

Well Name:		RESOLUTION FED 12-65-29-20-6NH													
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')	2,328'	Surface	9.625"	36.0	J55	13.5"	0'	2,328'	Tail	2,328'	±900 sx	14.2	1.49	7.48	Type I
KOP (MD')	8,163'	Production	5.50"	17.0	HCP110	7.875"	0'	18,804'	Lead	6,000 '	±668 sx	12.0	1.79	10.046	50/50 CI G/Poz
5.5" CEMENT TOP	0'								Tail	12,804 '	±1,565 sx	13.5	1.63	7.659	50/50 CI G/Poz
5.5" CASING DEPTH (MD')	18,804'	Mud Program:													
TD (MD')	18,814'	Interval	Type	Anticipated Density	PV	YP	pH	WL							
TD (TVD)	8,702'	Surface Hole	Fresh Water/WBM	8.4-8.6	1-10	1-10	8-9	NC							
Top of Production (MD)	9,063'	Vertical	OBM	8.8-9.2	<18	8-12	-	< 10							

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

RESOLUTION FED 12-65-29-20-7NH PAD

RESOLUTION FED 12-65-29-20-6NH

Wellbore #1

Plan: Plan #2

Standard Planning Report

31 March, 2018

Project: COLORADO NORTHERN ZONE - 83
Site: RESOLUTION FED 12-65-29-20-7NH PAD
Well: RESOLUTION FED 12-65-29-20-6NH
Wellbore: Wellbore #1
Design: Plan #2

US ROCKIES REGION PLANNING

CASING DETAILS

TVD	MD	Size
2300.00	2328.32	9-5/8
8702.00	9063.26	5-1/2

WELL DETAILS: RESOLUTION FED 12-65-29-20-6NH

Ground Level: 5968.00

WELL @ 5994.00usft (Original Well Elev)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	768.70	10.37	218.38	765.87	-36.71	-29.08	2.00	218.38	-36.70	
4	2515.52	10.37	218.38	2484.13	-283.29	-224.37	0.00	0.00	-283.21	
5	3034.21	0.00	0.00	3000.00	-320.00	-253.45	2.00	180.00	-319.91	
6	8163.26	0.00	0.00	8129.04	-320.00	-253.45	0.00	0.00	-319.91	
7	9063.26	90.00	359.98	8702.00	252.96	-253.62	10.00	359.98	253.05	
8	18813.88	90.00	359.98	8702.00	10003.58	-256.45	0.00	0.00	10003.67	RESOLUTION 12-65-29-20-6NH PBHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
RESOLUTION FED 12-65-29-20-6NH_SHL	0.00	0.00	0.00	40.971779	-104.679640
RESOLUTION 12-65-29-20-6NH PBHL	8702.00	10003.58	-256.45	40.999234	-104.680569

