

Well Name:	RESOLUTION FED 12-65-26-23-3NH														
16" CONDUCTOR DEPTH (TVD')	40'	Casing Program:							Cement Program:						
16" CONDUCTOR DEPTH (MD')	40'	Casing	Size	Wt (ppf)	Grade	Hole	Top	Bottom	Cement:	Ft	Sx	Density	Yield	GPS	Type
9 5/8" CASING DEPTH (TVD')	2,300'	Conductor	16."	36.94	ASTM A53 B	26."	0'	40'	Tail	40 '	±30 sx	26.3	4.5	6	Type I & II
9 5/8" CASING DEPTH (MD')	2,311'	Surface	9.625"	36.0	J55	13.5"	0'	2,311'	Tail	2,311 '	±890 sx	14.2	1.49	7.48	Type I
KOP (MD')	8,003'	Production	5.50"	17.0	HCP110	7.875"	0'	18,863'	Lead	6,000 '	±668 sx	12.0	1.79	10.046	50/50 CI G/Poz
5.5" CEMENT TOP	0'								Tail	12,863 '	±1,572 sx	13.5	1.63	7.659	50/50 CI G/Poz
5.5" CASING DEPTH (MD')	18,863'	Mud Program:													
TD (MD')	18,873'	Interval	Type	Anticipated Density	PV	YP	pH	WL							
TD (TVD)	8,549'	Surface Hole	Fresh Water/WBM	8.4-8.6	1-10	1-10	8-9	NC							
Top of Production (MD)	8,903'	Vertical	OBM	8.8-9.2	<18	8-12	-	< 10							

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

RESOLUTION FED 12-65-26-23-3NH PAD

RESOLUTION FED 12-65-26-23-3NH

Wellbore #1

Plan: Plan #2

Standard Planning Report

31 March, 2018

Project: COLORADO NORTHERN ZONE - 83
Site: RESOLUTION FED 12-65-26-23-3NH PAD
Well: RESOLUTION FED 12-65-26-23-3NH
Wellbore: Wellbore #1
Design: Plan #2

US ROCKIES REGION PLANNING

CASING DETAILS

TVD	MD	Size
2300.00	2311.29	9-5/8
8549.00	8902.60	5-1/2

WELL DETAILS: RESOLUTION FED 12-65-26-23-3NH

Ground Level: 5904.00

WELL @ 5930.00usft (Original Well Elev)

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	566.56	6.33	328.64	565.92	14.92	-9.09	2.00	328.64	14.91	
4	4710.00	6.33	328.64	4684.08	405.08	-246.91	0.00	0.00	404.82	
5	5026.56	0.00	0.00	5000.00	420.00	-256.00	2.00	180.00	419.73	
6	8002.60	0.00	0.00	7976.04	420.00	-256.00	0.00	0.00	419.73	
7	8902.60	90.00	0.06	8549.00	992.96	-255.36	10.00	0.06	992.69	
8	18872.59	90.00	0.06	8549.00	10962.94	-244.30	0.00	0.00	10962.68	RESOLUTION FED 12-65-26-23-3NH PBHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
RESOLUTION FED 12-65-26-23-3NH_SHL	0.00	0.00	0.00	40.969758	-104.629833
RESOLUTION FED 12-65-26-23-3NH PBHL	8549.00	10962.94	-244.30	40.999846	-104.630718

