

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	219.70	0.00	0.00	219.70	0.00	0.00	0.00	0.00	0.00	
3	1545.70	26.52	21.75	1498.86	279.98	111.70	2.00	21.75	-102.06	
4	7277.22	26.52	21.75	6627.30	2656.97	1060.02	0.00	0.00	-968.53	
5	8372.43	89.86	271.96	7291.00	2989.04	443.12	9.00	-107.91	-340.63	
6	18612.56	89.86	271.96	7316.00	3339.00	-9791.00	0.00	0.00	9899.47	RUSCH 2W4CM_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	Northing	Easting	Latitude	Longitude
RUSCH 2W4CM_SHL	0.00	1462715.28	3238416.49	40.600383	-104.641407
RUSCH 2W4CM_LP	7291.00	1465708.47	3238830.65	40.608587	-104.639811
RUSCH 2W4CM_TPZ	7291.76	1465716.06	3238520.74	40.608617	-104.640927
RUSCH 2W4CM_BPZ	7315.24	1465951.73	3228903.53	40.609514	-104.675555
RUSCH 2W4CM_BHL	7316.00	1465959.32	3228593.62	40.609543	-104.676671

WELL DETAILS: RUSCH 2W4CM		Plan: Permit Rev-2 (RUSCH 2W4CM/Plan A)	
GL = 4886'			
RKB = 20' @ 4906.00usft (RIG)		Date: 3/5/2024	

T
M

Azimuths to True North
Magnetic North: 7.52°

Magnetic Field
Strength: 51784.6nT
Dip Angle: 66.72°
Date: 2/29/2024
Model: IGRF2020

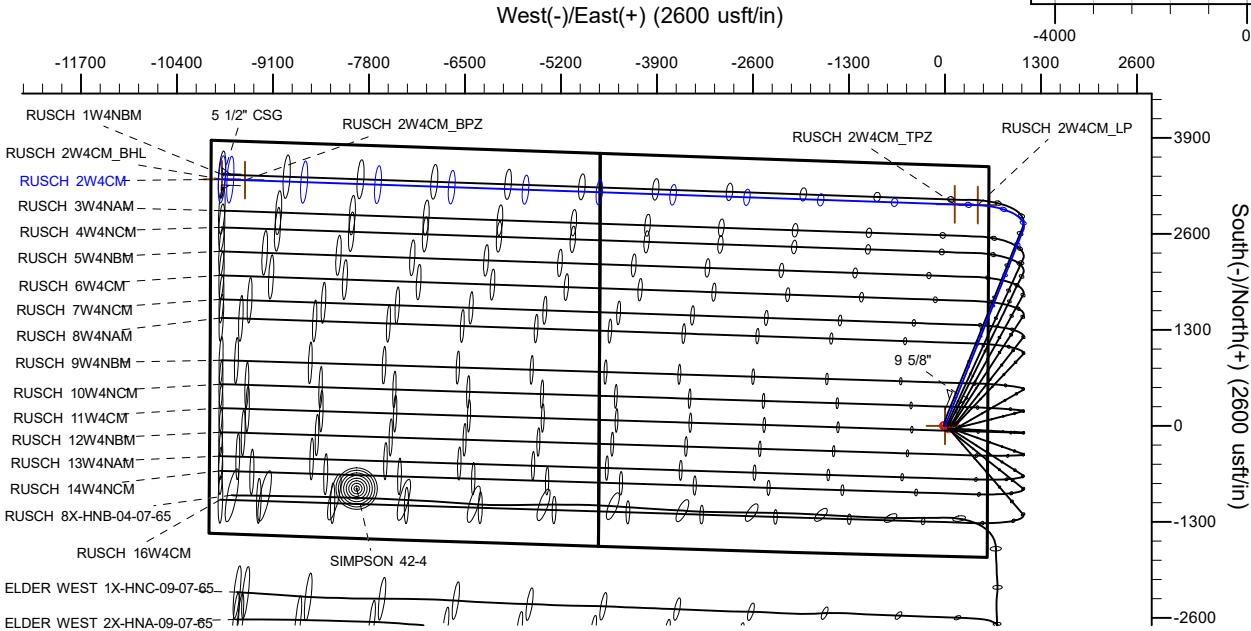
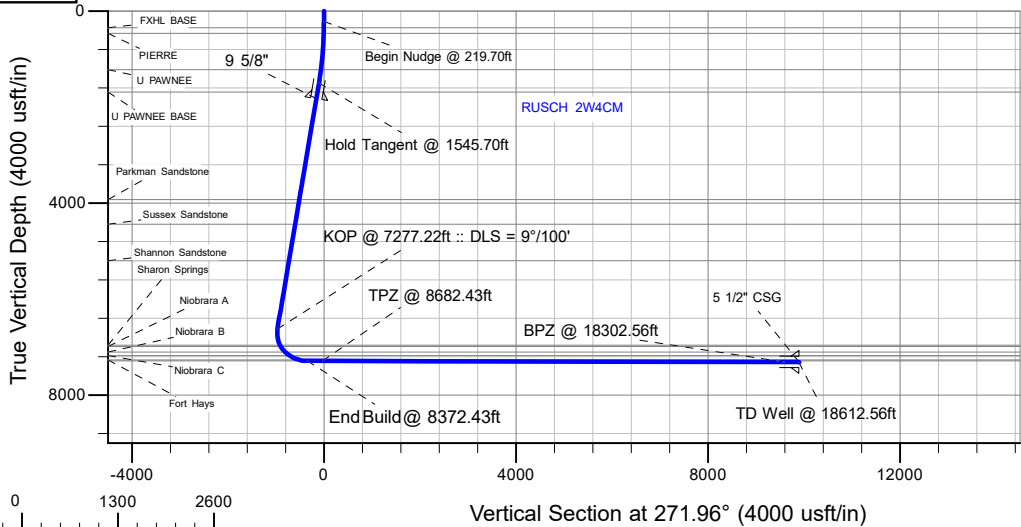
SHL
1765' FSL
579' FEL

