

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NORTHGLENN STATE PAD**

**Northglenn State 23-36**

**Northglenn State 23-36**

**Plan: Northglenn State 23-36 (wp01)**

## **Standard Planning Report**

**25 April, 2011**

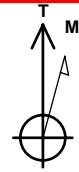


**Weatherford®**

Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_NORTHGLENN STATE PAD  
Well: Northglenn State 23-36  
Wellbore: Northglenn State 23-36  
Section:  
SHL:  
Design: Northglenn State 23-36 (wp01)  
Latitude: 40.003819  
Longitude: -104.951437  
GL: 5120.00  
KB: WELL @ 5120.00ft (Original Well Elev)

## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4105.00	4120.59	PK Depth
4855.00	4870.59	SX Depth
7465.00	7480.59	NIO Depth
7911.00	7926.59	CD Depth
7981.00	7996.59	GH Depth
8332.00	8347.59	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 23-36

+N/-S	+E/-W	Northing	Ground Level: Easting	5120.00 Latitude	Longitude	Slot
0.00	0.00	1244713.48	3153672.20	40.003819	-104.951437	

## CASING DETAILS

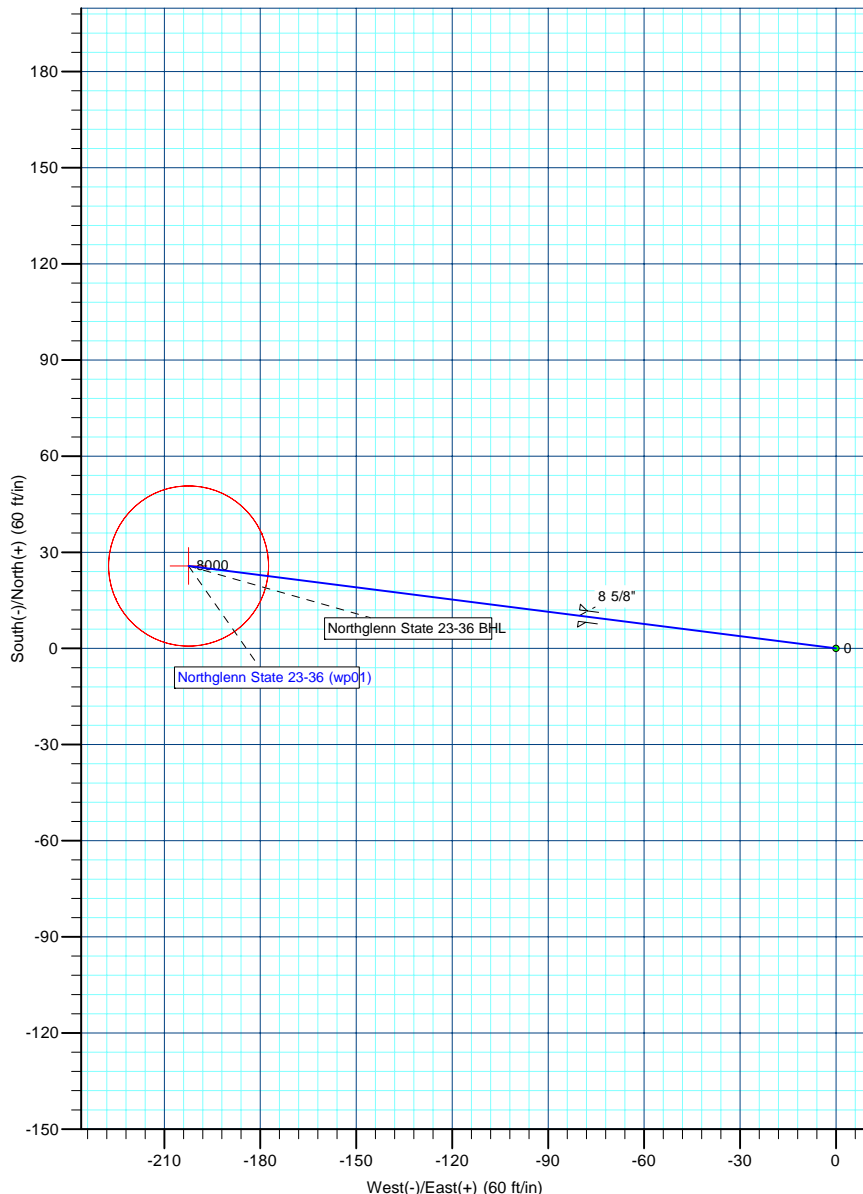
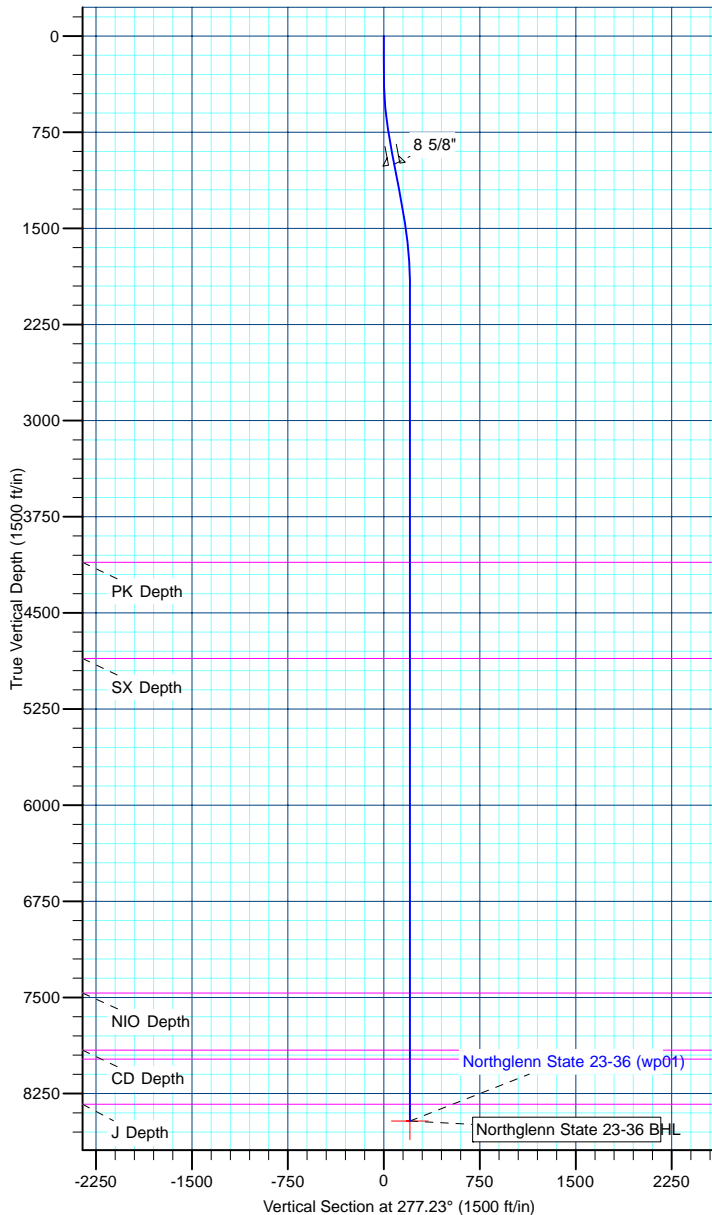
TVD	MD	Name	Size
1000.00	1005.96	8 5/8"	8-5/8

