



Project: COLORADO NORTHERN ZONE - 83
Site: ADDER 11-23 HZ PAD
Well: ADDER 29C-14HZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

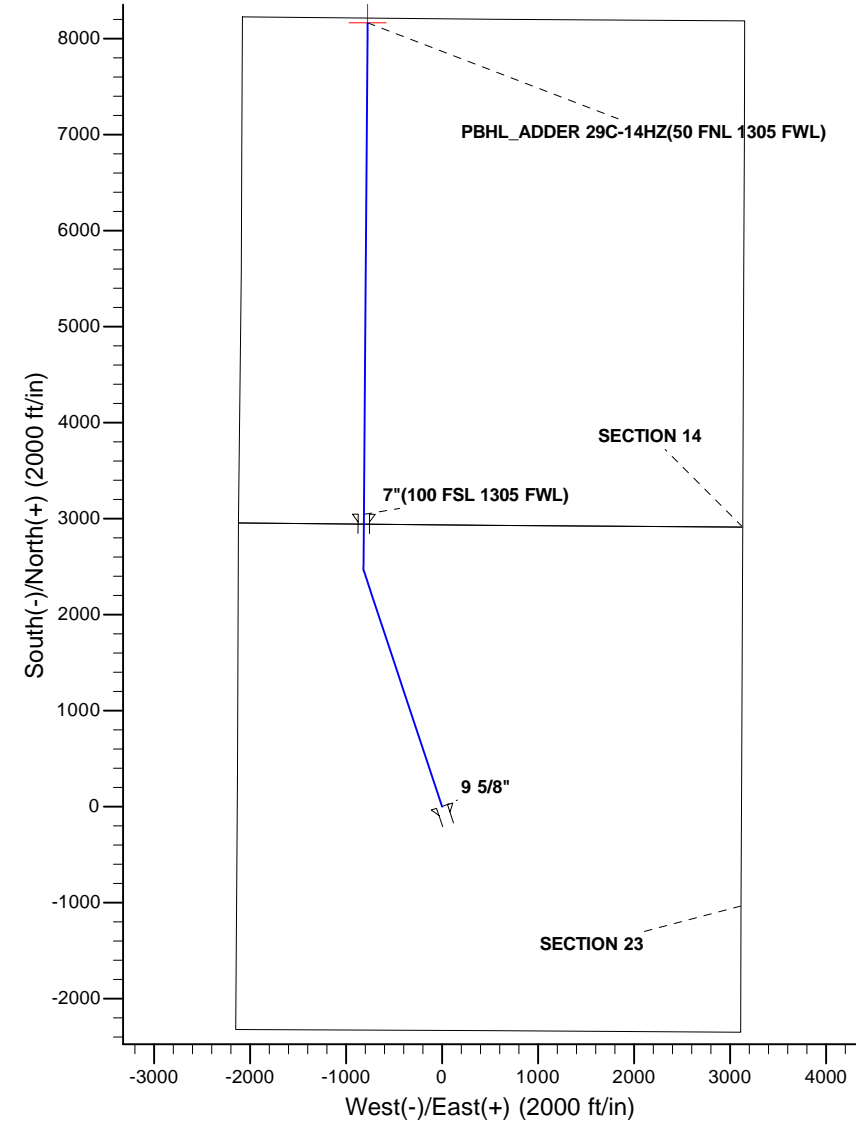
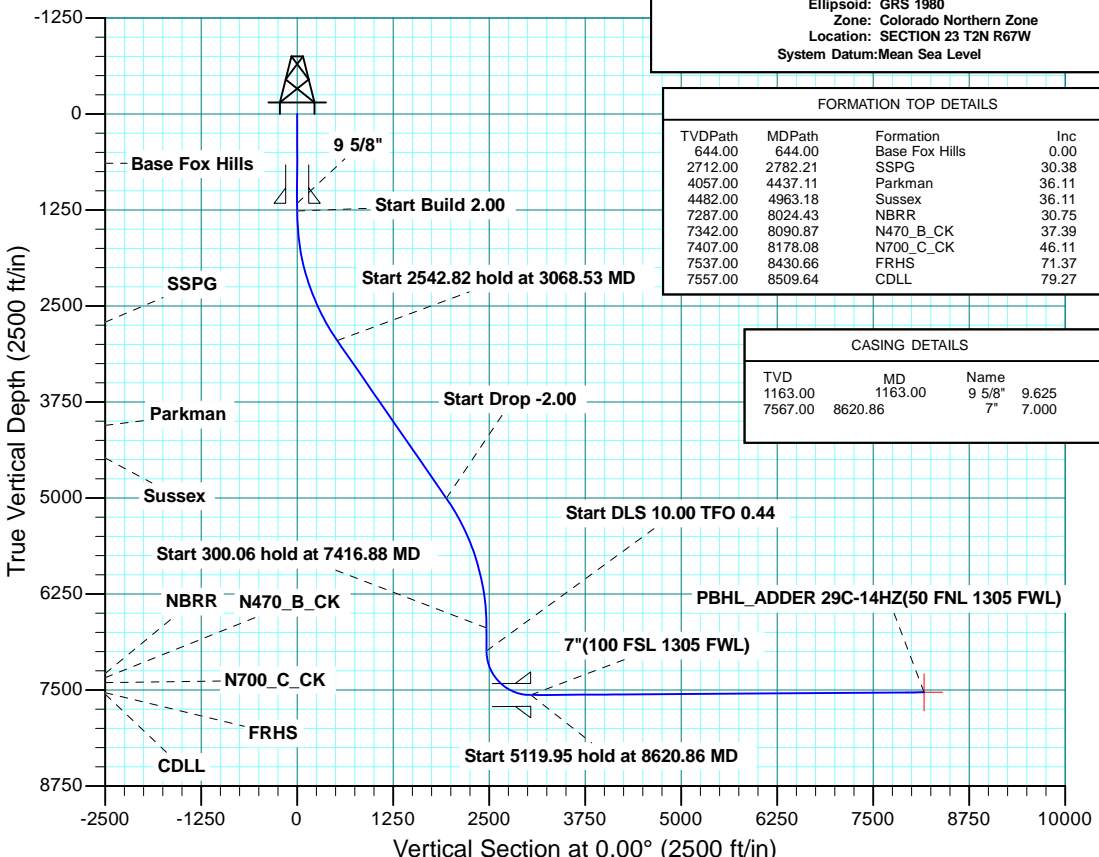