LP
525' FNL
150' FEL

TPZ
525' FNL
460' FEL

BPZ
525' FNL
460' FWL

BHL
525' FNL
150' FWL



FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
351.00	351.05	FXHL BASE	
466.00	466.30	PIERRE	
1221.00	1242.60	U PAWNEE	
1691.00	1760.44	U PAWNEE BASE	
3929.00	4261.62	Parkman Sandstone	
4441.00	4833.82	Sussex Sandstone	
5202.00	5684.31	Shannon Sandstone	
6960.00	7654.05	Sharon Springs	
6991.00	7692.46	Niobrara A	
7106.00	7849.30	Niobrara B	
7176.00	7964.95	Niobrara C	
7271.00	8205.91	Fort Hays	
7291.00	8371.20	Codell	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Company:	PRAIRIE OPERATING CO	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Project	WELD COUNTY, CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		7N-65W-03 RUSCH PAD				
Site Position:		Northing:	1,462,715.14	usft	Latitude:	40.600383
From:	Lat/Long	Easting:	3,238,401.50	usft	Longitude:	-104.641461
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well	RUSCH 2W4CM					
Well Position	+N/-S	0.00 usft	Northing:	1,462,715.28 usft	Latitude:	40.600383
	+E/-W	0.00 usft	Easting:	3,238,416.49 usft	Longitude:	-104.641407
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,886.00 usft
Grid Convergence:		0.55 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	2/29/2024	7.52	66.72	51,784.55104592

Design	Permit Rev-2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	271.96

Plan Survey Tool Program		Date	3/5/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,825.00	Permit Rev-2 (Plan A)	ISCWSA MWD+IFR1	
				MWD+IFR	
2	1,825.00	18,612.56	Permit Rev-2 (Plan A)	ISCWSA MWD+IFR1	
				MWD+IFR	

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Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
219.70	0.00	0.00	219.70	0.00	0.00	0.00	0.00	0.00	0.00	
1,545.70	26.52	21.75	1,498.86	279.98	111.70	2.00	2.00	0.00	21.75	
7,277.22	26.52	21.75	6,627.30	2,656.97	1,060.02	0.00	0.00	0.00	0.00	
8,372.43	89.86	271.96	7,291.00	2,989.04	443.12	9.00	5.78	-10.02	-107.91	
18,612.56	89.86	271.96	7,316.00	3,339.00	-9,791.00	0.00	0.00	0.00	0.00	RUSCH 2W4CM_BHI

Planning Report

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Company:	PRAIRIE OPERATING CO	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
219.70	0.00	0.00	219.70	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 219.70ft									
300.00	1.61	21.75	299.99	1.05	0.42	-0.38	2.00	2.00	0.00
351.05	2.63	21.75	351.00	2.80	1.12	-1.02	2.00	2.00	0.00
FXHL BASE									
400.00	3.61	21.75	399.88	5.27	2.10	-1.92	2.00	2.00	0.00
466.30	4.93	21.75	466.00	9.85	3.93	-3.59	2.00	2.00	0.00
PIERRE									
500.00	5.61	21.75	499.55	12.73	5.08	-4.64	2.00	2.00	0.00
600.00	7.61	21.75	598.88	23.41	9.34	-8.53	2.00	2.00	0.00
700.00	9.61	21.75	697.75	37.31	14.88	-13.60	2.00	2.00	0.00
800.00	11.61	21.75	796.04	54.40	21.70	-19.83	2.00	2.00	0.00
900.00	13.61	21.75	893.62	74.67	29.79	-27.22	2.00	2.00	0.00
1,000.00	15.61	21.75	990.39	98.09	39.14	-35.76	2.00	2.00	0.00
1,100.00	17.61	21.75	1,086.21	124.64	49.72	-45.43	2.00	2.00	0.00
1,200.00	19.61	21.75	1,180.98	154.27	61.55	-56.23	2.00	2.00	0.00
1,242.60	20.46	21.75	1,221.00	167.82	66.95	-61.18	2.00	2.00	0.00
U PAWNEE									
1,300.00	21.61	21.75	1,274.58	186.96	74.59	-68.15	2.00	2.00	0.00
1,400.00	23.61	21.75	1,366.89	222.66	88.83	-81.16	2.00	2.00	0.00
1,500.00	25.61	21.75	1,457.81	261.33	104.26	-95.26	2.00	2.00	0.00
1,545.70	26.52	21.75	1,498.86	279.98	111.70	-102.06	2.00	2.00	0.00
Hold Tangent @ 1545.70ft									
1,600.00	26.52	21.75	1,547.44	302.50	120.68	-110.27	0.00	0.00	0.00
1,700.00	26.52	21.75	1,636.92	343.97	137.23	-125.39	0.00	0.00	0.00
1,760.44	26.52	21.75	1,691.00	369.03	147.23	-134.52	0.00	0.00	0.00
U PAWNEE BASE									
1,800.00	26.52	21.75	1,726.40	385.44	153.78	-140.50	0.00	0.00	0.00
1,900.00	26.52	21.75	1,815.88	426.91	170.32	-155.62	0.00	0.00	0.00
1,910.20	26.52	21.75	1,825.00	431.14	172.01	-157.16	0.00	0.00	0.00
9 5/8"									
2,000.00	26.52	21.75	1,905.36	468.39	186.87	-170.74	0.00	0.00	0.00
2,100.00	26.52	21.75	1,994.83	509.86	203.41	-185.86	0.00	0.00	0.00
2,200.00	26.52	21.75	2,084.31	551.33	219.96	-200.97	0.00	0.00	0.00
2,300.00	26.52	21.75	2,173.79	592.80	236.50	-216.09	0.00	0.00	0.00
2,400.00	26.52	21.75	2,263.27	634.28	253.05	-231.21	0.00	0.00	0.00
2,500.00	26.52	21.75	2,352.74	675.75	269.60	-246.33	0.00	0.00	0.00
2,600.00	26.52	21.75	2,442.22	717.22	286.14	-261.44	0.00	0.00	0.00
2,700.00	26.52	21.75	2,531.70	758.69	302.69	-276.56	0.00	0.00	0.00
2,800.00	26.52	21.75	2,621.18	800.16	319.23	-291.68	0.00	0.00	0.00
2,900.00	26.52	21.75	2,710.66	841.64	335.78	-306.80	0.00	0.00	0.00
3,000.00	26.52	21.75	2,800.13	883.11	352.32	-321.91	0.00	0.00	0.00
3,100.00	26.52	21.75	2,889.61	924.58	368.87	-337.03	0.00	0.00	0.00
3,200.00	26.52	21.75	2,979.09	966.05	385.42	-352.15	0.00	0.00	0.00
3,300.00	26.52	21.75	3,068.57	1,007.53	401.96	-367.27	0.00	0.00	0.00
3,400.00	26.52	21.75	3,158.05	1,049.00	418.51	-382.39	0.00	0.00	0.00
3,500.00	26.52	21.75	3,247.52	1,090.47	435.05	-397.50	0.00	0.00	0.00
3,600.00	26.52	21.75	3,337.00	1,131.94	451.60	-412.62	0.00	0.00	0.00
3,700.00	26.52	21.75	3,426.48	1,173.42	468.15	-427.74	0.00	0.00	0.00
3,800.00	26.52	21.75	3,515.96	1,214.89	484.69	-442.86	0.00	0.00	0.00

