

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NORTHGLENN STATE PAD**

**Northglenn State 14-36**

**Northglenn State 14-36**

**Plan: Northglenn State 14-36 (wp01)**

## **Standard Planning Report**

**25 April, 2011**



Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_NORTHGLENN STATE PAD  
Well: Northglenn State 14-36  
Wellbore: Northglenn State 14-36  
Section:  
SHL:  
Design: Northglenn State 14-36 (wp01)  
Latitude: 40.003682  
Longitude: -104.951437  
GL: 5120.00  
KB: WELL @ 5120.00ft (Original Well Elev)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4105.00	4252.86	PK Depth
4855.00	5002.86	SX Depth
7465.00	7612.86	NIO Depth
7911.00	8058.86	CD Depth
7981.00	8128.86	GH Depth
8332.00	8479.86	J Depth

Azimuths to True North  
Magnetic North: 8.95°

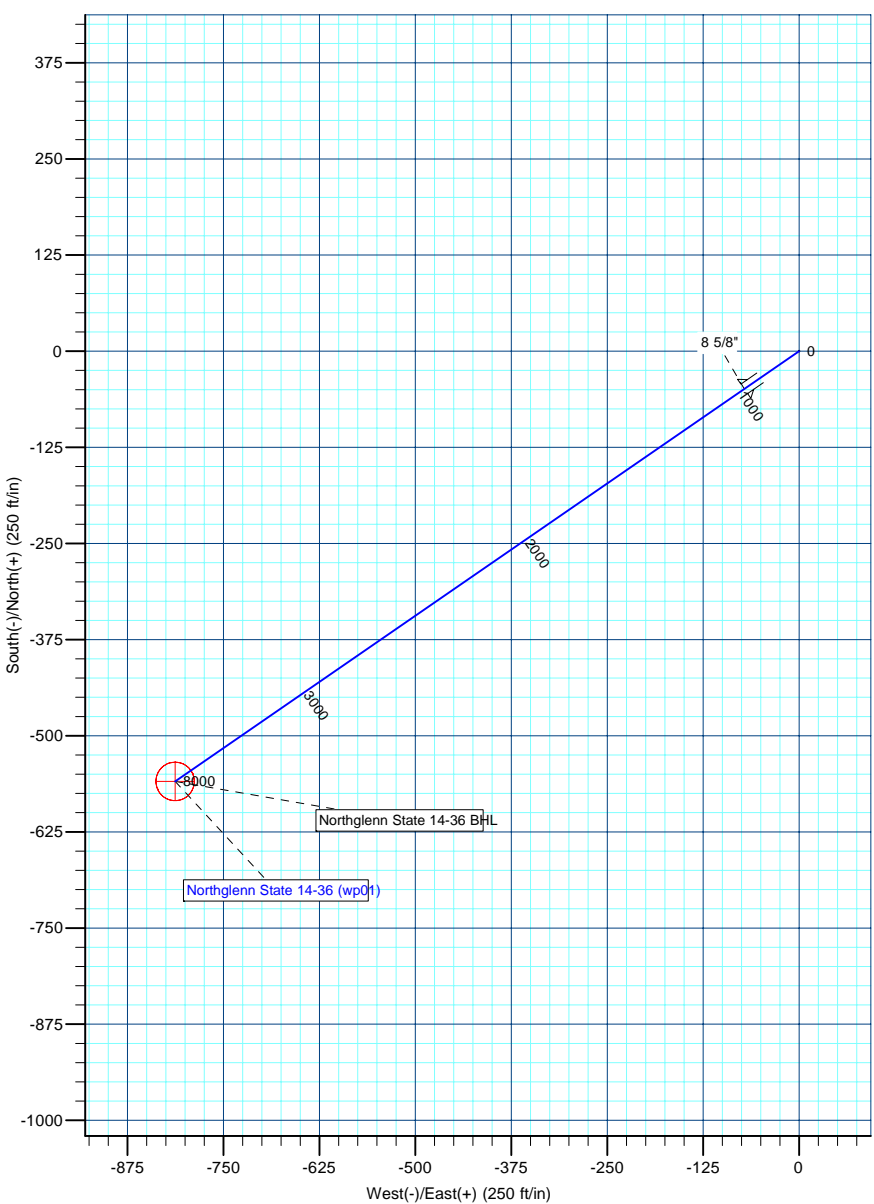
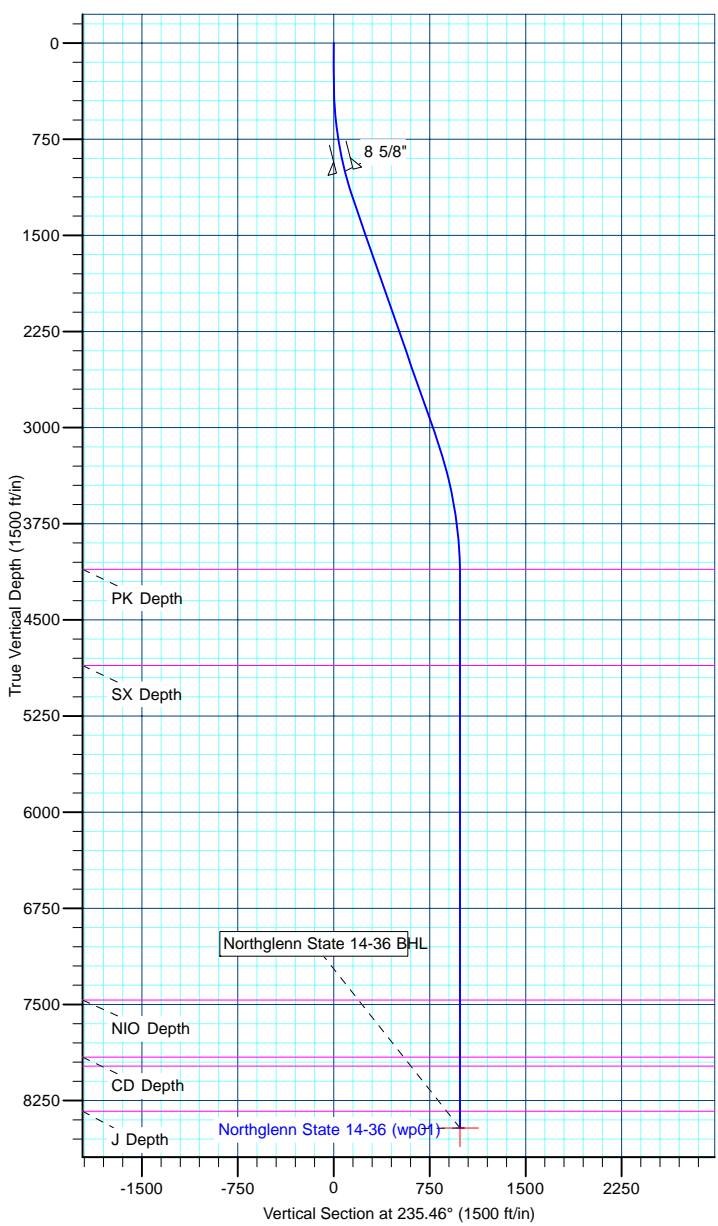
Magnetic Field  
Strength: 52916.4snT  
Dip Angle: 66.70°  
Date: 4/18/2011  
Model: IGRF2010

WELL DETAILS: Northglenn State 14-36						
+N/-S	+E/-W	Northing	Ground Level: Easting	5120.00 Latitude	Longitude	Slot
0.00	0.00	1244663.40	3153672.62	40.003682	-104.951437	

CASING DETAILS			
TVD	MD	Name	Size
1000.00	1007.16	8 5/8"	8-5/8

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
Northglenn State 14-36 BHL	8465.00	-559.50	-812.98	1244098.89	3152863.11	40.002146	-104.954339	Circle (Radius: 25.00)	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	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
1263.52	19.27	235.46	1245.46	-91.00	-132.22	2.00	235.46	160.51
3211.69	19.27	235.46	3084.47	-455.50	-661.87	0.00	0.00	803.46
4312.86	0.00	0.00	4165.00	-559.50	-812.98	1.75	180.00	986.90
8612.86	0.00	0.00	8465.00	-559.50	-812.98	0.00	0.00	986.90