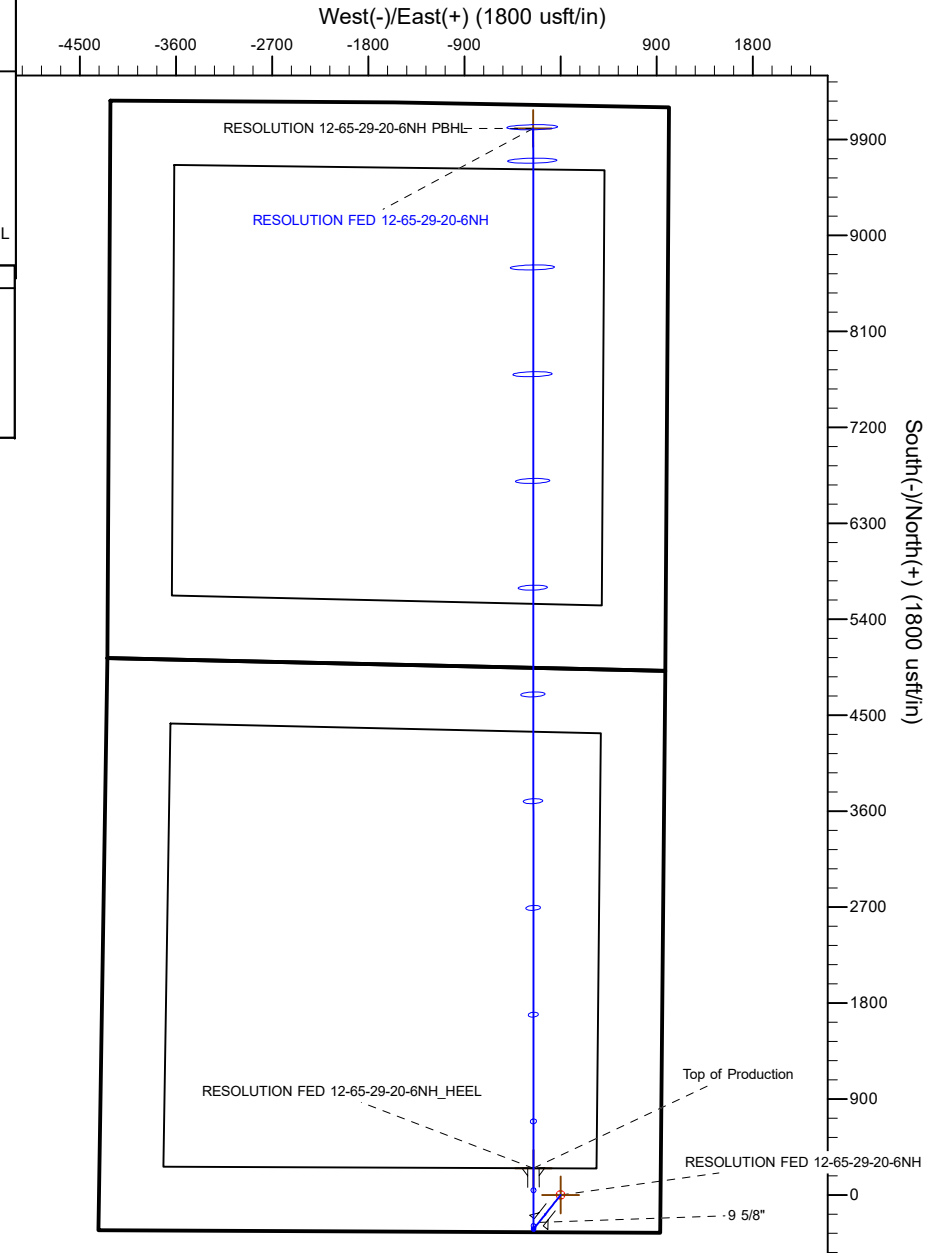
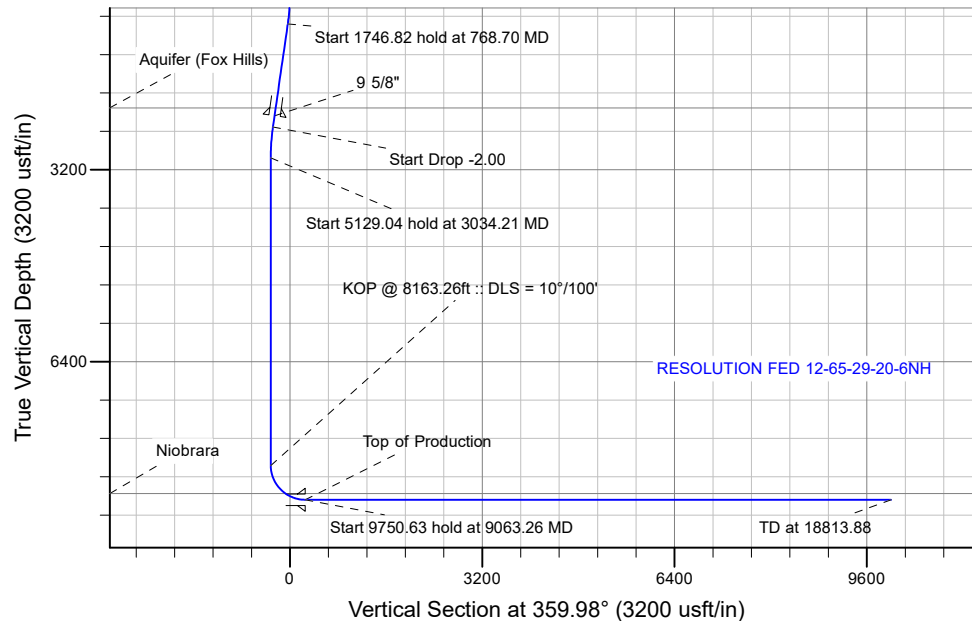
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2169.00	2195.15	Aquifer (Fox Hills)
8598.00	8712.59	Niobrara