Planning Report

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Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,900.00	26.52	21.75	3,605.43	1,256.36	501.24	-457.97	0.00	0.00	0.00	
4,000.00	26.52	21.75	3,694.91	1,297.83	517.78	-473.09	0.00	0.00	0.00	
4,100.00	26.52	21.75	3,784.39	1,339.30	534.33	-488.21	0.00	0.00	0.00	
4,200.00	26.52	21.75	3,873.87	1,380.78	550.87	-503.33	0.00	0.00	0.00	
4,261.62	26.52	21.75	3,929.00	1,406.33	561.07	-512.64	0.00	0.00	0.00	
Parkman Sandstone										
4,300.00	26.52	21.75	3,963.35	1,422.25	567.42	-518.44	0.00	0.00	0.00	
4,400.00	26.52	21.75	4,052.82	1,463.72	583.97	-533.56	0.00	0.00	0.00	
4,500.00	26.52	21.75	4,142.30	1,505.19	600.51	-548.68	0.00	0.00	0.00	
4,600.00	26.52	21.75	4,231.78	1,546.67	617.06	-563.80	0.00	0.00	0.00	
4,700.00	26.52	21.75	4,321.26	1,588.14	633.60	-578.92	0.00	0.00	0.00	
4,800.00	26.52	21.75	4,410.74	1,629.61	650.15	-594.03	0.00	0.00	0.00	
4,833.82	26.52	21.75	4,441.00	1,643.64	655.75	-599.15	0.00	0.00	0.00	
Sussex Sandstone										
4,900.00	26.52	21.75	4,500.21	1,671.08	666.69	-609.15	0.00	0.00	0.00	
5,000.00	26.52	21.75	4,589.69	1,712.56	683.24	-624.27	0.00	0.00	0.00	
5,100.00	26.52	21.75	4,679.17	1,754.03	699.79	-639.39	0.00	0.00	0.00	
5,200.00	26.52	21.75	4,768.65	1,795.50	716.33	-654.50	0.00	0.00	0.00	
5,300.00	26.52	21.75	4,858.12	1,836.97	732.88	-669.62	0.00	0.00	0.00	
5,400.00	26.52	21.75	4,947.60	1,878.44	749.42	-684.74	0.00	0.00	0.00	
5,500.00	26.52	21.75	5,037.08	1,919.92	765.97	-699.86	0.00	0.00	0.00	
5,600.00	26.52	21.75	5,126.56	1,961.39	782.51	-714.97	0.00	0.00	0.00	
5,684.31	26.52	21.75	5,202.00	1,996.36	796.47	-727.72	0.00	0.00	0.00	
Shannon Sandstone										
5,700.00	26.52	21.75	5,216.04	2,002.86	799.06	-730.09	0.00	0.00	0.00	
5,800.00	26.52	21.75	5,305.51	2,044.33	815.61	-745.21	0.00	0.00	0.00	
5,900.00	26.52	21.75	5,394.99	2,085.81	832.15	-760.33	0.00	0.00	0.00	
6,000.00	26.52	21.75	5,484.47	2,127.28	848.70	-775.44	0.00	0.00	0.00	
6,100.00	26.52	21.75	5,573.95	2,168.75	865.24	-790.56	0.00	0.00	0.00	
6,200.00	26.52	21.75	5,663.43	2,210.22	881.79	-805.68	0.00	0.00	0.00	
6,300.00	26.52	21.75	5,752.90	2,251.69	898.34	-820.80	0.00	0.00	0.00	
6,400.00	26.52	21.75	5,842.38	2,293.17	914.88	-835.92	0.00	0.00	0.00	
6,500.00	26.52	21.75	5,931.86	2,334.64	931.43	-851.03	0.00	0.00	0.00	
6,600.00	26.52	21.75	6,021.34	2,376.11	947.97	-866.15	0.00	0.00	0.00	
6,700.00	26.52	21.75	6,110.81	2,417.58	964.52	-881.27	0.00	0.00	0.00	
6,800.00	26.52	21.75	6,200.29	2,459.06	981.06	-896.39	0.00	0.00	0.00	
6,900.00	26.52	21.75	6,289.77	2,500.53	997.61	-911.50	0.00	0.00	0.00	
7,000.00	26.52	21.75	6,379.25	2,542.00	1,014.16	-926.62	0.00	0.00	0.00	
7,100.00	26.52	21.75	6,468.73	2,583.47	1,030.70	-941.74	0.00	0.00	0.00	
7,200.00	26.52	21.75	6,558.20	2,624.95	1,047.25	-956.86	0.00	0.00	0.00	
7,277.22	26.52	21.75	6,627.30	2,656.97	1,060.02	-968.53	0.00	0.00	0.00	
KOP @ 7277.22ft :: DLS = 9°/100'										
7,300.00	25.96	17.29	6,647.73	2,666.46	1,063.39	-971.57	9.00	-2.47	-19.58	
7,350.00	25.23	7.00	6,692.85	2,687.49	1,067.94	-975.40	9.00	-1.45	-20.58	
7,400.00	25.24	356.43	6,738.10	2,708.72	1,068.58	-975.31	9.00	0.03	-21.13	
7,450.00	25.99	346.16	6,783.21	2,730.01	1,065.29	-971.30	9.00	1.50	-20.55	
7,500.00	27.42	336.65	6,827.89	2,751.23	1,058.10	-963.39	9.00	2.86	-19.01	
7,550.00	29.43	328.18	6,871.88	2,772.25	1,047.06	-951.63	9.00	4.02	-16.94	
7,600.00	31.91	320.81	6,914.90	2,792.95	1,032.22	-936.09	9.00	4.95	-14.75	
7,650.00	34.76	314.46	6,956.68	2,813.18	1,013.69	-916.88	9.00	5.69	-12.70	
7,654.05	35.00	313.98	6,960.00	2,814.79	1,012.03	-915.17	9.00	6.02	-11.69	
Sharon Springs										
7,692.46	37.40	309.77	6,991.00	2,829.91	995.13	-897.76	9.00	6.25	-10.98	

