



Project: **WELD COUNTY, COLORADO (TRUE)**
 Site: **NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)**
 Well: **SCHRUTE 2N**
 Wellbore: **Wellbore #1**
 Design: **PROPOSAL #1**

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.0	START NUDGE (3.00°/100ft)
1222.1	24.66	270.13	1197.0	0.4	-174.2	-174.2	174.2	EOB TO 24.66° INC
6064.9	24.66	270.13	5598.0	5.1	-2195.0	-2195.0	2195.0	KOP (8.00°/100ft)
7501.0	90.23	89.96	6613.0	6.9	-1541.3	-1541.3	2980.2	HZ LANDING POINT/EP
17660.0	90.23	89.96	6573.0	13.6	8617.6	8617.6	13139.2	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	1717	FWL
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BHL FOOTAGE: SEC 15

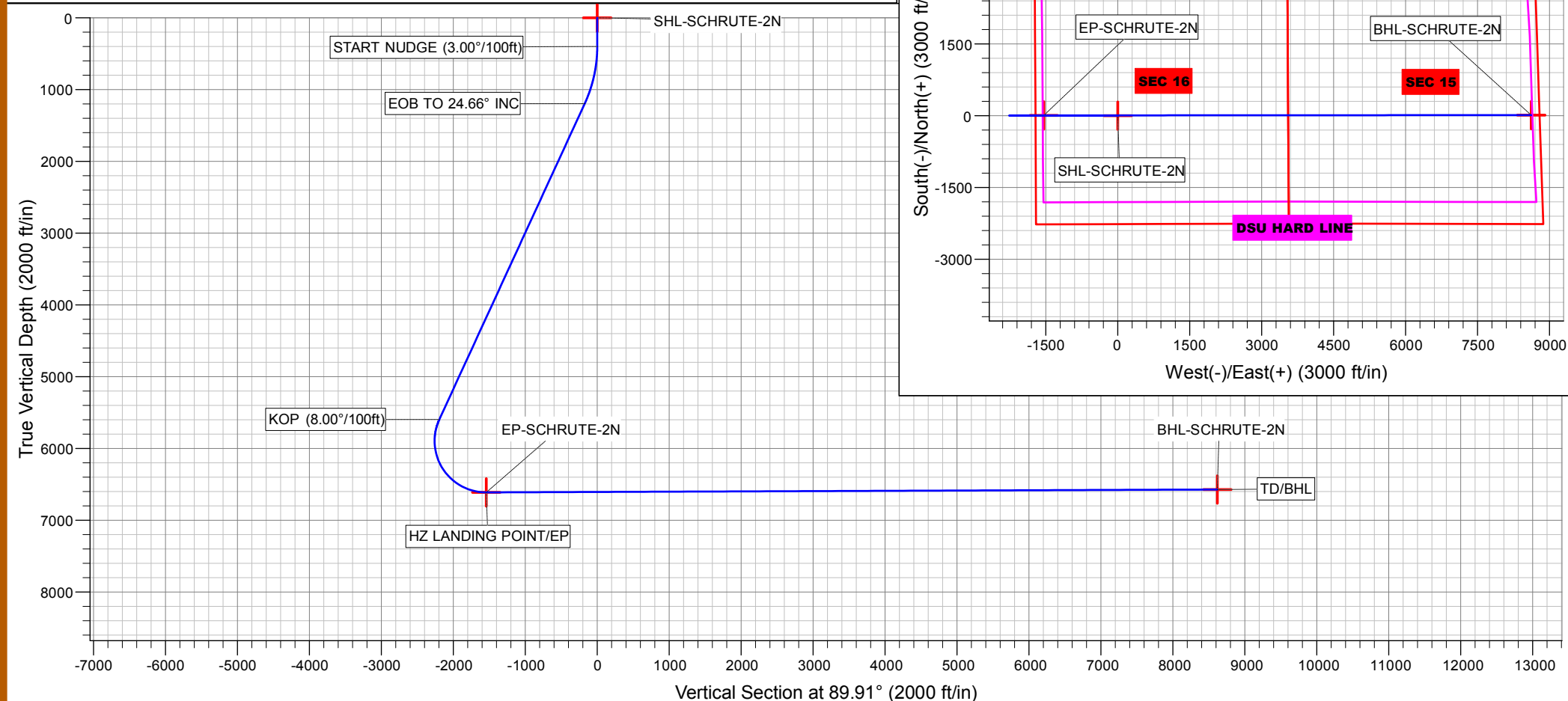
2277	FSL	175	FEL
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EP FOOTAGE: SEC 16

2277	FSL	175	FWL
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DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SHL-SCHRUTE-2N	0.0	0.0	0.0	40.3982896	-104.5582647
BHL-SCHRUTE-2N	6573.0	13.6	8617.6	40.3983228	-104.5273250
EP-SCHRUTE-2N	6613.0	6.9	-1541.3	40.3983084	-104.5637985



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)
SCHRUTE 2N**

**Wellbore #1
PROPOSAL #1**

Anticollision Report

02 May, 2019



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well SCHRUTE 2N - Slot SCHRUTE 2N
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 2N	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	5/1/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	17,660.0	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	6,070.5	5,500.0	592.2	545.8	12.770	CC, ES
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	6,100.0	5,500.0	593.1	546.5	12.721	SF
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	5,955.7	5,486.0	1,412.2	1,363.4	28.964	CC
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	6,000.0	5,525.5	1,412.3	1,363.1	28.719	ES
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	6,350.0	5,848.6	1,419.3	1,368.4	27.887	SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,969.4	11,218.0	787.4	623.7	4.809	CC, ES, SF
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	7,000.0	11,362.0	986.4	820.7	5.950	SF
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	7,002.0	11,362.0	986.4	820.6	5.950	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,950.0	11,295.0	295.3	256.3	7.575	SF
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,975.5	11,295.0	293.7	255.3	7.639	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,999.4	11,372.0	392.9	294.1	3.977	CC, ES, SF
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	7,042.9	11,210.0	502.9	401.1	4.941	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	7,050.0	11,210.0	503.0	401.2	4.940	SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,980.7	12,169.0	1,184.0	986.6	6.000	CC, ES, SF
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,970.6	12,156.0	1,617.5	1,416.8	8.058	CC, ES, SF
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	7,000.0	12,231.0	1,411.0	1,213.1	7.128	SF
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	7,007.6	12,231.0	1,411.0	1,213.0	7.129	CC, ES
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,980.6	12,242.0	2,146.4	1,944.6	10.638	CC, ES, SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	7,006.1	12,233.0	1,930.9	1,730.7	9.646	CC, ES, SF