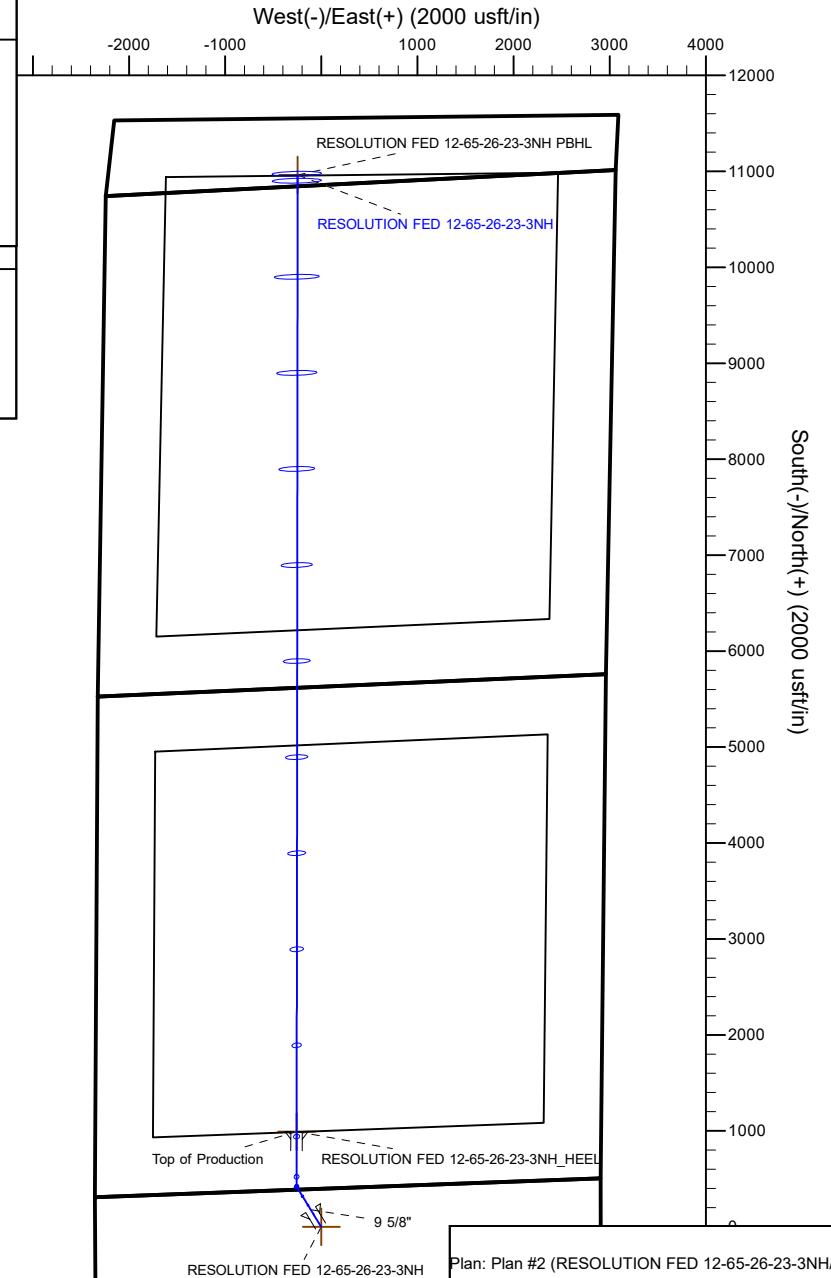
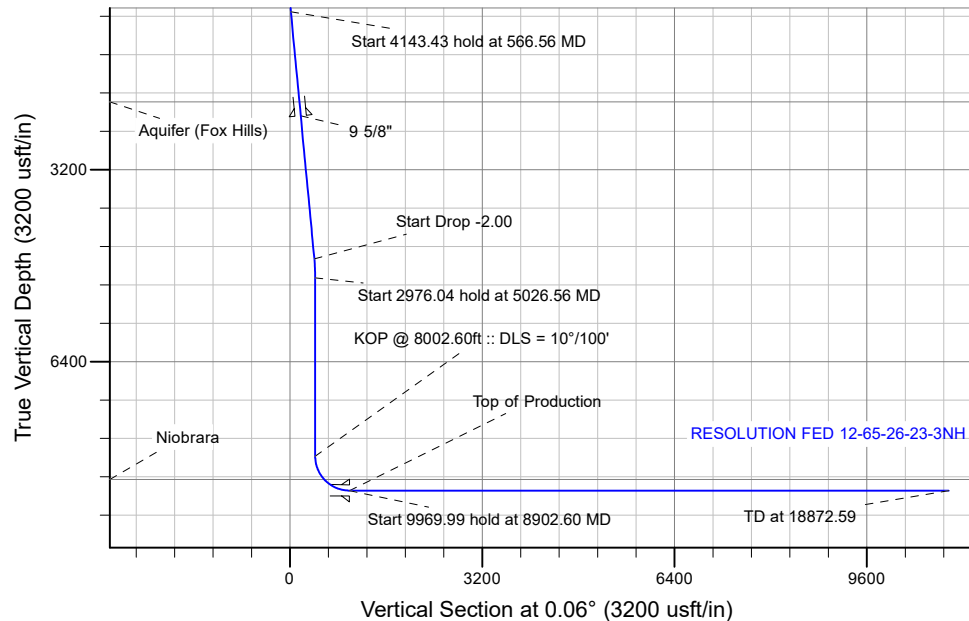
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2065.00	2074.84	Aquifer (Fox Hills)
8365.00	8430.15	Niobrara