SHL
350' FSL
935' FEL
SESE
Section 29

HEEL
601' FSL
1190' FEL
SESE
Section 29

TOE
221' FNL
1270' FEL
NENE
Section 20



Plan: Plan #2 (RESOLUTION FED 12-65-29-20-6NH/Wellbore #1)

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

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-29-20-6NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5994.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5994.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-29-20-7NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-29-20-6NH	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 12-65-29-20-7NH PAD			
Site Position:		Northing:	1,597,922.14 usft	Latitude: 40.971779
From:	Lat/Long	Easting:	3,226,548.35 usft	Longitude: -104.679640
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.53 °

Well	RESOLUTION FED 12-65-29-20-6NH					
Well Position	+N/-S	0.00 usft	Northing:	1,597,922.14 usft	Latitude:	40.971779
	+E/-W	0.00 usft	Easting:	3,226,548.35 usft	Longitude:	-104.679640
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,968.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.03	67.58	53,600.81479626

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	359.98

Plan Survey Tool Program	Date	3/31/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,813.88	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	
768.70	10.37	218.38	765.87	-36.71	-29.08	2.00	2.00	0.00	218.38	
2,515.52	10.37	218.38	2,484.13	-283.29	-224.37	0.00	0.00	0.00	0.00	
3,034.21	0.00	0.00	3,000.00	-320.00	-253.45	2.00	-2.00	0.00	180.00	
8,163.26	0.00	0.00	8,129.04	-320.00	-253.45	0.00	0.00	0.00	0.00	
9,063.26	90.00	359.98	8,702.00	252.96	-253.62	10.00	10.00	0.00	359.98	
18,813.88	90.00	359.98	8,702.00	10,003.58	-256.45	0.00	0.00	0.00	0.00	RESOLUTION 12-65-