Planning Report

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Company:	PRAIRIE OPERATING CO	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Niobrara A									
7,700.00	37.89	308.99	6,996.97	2,832.83	991.57	-894.10	9.00	6.46	-10.25
7,750.00	41.23	304.27	7,035.52	2,851.78	966.01	-867.91	9.00	6.70	-9.45
7,800.00	44.75	300.15	7,072.09	2,869.91	937.16	-838.45	9.00	7.03	-8.24
7,849.30	48.35	296.57	7,106.00	2,886.87	905.66	-806.39	9.00	7.29	-7.27
Niobrara B									
7,850.00	48.40	296.52	7,106.46	2,887.11	905.19	-805.92	9.00	7.40	-6.84
7,900.00	52.15	293.28	7,138.42	2,903.26	870.31	-770.51	9.00	7.50	-6.47
7,950.00	55.98	290.36	7,167.76	2,918.28	832.74	-732.44	9.00	7.66	-5.84
7,964.95	57.14	289.54	7,176.00	2,922.54	821.01	-720.57	9.00	7.75	-5.49
Niobrara C									
8,000.00	59.87	287.70	7,194.31	2,932.08	792.69	-691.94	9.00	7.80	-5.26
8,050.00	63.82	285.24	7,217.90	2,944.55	750.42	-649.27	9.00	7.89	-4.92
8,100.00	67.80	282.94	7,238.39	2,955.64	706.20	-604.69	9.00	7.96	-4.60
8,150.00	71.81	280.77	7,255.65	2,965.26	660.28	-558.48	9.00	8.02	-4.34
8,200.00	75.84	278.69	7,269.58	2,973.36	612.96	-510.91	9.00	8.07	-4.15
8,205.91	76.32	278.45	7,271.00	2,974.22	607.28	-505.21	9.00	8.09	-4.06
Fort Hays									
8,250.00	79.90	276.69	7,280.08	2,979.90	564.53	-462.28	9.00	8.11	-3.99
8,300.00	83.96	274.74	7,287.10	2,984.82	515.28	-412.89	9.00	8.13	-3.90
8,350.00	88.03	272.82	7,290.59	2,988.10	465.53	-363.05	9.00	8.14	-3.84
8,371.20	89.76	272.01	7,291.00	2,988.99	444.35	-341.86	9.00	8.15	-3.83
Codell									
8,372.43	89.86	271.96	7,291.00	2,989.04	443.12	-340.63	9.00	8.15	-3.82
End Build @ 8372.43ft									
8,400.00	89.86	271.96	7,291.07	2,989.98	415.57	-313.06	0.00	0.00	0.00
8,500.00	89.86	271.96	7,291.32	2,993.40	315.62	-213.06	0.00	0.00	0.00
8,600.00	89.86	271.96	7,291.56	2,996.81	215.68	-113.06	0.00	0.00	0.00
8,682.43	89.86	271.96	7,291.76	2,999.63	133.30	-30.63	0.00	0.00	0.00
TPZ @ 8682.43ft									
8,700.00	89.86	271.96	7,291.80	3,000.23	115.74	-13.06	0.00	0.00	0.00
8,800.00	89.86	271.96	7,292.05	3,003.65	15.80	86.94	0.00	0.00	0.00
8,900.00	89.86	271.96	7,292.29	3,007.07	-84.14	186.94	0.00	0.00	0.00
9,000.00	89.86	271.96	7,292.54	3,010.48	-184.08	286.94	0.00	0.00	0.00
9,100.00	89.86	271.96	7,292.78	3,013.90	-284.02	386.94	0.00	0.00	0.00
9,200.00	89.86	271.96	7,293.02	3,017.32	-383.96	486.94	0.00	0.00	0.00
9,300.00	89.86	271.96	7,293.27	3,020.74	-483.91	586.94	0.00	0.00	0.00
9,400.00	89.86	271.96	7,293.51	3,024.15	-583.85	686.94	0.00	0.00	0.00
9,500.00	89.86	271.96	7,293.76	3,027.57	-683.79	786.94	0.00	0.00	0.00
9,600.00	89.86	271.96	7,294.00	3,030.99	-783.73	886.94	0.00	0.00	0.00
9,700.00	89.86	271.96	7,294.24	3,034.41	-883.67	986.94	0.00	0.00	0.00
9,800.00	89.86	271.96	7,294.49	3,037.82	-983.61	1,086.94	0.00	0.00	0.00
9,900.00	89.86	271.96	7,294.73	3,041.24	-1,083.55	1,186.94	0.00	0.00	0.00
10,000.00	89.86	271.96	7,294.98	3,044.66	-1,183.49	1,286.93	0.00	0.00	0.00
10,100.00	89.86	271.96	7,295.22	3,048.08	-1,283.44	1,386.93	0.00	0.00	0.00
10,200.00	89.86	271.96	7,295.47	3,051.50	-1,383.38	1,486.93	0.00	0.00	0.00
10,300.00	89.86	271.96	7,295.71	3,054.91	-1,483.32	1,586.93	0.00	0.00	0.00
10,400.00	89.86	271.96	7,295.95	3,058.33	-1,583.26	1,686.93	0.00	0.00	0.00
10,500.00	89.86	271.96	7,296.20	3,061.75	-1,683.20	1,786.93	0.00	0.00	0.00
10,600.00	89.86	271.96	7,296.44	3,065.17	-1,783.14	1,886.93	0.00	0.00	0.00
10,700.00	89.86	271.96	7,296.69	3,068.58	-1,883.08	1,986.93	0.00	0.00	0.00
10,800.00	89.86	271.96	7,296.93	3,072.00	-1,983.02	2,086.93	0.00	0.00	0.00
10,900.00	89.86	271.96	7,297.17	3,075.42	-2,082.97	2,186.93	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Company:	PRAIRIE OPERATING CO	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,000.00	89.86	271.96	7,297.42	3,078.84	-2,182.91	2,286.93	0.00	0.00	0.00	
11,100.00	89.86	271.96	7,297.66	3,082.25	-2,282.85	2,386.93	0.00	0.00	0.00	
11,200.00	89.86	271.96	7,297.91	3,085.67	-2,382.79	2,486.93	0.00	0.00	0.00	
11,300.00	89.86	271.96	7,298.15	3,089.09	-2,482.73	2,586.93	0.00	0.00	0.00	
11,400.00	89.86	271.96	7,298.39	3,092.51	-2,582.67	2,686.93	0.00	0.00	0.00	
11,500.00	89.86	271.96	7,298.64	3,095.92	-2,682.61	2,786.93	0.00	0.00	0.00	
11,600.00	89.86	271.96	7,298.88	3,099.34	-2,782.56	2,886.93	0.00	0.00	0.00	
11,700.00	89.86	271.96	7,299.13	3,102.76	-2,882.50	2,986.93	0.00	0.00	0.00	
11,800.00	89.86	271.96	7,299.37	3,106.18	-2,982.44	3,086.93	0.00	0.00	0.00	
11,900.00	89.86	271.96	7,299.61	3,109.59	-3,082.38	3,186.93	0.00	0.00	0.00	
12,000.00	89.86	271.96	7,299.86	3,113.01	-3,182.32	3,286.93	0.00	0.00	0.00	
12,100.00	89.86	271.96	7,300.10	3,116.43	-3,282.26	3,386.93	0.00	0.00	0.00	
12,200.00	89.86	271.96	7,300.35	3,119.85	-3,382.20	3,486.93	0.00	0.00	0.00	
12,300.00	89.86	271.96	7,300.59	3,123.26	-3,482.14	3,586.93	0.00	0.00	0.00	
12,400.00	89.86	271.96	7,300.84	3,126.68	-3,582.09	3,686.93	0.00	0.00	0.00	
12,500.00	89.86	271.96	7,301.08	3,130.10	-3,682.03	3,786.93	0.00	0.00	0.00	
12,600.00	89.86	271.96	7,301.32	3,133.52	-3,781.97	3,886.93	0.00	0.00	0.00	