SHL
397' FNL
2340' FWL
NENW
Section 35

HEEL
605' FSL
2095' FWL
SESW
Section 26

TOE
118' FSL
1960' FWL
SESW
Section 14



Plan: Plan #2 (RESOLUTION FED 12-65-26-23-3NH/Wellbore #1)

Created By: _____ Date: 3/31/2018
Reviewed: _____ Date: _____

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-26-23-3NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5930.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5930.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-26-23-3NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-26-23-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	RESOLUTION FED 12-65-26-23-3NH PAD			
Site Position:		Northing:	1,597,316.92 usft	Latitude: 40.969758
From:	Lat/Long	Easting:	3,240,309.71 usft	Longitude: -104.629833
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.56 °

Well		RESOLUTION FED 12-65-26-23-3NH				
Well Position	+N/-S	0.00 usft	Northing:	1,597,316.92 usft	Latitude:	40.969758
	+E/-W	0.00 usft	Easting:	3,240,309.71 usft	Longitude:	-104.629833
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,904.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.00	67.59	53,605.51700806

Design	Plan #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	0.06

Plan Survey Tool Program	Date	3/31/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,872.59	Plan #2 (Wellbore #1)	MWD
				MWD - STANDARD

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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
566.56	6.33	328.64	565.92	14.92	-9.09	2.00	2.00	0.00	328.64	
4,710.00	6.33	328.64	4,684.08	405.08	-246.91	0.00	0.00	0.00	0.00	
5,026.56	0.00	0.00	5,000.00	420.00	-256.00	2.00	-2.00	0.00	180.00	
8,002.60	0.00	0.00	7,976.04	420.00	-256.00	0.00	0.00	0.00	0.00	
8,902.60	90.00	0.06	8,549.00	992.96	-255.36	10.00	10.00	0.00	0.06	
18,872.59	90.00	0.06	8,549.00	10,962.94	-244.30	0.00	0.00	0.00	0.00	RESOLUTION FED 1