WELL DETAILS: ADDER 29C-14HZ											
GL 4955 & KB 17 @ 4972.00ft (ASSUMED)											
+N/-S 0.00		+E/-W 0.00		Northing 1288221.12		Easting 3179028.46		Latitude 40.1227860		Longitude -104.8598050	
SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	PBHL_ADDER 29C-14HZ(50 FNL 1305 FWL)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
1263.00	0.00	0.00	1263.00	0.00	0.00	0.00	0.00	0.00			
3068.53	36.11	341.64	2951.35	522.36	-173.39	2.00	341.64	522.36			
5611.35	36.11	341.64	5005.65	1944.64	-645.52	0.00	0.00	1944.64			
7416.88	0.00	0.00	6694.00	2467.00	-818.91	2.00	180.00	2467.00			
7716.94	0.00	0.00	6994.06	2467.00	-818.91	0.00	0.00	2467.00			
8620.86	90.39	0.44	7567.00	3043.86	-814.49	10.00	0.44	3043.86			
13740.81	90.39	0.44	7532.00	8163.53	-775.21	0.00	0.00	8163.53			
DESIGN TARGET DETAILS											
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape			
PBHL	7532.00	8163.53	-775.21	1296378.83	3178194.33	40.1451960	-104.8625780	Point			
- plan hits target center											

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83				
Geodetic System: US State Plane 1983				
Datum: North American Datum 1983				
Ellipsoid: GRS 1980				
Zone: Colorado Northern Zone				
Location: SECTION 23 T2N R67W				
System Datum: Mean Sea Level				

FORMATION TOP DETAILS				
TVDPath	MDPath	Formation	Inc	
644.00	644.00	Base Fox Hills	0.00	
2712.00	2782.21	SSPG	30.38	
4057.00	4437.11	Parkman	36.11	
4482.00	4963.18	Sussex	36.11	
7287.00	8024.43	NBRR	30.75	
7342.00	8090.87	N470_B_CK	37.39	
7407.00	8178.08	N700_C_CK	46.11	
7537.00	8430.66	FRHS	71.37	
7557.00	8509.64	CDLL	79.27	