Corporate Planning Report

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5994.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5994.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-29-20-7NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-29-20-6NH	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	218.38	300.00	-0.34	-0.27	-0.34	2.00	2.00	0.00
400.00	3.00	218.38	399.93	-3.08	-2.44	-3.08	2.00	2.00	0.00
500.00	5.00	218.38	499.68	-8.55	-6.77	-8.54	2.00	2.00	0.00
600.00	7.00	218.38	599.13	-16.74	-13.26	-16.73	2.00	2.00	0.00
700.00	9.00	218.38	698.15	-27.65	-21.90	-27.64	2.00	2.00	0.00
768.70	10.37	218.38	765.87	-36.71	-29.08	-36.70	2.00	2.00	0.00
Start 1746.82 hold at 768.70 MD									
800.00	10.37	218.38	796.66	-41.13	-32.58	-41.12	0.00	0.00	0.00
900.00	10.37	218.38	895.02	-55.24	-43.76	-55.23	0.00	0.00	0.00
1,000.00	10.37	218.38	993.39	-69.36	-54.94	-69.34	0.00	0.00	0.00
1,100.00	10.37	218.38	1,091.75	-83.48	-66.12	-83.45	0.00	0.00	0.00
1,200.00	10.37	218.38	1,190.12	-97.59	-77.30	-97.57	0.00	0.00	0.00
1,300.00	10.37	218.38	1,288.49	-111.71	-88.48	-111.68	0.00	0.00	0.00
1,400.00	10.37	218.38	1,386.85	-125.82	-99.66	-125.79	0.00	0.00	0.00
1,500.00	10.37	218.38	1,485.22	-139.94	-110.84	-139.90	0.00	0.00	0.00
1,600.00	10.37	218.38	1,583.58	-154.06	-122.02	-154.01	0.00	0.00	0.00
1,700.00	10.37	218.38	1,681.95	-168.17	-133.20	-168.13	0.00	0.00	0.00
1,800.00	10.37	218.38	1,780.31	-182.29	-144.38	-182.24	0.00	0.00	0.00
1,900.00	10.37	218.38	1,878.68	-196.40	-155.56	-196.35	0.00	0.00	0.00
2,000.00	10.37	218.38	1,977.04	-210.52	-166.74	-210.46	0.00	0.00	0.00
2,100.00	10.37	218.38	2,075.41	-224.64	-177.92	-224.57	0.00	0.00	0.00
2,195.15	10.37	218.38	2,169.00	-238.07	-188.56	-238.00	0.00	0.00	0.00
Aquifer (Fox Hills)									
2,200.00	10.37	218.38	2,173.77	-238.75	-189.10	-238.69	0.00	0.00	0.00
2,300.00	10.37	218.38	2,272.14	-252.87	-200.28	-252.80	0.00	0.00	0.00
2,328.32	10.37	218.38	2,300.00	-256.87	-203.45	-256.80	0.00	0.00	0.00
9 5/8"									
2,400.00	10.37	218.38	2,370.50	-266.98	-211.46	-266.91	0.00	0.00	0.00
2,500.00	10.37	218.38	2,468.87	-281.10	-222.64	-281.02	0.00	0.00	0.00
2,515.52	10.37	218.38	2,484.13	-283.29	-224.37	-283.21	0.00	0.00	0.00
Start Drop -2.00									
2,600.00	8.68	218.38	2,567.45	-294.25	-233.06	-294.17	2.00	-2.00	0.00
2,700.00	6.68	218.38	2,666.54	-304.74	-241.36	-304.65	2.00	-2.00	0.00
2,800.00	4.68	218.38	2,766.05	-312.50	-247.51	-312.41	2.00	-2.00	0.00
2,900.00	2.68	218.38	2,865.84	-317.54	-251.50	-317.45	2.00	-2.00	0.00
3,000.00	0.68	218.38	2,965.79	-319.84	-253.32	-319.75	2.00	-2.00	0.00
3,034.21	0.00	0.00	3,000.00	-320.00	-253.45	-319.91	2.00	-2.00	413.93
Start 5129.04 hold at 3034.21 MD									
3,100.00	0.00	0.00	3,065.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,200.00	0.00	0.00	3,165.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,300.00	0.00	0.00	3,265.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,400.00	0.00	0.00	3,365.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,500.00	0.00	0.00	3,465.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,600.00	0.00	0.00	3,565.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,700.00	0.00	0.00	3,665.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,800.00	0.00	0.00	3,765.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
3,900.00	0.00	0.00	3,865.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,000.00	0.00	0.00	3,965.79	-320.00	-253.45	-319.91	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5994.00usft (Original Well Elev)
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Well:	RESOLUTION FED 12-65-29-20-6NH	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)