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well SCHRUTE 2N - Slot SCHRUTE 2N
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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 2N	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
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
ABDN HZ CHESNUT 21T-241ST - Wellbore #1 - Wellbo	10,813.3	11,382.0	2,767.0	2,622.7	19.178	CC
ABDN HZ CHESNUT 21T-241ST - Wellbore #1 - Wellbo	10,900.0	11,382.0	2,768.3	2,619.9	18.655	ES
ABDN HZ CHESNUT 21T-241ST - Wellbore #1 - Wellbo	12,000.0	11,382.0	3,010.7	2,822.6	16.002	SF
ABDN HZ KLEIN 19N-202ST - Wellbore #1 - Wellbore #1	8,562.7	15,557.1	3,440.9	3,127.4	10.978	CC
ABDN HZ KLEIN 19N-202ST - Wellbore #1 - Wellbore #1	10,400.0	17,289.1	3,472.9	3,070.4	8.629	ES
ABDN HZ KLEIN 19N-202ST - Wellbore #1 - Wellbore #1	10,700.0	17,302.0	3,493.8	3,085.5	8.556	SF
ABDN VERT KOHLER 1-21 - Wellbore #1 - Wellbore #1	12,086.0	6,482.7	2,861.6	2,713.6	19.343	CC
ABDN VERT KOHLER 1-21 - Wellbore #1 - Wellbore #1	12,200.0	6,486.2	2,863.8	2,713.0	18.985	ES
ABDN VERT KOHLER 1-21 - Wellbore #1 - Wellbore #1	12,800.0	6,504.6	2,949.2	2,787.1	18.192	SF
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,497.8	6,532.8	282.0	96.8	1.522	CC
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,500.0	6,532.8	282.0	96.7	1.522	ES, SF
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,786.3	6,535.3	1,613.9	1,264.8	4.624	CC
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,800.0	6,535.3	1,613.9	1,264.5	4.619	ES
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,900.0	6,534.9	1,617.9	1,266.3	4.601	SF
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,871.5	6,530.1	1,641.3	1,262.4	4.333	CC
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,900.0	6,529.9	1,641.5	1,262.0	4.325	ES
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	16,000.0	6,529.5	1,646.3	1,264.7	4.314	SF
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	17,063.9	6,452.2	1,743.3	1,460.2	6.158	CC
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	17,100.0	6,453.3	1,743.7	1,459.6	6.139	ES
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	17,200.0	6,456.3	1,748.6	1,462.6	6.114	SF
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	17,107.0	6,523.2	416.2	3.3	1.008	Level 2, CC, ES, SF
ABDN VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	406.2	370.1	1,724.1	1,723.0	1,548.402	CC
ABDN VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	9,300.0	6,516.1	1,800.0	1,722.0	23.065	ES
ABDN VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	9,700.0	6,497.5	1,848.9	1,764.1	21.805	SF
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	9,290.9	6,667.0	2,475.6	2,397.8	31.834	CC
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	9,300.0	6,667.2	2,475.6	2,397.6	31.754	ES
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	10,200.0	6,684.7	2,637.2	2,544.0	28.311	SF
ABDN VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	7,993.8	6,634.1	1,078.1	1,022.9	19.534	CC
ABDN VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	8,000.0	6,634.3	1,078.1	1,022.9	19.509	ES
