

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_RICKS 34-15 PAD

Ricks 23-15

Ricks 23-15

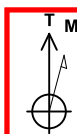
Plan: P_Ricks 23-15 (wp01)

Standard Planning Report

11 November, 2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_RICKS 34-15 PAD
Well: Ricks 23-15
Wellbore: Ricks 23-15
Section:
SHL:
Design: P_Ricks 23-15 (wp01)
Latitude: 40.131989
Longitude: -104.657609
GL: 4875.00
KB: WELL @ 4875.00ft (Original Well Elev)



Azimuths to True North
Magnetic North: 8.86°

Magnetic Field
Strength: 53064.5nT
Dip Angle: 66.87°
Date: 11/10/2010
Model: IGRF2010



Weatherford®

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3975.00	4272.08	PRKMN TOP
4475.00	4823.35	SX TOP
6880.00	7332.15	NIO TOP
7165.00	7617.15	CODELL TOP
7248.00	7700.15	GRNHRN TOP
7615.00	8067.15	JSND TOP

WELL DETAILS: Ricks 23-15

+N/-S	+E/-W	Northing	Ground Level: Easting	4875.00 Latitude	Longitude	Slot
0.00	0.00	1292046.07	3235538.57	40.131989	-104.657609	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

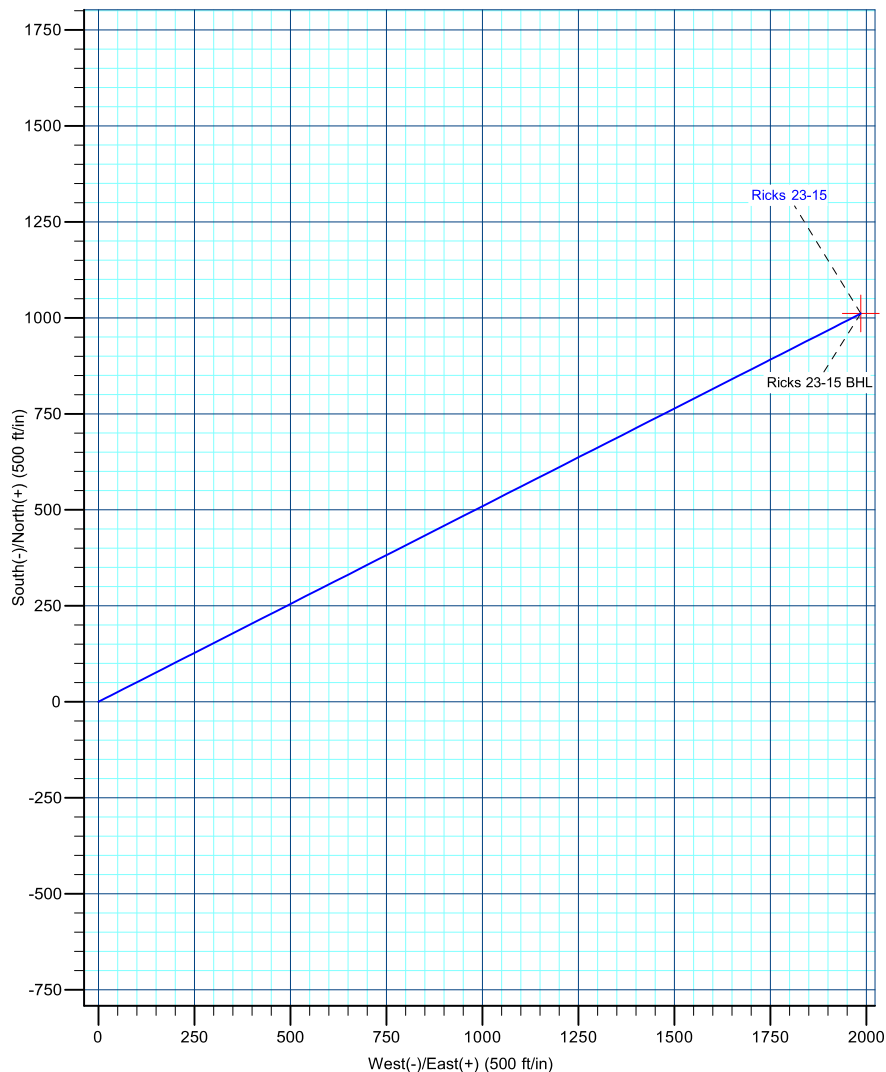
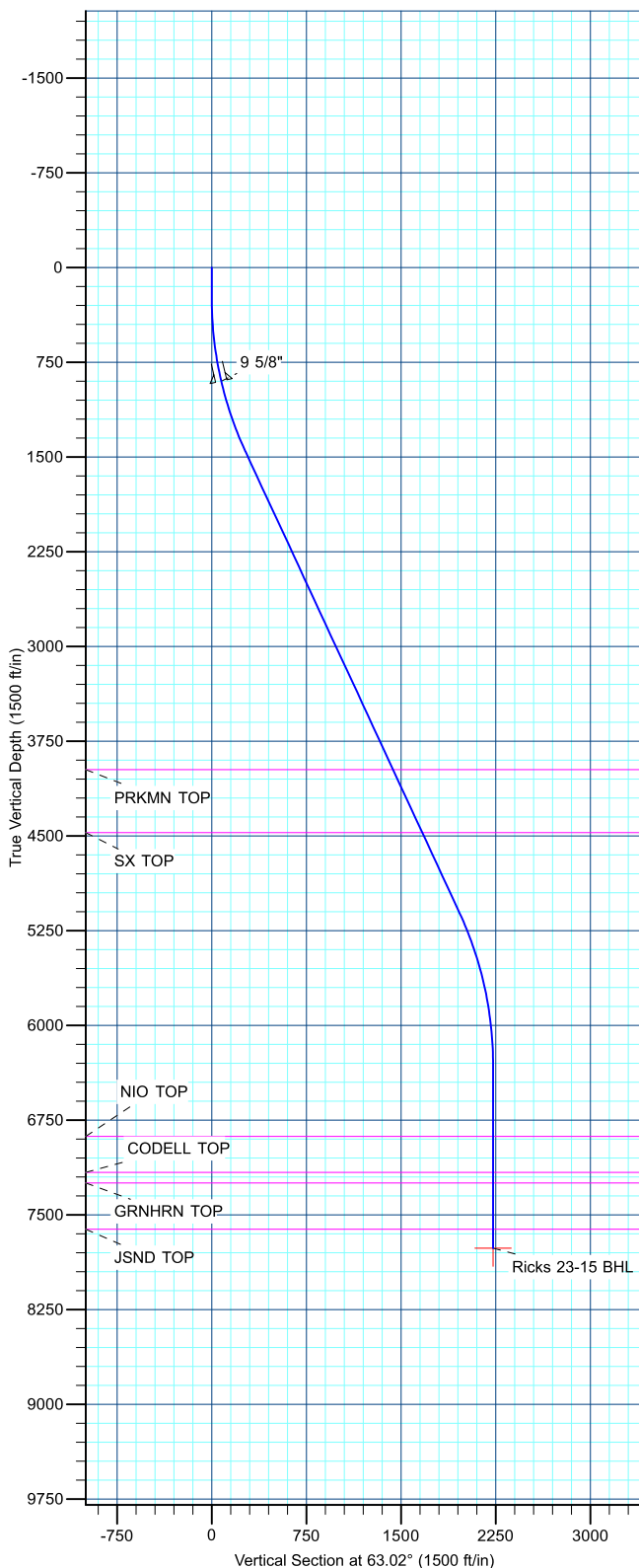
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Point	Shape
Ricks 23-15 BHL	7765.00	1011.01	1986.00	40.134764	-104.650506		Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	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	1495.27	24.91	63.02	1456.43	120.86	237.42	2.00	63.02	266.42	
4	5521.88	24.91	63.02	5108.57	890.14	1748.58	0.00	0.00	1962.11	
5	6767.15	0.00	0.00	6315.00	1011.01	1986.00	2.00	180.00	2228.52	
6	8217.15	0.00	0.00	7765.00	1011.01	1986.00	0.00	0.00	2228.52	Ricks 23-15 BHL