4,100.00	0.00	0.00	4,065.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,200.00	0.00	0.00	4,165.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,300.00	0.00	0.00	4,265.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,400.00	0.00	0.00	4,365.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,500.00	0.00	0.00	4,465.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,600.00	0.00	0.00	4,565.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,700.00	0.00	0.00	4,665.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,800.00	0.00	0.00	4,765.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
4,900.00	0.00	0.00	4,865.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,000.00	0.00	0.00	4,965.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,100.00	0.00	0.00	5,065.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,200.00	0.00	0.00	5,165.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,300.00	0.00	0.00	5,265.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,400.00	0.00	0.00	5,365.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,500.00	0.00	0.00	5,465.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,600.00	0.00	0.00	5,565.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,700.00	0.00	0.00	5,665.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,800.00	0.00	0.00	5,765.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
5,900.00	0.00	0.00	5,865.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,000.00	0.00	0.00	5,965.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,100.00	0.00	0.00	6,065.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,200.00	0.00	0.00	6,165.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,300.00	0.00	0.00	6,265.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,400.00	0.00	0.00	6,365.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,500.00	0.00	0.00	6,465.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,600.00	0.00	0.00	6,565.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,700.00	0.00	0.00	6,665.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,800.00	0.00	0.00	6,765.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
6,900.00	0.00	0.00	6,865.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,000.00	0.00	0.00	6,965.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,100.00	0.00	0.00	7,065.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,200.00	0.00	0.00	7,165.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,300.00	0.00	0.00	7,265.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,400.00	0.00	0.00	7,365.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,500.00	0.00	0.00	7,465.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,600.00	0.00	0.00	7,565.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,700.00	0.00	0.00	7,665.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,800.00	0.00	0.00	7,765.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
7,900.00	0.00	0.00	7,865.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
8,000.00	0.00	0.00	7,965.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
8,100.00	0.00	0.00	8,065.79	-320.00	-253.45	-319.91	0.00	0.00	0.00
8,163.26	0.00	0.00	8,129.04	-320.00	-253.45	-319.91	0.00	0.00	0.00
KOP @ 8163.26ft :: DLS = 10°/100'									
8,200.00	3.67	359.98	8,165.76	-318.82	-253.45	-318.73	10.00	10.00	0.00
8,300.00	13.67	359.98	8,264.49	-303.76	-253.45	-303.67	10.00	10.00	0.00
8,400.00	23.67	359.98	8,359.11	-271.78	-253.46	-271.69	10.00	10.00	0.00
8,500.00	33.67	359.98	8,446.73	-223.86	-253.48	-223.77	10.00	10.00	0.00
8,600.00	43.67	359.98	8,524.70	-161.45	-253.50	-161.36	10.00	10.00	0.00
8,700.00	53.67	359.98	8,590.65	-86.45	-253.52	-86.36	10.00	10.00	0.00
8,712.59	54.93	359.98	8,598.00	-76.22	-253.52	-76.13	10.00	10.00	0.00
Niobrara									
8,800.00	63.67	359.98	8,642.58	-1.13	-253.54	-1.04	10.00	10.00	0.00
8,900.00	73.67	359.98	8,678.90	91.90	-253.57	91.99	10.00	10.00	0.00
9,000.00	83.67	359.98	8,698.51	189.83	-253.60	189.92	10.00	10.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-29-20-6NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5994.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5994.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-29-20-7NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-29-20-6NH	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)
