Wellbore #1 - PROPOSAL #1	500.0	500.0	15.0	13.0	7.591	CC
SCHRUTE 3N - Wellbore #1 - PROPOSAL #1	17,733.1	17,776.1	267.8	-307.4	0.466	Level 1, ES, SF
SCHRUTE 5N - Wellbore #1 - PROPOSAL #1	600.0	600.0	15.0	12.6	6.197	CC
SCHRUTE 5N - Wellbore #1 - PROPOSAL #1	17,733.1	17,857.8	266.7	-309.1	0.463	Level 1, ES, SF
SCHRUTE 6N - Wellbore #1 - PROPOSAL #1	600.0	600.0	29.9	27.5	12.349	CC
SCHRUTE 6N - Wellbore #1 - PROPOSAL #1	17,733.1	17,832.0	512.9	-85.6	0.857	Level 1, ES, SF
SCHRUTE 7N - Wellbore #1 - PROPOSAL #1	600.0	600.0	45.0	42.6	18.604	CC, ES
SCHRUTE 7N - Wellbore #1 - PROPOSAL #1	17,733.1	17,970.4	773.5	178.2	1.299	Level 3, SF
SCHRUTE 8N - Wellbore #1 - PROPOSAL #1	600.0	600.0	60.0	57.5	24.768	CC, ES
SCHRUTE 8N - Wellbore #1 - PROPOSAL #1	17,733.1	18,001.3	1,026.0	427.8	1.715	SF
SCHRUTE 9N - Wellbore #1 - PROPOSAL #1	600.0	600.0	74.9	72.5	30.962	CC, ES
SCHRUTE 9N - Wellbore #1 - PROPOSAL #1	17,733.1	18,140.0	1,285.0	687.9	2.152	SF