CASING DETAILS				
TVD	MD	Name		
1163.00	1163.00	9 5/8"	9.625	
7567.00	8620.86	7"	7.000	





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

ADDER 11-23 HZ PAD

ADDER 29C-14HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

20 August, 2014

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ADDER 29C-14HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Site:	ADDER 11-23 HZ PAD	North Reference:	True
Well:	ADDER 29C-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	ADDER 11-23 HZ PAD, SECTION 23 T2N R67W			
Site Position:		Northing:	1,288,221.12 usft	Latitude: 40.1227860
From:	Lat/Long	Easting:	3,179,028.46 usft	Longitude: -104.8598050
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.41 °

Well	ADDER 29C-14HZ, 2333 FSL 2134 FWL			
Well Position	+N/-S	0.00 ft	Northing:	1,288,221.12 usft
	+E/-W	0.00 ft	Easting:	3,179,028.46 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,955.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	08/18/14	8.55	66.70	52,537

Design	PLAN #1 PRELIMINARY			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,263.00	0.00	0.00	1,263.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,068.53	36.11	341.64	2,951.35	522.36	-173.39	2.00	2.00	0.00	341.64	
5,611.35	36.11	341.64	5,005.65	1,944.64	-645.52	0.00	0.00	0.00	0.00	
7,416.88	0.00	0.00	6,694.00	2,467.00	-818.91	2.00	-2.00	0.00	180.00	
7,716.94	0.00	0.00	6,994.06	2,467.00	-818.91	0.00	0.00	0.00	0.00	
8,620.86	90.39	0.44	7,567.00	3,043.86	-814.49	10.00	10.00	0.05	0.44	
13,740.81	90.39	0.44	7,532.00	8,163.53	-775.21	0.00	0.00	0.00	0.00	PBHL_ADDER 29C-1