9,063.26	90.00	359.98	8,702.00	252.96	-253.62	253.05	10.00	10.00	0.00
Start 9750.63 hold at 9063.26 MD - Top of Production									
9,100.00	90.00	359.98	8,702.00	289.70	-253.63	289.79	0.00	0.00	0.00
9,200.00	90.00	359.98	8,702.00	389.70	-253.66	389.79	0.00	0.00	0.00
9,300.00	90.00	359.98	8,702.00	489.70	-253.69	489.79	0.00	0.00	0.00
9,400.00	90.00	359.98	8,702.00	589.70	-253.71	589.79	0.00	0.00	0.00
9,500.00	90.00	359.98	8,702.00	689.70	-253.74	689.79	0.00	0.00	0.00
9,600.00	90.00	359.98	8,702.00	789.70	-253.77	789.79	0.00	0.00	0.00
9,700.00	90.00	359.98	8,702.00	889.70	-253.80	889.79	0.00	0.00	0.00
9,800.00	90.00	359.98	8,702.00	989.70	-253.83	989.79	0.00	0.00	0.00
9,900.00	90.00	359.98	8,702.00	1,089.70	-253.86	1,089.79	0.00	0.00	0.00
10,000.00	90.00	359.98	8,702.00	1,189.70	-253.89	1,189.79	0.00	0.00	0.00
10,100.00	90.00	359.98	8,702.00	1,289.70	-253.92	1,289.79	0.00	0.00	0.00
10,200.00	90.00	359.98	8,702.00	1,389.70	-253.95	1,389.79	0.00	0.00	0.00
10,300.00	90.00	359.98	8,702.00	1,489.70	-253.98	1,489.79	0.00	0.00	0.00
10,400.00	90.00	359.98	8,702.00	1,589.70	-254.00	1,589.79	0.00	0.00	0.00
10,500.00	90.00	359.98	8,702.00	1,689.70	-254.03	1,689.79	0.00	0.00	0.00
10,600.00	90.00	359.98	8,702.00	1,789.70	-254.06	1,789.79	0.00	0.00	0.00
10,700.00	90.00	359.98	8,702.00	1,889.70	-254.09	1,889.79	0.00	0.00	0.00
10,800.00	90.00	359.98	8,702.00	1,989.70	-254.12	1,989.79	0.00	0.00	0.00
10,900.00	90.00	359.98	8,702.00	2,089.70	-254.15	2,089.79	0.00	0.00	0.00
11,000.00	90.00	359.98	8,702.00	2,189.70	-254.18	2,189.79	0.00	0.00	0.00
11,100.00	90.00	359.98	8,702.00	2,289.70	-254.21	2,289.79	0.00	0.00	0.00
11,200.00	90.00	359.98	8,702.00	2,389.70	-254.24	2,389.79	0.00	0.00	0.00
11,300.00	90.00	359.98	8,702.00	2,489.70	-254.27	2,489.79	0.00	0.00	0.00
11,400.00	90.00	359.98	8,702.00	2,589.70	-254.30	2,589.79	0.00	0.00	0.00
11,500.00	90.00	359.98	8,702.00	2,689.70	-254.32	2,689.79	0.00	0.00	0.00
11,600.00	90.00	359.98	8,702.00	2,789.70	-254.35	2,789.79	0.00	0.00	0.00
11,700.00	90.00	359.98	8,702.00	2,889.70	-254.38	2,889.79	0.00	0.00	0.00
11,800.00	90.00	359.98	8,702.00	2,989.70	-254.41	2,989.79	0.00	0.00	0.00
11,900.00	90.00	359.98	8,702.00	3,089.70	-254.44	3,089.79	0.00	0.00	0.00
12,000.00	90.00	359.98	8,702.00	3,189.70	-254.47	3,189.79	0.00	0.00	0.00
12,100.00	90.00	359.98	8,702.00	3,289.70	-254.50	3,289.79	0.00	0.00	0.00
12,200.00	90.00	359.98	8,702.00	3,389.70	-254.53	3,389.79	0.00	0.00	0.00
12,300.00	90.00	359.98	8,702.00	3,489.70	-254.56	3,489.79	0.00	0.00	0.00
12,400.00	90.00	359.98	8,702.00	3,589.70	-254.59	3,589.79	0.00	0.00	0.00
12,500.00	90.00	359.98	8,702.00	3,689.70	-254.61	3,689.79	0.00	0.00	0.00
12,600.00	90.00	359.98	8,702.00	3,789.70	-254.64	3,789.79	0.00	0.00	0.00
12,700.00	90.00	359.98	8,702.00	3,889.70	-254.67	3,889.79	0.00	0.00	0.00
12,800.00	90.00	359.98	8,702.00	3,989.70	-254.70	3,989.79	0.00	0.00	0.00
12,900.00	90.00	359.98	8,702.00	4,089.70	-254.73	4,089.79	0.00	0.00	0.00
13,000.00	90.00	359.98	8,702.00	4,189.70	-254.76	4,189.79	0.00	0.00	0.00
13,100.00	90.00	359.98	8,702.00	4,289.70	-254.79	4,289.79	0.00	0.00	0.00
13,200.00	90.00	359.98	8,702.00	4,389.70	-254.82	4,389.79	0.00	0.00	0.00
13,300.00	90.00	359.98	8,702.00	4,489.70	-254.85	4,489.79	0.00	0.00	0.00
13,400.00	90.00	359.98	8,702.00	4,589.70	-254.88	4,589.79	0.00	0.00	0.00
13,500.00	90.00	359.98	8,702.00	4,689.70	-254.91	4,689.79	0.00	0.00	0.00
13,600.00	90.00	359.98	8,702.00	4,789.70	-254.93	4,789.79	0.00	0.00	0.00
13,700.00	90.00	359.98	8,702.00	4,889.70	-254.96	4,889.79	0.00	0.00	0.00
13,800.00	90.00	359.98	8,702.00	4,989.70	-254.99	4,989.79	0.00	0.00	0.00
13,900.00	90.00	359.98	8,702.00	5,089.70	-255.02	5,089.79	0.00	0.00	0.00
14,000.00	90.00	359.98	8,702.00	5,189.70	-255.05	5,189.79	0.00	0.00	0.00
14,100.00	90.00	359.98	8,702.00	5,289.70	-255.08	5,289.79	0.00	0.00	0.00