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Northglenn State 14-36
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5120.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5120.00ft (Original Well Elev)
<b>Site:</b>	WELD_NORTHGLENN STATE PAD	<b>North Reference:</b>	True
<b>Well:</b>	Northglenn State 14-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 14-36		
<b>Design:</b>	Northglenn State 14-36 (wp01)		

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

Site		WELD_NORTHGLENN STATE PAD			
Site Position:		Northing:	1,244,823.33 ft	Latitude:	40.004121
From:	Lat/Long	Easting:	3,153,671.35 ft	Longitude:	-104.951438
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.35

Well	Northglenn State 14-36					
Well Position	+N-S	-159.93 ft	Northing:	1,244,663.40 ft	Latitude:	40.003682
	+E-W	0.28 ft	Easting:	3,153,672.62 ft	Longitude:	-104.951437
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,120.00 ft

<b>Wellbore</b>	Northglenn State 14-36				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/18/2011	8.95	66.70	52,916

<b>Design</b>	Northglenn State 14-36 (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	235.46

<b>Plan Sections</b>										
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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,263.52	19.27	235.46	1,245.46	-91.00	-132.22	2.00	2.00	0.00	235.46	
3,211.69	19.27	235.46	3,084.47	-455.50	-661.87	0.00	0.00	0.00	0.00	
4,312.86	0.00	0.00	4,165.00	-559.50	-812.98	1.75	-1.75	0.00	180.00	
8,612.86	0.00	0.00	8,465.00	-559.50	-812.98	0.00	0.00	0.00	0.00	Northglenn State 14