ABDN VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	8,100.0	6,636.2	1,083.3	1,027.0	19.244	SF
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,923.0	6,572.5	207.4	64.2	1.449	Level 3, CC, ES, SF
ABDN VERT PLATTE VALLEY 2-21 - Wellbore #1 - Well	10,680.6	6,450.4	3,012.9	2,902.2	27.223	CC
ABDN VERT PLATTE VALLEY 2-21 - Wellbore #1 - Well	10,800.0	6,450.5	3,015.2	2,901.6	26.543	ES
ABDN VERT PLATTE VALLEY 2-21 - Wellbore #1 - Well	11,700.0	6,451.0	3,180.6	3,050.7	24.481	SF
EXIST DD BAUER DEBUS 22AD - Wellbore #1 - Wellbo	13,962.2	6,543.0	3,619.5	3,406.9	17.030	CC
EXIST DD BAUER DEBUS 22AD - Wellbore #1 - Wellbo	14,000.0	6,543.0	3,619.7	3,406.2	16.955	ES
EXIST DD BAUER DEBUS 22AD - Wellbore #1 - Wellbo	14,800.0	6,543.0	3,715.2	3,486.7	16.257	SF
EXIST DD BAUER DEBUS 22JD - Wellbore #1 - Wellbor	13,946.1	6,541.7	2,384.0	2,171.9	11.240	CC
EXIST DD BAUER DEBUS 22JD - Wellbore #1 - Wellbor	14,000.0	6,541.2	2,384.6	2,170.9	11.162	ES
EXIST DD BAUER DEBUS 22JD - Wellbore #1 - Wellbor	14,300.0	6,538.4	2,410.1	2,189.9	10.945	SF
EXIST DD BAUER DEBUS 22MD - Wellbore #1 - Wellbo	15,211.5	6,632.5	2,340.2	2,091.1	9.396	CC
EXIST DD BAUER DEBUS 22MD - Wellbore #1 - Wellbo	15,300.0	6,631.6	2,341.8	2,090.7	9.325	ES
EXIST DD BAUER DEBUS 22MD - Wellbore #1 - Wellbo	15,500.0	6,629.8	2,357.9	2,103.3	9.263	SF
EXIST DD BAUER DEBUS 22ND - Wellbore #1 - Wellbo	15,219.6	6,646.6	3,565.5	3,316.0	14.291	CC
EXIST DD BAUER DEBUS 22ND - Wellbore #1 - Wellbo	15,300.0	6,647.0	3,566.4	3,314.6	14.163	ES
EXIST DD BAUER DEBUS 22ND - Wellbore #1 - Wellbo	16,000.0	6,650.5	3,649.9	3,383.2	13.687	SF
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,603.0	6,578.0	2,370.9	2,085.1	8.296	CC
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,700.0	6,578.0	2,372.9	2,084.4	8.225	ES
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,900.0	6,577.9	2,389.5	2,096.9	8.166	SF
EXIST DD DOUGHMAN 22VD - Wellbore #1 - Wellbore	17,660.0	6,632.4	3,590.6	3,275.1	11.381	CC, ES, SF
EXIST DD FRENZEL B 15-6 - Wellbore #1 - Wellbore #1	14,679.1	6,886.2	1,130.0	879.4	4.510	CC
EXIST DD FRENZEL B 15-6 - Wellbore #1 - Wellbore #1	14,700.0	6,886.4	1,130.1	878.9	4.498	ES

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 2N - Slot SCHRUTE 2N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4633.0ft (Original Well Elev)
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Reference Well:	SCHRUTE 2N	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
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
EXIST DD FRENZEL B 15-6 - Wellbore #1 - Wellbore #1	14,800.0	6,887.4	1,136.4	882.8	4.481	SF
EXIST DD GLOVER USX B 15-02CD - Wellbore #1 - We	15,769.2	6,401.7	2,139.4	1,882.4	8.326	CC
EXIST DD GLOVER USX B 15-02CD - Wellbore #1 - We	15,800.0	6,400.7	2,139.6	1,881.9	8.303	ES
EXIST DD GLOVER USX B 15-02CD - Wellbore #1 - We	16,000.0	6,394.2	2,151.8	1,890.2	8.226	SF
EXIST DD KLEIN B15-13D - Wellbore #1 - Wellbore #1	13,292.8	6,779.6	1,646.3	1,437.4	7.880	CC
EXIST DD KLEIN B15-13D - Wellbore #1 - Wellbore #1	13,300.0	6,779.6	1,646.3	1,437.2	7.874	ES
EXIST DD KLEIN B15-13D - Wellbore #1 - Wellbore #1	13,500.0	6,780.9	1,659.3	1,447.0	7.815	SF
EXIST DD P&H 22CD - Wellbore #1 - Wellbore #1	16,637.0	6,762.0	3,586.6	3,298.1	12.430	CC