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-29-20-6NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5994.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5994.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-29-20-7NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-29-20-6NH	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)	
14,200.00	90.00	359.98	8,702.00	5,389.70	-255.11	5,389.79	0.00	0.00	0.00	
14,300.00	90.00	359.98	8,702.00	5,489.70	-255.14	5,489.79	0.00	0.00	0.00	
14,400.00	90.00	359.98	8,702.00	5,589.70	-255.17	5,589.79	0.00	0.00	0.00	
14,500.00	90.00	359.98	8,702.00	5,689.70	-255.20	5,689.79	0.00	0.00	0.00	
14,600.00	90.00	359.98	8,702.00	5,789.70	-255.22	5,789.79	0.00	0.00	0.00	
14,700.00	90.00	359.98	8,702.00	5,889.70	-255.25	5,889.79	0.00	0.00	0.00	
14,800.00	90.00	359.98	8,702.00	5,989.70	-255.28	5,989.79	0.00	0.00	0.00	
14,900.00	90.00	359.98	8,702.00	6,089.70	-255.31	6,089.79	0.00	0.00	0.00	
15,000.00	90.00	359.98	8,702.00	6,189.70	-255.34	6,189.79	0.00	0.00	0.00	
15,100.00	90.00	359.98	8,702.00	6,289.70	-255.37	6,289.79	0.00	0.00	0.00	
15,200.00	90.00	359.98	8,702.00	6,389.70	-255.40	6,389.79	0.00	0.00	0.00	
15,300.00	90.00	359.98	8,702.00	6,489.70	-255.43	6,489.79	0.00	0.00	0.00	
15,400.00	90.00	359.98	8,702.00	6,589.70	-255.46	6,589.79	0.00	0.00	0.00	
15,500.00	90.00	359.98	8,702.00	6,689.70	-255.49	6,689.79	0.00	0.00	0.00	
15,600.00	90.00	359.98	8,702.00	6,789.70	-255.52	6,789.79	0.00	0.00	0.00	
15,700.00	90.00	359.98	8,702.00	6,889.70	-255.54	6,889.79	0.00	0.00	0.00	
15,800.00	90.00	359.98	8,702.00	6,989.70	-255.57	6,989.79	0.00	0.00	0.00	
15,900.00	90.00	359.98	8,702.00	7,089.70	-255.60	7,089.79	0.00	0.00	0.00	
16,000.00	90.00	359.98	8,702.00	7,189.70	-255.63	7,189.79	0.00	0.00	0.00	
16,100.00	90.00	359.98	8,702.00	7,289.70	-255.66	7,289.79	0.00	0.00	0.00	
16,200.00	90.00	359.98	8,702.00	7,389.70	-255.69	7,389.79	0.00	0.00	0.00	
16,300.00	90.00	359.98	8,702.00	7,489.70	-255.72	7,489.79	0.00	0.00	0.00	
16,400.00	90.00	359.98	8,702.00	7,589.70	-255.75	7,589.79	0.00	0.00	0.00	
16,500.00	90.00	359.98	8,702.00	7,689.70	-255.78	7,689.79	0.00	0.00	0.00	
16,600.00	90.00	359.98	8,702.00	7,789.70	-255.81	7,789.79	0.00	0.00	0.00	
16,700.00	90.00	359.98	8,702.00	7,889.70	-255.83	7,889.79	0.00	0.00	0.00	
16,800.00	90.00	359.98	8,702.00	7,989.70	-255.86	7,989.79	0.00	0.00	0.00	
16,900.00	90.00	359.98	8,702.00	8,089.70	-255.89	8,089.79	0.00	0.00	0.00	