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ADDER 29C-14HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Site:	ADDER 11-23 HZ PAD	North Reference:	True
Well:	ADDER 29C-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
644.00	0.00	0.00	644.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Fox Hills									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,163.00	0.00	0.00	1,163.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,263.00	0.00	0.00	1,263.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,300.00	0.74	341.64	1,300.00	0.23	-0.08	0.23	2.00	2.00	0.00
1,400.00	2.74	341.64	1,399.95	3.11	-1.03	3.11	2.00	2.00	0.00
1,500.00	4.74	341.64	1,499.73	9.30	-3.09	9.30	2.00	2.00	0.00
1,600.00	6.74	341.64	1,599.22	18.79	-6.24	18.79	2.00	2.00	0.00
1,700.00	8.74	341.64	1,698.31	31.57	-10.48	31.57	2.00	2.00	0.00
1,800.00	10.74	341.64	1,796.86	47.63	-15.81	47.63	2.00	2.00	0.00
1,900.00	12.74	341.64	1,894.76	66.94	-22.22	66.94	2.00	2.00	0.00
2,000.00	14.74	341.64	1,991.90	89.48	-29.70	89.48	2.00	2.00	0.00
2,100.00	16.74	341.64	2,088.14	115.22	-38.25	115.22	2.00	2.00	0.00
2,200.00	18.74	341.64	2,183.38	144.14	-47.85	144.14	2.00	2.00	0.00
2,300.00	20.74	341.64	2,277.50	176.19	-58.49	176.19	2.00	2.00	0.00
2,400.00	22.74	341.64	2,370.38	211.34	-70.16	211.34	2.00	2.00	0.00
2,500.00	24.74	341.64	2,461.92	249.55	-82.84	249.55	2.00	2.00	0.00
2,600.00	26.74	341.64	2,551.99	290.77	-96.52	290.77	2.00	2.00	0.00
2,700.00	28.74	341.64	2,640.49	334.94	-111.18	334.94	2.00	2.00	0.00
2,782.21	30.38	341.64	2,712.00	373.43	-123.96	373.43	2.00	2.00	0.00
SSPG									
2,800.00	30.74	341.64	2,727.32	382.02	-126.81	382.02	2.00	2.00	0.00
2,900.00	32.74	341.64	2,812.36	431.94	-143.38	431.94	2.00	2.00	0.00
3,000.00	34.74	341.64	2,895.51	484.65	-160.88	484.65	2.00	2.00	0.00
3,068.53	36.11	341.64	2,951.35	522.36	-173.39	522.36	2.00	2.00	0.00
Start 2542.82 hold at 3068.53 MD									
3,100.00	36.11	341.64	2,976.78	539.96	-179.24	539.96	0.00	0.00	0.00
3,200.00	36.11	341.64	3,057.56	595.89	-197.80	595.89	0.00	0.00	0.00
3,300.00	36.11	341.64	3,138.35	651.82	-216.37	651.82	0.00	0.00	0.00
3,400.00	36.11	341.64	3,219.14	707.76	-234.94	707.76	0.00	0.00	0.00
3,500.00	36.11	341.64	3,299.93	763.69	-253.50	763.69	0.00	0.00	0.00
3,600.00	36.11	341.64	3,380.72	819.62	-272.07	819.62	0.00	0.00	0.00
3,700.00	36.11	341.64	3,461.50	875.56	-290.64	875.56	0.00	0.00	0.00
3,800.00	36.11	341.64	3,542.29	931.49	-309.20	931.49	0.00	0.00	0.00
3,900.00	36.11	341.64	3,623.08	987.42	-327.77	987.42	0.00	0.00	0.00
4,000.00	36.11	341.64	3,703.87	1,043.36	-346.34	1,043.36	0.00	0.00	0.00
4,100.00	36.11	341.64	3,784.66	1,099.29	-364.91	1,099.29	0.00	0.00	0.00
4,200.00	36.11	341.64	3,865.44	1,155.23	-383.47	1,155.23	0.00	0.00	0.00
4,300.00	36.11	341.64	3,946.23	1,211.16	-402.04	1,211.16	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Site:	ADDER 11-23 HZ PAD	North Reference:	True
Well:	ADDER 29C-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,400.00	36.11	341.64	4,027.02	1,267.09	-420.61	1,267.09	0.00	0.00	0.00
4,437.11	36.11	341.64	4,057.00	1,287.85	-427.50	1,287.85	0.00	0.00	0.00
Parkman									
4,500.00	36.11	341.64	4,107.81	1,323.03	-439.17	1,323.03	0.00	0.00	0.00
4,600.00	36.11	341.64	4,188.60	1,378.96	-457.74	1,378.96	0.00	0.00	0.00
4,700.00	36.11	341.64	4,269.38	1,434.89	-476.31	1,434.89	0.00	0.00	0.00
4,800.00	36.11	341.64	4,350.17	1,490.83	-494.87	1,490.83	0.00	0.00	0.00
4,900.00	36.11	341.64	4,430.96	1,546.76	-513.44	1,546.76	0.00	0.00	0.00
4,963.18	36.11	341.64	4,482.00	1,582.10	-525.17	1,582.10	0.00	0.00	0.00
Sussex									
5,000.00	36.11	341.64	4,511.75	1,602.69	-532.01	1,602.69	0.00	0.00	0.00
5,100.00	36.11	341.64	4,592.54	1,658.63	-550.57	1,658.63	0.00	0.00	0.00
5,200.00	36.11	341.64	4,673.32	1,714.56	-569.14	1,714.56	0.00	0.00	0.00