12,700.00	89.86	271.96	7,301.57	3,136.93	-3,881.91	3,986.93	0.00	0.00	0.00	
12,800.00	89.86	271.96	7,301.81	3,140.35	-3,981.85	4,086.93	0.00	0.00	0.00	
12,900.00	89.86	271.96	7,302.06	3,143.77	-4,081.79	4,186.93	0.00	0.00	0.00	
13,000.00	89.86	271.96	7,302.30	3,147.19	-4,181.73	4,286.93	0.00	0.00	0.00	
13,100.00	89.86	271.96	7,302.54	3,150.60	-4,281.67	4,386.93	0.00	0.00	0.00	
13,200.00	89.86	271.96	7,302.79	3,154.02	-4,381.62	4,486.93	0.00	0.00	0.00	
13,300.00	89.86	271.96	7,303.03	3,157.44	-4,481.56	4,586.93	0.00	0.00	0.00	
13,400.00	89.86	271.96	7,303.28	3,160.86	-4,581.50	4,686.92	0.00	0.00	0.00	
13,500.00	89.86	271.96	7,303.52	3,164.27	-4,681.44	4,786.92	0.00	0.00	0.00	
13,600.00	89.86	271.96	7,303.76	3,167.69	-4,781.38	4,886.92	0.00	0.00	0.00	
13,700.00	89.86	271.96	7,304.01	3,171.11	-4,881.32	4,986.92	0.00	0.00	0.00	
13,800.00	89.86	271.96	7,304.25	3,174.53	-4,981.26	5,086.92	0.00	0.00	0.00	
13,900.00	89.86	271.96	7,304.50	3,177.95	-5,081.20	5,186.92	0.00	0.00	0.00	
14,000.00	89.86	271.96	7,304.74	3,181.36	-5,181.15	5,286.92	0.00	0.00	0.00	
14,100.00	89.86	271.96	7,304.99	3,184.78	-5,281.09	5,386.92	0.00	0.00	0.00	
14,200.00	89.86	271.96	7,305.23	3,188.20	-5,381.03	5,486.92	0.00	0.00	0.00	
14,300.00	89.86	271.96	7,305.47	3,191.62	-5,480.97	5,586.92	0.00	0.00	0.00	
14,400.00	89.86	271.96	7,305.72	3,195.03	-5,580.91	5,686.92	0.00	0.00	0.00	
14,500.00	89.86	271.96	7,305.96	3,198.45	-5,680.85	5,786.92	0.00	0.00	0.00	
14,600.00	89.86	271.96	7,306.21	3,201.87	-5,780.79	5,886.92	0.00	0.00	0.00	
14,700.00	89.86	271.96	7,306.45	3,205.29	-5,880.73	5,986.92	0.00	0.00	0.00	
14,800.00	89.86	271.96	7,306.69	3,208.70	-5,980.68	6,086.92	0.00	0.00	0.00	
14,900.00	89.86	271.96	7,306.94	3,212.12	-6,080.62	6,186.92	0.00	0.00	0.00	
15,000.00	89.86	271.96	7,307.18	3,215.54	-6,180.56	6,286.92	0.00	0.00	0.00	
15,100.00	89.86	271.96	7,307.43	3,218.96	-6,280.50	6,386.92	0.00	0.00	0.00	
15,200.00	89.86	271.96	7,307.67	3,222.37	-6,380.44	6,486.92	0.00	0.00	0.00	
15,300.00	89.86	271.96	7,307.91	3,225.79	-6,480.38	6,586.92	0.00	0.00	0.00	
15,400.00	89.86	271.96	7,308.16	3,229.21	-6,580.32	6,686.92	0.00	0.00	0.00	
15,500.00	89.86	271.96	7,308.40	3,232.63	-6,680.27	6,786.92	0.00	0.00	0.00	
15,600.00	89.86	271.96	7,308.65	3,236.04	-6,780.21	6,886.92	0.00	0.00	0.00	
15,700.00	89.86	271.96	7,308.89	3,239.46	-6,880.15	6,986.92	0.00	0.00	0.00	
15,800.00	89.86	271.96	7,309.13	3,242.88	-6,980.09	7,086.92	0.00	0.00	0.00	
15,900.00	89.86	271.96	7,309.38	3,246.30	-7,080.03	7,186.92	0.00	0.00	0.00	
16,000.00	89.86	271.96	7,309.62	3,249.71	-7,179.97	7,286.92	0.00	0.00	0.00	
16,100.00	89.86	271.96	7,309.87	3,253.13	-7,279.91	7,386.92	0.00	0.00	0.00	
16,200.00	89.86	271.96	7,310.11	3,256.55	-7,379.85	7,486.92	0.00	0.00	0.00	
16,300.00	89.86	271.96	7,310.36	3,259.97	-7,479.80	7,586.92	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Company:	PRAIRIE OPERATING CO	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,400.00	89.86	271.96	7,310.60	3,263.38	-7,579.74	7,686.92	0.00	0.00	0.00	
16,500.00	89.86	271.96	7,310.84	3,266.80	-7,679.68	7,786.92	0.00	0.00	0.00	
16,600.00	89.86	271.96	7,311.09	3,270.22	-7,779.62	7,886.92	0.00	0.00	0.00	
16,700.00	89.86	271.96	7,311.33	3,273.64	-7,879.56	7,986.92	0.00	0.00	0.00	
16,800.00	89.86	271.96	7,311.58	3,277.05	-7,979.50	8,086.91	0.00	0.00	0.00	
16,900.00	89.86	271.96	7,311.82	3,280.47	-8,079.44	8,186.91	0.00	0.00	0.00	
17,000.00	89.86	271.96	7,312.06	3,283.89	-8,179.38	8,286.91	0.00	0.00	0.00	
17,100.00	89.86	271.96	7,312.31	3,287.31	-8,279.33	8,386.91	0.00	0.00	0.00	
17,200.00	89.86	271.96	7,312.55	3,290.72	-8,379.27	8,486.91	0.00	0.00	0.00	
17,300.00	89.86	271.96	7,312.80	3,294.14	-8,479.21	8,586.91	0.00	0.00	0.00	
17,400.00	89.86	271.96	7,313.04	3,297.56	-8,579.15	8,686.91	0.00	0.00	0.00	
17,500.00	89.86	271.96	7,313.28	3,300.98	-8,679.09	8,786.91	0.00	0.00	0.00	
17,600.00	89.86	271.96	7,313.53	3,304.40	-8,779.03	8,886.91	0.00	0.00	0.00	
17,700.00	89.86	271.96	7,313.77	3,307.81	-8,878.97	8,986.91	0.00	0.00	0.00	
17,800.00	89.86	271.96	7,314.02	3,311.23	-8,978.91	9,086.91	0.00	0.00	0.00	
17,900.00	89.86	271.96	7,314.26	3,314.65	-9,078.86	9,186.91	0.00	0.00	0.00	
18,000.00	89.86	271.96	7,314.50	3,318.07	-9,178.80	9,286.91	0.00	0.00	0.00	
18,100.00	89.86	271.96	7,314.75	3,321.48	-9,278.74	9,386.91	0.00	0.00	0.00	
18,200.00	89.86	271.96	7,314.99	3,324.90	-9,378.68	9,486.91	0.00	0.00	0.00	
18,300.00	89.86	271.96	7,315.24	3,328.32	-9,478.62	9,586.91	0.00	0.00	0.00	
18,302.56	89.86	271.96	7,315.24	3,328.41	-9,481.18	9,589.47	0.00	0.00	0.00	
BPZ @ 18302.56ft										
18,400.00	89.86	271.96	7,315.48	3,331.74	-9,578.56	9,686.91	0.00	0.00	0.00	
18,500.00	89.86	271.96	7,315.73	3,335.15	-9,678.50	9,786.91	0.00	0.00	0.00	
18,600.00	89.86	271.96	7,315.97	3,338.57	-9,778.45	9,886.91	0.00	0.00	0.00	
18,612.56	89.86	271.96	7,316.00	3,339.00	-9,791.00	9,899.47	0.00	0.00	0.00	
TD Well @ 18612.56ft - 5 1/2" CSG										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,910.20	1,825.00	9 5/8"		9-5/8	13-1/2
18,612.56	7,316.00	5 1/2" CSG		5-1/2	8-1/2