EXIST DD P&H 22CD - Wellbore #1 - Wellbore #1	16,700.0	6,762.0	3,587.2	3,297.0	12.363	ES
EXIST DD P&H 22CD - Wellbore #1 - Wellbore #1	17,200.0	6,762.0	3,630.6	3,330.8	12.110	SF
EXIST HZ CHESNUT 21T-321 - Wellbore #1 - Wellbore	11,605.7	11,342.0	2,767.1	2,615.4	18.241	CC
EXIST HZ CHESNUT 21T-321 - Wellbore #1 - Wellbore	11,700.0	11,342.0	2,768.7	2,612.9	17.776	ES
EXIST HZ CHESNUT 21T-321 - Wellbore #1 - Wellbore	12,700.0	11,342.0	2,975.6	2,783.7	15.510	SF
EXIST HZ CHESNUT 21Q-321 - Wellbore #1 - Wellbore	10,543.7	11,710.0	2,771.4	2,627.2	19.226	CC
EXIST HZ CHESNUT 21Q-321 - Wellbore #1 - Wellbore	10,700.0	11,710.0	2,775.8	2,624.4	18.342	ES
EXIST HZ CHESNUT 21Q-321 - Wellbore #1 - Wellbore	11,700.0	11,710.0	3,002.9	2,816.6	16.116	SF
EXIST HZ CHESNUT 21T-201 - Wellbore #1 - Wellbore	11,379.9	11,172.0	2,767.8	2,619.0	18.600	CC
EXIST HZ CHESNUT 21T-201 - Wellbore #1 - Wellbore	11,500.0	11,172.0	2,770.4	2,616.1	17.955	ES
EXIST HZ CHESNUT 21T-201 - Wellbore #1 - Wellbore	12,500.0	11,172.0	2,985.8	2,795.0	15.649	SF
EXIST HZ CHESNUT 21T-221 - Wellbore #1 - Survey #1	11,851.0	11,155.0	2,767.9	2,612.6	17.821	CC
EXIST HZ CHESNUT 21T-221 - Wellbore #1 - Survey #1	12,000.0	11,155.0	2,771.9	2,610.7	17.197	ES
EXIST HZ CHESNUT 21T-221 - Wellbore #1 - Survey #1	13,000.0	11,155.0	2,996.9	2,801.7	15.351	SF
EXIST HZ CHESNUT 21T-301 - Wellbore #1 - Wellbore	11,078.8	11,103.0	3,022.3	2,876.1	20.662	CC
EXIST HZ CHESNUT 21T-301 - Wellbore #1 - Wellbore	11,200.0	11,103.0	3,024.8	2,873.2	19.961	ES
EXIST HZ CHESNUT 21T-301 - Wellbore #1 - Wellbore	12,400.0	11,103.0	3,298.5	3,107.2	17.243	SF
EXIST HZ CHESNUT 21Y-341 - Wellbore #1 - Wellbore	12,137.2	11,272.0	2,765.4	2,604.2	17.157	CC
EXIST HZ CHESNUT 21Y-341 - Wellbore #1 - Wellbore	12,200.0	11,272.0	2,766.1	2,603.0	16.962	ES
EXIST HZ CHESNUT 21Y-341 - Wellbore #1 - Wellbore	13,300.0	11,272.0	2,999.9	2,801.3	15.108	SF
EXIST HZ CHESNUT 21Y-401 - Wellbore #1 - Wellbore	12,384.3	11,376.0	2,771.8	2,603.9	16.510	CC
EXIST HZ CHESNUT 21Y-401 - Wellbore #1 - Wellbore	12,500.0	11,376.0	2,774.2	2,603.6	16.256	ES
EXIST HZ CHESNUT 21Y-401 - Wellbore #1 - Wellbore	13,500.0	11,376.0	2,988.0	2,788.2	14.955	SF
EXIST HZ CHESNUT 27G-221 - Wellbore #1 - Wellbore	13,088.0	13,336.0	2,763.8	2,570.7	14.312	CC
EXIST HZ CHESNUT 27G-221 - Wellbore #1 - Wellbore	13,300.0	13,336.0	2,771.9	2,566.4	13.488	ES
EXIST HZ CHESNUT 27G-221 - Wellbore #1 - Wellbore	14,300.0	13,336.0	3,017.8	2,764.2	11.900	SF
EXIST HZ CHESNUT 27G-301 - Wellbore #1 - Wellbore	12,732.4	13,480.0	2,822.5	2,633.7	14.948	CC
EXIST HZ CHESNUT 27G-301 - Wellbore #1 - Wellbore	12,900.0	13,480.0	2,827.5	2,628.4	14.206	ES
EXIST HZ CHESNUT 27G-301 - Wellbore #1 - Wellbore	14,000.0	13,480.0	3,094.1	2,842.6	12.303	SF
EXIST HZ CHESNUT 27K-201 - Wellbore #1 - Wellbore	14,045.4	13,284.0	2,766.8	2,551.5	12.850	CC
EXIST HZ CHESNUT 27K-201 - Wellbore #1 - Wellbore	14,100.0	13,284.0	2,767.4	2,551.1	12.795	ES
EXIST HZ CHESNUT 27K-201 - Wellbore #1 - Wellbore	15,200.0	13,284.0	2,998.0	2,737.2	11.492	SF
EXIST HZ CHESNUT 27K-341 - Wellbore #1 - Wellbore	13,405.2	13,382.0	2,766.5	2,567.4	13.895	CC
EXIST HZ CHESNUT 27K-341 - Wellbore #1 - Wellbore	13,500.0	13,382.0	2,768.1	2,564.5	13.595	ES
EXIST HZ CHESNUT 27K-341 - Wellbore #1 - Wellbore	14,600.0	13,382.0	3,013.5	2,757.9	11.791	SF