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Site:	RESOLUTION FED 12-65-26-23-3NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-26-23-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
300.00	1.00	328.64	300.00	0.37	-0.23	0.37	2.00	2.00	0.00
400.00	3.00	328.64	399.93	3.35	-2.04	3.35	2.00	2.00	0.00
500.00	5.00	328.64	499.68	9.31	-5.67	9.30	2.00	2.00	0.00
566.56	6.33	328.64	565.92	14.92	-9.09	14.91	2.00	2.00	0.00
Start 4143.43 hold at 566.56 MD									
600.00	6.33	328.64	599.15	18.07	-11.01	18.06	0.00	0.00	0.00
700.00	6.33	328.64	698.54	27.48	-16.75	27.47	0.00	0.00	0.00
800.00	6.33	328.64	797.93	36.90	-22.49	36.88	0.00	0.00	0.00
900.00	6.33	328.64	897.32	46.32	-28.23	46.29	0.00	0.00	0.00
1,000.00	6.33	328.64	996.71	55.73	-33.97	55.70	0.00	0.00	0.00
1,100.00	6.33	328.64	1,096.10	65.15	-39.71	65.11	0.00	0.00	0.00
1,200.00	6.33	328.64	1,195.49	74.57	-45.45	74.52	0.00	0.00	0.00
1,300.00	6.33	328.64	1,294.88	83.98	-51.19	83.93	0.00	0.00	0.00
1,400.00	6.33	328.64	1,394.27	93.40	-56.93	93.34	0.00	0.00	0.00
1,500.00	6.33	328.64	1,493.66	102.82	-62.67	102.75	0.00	0.00	0.00
1,600.00	6.33	328.64	1,593.05	112.23	-68.41	112.16	0.00	0.00	0.00
1,700.00	6.33	328.64	1,692.44	121.65	-74.15	121.57	0.00	0.00	0.00
1,800.00	6.33	328.64	1,791.83	131.06	-79.89	130.98	0.00	0.00	0.00
1,900.00	6.33	328.64	1,891.22	140.48	-85.63	140.39	0.00	0.00	0.00
2,000.00	6.33	328.64	1,990.61	149.90	-91.37	149.80	0.00	0.00	0.00
2,074.84	6.33	328.64	2,065.00	156.94	-95.66	156.84	0.00	0.00	0.00
Aquifer (Fox Hills)									
2,100.00	6.33	328.64	2,090.00	159.31	-97.11	159.21	0.00	0.00	0.00
2,200.00	6.33	328.64	2,189.39	168.73	-102.84	168.62	0.00	0.00	0.00
2,300.00	6.33	328.64	2,288.78	178.15	-108.58	178.03	0.00	0.00	0.00
2,311.29	6.33	328.64	2,300.00	179.21	-109.23	179.09	0.00	0.00	0.00
9 5/8"									
2,400.00	6.33	328.64	2,388.17	187.56	-114.32	187.44	0.00	0.00	0.00
2,500.00	6.33	328.64	2,487.56	196.98	-120.06	196.85	0.00	0.00	0.00
2,600.00	6.33	328.64	2,586.95	206.40	-125.80	206.26	0.00	0.00	0.00
2,700.00	6.33	328.64	2,686.34	215.81	-131.54	215.67	0.00	0.00	0.00
2,800.00	6.33	328.64	2,785.73	225.23	-137.28	225.08	0.00	0.00	0.00
2,900.00	6.33	328.64	2,885.12	234.64	-143.02	234.49	0.00	0.00	0.00
3,000.00	6.33	328.64	2,984.51	244.06	-148.76	243.91	0.00	0.00	0.00
3,100.00	6.33	328.64	3,083.90	253.48	-154.50	253.32	0.00	0.00	0.00
3,200.00	6.33	328.64	3,183.29	262.89	-160.24	262.73	0.00	0.00	0.00
3,300.00	6.33	328.64	3,282.68	272.31	-165.98	272.14	0.00	0.00	0.00
3,400.00	6.33	328.64	3,382.07	281.73	-171.72	281.55	0.00	0.00	0.00
3,500.00	6.33	328.64	3,481.46	291.14	-177.46	290.96	0.00	0.00	0.00
3,600.00	6.33	328.64	3,580.86	300.56	-183.20	300.37	0.00	0.00	0.00
3,700.00	6.33	328.64	3,680.25	309.98	-188.94	309.78	0.00	0.00	0.00
3,800.00	6.33	328.64	3,779.64	319.39	-194.68	319.19	0.00	0.00	0.00
3,900.00	6.33	328.64	3,879.03	328.81	-200.42	328.60	0.00	0.00	0.00
4,000.00	6.33	328.64	3,978.42	338.22	-206.16	338.01	0.00	0.00	0.00
4,100.00	6.33	328.64	4,077.81	347.64	-211.90	347.42	0.00	0.00	0.00
4,200.00	6.33	328.64	4,177.20	357.06	-217.63	356.83	0.00	0.00	0.00
4,300.00	6.33	328.64	4,276.59	366.47	-223.37	366.24	0.00	0.00	0.00
4,400.00	6.33	328.64	4,375.98	375.89	-229.11	375.65	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5930.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-26-23-3NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-26-23-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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)	