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Company:	PRAIRIE OPERATING CO	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Project:	WELD COUNTY, CO (NAD 83)	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site:	7N-65W-03 RUSCH PAD	North Reference:	True
Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
351.05	351.00	FXHL BASE				
466.30	466.00	PIERRE				
1,242.60	1,221.00	U PAWNEE				
1,760.44	1,691.00	U PAWNEE BASE				
4,261.62	3,929.00	Parkman Sandstone				
4,833.82	4,441.00	Sussex Sandstone				
5,684.31	5,202.00	Shannon Sandstone				
7,654.05	6,960.00	Sharon Springs				
7,692.46	6,991.00	Niobrara A				
7,849.30	7,106.00	Niobrara B				
7,964.95	7,176.00	Niobrara C				
8,205.91	7,271.00	Fort Hays				
8,371.20	7,291.00	Codell				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
219.70	219.70	0.00	0.00	Begin Nudge @ 219.70ft
1,545.70	1,498.86	279.98	111.70	Hold Tangent @ 1545.70ft
7,277.22	6,627.30	2,656.97	1,060.02	KOP @ 7277.22ft :: DLS = 9°/100'
8,372.43	7,291.00	2,989.04	443.12	End Build @ 8372.43ft
8,682.43	7,291.76	2,999.63	133.30	TPZ @ 8682.43ft
18,302.56	7,315.24	3,328.41	-9,481.18	BPZ @ 18302.56ft
18,612.56	7,316.00	3,339.00	-9,791.00	TD Well @ 18612.56ft

PRAIRIE OPERATING CO

WELD COUNTY, CO (NAD 83)

7N-65W-03 RUSCH PAD

RUSCH 2W4CM

Plan A

Permit Rev-2

Anticollision Summary Report

05 March, 2024

Anticollision Summary Report

Company:	PRAIRIE OPERATING CO	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Project:	WELD COUNTY, CO (NAD 83)	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Reference Site:	7N-65W-03 RUSCH PAD	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Permit Rev-2	Offset TVD Reference:	Offset Datum

Reference	Permit Rev-2		
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 centre distance of 2,500.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Added to Error Values

Survey Tool Program	Date	3/5/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	1,825.00	Permit Rev-2 (Plan A)	ISCWSA MWD+IFR1	MWD+IFR
1,825.00	18,612.56	Permit Rev-2 (Plan A)	ISCWSA MWD+IFR1	MWD+IFR