5,300.00	36.11	341.64	4,754.11	1,770.49	-587.71	1,770.49	0.00	0.00	0.00
5,400.00	36.11	341.64	4,834.90	1,826.43	-606.28	1,826.43	0.00	0.00	0.00
5,500.00	36.11	341.64	4,915.69	1,882.36	-624.84	1,882.36	0.00	0.00	0.00
5,600.00	36.11	341.64	4,996.48	1,938.30	-643.41	1,938.30	0.00	0.00	0.00
5,611.35	36.11	341.64	5,005.65	1,944.64	-645.52	1,944.64	0.00	0.00	0.00
Start Drop -2.00									
5,700.00	34.34	341.64	5,078.06	1,993.17	-661.62	1,993.17	2.00	-2.00	0.00
5,800.00	32.34	341.64	5,161.60	2,045.33	-678.94	2,045.33	2.00	-2.00	0.00
5,900.00	30.34	341.64	5,247.01	2,094.68	-695.32	2,094.68	2.00	-2.00	0.00
6,000.00	28.34	341.64	5,334.18	2,141.18	-710.76	2,141.18	2.00	-2.00	0.00
6,100.00	26.34	341.64	5,423.01	2,184.76	-725.22	2,184.76	2.00	-2.00	0.00
6,200.00	24.34	341.64	5,513.38	2,225.38	-738.70	2,225.38	2.00	-2.00	0.00
6,300.00	22.34	341.64	5,605.20	2,262.97	-751.18	2,262.97	2.00	-2.00	0.00
6,400.00	20.34	341.64	5,698.34	2,297.51	-762.65	2,297.51	2.00	-2.00	0.00
6,500.00	18.34	341.64	5,792.69	2,328.93	-773.08	2,328.93	2.00	-2.00	0.00
6,600.00	16.34	341.64	5,888.14	2,357.21	-782.47	2,357.21	2.00	-2.00	0.00
6,700.00	14.34	341.64	5,984.57	2,382.31	-790.80	2,382.31	2.00	-2.00	0.00
6,800.00	12.34	341.64	6,081.87	2,404.21	-798.07	2,404.21	2.00	-2.00	0.00
6,900.00	10.34	341.64	6,179.92	2,422.86	-804.26	2,422.86	2.00	-2.00	0.00
7,000.00	8.34	341.64	6,278.59	2,438.26	-809.37	2,438.26	2.00	-2.00	0.00
7,100.00	6.34	341.64	6,377.76	2,450.38	-813.39	2,450.38	2.00	-2.00	0.00
7,200.00	4.34	341.64	6,477.32	2,459.21	-816.32	2,459.21	2.00	-2.00	0.00
7,300.00	2.34	341.64	6,577.15	2,464.74	-818.16	2,464.74	2.00	-2.00	0.00
7,400.00	0.34	341.64	6,677.12	2,466.95	-818.89	2,466.95	2.00	-2.00	0.00
7,416.88	0.00	0.00	6,694.00	2,467.00	-818.91	2,467.00	2.00	-2.00	0.00
Start 300.06 hold at 7416.88 MD									
7,500.00	0.00	0.00	6,777.12	2,467.00	-818.91	2,467.00	0.00	0.00	0.00
7,600.00	0.00	0.00	6,877.12	2,467.00	-818.91	2,467.00	0.00	0.00	0.00
7,700.00	0.00	0.00	6,977.12	2,467.00	-818.91	2,467.00	0.00	0.00	0.00
7,716.94	0.00	0.00	6,994.06	2,467.00	-818.91	2,467.00	0.00	0.00	0.00
Start DLS 10.00 TFO 0.44									
7,800.00	8.31	0.44	7,076.83	2,473.01	-818.86	2,473.01	10.00	10.00	0.00
7,900.00	18.31	0.44	7,174.02	2,495.99	-818.69	2,495.99	10.00	10.00	0.00
8,000.00	28.31	0.44	7,265.74	2,535.51	-818.38	2,535.51	10.00	10.00	0.00
8,024.43	30.75	0.44	7,287.00	2,547.55	-818.29	2,547.55	10.00	10.00	0.00
NBRR									
8,090.87	37.39	0.44	7,342.00	2,584.74	-818.01	2,584.74	10.00	10.00	0.00
N470_B_CK									
8,100.00	38.31	0.44	7,349.21	2,590.35	-817.96	2,590.35	10.00	10.00	0.00
8,178.08	46.11	0.44	7,407.00	2,642.76	-817.56	2,642.76	10.00	10.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
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Well:	ADDER 29C-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
N700_C_CK									
8,200.00	48.31	0.44	7,421.89	2,658.85	-817.44	2,658.85	10.00	10.00	0.00
8,300.00	58.31	0.44	7,481.57	2,738.92	-816.82	2,738.92	10.00	10.00	0.00
8,400.00	68.31	0.44	7,526.43	2,828.15	-816.14	2,828.15	10.00	10.00	0.00
8,430.66	71.37	0.44	7,537.00	2,856.93	-815.92	2,856.93	10.00	10.00	0.00
FRHS									
8,500.00	78.31	0.44	7,555.12	2,923.81	-815.41	2,923.81	10.00	10.00	0.00
8,509.64	79.27	0.44	7,557.00	2,933.27	-815.33	2,933.27	10.00	10.00	0.00
CDLL									
8,600.00	88.31	0.44	7,566.77	3,023.00	-814.65	3,023.00	10.00	10.00	0.00
8,620.86	90.39	0.44	7,567.00	3,043.86	-814.49	3,043.86	10.00	10.00	0.00
Start 5119.95 hold at 8620.86 MD - 7"(100 FSL 1305 FWL)									
8,700.00	90.39	0.44	7,566.46	3,122.99	-813.88	3,122.99	0.00	0.00	0.00
8,800.00	90.39	0.44	7,565.78	3,222.99	-813.11	3,222.99	0.00	0.00	0.00
8,900.00	90.39	0.44	7,565.10	3,322.98	-812.34	3,322.98	0.00	0.00	0.00
9,000.00	90.39	0.44	7,564.41	3,422.98	-811.58	3,422.98	0.00	0.00	0.00
9,100.00	90.39	0.44	7,563.73	3,522.97	-810.81	3,522.97	0.00	0.00	0.00