EXIST HZ CHESNUT 27K-401 - Wellbore #1 - Wellbore	13,702.8	13,407.0	2,766.5	2,560.5	13.427	CC
EXIST HZ CHESNUT 27K-401 - Wellbore #1 - Wellbore	13,800.0	13,407.0	2,768.2	2,558.8	13.215	ES
EXIST HZ CHESNUT 27K-401 - Wellbore #1 - Wellbore	14,900.0	13,407.0	3,014.5	2,755.6	11.645	SF
EXIST HZ CHESNUT 27K-421 - Wellbore #1 - Wellbore	14,343.0	13,455.0	2,773.7	2,547.5	12.262	CC, ES
EXIST HZ CHESNUT 27K-421 - Wellbore #1 - Wellbore	15,500.0	13,455.0	3,005.3	2,740.8	11.359	SF
EXIST HZ CHESNUT 27O-201 - Wellbore #1 - Wellbore	15,052.0	13,300.0	2,825.8	2,572.3	11.150	CC, ES
EXIST HZ CHESNUT 27O-201 - Wellbore #1 - Wellbore	16,000.0	13,300.0	2,980.5	2,712.9	11.137	SF
EXIST HZ CHESNUT 27O-341 - Wellbore #1 - Wellbore	14,717.8	13,340.0	2,825.6	2,585.7	11.781	CC, ES
EXIST HZ CHESNUT 27O-341 - Wellbore #1 - Wellbore	15,800.0	13,340.0	3,025.7	2,759.5	11.367	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 2N - Slot SCHRUTE 2N
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 2N	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
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
EXIST HZ HOLMAN B15-65HNM - Wellbore #1 - Wellbo	16,129.0	10,401.5	382.8	16.9	1.046	Level 2, CC, ES, SF
EXIST HZ HOLMAN B15-66HN - Wellbore #1 - Wellbore	13,825.9	12,684.0	848.4	480.8	2.308	CC, ES, SF
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,300.3	17,440.0	2,357.0	1,957.4	5.899	CC, ES
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,500.0	17,440.0	2,365.4	1,963.0	5.878	SF
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	9,700.0	9,260.0	86.1	-7.9	0.916	Level 1, ES, SF
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	9,775.8	9,206.2	68.1	18.6	1.377	Level 3, CC
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	10,900.0	8,157.9	26.0	-96.7	0.212	Level 1, ES
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	10,934.1	8,135.6	3.9	-47.9	0.075	Level 1, CC, SF
EXIST HZ KLEIN 19M-232 - Wellbore #1 - Wellbore #1	6,645.6	16,918.0	5,848.8	5,753.1	61.094	CC, ES
EXIST HZ KLEIN 19M-232 - Wellbore #1 - Wellbore #1	6,750.0	16,918.0	5,857.2	5,761.1	60.999	SF
EXIST HZ KLEIN 19N-312 - Wellbore #1 - Wellbore #1	10,304.7	17,429.0	3,100.5	2,700.2	7.746	CC
EXIST HZ KLEIN 19N-312 - Wellbore #1 - Wellbore #1	10,400.0	17,429.0	3,101.9	2,699.5	7.708	ES
EXIST HZ KLEIN 19N-312 - Wellbore #1 - Wellbore #1	10,600.0	17,429.0	3,114.5	2,708.7	7.675	SF
EXIST HZ LEDFORD #22T-221 - Wellbore #1 - Wellbore	16,977.0	11,032.0	2,773.3	2,475.6	9.317	CC
EXIST HZ LEDFORD #22T-221 - Wellbore #1 - Wellbore	17,100.0	11,032.0	2,776.0	2,472.8	9.157	ES
EXIST HZ LEDFORD #22T-221 - Wellbore #1 - Wellbore	17,660.0	11,032.0	2,856.1	2,533.0	8.840	SF
EXIST HZ LEDFORD #22T-321 - Wellbore #1 - Wellbore	16,735.4	11,138.0	2,774.9	2,481.1	9.446	CC
EXIST HZ LEDFORD #22T-321 - Wellbore #1 - Wellbore	16,900.0	11,138.0	2,779.8	2,478.3	9.222	ES
EXIST HZ LEDFORD #22T-321 - Wellbore #1 - Wellbore	17,400.0	11,138.0	2,853.4	2,533.8	8.929	SF
EXIST HZ LEDFORD #22Y-341 - Wellbore #1 - Wellbore	17,448.9	11,072.0	2,778.3	2,471.1	9.045	CC
EXIST HZ LEDFORD #22Y-341 - Wellbore #1 - Wellbore	17,500.0	11,072.0	2,778.8	2,469.9	8.995	ES
EXIST HZ LEDFORD #22Y-341 - Wellbore #1 - Wellbore	17,660.0	11,072.0	2,786.3	2,471.8	8.859	SF