4,500.00	6.33	328.64	4,475.37	385.31	-234.85	385.06	0.00	0.00	0.00	
4,600.00	6.33	328.64	4,574.76	394.72	-240.59	394.47	0.00	0.00	0.00	
4,700.00	6.33	328.64	4,674.15	404.14	-246.33	403.88	0.00	0.00	0.00	
4,710.00	6.33	328.64	4,684.08	405.08	-246.91	404.82	0.00	0.00	0.00	
Start Drop -2.00										
4,800.00	4.53	328.64	4,773.68	412.35	-251.34	412.09	2.00	-2.00	0.00	
4,900.00	2.53	328.64	4,873.48	417.61	-254.55	417.35	2.00	-2.00	0.00	
5,000.00	0.53	328.64	4,973.44	419.89	-255.94	419.63	2.00	-2.00	0.00	
5,026.56	0.00	0.00	5,000.00	420.00	-256.00	419.73	2.00	-2.00	0.00	
Start 2976.04 hold at 5026.56 MD										
5,100.00	0.00	0.00	5,073.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,173.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,273.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,373.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,473.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,573.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,673.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,773.44	420.00	-256.00	419.73	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,873.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,973.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,073.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,173.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,273.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,373.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,473.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,573.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,673.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,773.44	420.00	-256.00	419.73	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,873.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,973.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,073.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,173.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,273.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,373.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,473.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,573.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,673.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,773.44	420.00	-256.00	419.73	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,873.44	420.00	-256.00	419.73	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,973.44	420.00	-256.00	419.73	0.00	0.00	0.00	
8,002.60	0.00	0.00	7,976.04	420.00	-256.00	419.73	0.00	0.00	0.00	
KOP @ 8002.60ft :: DLS = 10°/100'										
8,100.00	9.74	0.06	8,072.97	428.26	-255.99	427.99	10.00	10.00	0.00	
8,200.00	19.74	0.06	8,169.56	453.67	-255.96	453.40	10.00	10.00	0.00	
8,300.00	29.74	0.06	8,260.27	495.47	-255.92	495.20	10.00	10.00	0.00	
8,400.00	39.74	0.06	8,342.34	552.38	-255.85	552.11	10.00	10.00	0.00	
8,430.15	42.75	0.06	8,365.00	572.25	-255.83	571.98	10.00	10.00	0.00	
Niobrara										
8,500.00	49.74	0.06	8,413.28	622.68	-255.78	622.41	10.00	10.00	0.00	
8,600.00	59.74	0.06	8,470.93	704.23	-255.68	703.96	10.00	10.00	0.00	
8,700.00	69.74	0.06	8,513.55	794.55	-255.58	794.28	10.00	10.00	0.00	
8,800.00	79.74	0.06	8,539.84	890.90	-255.48	890.64	10.00	10.00	0.00	
8,900.00	89.74	0.06	8,548.99	990.36	-255.37	990.09	10.00	10.00	0.00	