9,200.00	90.39	0.44	7,563.05	3,622.97	-810.04	3,622.97	0.00	0.00	0.00
9,300.00	90.39	0.44	7,562.36	3,722.96	-809.28	3,722.96	0.00	0.00	0.00
9,400.00	90.39	0.44	7,561.68	3,822.96	-808.51	3,822.96	0.00	0.00	0.00
9,500.00	90.39	0.44	7,560.99	3,922.95	-807.74	3,922.95	0.00	0.00	0.00
9,600.00	90.39	0.44	7,560.31	4,022.95	-806.97	4,022.95	0.00	0.00	0.00
9,700.00	90.39	0.44	7,559.63	4,122.94	-806.21	4,122.94	0.00	0.00	0.00
9,800.00	90.39	0.44	7,558.94	4,222.94	-805.44	4,222.94	0.00	0.00	0.00
9,900.00	90.39	0.44	7,558.26	4,322.93	-804.67	4,322.93	0.00	0.00	0.00
10,000.00	90.39	0.44	7,557.58	4,422.92	-803.91	4,422.92	0.00	0.00	0.00
10,100.00	90.39	0.44	7,556.89	4,522.92	-803.14	4,522.92	0.00	0.00	0.00
10,200.00	90.39	0.44	7,556.21	4,622.91	-802.37	4,622.91	0.00	0.00	0.00
10,300.00	90.39	0.44	7,555.52	4,722.91	-801.61	4,722.91	0.00	0.00	0.00
10,400.00	90.39	0.44	7,554.84	4,822.90	-800.84	4,822.90	0.00	0.00	0.00
10,500.00	90.39	0.44	7,554.16	4,922.90	-800.07	4,922.90	0.00	0.00	0.00
10,600.00	90.39	0.44	7,553.47	5,022.89	-799.30	5,022.89	0.00	0.00	0.00
10,700.00	90.39	0.44	7,552.79	5,122.89	-798.54	5,122.89	0.00	0.00	0.00
10,800.00	90.39	0.44	7,552.11	5,222.88	-797.77	5,222.88	0.00	0.00	0.00
10,900.00	90.39	0.44	7,551.42	5,322.88	-797.00	5,322.88	0.00	0.00	0.00
11,000.00	90.39	0.44	7,550.74	5,422.87	-796.24	5,422.87	0.00	0.00	0.00
11,100.00	90.39	0.44	7,550.06	5,522.87	-795.47	5,522.87	0.00	0.00	0.00
11,200.00	90.39	0.44	7,549.37	5,622.86	-794.70	5,622.86	0.00	0.00	0.00
11,300.00	90.39	0.44	7,548.69	5,722.86	-793.94	5,722.86	0.00	0.00	0.00
11,400.00	90.39	0.44	7,548.00	5,822.85	-793.17	5,822.85	0.00	0.00	0.00
11,500.00	90.39	0.44	7,547.32	5,922.85	-792.40	5,922.85	0.00	0.00	0.00
11,600.00	90.39	0.44	7,546.64	6,022.84	-791.63	6,022.84	0.00	0.00	0.00
11,700.00	90.39	0.44	7,545.95	6,122.83	-790.87	6,122.83	0.00	0.00	0.00
11,800.00	90.39	0.44	7,545.27	6,222.83	-790.10	6,222.83	0.00	0.00	0.00
11,900.00	90.39	0.44	7,544.59	6,322.82	-789.33	6,322.82	0.00	0.00	0.00
12,000.00	90.39	0.44	7,543.90	6,422.82	-788.57	6,422.82	0.00	0.00	0.00
12,100.00	90.39	0.44	7,543.22	6,522.81	-787.80	6,522.81	0.00	0.00	0.00
12,200.00	90.39	0.44	7,542.53	6,622.81	-787.03	6,622.81	0.00	0.00	0.00
12,300.00	90.39	0.44	7,541.85	6,722.80	-786.26	6,722.80	0.00	0.00	0.00
12,400.00	90.39	0.44	7,541.17	6,822.80	-785.50	6,822.80	0.00	0.00	0.00
12,500.00	90.39	0.44	7,540.48	6,922.79	-784.73	6,922.79	0.00	0.00	0.00
12,600.00	90.39	0.44	7,539.80	7,022.79	-783.96	7,022.79	0.00	0.00	0.00
12,700.00	90.39	0.44	7,539.12	7,122.78	-783.20	7,122.78	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ADDER 29C-14HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Site:	ADDER 11-23 HZ PAD	North Reference:	True
Well:	ADDER 29C-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,800.00	90.39	0.44	7,538.43	7,222.78	-782.43	7,222.78	0.00	0.00	0.00
12,900.00	90.39	0.44	7,537.75	7,322.77	-781.66	7,322.77	0.00	0.00	0.00
13,000.00	90.39	0.44	7,537.06	7,422.77	-780.90	7,422.77	0.00	0.00	0.00
13,100.00	90.39	0.44	7,536.38	7,522.76	-780.13	7,522.76	0.00	0.00	0.00
13,200.00	90.39	0.44	7,535.70	7,622.76	-779.36	7,622.76	0.00	0.00	0.00
13,300.00	90.39	0.44	7,535.01	7,722.75	-778.59	7,722.75	0.00	0.00	0.00
13,400.00	90.39	0.44	7,534.33	7,822.75	-777.83	7,822.75	0.00	0.00	0.00
13,500.00	90.39	0.44	7,533.65	7,922.74	-777.06	7,922.74	0.00	0.00	0.00
13,600.00	90.39	0.44	7,532.96	8,022.73	-776.29	8,022.73	0.00	0.00	0.00
13,700.00	90.39	0.44	7,532.28	8,122.73	-775.53	8,122.73	0.00	0.00	0.00
13,740.81	90.39	0.44	7,532.00	8,163.53	-775.21	8,163.53	0.00	0.00	0.00
TD at 13740.81 - PBHL_ADDER 29C-14HZ(50 FNL 1305 FWL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_ADDER 29C-14H-	0.00	0.00	7,532.00	8,163.53	-775.21	1,296,378.83	3,178,194.33	40.1451960	-104.8625780
- plan hits target center									
- Point									