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Northglenn State 14-36
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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5120.00ft (Original Well Elev)
<b>Site:</b>	WELD_NORTHGLENN STATE PAD	<b>North Reference:</b>	True
<b>Well:</b>	Northglenn State 14-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 14-36		
<b>Design:</b>	Northglenn State 14-36 (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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	235.46	399.98	-0.99	-1.44	1.75	2.00	2.00	0.00
500.00	4.00	235.46	499.84	-3.96	-5.75	6.98	2.00	2.00	0.00
600.00	6.00	235.46	599.45	-8.90	-12.93	15.69	2.00	2.00	0.00
700.00	8.00	235.46	698.70	-15.81	-22.97	27.88	2.00	2.00	0.00
800.00	10.00	235.46	797.47	-24.67	-35.85	43.52	2.00	2.00	0.00
900.00	12.00	235.46	895.62	-35.49	-51.57	62.60	2.00	2.00	0.00
1,000.00	14.00	235.46	993.06	-48.24	-70.10	85.10	2.00	2.00	0.00
1,007.16	14.14	235.46	1,000.00	-49.23	-71.53	86.84	2.00	2.00	0.00
8 5/8"									
1,100.00	16.00	235.46	1,089.64	-62.92	-91.42	110.98	2.00	2.00	0.00
1,200.00	18.00	235.46	1,185.27	-79.49	-115.50	140.21	2.00	2.00	0.00
1,263.52	19.27	235.46	1,245.46	-91.00	-132.22	160.51	2.00	2.00	0.00
1,300.00	19.27	235.46	1,279.89	-97.82	-142.14	172.55	0.00	0.00	0.00
1,400.00	19.27	235.46	1,374.29	-116.53	-169.33	205.55	0.00	0.00	0.00
1,500.00	19.27	235.46	1,468.69	-135.24	-196.51	238.55	0.00	0.00	0.00
1,600.00	19.27	235.46	1,563.08	-153.95	-223.70	271.56	0.00	0.00	0.00
1,700.00	19.27	235.46	1,657.48	-172.66	-250.89	304.56	0.00	0.00	0.00
1,800.00	19.27	235.46	1,751.88	-191.37	-278.07	337.56	0.00	0.00	0.00
1,900.00	19.27	235.46	1,846.28	-210.08	-305.26	370.57	0.00	0.00	0.00
2,000.00	19.27	235.46	1,940.67	-228.79	-332.45	403.57	0.00	0.00	0.00
2,100.00	19.27	235.46	2,035.07	-247.50	-359.63	436.57	0.00	0.00	0.00
2,200.00	19.27	235.46	2,129.47	-266.21	-386.82	469.57	0.00	0.00	0.00
2,300.00	19.27	235.46	2,223.86	-284.92	-414.01	502.58	0.00	0.00	0.00
2,400.00	19.27	235.46	2,318.26	-303.63	-441.19	535.58	0.00	0.00	0.00
2,500.00	19.27	235.46	2,412.66	-322.34	-468.38	568.58	0.00	0.00	0.00
2,600.00	19.27	235.46	2,507.06	-341.05	-495.57	601.59	0.00	0.00	0.00
2,700.00	19.27	235.46	2,601.45	-359.76	-522.76	634.59	0.00	0.00	0.00
2,800.00	19.27	235.46	2,695.85	-378.47	-549.94	667.59	0.00	0.00	0.00
2,900.00	19.27	235.46	2,790.25	-397.18	-577.13	700.59	0.00	0.00	0.00
3,000.00	19.27	235.46	2,884.64	-415.89	-604.32	733.60	0.00	0.00	0.00
3,100.00	19.27	235.46	2,979.04	-434.60	-631.50	766.60	0.00	0.00	0.00
3,200.00	19.27	235.46	3,073.44	-453.31	-658.69	799.60	0.00	0.00	0.00
3,211.69	19.27	235.46	3,084.47	-455.50	-661.87	803.46	0.00	0.00	0.00
3,300.00	17.73	235.46	3,168.22	-471.39	-684.95	831.48	1.75	-1.75	0.00
3,400.00	15.98	235.46	3,263.92	-487.82	-708.82	860.46	1.75	-1.75	0.00
3,500.00	14.23	235.46	3,360.46	-502.59	-730.28	886.51	1.75	-1.75	0.00
3,600.00	12.48	235.46	3,457.76	-515.68	-749.30	909.60	1.75	-1.75	0.00
3,700.00	10.73	235.46	3,555.71	-527.07	-765.87	929.71	1.75	-1.75	0.00
3,800.00	8.98	235.46	3,654.23	-536.77	-779.96	946.82	1.75	-1.75	0.00
3,900.00	7.23	235.46	3,753.23	-544.76	-791.56	960.91	1.75	-1.75	0.00
4,000.00	5.48	235.46	3,852.62	-551.03	-800.68	971.97	1.75	-1.75	0.00
4,100.00	3.73	235.46	3,952.29	-555.58	-807.28	979.99	1.75	-1.75	0.00
4,200.00	1.98	235.46	4,052.16	-558.40	-811.38	984.96	1.75	-1.75	0.00
4,252.86	1.05	235.46	4,105.00	-559.19	-812.53	986.35	1.75	-1.75	0.00
PK Depth									
4,300.00	0.23	235.46	4,152.14	-559.48	-812.96	986.88	1.75	-1.75	0.00
4,312.86	0.00	0.00	4,165.00	-559.50	-812.98	986.90	1.75	-1.75	0.00
4,400.00	0.00	0.00	4,252.14	-559.50	-812.98	986.90	0.00	0.00	0.00
4,500.00	0.00	0.00	4,352.14	-559.50	-812.98	986.90	0.00	0.00	0.00
4,600.00	0.00	0.00	4,452.14	-559.50	-812.98	986.90	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5120.00ft (Original Well Elev)
<b>Site:</b>	WELD_NORTHGLENN STATE PAD	<b>North Reference:</b>	True
<b>Well:</b>	Northglenn State 14-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 14-36		
<b>Design:</b>	Northglenn State 14-36 (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)
4,700.00	0.00	0.00	4,552.14	-559.50	-812.98	986.90	0.00	0.00	0.00
4,800.00	0.00	0.00	4,652.14	-559.50	-812.98	986.90	0.00	0.00	0.00