Corporate Planning Report

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5930.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-26-23-3NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-26-23-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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)	
8,902.60	90.00	0.06	8,549.00	992.96	-255.36	992.69	10.00	10.00	0.00	
Start 9969.99 hold at 8902.60 MD - Top of Production										
9,000.00	90.00	0.06	8,549.00	1,090.36	-255.26	1,090.09	0.00	0.00	0.00	
9,100.00	90.00	0.06	8,549.00	1,190.36	-255.15	1,190.09	0.00	0.00	0.00	
9,200.00	90.00	0.06	8,549.00	1,290.36	-255.03	1,290.09	0.00	0.00	0.00	
9,300.00	90.00	0.06	8,549.00	1,390.36	-254.92	1,390.09	0.00	0.00	0.00	
9,400.00	90.00	0.06	8,549.00	1,490.36	-254.81	1,490.09	0.00	0.00	0.00	
9,500.00	90.00	0.06	8,549.00	1,590.36	-254.70	1,590.09	0.00	0.00	0.00	
9,600.00	90.00	0.06	8,549.00	1,690.36	-254.59	1,690.09	0.00	0.00	0.00	
9,700.00	90.00	0.06	8,549.00	1,790.36	-254.48	1,790.09	0.00	0.00	0.00	
9,800.00	90.00	0.06	8,549.00	1,890.36	-254.37	1,890.09	0.00	0.00	0.00	
9,900.00	90.00	0.06	8,549.00	1,990.36	-254.26	1,990.09	0.00	0.00	0.00	
10,000.00	90.00	0.06	8,549.00	2,090.36	-254.15	2,090.09	0.00	0.00	0.00	
10,100.00	90.00	0.06	8,549.00	2,190.36	-254.04	2,190.09	0.00	0.00	0.00	
10,200.00	90.00	0.06	8,549.00	2,290.36	-253.92	2,290.09	0.00	0.00	0.00	
10,300.00	90.00	0.06	8,549.00	2,390.36	-253.81	2,390.09	0.00	0.00	0.00	
10,400.00	90.00	0.06	8,549.00	2,490.36	-253.70	2,490.09	0.00	0.00	0.00	
10,500.00	90.00	0.06	8,549.00	2,590.36	-253.59	2,590.09	0.00	0.00	0.00	
10,600.00	90.00	0.06	8,549.00	2,690.36	-253.48	2,690.09	0.00	0.00	0.00	
10,700.00	90.00	0.06	8,549.00	2,790.36	-253.37	2,790.09	0.00	0.00	0.00	
10,800.00	90.00	0.06	8,549.00	2,890.36	-253.26	2,890.09	0.00	0.00	0.00	
10,900.00	90.00	0.06	8,549.00	2,990.36	-253.15	2,990.09	0.00	0.00	0.00	
11,000.00	90.00	0.06	8,549.00	3,090.36	-253.04	3,090.09	0.00	0.00	0.00	
11,100.00	90.00	0.06	8,549.00	3,190.36	-252.93	3,190.09	0.00	0.00	0.00	
11,200.00	90.00	0.06	8,549.00	3,290.36	-252.81	3,290.09	0.00	0.00	0.00	
11,300.00	90.00	0.06	8,549.00	3,390.35	-252.70	3,390.09	0.00	0.00	0.00	
11,400.00	90.00	0.06	8,549.00	3,490.35	-252.59	3,490.09	0.00	0.00	0.00	
11,500.00	90.00	0.06	8,549.00	3,590.35	-252.48	3,590.09	0.00	0.00	0.00	
11,600.00	90.00	0.06	8,549.00	3,690.35	-252.37	3,690.09	0.00	0.00	0.00	
11,700.00	90.00	0.06	8,549.00	3,790.35	-252.26	3,790.09	0.00	0.00	0.00	
11,800.00	90.00	0.06	8,549.00	3,890.35	-252.15	3,890.09	0.00	0.00	0.00	
11,900.00	90.00	0.06	8,549.00	3,990.35	-252.04	3,990.09	0.00	0.00	0.00	
12,000.00	90.00	0.06	8,549.00	4,090.35	-251.93	4,090.09	0.00	0.00	0.00	
12,100.00	90.00	0.06	8,549.00	4,190.35	-251.82	4,190.09	0.00	0.00	0.00	
12,200.00	90.00	0.06	8,549.00	4,290.35	-251.71	4,290.09	0.00	0.00	0.00	
12,300.00	90.00	0.06	8,549.00	4,390.35	-251.59	4,390.09	0.00	0.00	0.00	
12,400.00	90.00	0.06	8,549.00	4,490.35	-251.48	4,490.09	0.00	0.00	0.00	
12,500.00	90.00	0.06	8,549.00	4,590.35	-251.37	4,590.09	0.00	0.00	0.00	
12,600.00	90.00	0.06	8,549.00	4,690.35	-251.26	4,690.09	0.00	0.00	0.00	
12,700.00	90.00	0.06	8,549.00	4,790.35	-251.15	4,790.09	0.00	0.00	0.00	
12,800.00	90.00	0.06	8,549.00	4,890.35	-251.04	4,890.09	0.00	0.00	0.00	
12,900.00	90.00	0.06	8,549.00	4,990.35	-250.93	4,990.09	0.00	0.00	0.00	
13,000.00	90.00	0.06	8,549.00	5,090.35	-250.82	5,090.09	0.00	0.00	0.00	
13,100.00	90.00	0.06	8,549.00	5,190.35	-250.71	5,190.09	0.00	0.00	0.00	
13,200.00	90.00	0.06	8,549.00	5,290.35	-250.60	5,290.09	0.00	0.00	0.00	
13,300.00	90.00	0.06	8,549.00	5,390.35	-250.48	5,390.09	0.00	0.00	0.00	
13,400.00	90.00	0.06	8,549.00	5,490.35	-250.37	5,490.09	0.00	0.00	0.00	
13,500.00	90.00	0.06	8,549.00	5,590.35	-250.26	5,590.09	0.00	0.00	0.00	
13,600.00	90.00	0.06	8,549.00	5,690.35	-250.15	5,690.09	0.00	0.00	0.00	
13,700.00	90.00	0.06	8,549.00	5,790.35	-250.04	5,790.09	0.00	0.00	0.00	
13,800.00	90.00	0.06	8,549.00	5,890.35	-249.93	5,890.09	0.00	0.00	0.00	
13,900.00	90.00	0.06	8,549.00	5,990.35	-249.82	5,990.09	0.00	0.00	0.00	
14,000.00	90.00	0.06	8,549.00	6,090.35	-249.71	6,090.09	0.00	0.00	0.00	