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)	
1,163.00	1,163.00	9 5/8"		9.625	13.500	
8,620.86	7,567.00	7"(100 FSL 1305 FWL)		7.000	8.750	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
644.00	-4,328.00	Base Fox Hills				
2,782.21	-2,260.00	SSPG				
4,437.11	-915.00	Parkman				
4,963.18	-490.00	Sussex				
8,024.43	2,315.00	NBRR				
8,090.87	2,370.00	N470_B_CK				
8,178.08	2,435.00	N700_C_CK				
8,430.66	2,565.00	FRHS				
8,509.64	2,585.00	CDLL				

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ADDER 29C-14HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4955 & KB 17 @ 4972.00ft (ASSUMED)
Site:	ADDER 11-23 HZ PAD	North Reference:	True
Well:	ADDER 29C-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,263.00	1,263.00	0.00	0.00	Start Build 2.00
3,068.53	2,951.35	522.36	-173.39	Start 2542.82 hold at 3068.53 MD
5,611.35	5,005.65	1,944.64	-645.52	Start Drop -2.00
7,416.88	6,694.00	2,467.00	-818.91	Start 300.06 hold at 7416.88 MD
7,716.94	6,994.06	2,467.00	-818.91	Start DLS 10.00 TFO 0.44
8,620.86	7,567.00	3,043.86	-814.49	Start 5119.95 hold at 8620.86 MD
13,740.81	7,532.00	8,163.53	-775.21	TD at 13740.81