4,900.00	0.00	0.00	4,752.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,000.00	0.00	0.00	4,852.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,002.86	0.00	0.00	4,855.00	-559.50	-812.98	986.90	0.00	0.00	0.00
<b>SX Depth</b>									
5,100.00	0.00	0.00	4,952.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,200.00	0.00	0.00	5,052.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,300.00	0.00	0.00	5,152.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,400.00	0.00	0.00	5,252.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,500.00	0.00	0.00	5,352.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,600.00	0.00	0.00	5,452.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,700.00	0.00	0.00	5,552.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,800.00	0.00	0.00	5,652.14	-559.50	-812.98	986.90	0.00	0.00	0.00
5,900.00	0.00	0.00	5,752.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,000.00	0.00	0.00	5,852.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,100.00	0.00	0.00	5,952.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,200.00	0.00	0.00	6,052.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,300.00	0.00	0.00	6,152.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,400.00	0.00	0.00	6,252.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,500.00	0.00	0.00	6,352.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,600.00	0.00	0.00	6,452.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,700.00	0.00	0.00	6,552.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,800.00	0.00	0.00	6,652.14	-559.50	-812.98	986.90	0.00	0.00	0.00
6,900.00	0.00	0.00	6,752.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,000.00	0.00	0.00	6,852.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,100.00	0.00	0.00	6,952.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,200.00	0.00	0.00	7,052.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,300.00	0.00	0.00	7,152.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,400.00	0.00	0.00	7,252.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,500.00	0.00	0.00	7,352.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,600.00	0.00	0.00	7,452.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,612.86	0.00	0.00	7,465.00	-559.50	-812.98	986.90	0.00	0.00	0.00
<b>NIO Depth</b>									
7,700.00	0.00	0.00	7,552.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,800.00	0.00	0.00	7,652.14	-559.50	-812.98	986.90	0.00	0.00	0.00
7,900.00	0.00	0.00	7,752.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,000.00	0.00	0.00	7,852.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,058.86	0.00	0.00	7,911.00	-559.50	-812.98	986.90	0.00	0.00	0.00
<b>CD Depth</b>									
8,100.00	0.00	0.00	7,952.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,128.86	0.00	0.00	7,981.00	-559.50	-812.98	986.90	0.00	0.00	0.00
<b>GH Depth</b>									
8,200.00	0.00	0.00	8,052.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,300.00	0.00	0.00	8,152.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,400.00	0.00	0.00	8,252.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,479.86	0.00	0.00	8,332.00	-559.50	-812.98	986.90	0.00	0.00	0.00
<b>J Depth</b>									
8,500.00	0.00	0.00	8,352.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,600.00	0.00	0.00	8,452.14	-559.50	-812.98	986.90	0.00	0.00	0.00
8,612.86	0.00	0.00	8,465.00	-559.50	-812.98	986.90	0.00	0.00	0.00
<b>Northglenn State 14-36 BHL</b>									

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Northglenn State 14-36
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5120.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5120.00ft (Original Well Elev)
<b>Site:</b>	WELD_NORTHGLENN STATE PAD	<b>North Reference:</b>	True
<b>Well:</b>	Northglenn State 14-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 14-36		
<b>Design:</b>	Northglenn State 14-36 (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)		
Northglenn State 14-3	0.00	0.00	8,465.00	-559.50	-812.98	1,244,098.88	3,152,863.11	40.002146	-104.954339
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
		Name			
1,007.16	1,000.00	8 5/8"		8-5/8	11

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)			Lithology	(°)	(°)
		Name				
4,252.86	4,105.00	PK Depth				
5,002.86	4,855.00	SX Depth				
7,612.86	7,465.00	NIO Depth				
8,058.86	7,911.00	CD Depth				
8,128.86	7,981.00	GH Depth				
8,479.86	8,332.00	J Depth				