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-26-23-3NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5930.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5930.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-26-23-3NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-26-23-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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)	
14,100.00	90.00	0.06	8,549.00	6,190.35	-249.60	6,190.09	0.00	0.00	0.00	
14,200.00	90.00	0.06	8,549.00	6,290.35	-249.49	6,290.09	0.00	0.00	0.00	
14,300.00	90.00	0.06	8,549.00	6,390.35	-249.37	6,390.09	0.00	0.00	0.00	
14,400.00	90.00	0.06	8,549.00	6,490.35	-249.26	6,490.09	0.00	0.00	0.00	
14,500.00	90.00	0.06	8,549.00	6,590.35	-249.15	6,590.09	0.00	0.00	0.00	
14,600.00	90.00	0.06	8,549.00	6,690.35	-249.04	6,690.09	0.00	0.00	0.00	
14,700.00	90.00	0.06	8,549.00	6,790.35	-248.93	6,790.09	0.00	0.00	0.00	
14,800.00	90.00	0.06	8,549.00	6,890.35	-248.82	6,890.09	0.00	0.00	0.00	
14,900.00	90.00	0.06	8,549.00	6,990.35	-248.71	6,990.09	0.00	0.00	0.00	
15,000.00	90.00	0.06	8,549.00	7,090.35	-248.60	7,090.09	0.00	0.00	0.00	
15,100.00	90.00	0.06	8,549.00	7,190.35	-248.49	7,190.09	0.00	0.00	0.00	
15,200.00	90.00	0.06	8,549.00	7,290.35	-248.38	7,290.09	0.00	0.00	0.00	
15,300.00	90.00	0.06	8,549.00	7,390.35	-248.27	7,390.09	0.00	0.00	0.00	
15,400.00	90.00	0.06	8,549.00	7,490.35	-248.15	7,490.09	0.00	0.00	0.00	
15,500.00	90.00	0.06	8,549.00	7,590.35	-248.04	7,590.09	0.00	0.00	0.00	
15,600.00	90.00	0.06	8,549.00	7,690.35	-247.93	7,690.09	0.00	0.00	0.00	
15,700.00	90.00	0.06	8,549.00	7,790.35	-247.82	7,790.09	0.00	0.00	0.00	
15,800.00	90.00	0.06	8,549.00	7,890.35	-247.71	7,890.09	0.00	0.00	0.00	
15,900.00	90.00	0.06	8,549.00	7,990.35	-247.60	7,990.09	0.00	0.00	0.00	
16,000.00	90.00	0.06	8,549.00	8,090.35	-247.49	8,090.09	0.00	0.00	0.00	
16,100.00	90.00	0.06	8,549.00	8,190.35	-247.38	8,190.09	0.00	0.00	0.00	
16,200.00	90.00	0.06	8,549.00	8,290.35	-247.27	8,290.09	0.00	0.00	0.00	
16,300.00	90.00	0.06	8,549.00	8,390.35	-247.16	8,390.09	0.00	0.00	0.00	
16,400.00	90.00	0.06	8,549.00	8,490.35	-247.04	8,490.09	0.00	0.00	0.00	
16,500.00	90.00	0.06	8,549.00	8,590.35	-246.93	8,590.09	0.00	0.00	0.00	
16,600.00	90.00	0.06	8,549.00	8,690.35	-246.82	8,690.09	0.00	0.00	0.00	
16,700.00	90.00	0.06	8,549.00	8,790.35	-246.71	8,790.09	0.00	0.00	0.00	
16,800.00	90.00	0.06	8,549.00	8,890.35	-246.60	8,890.09	0.00	0.00	0.00	
16,900.00	90.00	0.06	8,549.00	8,990.35	-246.49	8,990.09	0.00	0.00	0.00	