CASING DETAILS

TVD	MD	Name	Size
900.00	905.71	9 5/8"	9-5/8



Database:	edm5000p	Local Co-ordinate Reference:	Well Ricks 23-15
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4875.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4875.00ft (Original Well Elev)
Site:	WELD_RICKS 34-15 PAD	North Reference:	True
Well:	Ricks 23-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ricks 23-15		
Design:	P_Ricks 23-15 (wp01)		

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		WELD_RICKS 34-15 PAD			
Site Position:		Northing:	1,292,045.96 ft	Latitude:	40.131989
From:	Lat/Long	Easting:	3,235,522.63 ft	Longitude:	-104.657666
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.54 °

Well	Ricks 23-15					
Well Position	+N/-S	-0.05 ft	Northing:	1,292,046.06 ft	Latitude:	40.131989
	+E/-W	15.94 ft	Easting:	3,235,538.57 ft	Longitude:	-104.657609
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,875.00 ft

Wellbore	Ricks 23-15				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/10/2010	8.86	66.87	53,064

Design	P_Ricks 23-15 (wp01)				
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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	63.02	

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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,495.27	24.91	63.02	1,456.43	120.86	237.42	2.00	2.00	0.00	63.02	
5,521.88	24.91	63.02	5,108.57	890.14	1,748.58	0.00	0.00	0.00	0.00	
6,767.15	0.00	0.00	6,315.00	1,011.01	1,986.00	2.00	-2.00	0.00	180.00	
8,217.15	0.00	0.00	7,765.00	1,011.01	1,986.00	0.00	0.00	0.00	0.00	Ricks 23-15 BHL

Database:	edm5000p	Local Co-ordinate Reference:	Well Ricks 23-15
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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4875.00ft (Original Well Elev)
Site:	WELD_RICKS 34-15 PAD	North Reference:	True
Well:	Ricks 23-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ricks 23-15		
Design:	P_Ricks 23-15 (wp01)		