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
7N-65W-03 RUSCH PAD						
RUSCH 10W4NCM - Plan A - Permit Rev-2	340.35	339.85	131.98	124.28	17.137	CC, ES
RUSCH 10W4NCM - Plan A - Permit Rev-2	400.00	397.18	132.47	124.69	17.028	SF
RUSCH 11W4CM - Plan A - Permit Rev-2	404.19	403.91	117.20	109.41	15.044	CC, ES
RUSCH 11W4CM - Plan A - Permit Rev-2	500.00	495.85	118.85	110.91	14.956	SF
RUSCH 12W4NBM - Plan A - Permit Rev-2	219.70	219.70	89.47	81.89	11.800	CC
RUSCH 12W4NBM - Plan A - Permit Rev-2	300.00	299.99	89.51	81.85	11.693	ES
RUSCH 12W4NBM - Plan A - Permit Rev-2	400.00	399.88	89.80	82.01	11.536	SF
RUSCH 13W4NAM - Plan A - Permit Rev-2	219.70	219.70	75.93	68.35	10.014	CC, ES
RUSCH 13W4NAM - Plan A - Permit Rev-2	400.00	399.88	76.73	68.94	9.857	SF
RUSCH 14W4NCM - Plan A - Permit Rev-2	219.70	219.70	51.33	43.75	6.770	CC, ES
RUSCH 14W4NCM - Plan A - Permit Rev-2	300.00	299.99	51.76	44.10	6.761	SF
RUSCH 16W4CM - Plan A - Permit Rev-2	219.70	219.70	63.05	55.47	8.316	CC, ES
RUSCH 16W4CM - Plan A - Permit Rev-2	300.00	299.99	63.31	55.65	8.270	SF
RUSCH 1W4NBM - Plan A - Permit Rev-2	200.00	200.00	15.00	7.43	1.981	CC
RUSCH 1W4NBM - Plan A - Permit Rev-2	18,613.21	18,475.64	172.62	-152.18	0.531	EOU Contact, ES, SF
RUSCH 3W4NAM - Plan A - Permit Rev-2	818.02	816.05	25.89	17.01	2.917	CC
RUSCH 3W4NAM - Plan A - Permit Rev-2	18,600.00	18,168.01	503.04	-41.68	0.923	EOU Contact, ES, SF
RUSCH 4W4NCM - Plan A - Permit Rev-2	398.10	397.14	44.64	36.86	5.738	CC
RUSCH 4W4NCM - Plan A - Permit Rev-2	18,600.00	18,257.19	656.04	23.38	1.037	Collision Avoidance Req., ES
RUSCH 5W4NBM - Plan A - Permit Rev-2	389.62	388.06	74.52	66.76	9.597	CC
RUSCH 5W4NBM - Plan A - Permit Rev-2	400.00	398.32	74.53	66.75	9.578	ES
RUSCH 5W4NBM - Plan A - Permit Rev-2	18,600.00	18,084.48	988.06	357.97	1.568	SF
RUSCH 6W4CM - Plan A - Permit Rev-2	347.30	345.89	89.64	81.93	11.628	CC, ES
RUSCH 6W4CM - Plan A - Permit Rev-2	18,600.00	18,172.12	1,299.73	660.16	2.032	SF
RUSCH 7W4NCM - Plan A - Permit Rev-2	369.87	367.68	119.39	111.65	15.430	CC
RUSCH 7W4NCM - Plan A - Permit Rev-2	400.00	397.07	119.43	111.65	15.353	ES
RUSCH 7W4NCM - Plan A - Permit Rev-2	18,612.56	17,982.97	1,627.25	989.20	2.550	SF
RUSCH 8W4NAM - Plan A - Permit Rev-2	353.55	351.33	134.44	126.72	17.423	CC, ES
RUSCH 8W4NAM - Plan A - Permit Rev-2	18,613.21	17,765.36	1,891.38	1,258.23	2.987	SF
RUSCH 9W4NBM - Plan A - Permit Rev-2	320.42	319.79	146.49	138.82	19.082	CC, ES
RUSCH 9W4NBM - Plan A - Permit Rev-2	18,613.21	17,808.64	2,453.36	1,815.56	3.847	SF
7N-65W-04 OFFSETS						
SIMPSON 42-4 - PER P&A Well - No Surveys	Out of range					

Anticollision Summary Report

Company:	PRAIRIE OPERATING CO	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Project:	WELD COUNTY, CO (NAD 83)	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Reference Site:	7N-65W-03 RUSCH PAD	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Permit Rev-2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
7N-65W-11 OFFSETS Incomplete						
ELDER WEST 1X-HNC-09-07-65 - PRAIRIE Drilled Well						Out of range
ELDER WEST 2X-HNA-09-07-65 - PRAIRIE Drilled Well						Out of range
RUSCH 8X-HNB-04-07-65 - PRAIRIE PR Well - Actual A						Out of range

Anticollision Summary Report

Company:	PRAIRIE OPERATING CO	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Project:	WELD COUNTY, CO (NAD 83)	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Reference Site:	7N-65W-03 RUSCH PAD	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Permit Rev-2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 4906.00usft (RIG)