EXIST HZ LEDFORD #22Y-401 - Wellbore #1 - Wellbore	17,660.0	11,110.0	2,784.4	2,471.6	8.901	CC, ES, SF
EXIST HZ PETERSON 14W-234 - Wellbore #1 - Wellbor	17,660.0	10,840.0	722.2	590.5	5.484	CC, ES, SF
EXIST HZ PETERSON 14W-434 - Wellbore #1 - Wellbor	17,660.0	10,990.0	686.4	593.6	7.392	CC, ES, SF
EXIST HZ PETERSON 14X-234 - Wellbore #1 - Wellbore	17,660.0	10,848.0	1,771.7	1,383.6	4.565	CC, ES, SF
EXIST HZ PETERSON 14X-304 - Wellbore #1 - Wellbore	17,660.0	10,906.0	1,138.5	806.6	3.430	CC, ES, SF
EXIST HZ PETERSON 14X-414 - Wellbore #1 - Wellbore	17,660.0	10,970.0	890.8	640.5	3.559	CC, ES, SF
EXIST HZ PETERSON 14X-434 - Wellbore #1 - Wellbore	17,660.0	10,917.0	1,349.2	989.8	3.754	CC, ES, SF
EXIST HZ PETERSON 14Y-304 - Wellbore #1 - Wellbore	17,660.0	10,979.0	2,339.1	1,935.6	5.796	CC, ES, SF
EXIST HZ PETERSON 14Y-414 - Wellbore #1 - Wellbore	17,660.0	10,969.0	2,025.7	1,630.1	5.121	CC, ES, SF
EXIST HZ SAPPINGTON #22Q-221 - Wellbore #1 - Well	15,850.4	11,096.0	2,772.6	2,509.0	10.519	CC
EXIST HZ SAPPINGTON #22Q-221 - Wellbore #1 - Well	16,000.0	11,096.0	2,776.6	2,507.5	10.318	ES
EXIST HZ SAPPINGTON #22Q-221 - Wellbore #1 - Well	16,500.0	11,096.0	2,847.7	2,562.6	9.991	SF
EXIST HZ SAPPINGTON #22Q-301 - Wellbore #1 - Well	15,455.2	11,190.0	2,774.0	2,518.0	10.836	CC
EXIST HZ SAPPINGTON #22Q-301 - Wellbore #1 - Well	15,600.0	11,190.0	2,777.8	2,515.6	10.594	ES
EXIST HZ SAPPINGTON #22Q-301 - Wellbore #1 - Well	16,200.0	11,190.0	2,872.3	2,590.0	10.176	SF
EXIST HZ SAPPINGTON #22T-341 - Wellbore #1 - Well	16,160.3	11,116.0	2,775.7	2,504.7	10.245	CC
EXIST HZ SAPPINGTON #22T-341 - Wellbore #1 - Well	16,200.0	11,116.0	2,775.9	2,503.8	10.202	ES
EXIST HZ SAPPINGTON #22T-341 - Wellbore #1 - Well	16,800.0	11,116.0	2,848.4	2,559.2	9.847	SF
EXIST HZ SAPPINGTON 22T-201 - Wellbore #1 - Wellb	16,511.5	11,066.0	2,773.0	2,491.5	9.851	CC
EXIST HZ SAPPINGTON 22T-201 - Wellbore #1 - Wellb	16,600.0	11,066.0	2,774.5	2,491.2	9.794	ES
EXIST HZ SAPPINGTON 22T-201 - Wellbore #1 - Wellb	17,100.0	11,066.0	2,834.8	2,540.7	9.638	SF
EXIST HZ SEYLER STATE B15-79HNM - Wellbore #1 -	12,450.7	6,467.5	264.9	136.5	2.063	CC, ES, SF
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,043.8	6,535.4	595.2	422.2	3.440	CC, ES
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,100.0	6,535.4	597.8	424.0	3.440	SF
EXIST VERT JOSHUA 1 - Wellbore #1 - Wellbore #1	14,538.8	6,559.1	2,805.5	2,591.9	13.137	CC
EXIST VERT JOSHUA 1 - Wellbore #1 - Wellbore #1	14,600.0	6,559.5	2,806.2	2,591.0	13.041	ES
EXIST VERT JOSHUA 1 - Wellbore #1 - Wellbore #1	15,000.0	6,562.4	2,843.1	2,619.9	12.737	SF
EXIST VERT KALEB 1 - Wellbore #1 - Wellbore #1	13,340.5	6,430.9	2,769.6	2,588.9	15.324	CC
EXIST VERT KALEB 1 - Wellbore #1 - Wellbore #1	13,400.0	6,432.5	2,770.2	2,587.9	15.195	ES
EXIST VERT KALEB 1 - Wellbore #1 - Wellbore #1	13,900.0	6,445.9	2,825.5	2,633.3	14.704	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 2N - Slot SCHRUTE 2N
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 2N	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
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbo	16,896.1	6,606.0	803.2	525.3	2.890	CC
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbo	16,900.0	6,606.0	803.2	525.2	2.889	ES, SF