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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	1.00	63.02	300.00	0.20	0.39	0.44	2.00	2.00	0.00
400.00	3.00	63.02	399.93	1.78	3.50	3.93	2.00	2.00	0.00
500.00	5.00	63.02	499.68	4.95	9.72	10.90	2.00	2.00	0.00
600.00	7.00	63.02	599.13	9.69	19.03	21.35	2.00	2.00	0.00
700.00	9.00	63.02	698.15	16.00	31.43	35.27	2.00	2.00	0.00
800.00	11.00	63.02	796.63	23.88	46.91	52.63	2.00	2.00	0.00
900.00	13.00	63.02	894.44	33.31	65.43	73.42	2.00	2.00	0.00
905.71	13.11	63.02	900.00	33.90	66.58	74.71	2.00	2.00	0.00
9 5/8"									
1,000.00	15.00	63.02	991.46	44.28	86.99	97.62	2.00	2.00	0.00
1,100.00	17.00	63.02	1,087.58	56.79	111.55	125.18	2.00	2.00	0.00
1,200.00	19.00	63.02	1,182.68	70.81	139.09	156.08	2.00	2.00	0.00
1,300.00	21.00	63.02	1,276.65	86.32	169.57	190.28	2.00	2.00	0.00
1,400.00	23.00	63.02	1,369.36	103.32	202.95	227.74	2.00	2.00	0.00
1,495.27	24.91	63.02	1,456.43	120.86	237.42	266.42	2.00	2.00	0.00
1,500.00	24.91	63.02	1,460.71	121.77	239.19	268.40	0.00	0.00	0.00
1,600.00	24.91	63.02	1,551.41	140.87	276.72	310.52	0.00	0.00	0.00
1,700.00	24.91	63.02	1,642.11	159.98	314.25	352.63	0.00	0.00	0.00
1,800.00	24.91	63.02	1,732.81	179.08	351.78	394.74	0.00	0.00	0.00
1,900.00	24.91	63.02	1,823.52	198.19	389.31	436.85	0.00	0.00	0.00
2,000.00	24.91	63.02	1,914.22	217.29	426.84	478.97	0.00	0.00	0.00
2,100.00	24.91	63.02	2,004.92	236.40	464.37	521.08	0.00	0.00	0.00
2,200.00	24.91	63.02	2,095.62	255.50	501.90	563.19	0.00	0.00	0.00
2,300.00	24.91	63.02	2,186.32	274.61	539.43	605.30	0.00	0.00	0.00
2,400.00	24.91	63.02	2,277.02	293.71	576.96	647.42	0.00	0.00	0.00
2,500.00	24.91	63.02	2,367.72	312.82	614.49	689.53	0.00	0.00	0.00
2,600.00	24.91	63.02	2,458.42	331.92	652.02	731.64	0.00	0.00	0.00
2,700.00	24.91	63.02	2,549.12	351.02	689.55	773.75	0.00	0.00	0.00
2,800.00	24.91	63.02	2,639.82	370.13	727.08	815.86	0.00	0.00	0.00
2,900.00	24.91	63.02	2,730.52	389.23	764.60	857.98	0.00	0.00	0.00
3,000.00	24.91	63.02	2,821.22	408.34	802.13	900.09	0.00	0.00	0.00
3,100.00	24.91	63.02	2,911.92	427.44	839.66	942.20	0.00	0.00	0.00
3,200.00	24.91	63.02	3,002.62	446.55	877.19	984.31	0.00	0.00	0.00
3,300.00	24.91	63.02	3,093.32	465.65	914.72	1,026.43	0.00	0.00	0.00
3,400.00	24.91	63.02	3,184.02	484.76	952.25	1,068.54	0.00	0.00	0.00
3,500.00	24.91	63.02	3,274.72	503.86	989.78	1,110.65	0.00	0.00	0.00
3,600.00	24.91	63.02	3,365.42	522.97	1,027.31	1,152.76	0.00	0.00	0.00
3,700.00	24.91	63.02	3,456.12	542.07	1,064.84	1,194.88	0.00	0.00	0.00
3,800.00	24.91	63.02	3,546.82	561.18	1,102.37	1,236.99	0.00	0.00	0.00
3,900.00	24.91	63.02	3,637.52	580.28	1,139.90	1,279.10	0.00	0.00	0.00
4,000.00	24.91	63.02	3,728.22	599.39	1,177.43	1,321.21	0.00	0.00	0.00
4,100.00	24.91	63.02	3,818.92	618.49	1,214.96	1,363.32	0.00	0.00	0.00
4,200.00	24.91	63.02	3,909.62	637.60	1,252.49	1,405.44	0.00	0.00	0.00
4,272.08	24.91	63.02	3,975.00	651.37	1,279.54	1,435.79	0.00	0.00	0.00
PRKMN TOP									
4,300.00	24.91	63.02	4,000.32	656.70	1,290.01	1,447.55	0.00	0.00	0.00
4,400.00	24.91	63.02	4,091.02	675.81	1,327.54	1,489.66	0.00	0.00	0.00
4,500.00	24.91	63.02	4,181.72	694.91	1,365.07	1,531.77	0.00	0.00	0.00
4,600.00	24.91	63.02	4,272.43	714.02	1,402.60	1,573.89	0.00	0.00	0.00
4,700.00	24.91	63.02	4,363.13	733.12	1,440.13	1,616.00	0.00	0.00	0.00

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Site:	WELD_RICKS 34-15 PAD	North Reference:	True
Well:	Ricks 23-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ricks 23-15		
Design:	P_Ricks 23-15 (wp01)		