Offset Depths are relative to Offset Datum

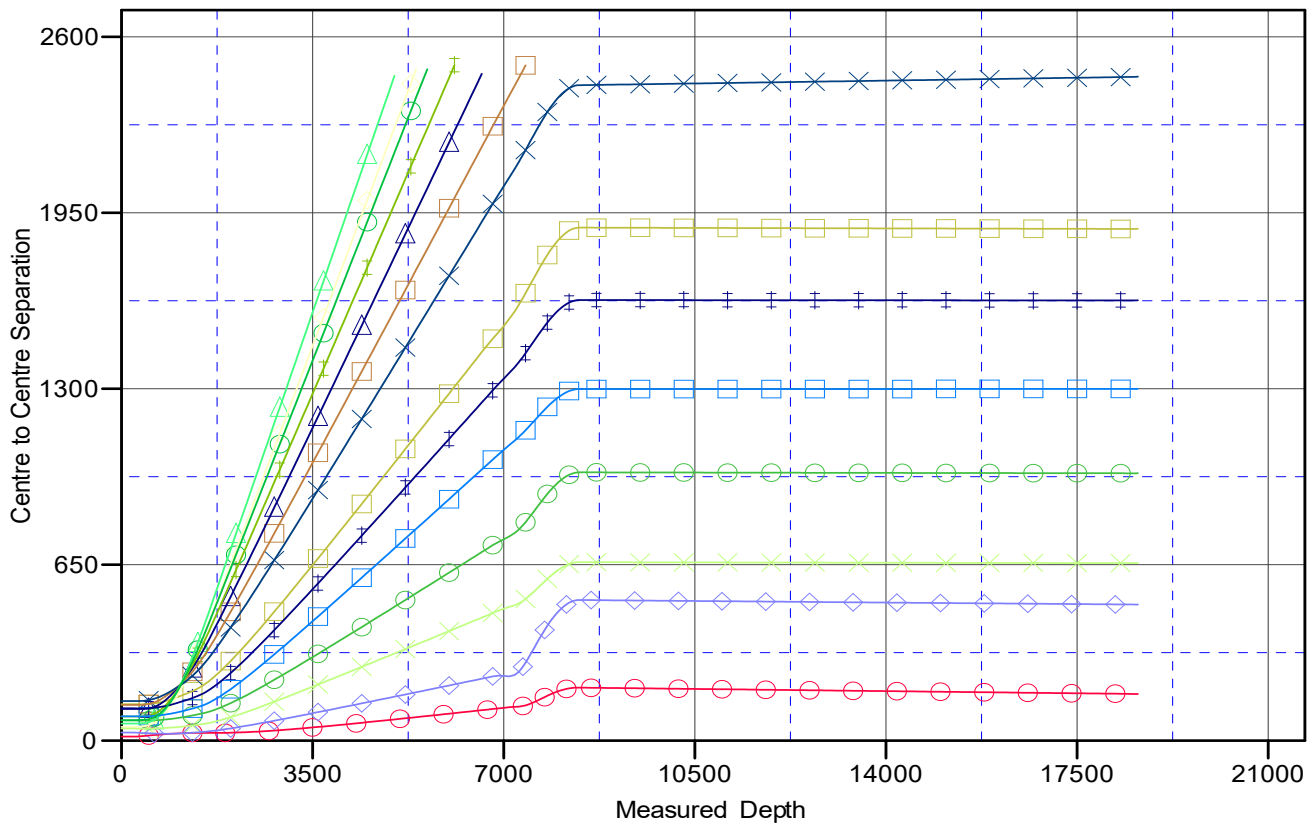
Central Meridian is -105.500000

Coordinates are relative to: RUSCH 2W4CM

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.55°

Ladder Plot



LEGEND

RUSCH 8W4CM, Plan A, Permit Rev-2 V0	RUSCH 3W4CM, Plan A, Permit Rev-2 V0	RUSCH 16W4CM, Plan A, Permit Rev-2 V0
RUSCH 1W4CM, Plan A, Permit Rev-2 V0	RUSCH 10W4CM, Plan A, Permit Rev-2 V0	RUSCH 7W4CM, Plan A, Permit Rev-2 V0
RUSCH 14W4CM, Plan A, Permit Rev-2 V0	RUSCH 5W4CM, Plan A, Permit Rev-2 V0	RUSCH 6W4CM, Plan A, Permit Rev-2 V0
RUSCH 11W4CM, Plan A, Permit Rev-2 V0	RUSCH 12W4CM, Plan A, Permit Rev-2 V0	RUSCH 13W4CM, Plan A, Permit Rev-2 V0
RUSCH 4W4CM, Plan A, Permit Rev-2 V0	RUSCH 9W4CM, Plan A, Permit Rev-2 V0	

Anticollision Summary Report

Company:	PRAIRIE OPERATING CO	Local Co-ordinate Reference:	Well RUSCH 2W4CM
Project:	WELD COUNTY, CO (NAD 83)	TVD Reference:	RKB = 20' @ 4906.00usft (RIG)
Reference Site:	7N-65W-03 RUSCH PAD	MD Reference:	RKB = 20' @ 4906.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RUSCH 2W4CM	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan A	Database:	EDM 5000.16 Single User Db
Reference Design:	Permit Rev-2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 4906.00usft (RIG)

Offset Depths are relative to Offset Datum

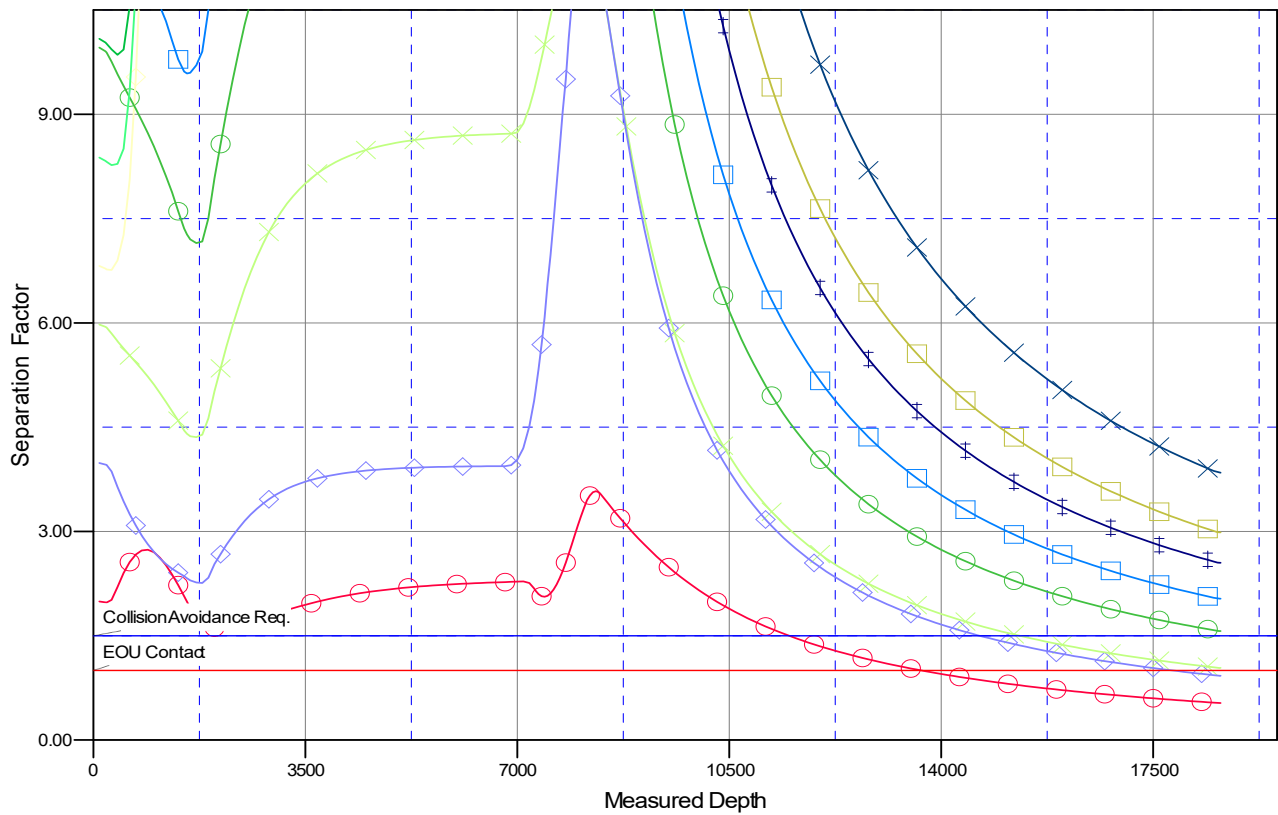
Central Meridian is -105.500000

Coordinates are relative to: RUSCH 2W4CM

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.55°

Separation Factor Plot



LEGEND

RUSCH 8W1NAM, Plan A, Permit Rev-2 V0	RUSCH 3W1NAM, Plan A, Permit Rev-2 V0	RUSCH 16W1NAM, Plan A, Permit Rev-2 V0
RUSCH 1W1NAM, Plan A, Permit Rev-2 V0	RUSCH 10W1NAM, Plan A, Permit Rev-2 V0	RUSCH 7W1NAM, Plan A, Permit Rev-2 V0
RUSCH 14W1NAM, Plan A, Permit Rev-2 V0	RUSCH 5W1NAM, Plan A, Permit Rev-2 V0	RUSCH 6W1NAM, Plan A, Permit Rev-2 V0
RUSCH 11W1NAM, Plan A, Permit Rev-2 V0	RUSCH 12W1NAM, Plan A, Permit Rev-2 V0	RUSCH 13W1NAM, Plan A, Permit Rev-2 V0
RUSCH 4W1NAM, Plan A, Permit Rev-2 V0	RUSCH 9W1NAM, Plan A, Permit Rev-2 V0	