17,000.00	90.00	0.06	8,549.00	9,090.35	-246.38	9,090.09	0.00	0.00	0.00	
17,100.00	90.00	0.06	8,549.00	9,190.35	-246.27	9,190.09	0.00	0.00	0.00	
17,200.00	90.00	0.06	8,549.00	9,290.35	-246.16	9,290.09	0.00	0.00	0.00	
17,300.00	90.00	0.06	8,549.00	9,390.35	-246.05	9,390.09	0.00	0.00	0.00	
17,400.00	90.00	0.06	8,549.00	9,490.35	-245.93	9,490.09	0.00	0.00	0.00	
17,500.00	90.00	0.06	8,549.00	9,590.35	-245.82	9,590.09	0.00	0.00	0.00	
17,600.00	90.00	0.06	8,549.00	9,690.35	-245.71	9,690.09	0.00	0.00	0.00	
17,700.00	90.00	0.06	8,549.00	9,790.35	-245.60	9,790.09	0.00	0.00	0.00	
17,800.00	90.00	0.06	8,549.00	9,890.35	-245.49	9,890.09	0.00	0.00	0.00	
17,900.00	90.00	0.06	8,549.00	9,990.35	-245.38	9,990.09	0.00	0.00	0.00	
18,000.00	90.00	0.06	8,549.00	10,090.35	-245.27	10,090.09	0.00	0.00	0.00	
18,100.00	90.00	0.06	8,549.00	10,190.35	-245.16	10,190.09	0.00	0.00	0.00	
18,200.00	90.00	0.06	8,549.00	10,290.35	-245.05	10,290.09	0.00	0.00	0.00	
18,300.00	90.00	0.06	8,549.00	10,390.35	-244.94	10,390.09	0.00	0.00	0.00	
18,400.00	90.00	0.06	8,549.00	10,490.35	-244.83	10,490.09	0.00	0.00	0.00	
18,500.00	90.00	0.06	8,549.00	10,590.35	-244.71	10,590.09	0.00	0.00	0.00	
18,600.00	90.00	0.06	8,549.00	10,690.35	-244.60	10,690.09	0.00	0.00	0.00	
18,700.00	90.00	0.06	8,549.00	10,790.35	-244.49	10,790.09	0.00	0.00	0.00	
18,800.00	90.00	0.06	8,549.00	10,890.35	-244.38	10,890.09	0.00	0.00	0.00	
18,872.59	90.00	0.06	8,549.00	10,962.94	-244.30	10,962.68	0.00	0.00	0.00	
TD at 18872.59										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-26-23-3NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5930.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5930.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-26-23-3NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-26-23-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
2,311.29	2,300.00	9 5/8"	9-5/8	13-1/2	
8,902.60	8,549.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,074.84	2,065.00	Aquifer (Fox Hills)	Aquifer (Water)		
8,430.15	8,365.00	Niobrara	Oil/Gas		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Start Build 2.00	
566.56	565.92	14.92	-9.09	Start 4143.43 hold at 566.56 MD	
4,710.00	4,684.08	405.08	-246.91	Start Drop -2.00	
5,026.56	5,000.00	420.00	-256.00	Start 2976.04 hold at 5026.56 MD	
8,002.60	7,976.04	420.00	-256.00	KOP @ 8002.60ft :: DLS = 10°/100'	
8,902.60	8,549.00	992.96	-255.36	Start 9969.99 hold at 8902.60 MD	
18,872.59	8,549.00	10,962.94	-244.30	TD at 18872.59	