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,903.7	6,519.9	215.4	-164.2	0.567	Level 1, CC, ES, SF
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,661.5	6,537.8	284.1	-61.6	0.822	Level 1, CC, ES, SF
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,089.0	6,528.2	1,786.4	1,401.6	4.642	CC
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,100.0	6,528.2	1,786.4	1,401.3	4.639	ES
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,200.0	6,527.8	1,789.8	1,402.4	4.621	SF
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,552.8	6,540.5	959.6	690.7	3.568	CC, ES
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,600.0	6,542.3	960.8	690.9	3.560	SF
EXIST VERT LUCAS 1 - Wellbore #1 - Wellbore #1	17,274.2	6,604.7	3,015.0	2,725.8	10.427	CC
EXIST VERT LUCAS 1 - Wellbore #1 - Wellbore #1	17,400.0	6,604.0	3,017.6	2,725.2	10.321	ES
EXIST VERT LUCAS 1 - Wellbore #1 - Wellbore #1	17,660.0	6,602.8	3,039.5	2,742.2	10.221	SF
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,794.2	6,573.3	356.4	242.2	3.121	CC
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,800.0	6,573.3	356.5	242.1	3.118	ES, SF
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore	9,419.6	6,585.5	339.1	258.2	4.193	CC, ES, SF
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	3,596.5	3,334.8	312.2	221.8	3.454	CC
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	7,876.4	6,591.5	316.6	134.5	1.739	ES, SF
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,654.1	6,530.0	1,877.1	1,766.8	17.020	CC
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,700.0	6,530.6	1,877.7	1,766.3	16.854	ES
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	11,100.0	6,536.6	1,929.3	1,810.9	16.286	SF
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,969.3	6,414.9	1,879.4	1,735.7	13.079	CC
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	12,000.0	6,416.0	1,879.6	1,735.1	13.008	ES
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	12,300.0	6,425.7	1,908.2	1,758.0	12.700	SF
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,336.4	6,565.2	1,732.5	1,604.8	13.572	CC
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,400.0	6,565.1	1,733.6	1,604.4	13.415	ES
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,600.0	6,564.9	1,752.4	1,619.3	13.168	SF
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	10,016.0	6,588.7	1,660.8	1,565.9	17.491	CC, ES
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	10,400.0	6,600.0	1,704.7	1,602.7	16.715	SF
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	8,762.6	6,607.6	1,389.9	1,322.7	20.681	CC
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	8,800.0	6,608.1	1,390.4	1,322.5	20.477	ES
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	9,100.0	6,611.6	1,430.3	1,358.1	19.829	SF
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	8,602.4	6,587.4	358.6	294.3	5.575	CC, ES, SF
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	9,940.8	6,583.7	270.8	178.0	2.919	CC, ES, SF
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,304.2	6,568.6	366.3	239.5	2.889	CC, ES, SF
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,287.7	6,576.6	969.6	843.8	7.706	CC