17,000.00	90.00	359.98	8,702.00	8,189.70	-255.92	8,189.79	0.00	0.00	0.00	
17,100.00	90.00	359.98	8,702.00	8,289.70	-255.95	8,289.79	0.00	0.00	0.00	
17,200.00	90.00	359.98	8,702.00	8,389.70	-255.98	8,389.79	0.00	0.00	0.00	
17,300.00	90.00	359.98	8,702.00	8,489.70	-256.01	8,489.79	0.00	0.00	0.00	
17,400.00	90.00	359.98	8,702.00	8,589.70	-256.04	8,589.79	0.00	0.00	0.00	
17,500.00	90.00	359.98	8,702.00	8,689.70	-256.07	8,689.79	0.00	0.00	0.00	
17,600.00	90.00	359.98	8,702.00	8,789.70	-256.10	8,789.79	0.00	0.00	0.00	
17,700.00	90.00	359.98	8,702.00	8,889.70	-256.13	8,889.79	0.00	0.00	0.00	
17,800.00	90.00	359.98	8,702.00	8,989.70	-256.15	8,989.79	0.00	0.00	0.00	
17,900.00	90.00	359.98	8,702.00	9,089.70	-256.18	9,089.79	0.00	0.00	0.00	
18,000.00	90.00	359.98	8,702.00	9,189.70	-256.21	9,189.79	0.00	0.00	0.00	
18,100.00	90.00	359.98	8,702.00	9,289.70	-256.24	9,289.79	0.00	0.00	0.00	
18,200.00	90.00	359.98	8,702.00	9,389.70	-256.27	9,389.79	0.00	0.00	0.00	
18,300.00	90.00	359.98	8,702.00	9,489.70	-256.30	9,489.79	0.00	0.00	0.00	
18,400.00	90.00	359.98	8,702.00	9,589.70	-256.33	9,589.79	0.00	0.00	0.00	
18,500.00	90.00	359.98	8,702.00	9,689.70	-256.36	9,689.79	0.00	0.00	0.00	
18,600.00	90.00	359.98	8,702.00	9,789.70	-256.39	9,789.79	0.00	0.00	0.00	
18,700.00	90.00	359.98	8,702.00	9,889.70	-256.42	9,889.79	0.00	0.00	0.00	
18,800.00	90.00	359.98	8,702.00	9,989.70	-256.44	9,989.79	0.00	0.00	0.00	
18,813.88	90.00	359.98	8,702.00	10,003.58	-256.45	10,003.67	0.00	0.00	0.00	
TD at 18813.88										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION FED 12-65-29-20-6NH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5994.00usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5994.00usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-29-20-7NH PAD	North Reference:	True
Well:	RESOLUTION FED 12-65-29-20-6NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
2,328.32	2,300.00	9 5/8"	9-5/8	13-1/2	
9,063.26	8,702.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,195.15	2,169.00	Aquifer (Fox Hills)	Aquifer (Water)		
8,712.59	8,598.00	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	
768.70	765.87	-36.71	-29.08	Start 1746.82 hold at 768.70 MD	
2,515.52	2,484.13	-283.29	-224.37	Start Drop -2.00	
3,034.21	3,000.00	-320.00	-253.45	Start 5129.04 hold at 3034.21 MD	
8,163.26	8,129.04	-320.00	-253.45	KOP @ 8163.26ft :: DLS = 10°/100'	
9,063.26	8,702.00	252.96	-253.62	Start 9750.63 hold at 9063.26 MD	
18,813.88	8,702.00	10,003.58	-256.45	TD at 18813.88	