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)
4,800.00	24.91	63.02	4,453.83	752.23	1,477.66	1,658.11	0.00	0.00	0.00
4,823.35	24.91	63.02	4,475.00	756.69	1,486.42	1,667.94	0.00	0.00	0.00
SX TOP									
4,900.00	24.91	63.02	4,544.53	771.33	1,515.19	1,700.22	0.00	0.00	0.00
5,000.00	24.91	63.02	4,635.23	790.44	1,552.72	1,742.33	0.00	0.00	0.00
5,100.00	24.91	63.02	4,725.93	809.54	1,590.25	1,784.45	0.00	0.00	0.00
5,200.00	24.91	63.02	4,816.63	828.65	1,627.78	1,826.56	0.00	0.00	0.00
5,300.00	24.91	63.02	4,907.33	847.75	1,665.31	1,868.67	0.00	0.00	0.00
5,400.00	24.91	63.02	4,998.03	866.86	1,702.84	1,910.78	0.00	0.00	0.00
5,500.00	24.91	63.02	5,088.73	885.96	1,740.37	1,952.90	0.00	0.00	0.00
5,521.88	24.91	63.02	5,108.57	890.14	1,748.58	1,962.11	0.00	0.00	0.00
5,600.00	23.34	63.02	5,179.87	904.63	1,777.03	1,994.04	2.00	-2.00	0.00
5,700.00	21.34	63.02	5,272.36	921.87	1,810.91	2,032.05	2.00	-2.00	0.00
5,800.00	19.34	63.02	5,366.11	937.64	1,841.89	2,066.81	2.00	-2.00	0.00
5,900.00	17.34	63.02	5,461.03	951.92	1,869.93	2,098.28	2.00	-2.00	0.00
6,000.00	15.34	63.02	5,556.98	964.68	1,895.01	2,126.42	2.00	-2.00	0.00
6,100.00	13.34	63.02	5,653.86	975.92	1,917.08	2,151.19	2.00	-2.00	0.00
6,200.00	11.34	63.02	5,751.54	985.62	1,936.13	2,172.57	2.00	-2.00	0.00
6,300.00	9.34	63.02	5,849.91	993.76	1,952.13	2,190.52	2.00	-2.00	0.00
6,400.00	7.34	63.02	5,948.85	1,000.35	1,965.06	2,205.03	2.00	-2.00	0.00
6,500.00	5.34	63.02	6,048.23	1,005.36	1,974.91	2,216.08	2.00	-2.00	0.00
6,600.00	3.34	63.02	6,147.94	1,008.79	1,981.65	2,223.65	2.00	-2.00	0.00
6,700.00	1.34	63.02	6,247.85	1,010.65	1,985.30	2,227.74	2.00	-2.00	0.00
6,767.15	0.00	0.00	6,315.00	1,011.01	1,986.00	2,228.52	2.00	-2.00	0.00
6,800.00	0.00	0.00	6,347.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
6,900.00	0.00	0.00	6,447.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,000.00	0.00	0.00	6,547.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,100.00	0.00	0.00	6,647.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,200.00	0.00	0.00	6,747.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,300.00	0.00	0.00	6,847.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,332.15	0.00	0.00	6,880.00	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
NIO TOP									
7,400.00	0.00	0.00	6,947.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,500.00	0.00	0.00	7,047.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,600.00	0.00	0.00	7,147.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,617.15	0.00	0.00	7,165.00	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
CODELL TOP									
7,700.00	0.00	0.00	7,247.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,700.15	0.00	0.00	7,248.00	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
GRNHRN TOP									
7,800.00	0.00	0.00	7,347.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
7,900.00	0.00	0.00	7,447.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
8,000.00	0.00	0.00	7,547.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
8,067.15	0.00	0.00	7,615.00	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
JSND TOP									
8,100.00	0.00	0.00	7,647.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
8,200.00	0.00	0.00	7,747.85	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
8,217.15	0.00	0.00	7,765.00	1,011.01	1,986.00	2,228.52	0.00	0.00	0.00
Ricks 23-15 BHL									

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4875.00ft (Original Well Elev)
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Site:	WELD_RICKS 34-15 PAD	North Reference:	True
Well:	Ricks 23-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ricks 23-15		
Design:	P_Ricks 23-15 (wp01)		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Ricks 23-15 BHL	0.00	0.00	7,765.00	1,011.01	1,986.00	1,293,075.89	3,237,514.87	40.134764	-104.650506
- plan hits target center									
- Point									

Casing Points					
	Measured Depth	Vertical Depth			
	(ft)	(ft)	Name	Casing Diameter	Hole Diameter
				(")	(")
	905.71	900.00	9 5/8"	9-5/8	12-1/4

Formations						
	Measured Depth	Vertical Depth				
	(ft)	(ft)	Name	Lithology	Dip	Dip Direction
					(°)	(°)
	4,272.08	3,975.00	PRKMN TOP		0.00	
	4,823.35	4,475.00	SX TOP			
	7,332.15	6,880.00	NIO TOP		0.00	
	7,617.15	7,165.00	CODELL TOP		0.00	
	7,700.15	7,248.00	GRNHRN TOP		0.00	
	8,067.15	7,615.00	JSND TOP			