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,300.0	6,576.6	969.7	843.6	7.688	ES
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,400.0	6,576.0	976.1	848.2	7.633	SF
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	9,904.1	6,570.5	1,157.7	1,065.9	12.601	CC, ES
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	10,100.0	6,564.1	1,174.2	1,078.9	12.325	SF
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	1,416.5	1,364.6	797.2	766.3	25.793	CC
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	8,800.0	6,598.9	804.5	608.3	4.101	ES, SF
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,460.6	6,582.6	868.7	786.9	10.617	CC, ES
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,600.0	6,582.7	879.8	795.7	10.461	SF
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,626.7	6,575.1	1,137.2	1,027.8	10.395	CC, ES
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,800.0	6,575.9	1,150.3	1,037.8	10.220	SF
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,963.4	6,559.3	1,148.4	1,004.1	7.961	CC
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	12,000.0	6,559.4	1,149.0	1,003.8	7.916	ES
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	12,100.0	6,559.8	1,156.5	1,009.6	7.873	SF
EXIST VERT TREBOR B14-5 - Wellbore #1 - Wellbore #	17,660.0	6,525.9	1,568.4	1,306.9	5.998	CC, ES, SF
EXIST VERT TROY 1 - Wellbore #1 - Wellbore #1	16,010.4	6,559.9	3,039.4	2,785.2	11.960	CC
EXIST VERT TROY 1 - Wellbore #1 - Wellbore #1	16,100.0	6,558.4	3,040.7	2,784.2	11.855	ES
EXIST VERT TROY 1 - Wellbore #1 - Wellbore #1	16,500.0	6,551.6	3,078.5	2,814.3	11.649	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 2N - Slot SCHRUTE 2N
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 2N	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
NE SW SEC 16 T5N R64W 6th P.M. (SCHRUTE)						
SCHRUTE 10N - Wellbore #1 - PROPOSAL #1	400.0	400.0	120.0	118.5	78.852	CC, ES
SCHRUTE 10N - Wellbore #1 - PROPOSAL #1	17,500.0	17,969.5	2,127.6	1,542.2	3.634	SF
SCHRUTE 1N - Wellbore #1 - PROPOSAL #1	1,178.8	1,171.3	14.9	7.4	1.990	CC
SCHRUTE 1N - Wellbore #1 - PROPOSAL #1	17,651.1	17,735.9	266.7	-305.8	0.466	Level 1, ES, SF
SCHRUTE 3N - Wellbore #1 - PROPOSAL #1	400.0	400.0	15.1	13.5	9.892	CC
SCHRUTE 3N - Wellbore #1 - PROPOSAL #1	17,660.0	17,768.0	267.7	-307.0	0.466	Level 1, ES, SF
SCHRUTE 4N - Wellbore #1 - PROPOSAL #1	400.0	400.0	30.0	28.5	19.725	CC
SCHRUTE 4N - Wellbore #1 - PROPOSAL #1	17,660.0	17,716.4	514.0	-82.8	0.861	Level 1, ES, SF
SCHRUTE 5N - Wellbore #1 - PROPOSAL #1	400.0	400.0	45.0	43.5	29.584	CC, ES
SCHRUTE 5N - Wellbore #1 - PROPOSAL #1	17,660.0	17,840.5	773.5	179.5	1.302	Level 3, SF
SCHRUTE 6N - Wellbore #1 - PROPOSAL #1	400.0	400.0	59.9	58.4	39.371	CC, ES
SCHRUTE 6N - Wellbore #1 - PROPOSAL #1	17,660.0	17,814.8	1,026.9	429.8	1.720	SF
SCHRUTE 7N - Wellbore #1 - PROPOSAL #1	400.0	400.0	75.1	73.5	49.322	CC, ES
SCHRUTE 7N - Wellbore #1 - PROPOSAL #1	17,660.0	17,953.1	1,286.0	690.4	2.159	SF
SCHRUTE 8N - Wellbore #1 - PROPOSAL #1	400.0	400.0	90.0	88.5	59.128	CC, ES
SCHRUTE 8N - Wellbore #1 - PROPOSAL #1	17,660.0	17,984.6	1,539.9	943.1	2.580	SF
SCHRUTE 9N - Wellbore #1 - PROPOSAL #1	400.0	400.0	105.0	103.4	68.980	CC, ES
SCHRUTE 9N - Wellbore #1 - PROPOSAL #1	17,660.0	18,122.5	1,798.3	1,202.2	3.017	SF