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Northglenn State 23-36 BHL	8465.00	25.70	-202.43	1244737.93	3153469.61	40.003890	-104.952160	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
825.05	10.50	277.24	822.11	6.04	-47.60	2.00	277.24	47.98
1380.54	10.50	277.24	1368.30	18.80	-148.03	0.00	0.00	149.22
1980.59	0.00	0.00	1965.00	25.70	-202.43	1.75	180.00	204.05
8480.59	0.00	0.00	8465.00	25.70	-202.43	0.00	0.00	204.05



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Northglenn State 23-36
<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 23-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 23-36		
<b>Design:</b>	Northglenn State 23-36 (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 23-36					
Well Position	+N-S	-109.85 ft	Northing:	1,244,713.48 ft	Latitude:	40.003820
	+E-W	0.17 ft	Easting:	3,153,672.20 ft	Longitude:	-104.951438
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,120.00 ft

<b>Wellbore</b>	Northglenn State 23-36				
<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 23-36 (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	277.23

<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	
825.05	10.50	277.24	822.11	6.04	-47.60	2.00	2.00	0.00	277.24	
1,380.54	10.50	277.24	1,368.30	18.80	-148.03	0.00	0.00	0.00	0.00	
1,980.59	0.00	0.00	1,965.00	25.70	-202.43	1.75	-1.75	0.00	180.00	
8,480.59	0.00	0.00	8,465.00	25.70	-202.43	0.00	0.00	0.00	0.00	Northglenn State 23

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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 23-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 23-36		
<b>Design:</b>	Northglenn State 23-36 (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	277.24	399.98	0.22	-1.73	1.75	2.00	2.00	0.00
500.00	4.00	277.24	499.84	0.88	-6.92	6.98	2.00	2.00	0.00
600.00	6.00	277.24	599.45	1.98	-15.57	15.69	2.00	2.00	0.00
700.00	8.00	277.24	698.70	3.51	-27.66	27.88	2.00	2.00	0.00
800.00	10.00	277.24	797.47	5.48	-43.18	43.52	2.00	2.00	0.00
825.05	10.50	277.24	822.11	6.04	-47.60	47.98	2.00	2.00	0.00
900.00	10.50	277.24	895.81	7.76	-61.15	61.64	0.00	0.00	0.00
1,000.00	10.50	277.24	994.14	10.06	-79.23	79.87	0.00	0.00	0.00
1,005.96	10.50	277.24	1,000.00	10.20	-80.31	80.95	0.00	0.00	0.00
8 5/8"									
1,100.00	10.50	277.24	1,092.46	12.36	-97.31	98.09	0.00	0.00	0.00
1,200.00	10.50	277.24	1,190.79	14.65	-115.39	116.32	0.00	0.00	0.00
1,300.00	10.50	277.24	1,289.11	16.95	-133.47	134.54	0.00	0.00	0.00
1,380.54	10.50	277.24	1,368.30	18.80	-148.03	149.22	0.00	0.00	0.00
1,400.00	10.16	277.24	1,387.45	19.23	-151.49	152.71	1.75	-1.75	0.00
1,500.00	8.41	277.24	1,486.13	21.27	-167.50	168.84	1.75	-1.75	0.00
1,600.00	6.66	277.24	1,585.27	22.92	-180.51	181.96	1.75	-1.75	0.00
1,700.00	4.91	277.24	1,684.75	24.19	-190.51	192.04	1.75	-1.75	0.00
1,800.00	3.16	277.24	1,784.50	25.07	-197.49	199.07	1.75	-1.75	0.00
1,900.00	1.41	277.24	1,884.42	25.58	-201.44	203.06	1.75	-1.75	0.00
1,980.59	0.00	0.00	1,965.00	25.70	-202.43	204.05	1.75	-1.75	0.00
2,000.00	0.00	0.00	1,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,100.00	0.00	0.00	2,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,200.00	0.00	0.00	2,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,300.00	0.00	0.00	2,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,400.00	0.00	0.00	2,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,500.00	0.00	0.00	2,484.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,600.00	0.00	0.00	2,584.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,700.00	0.00	0.00	2,684.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,800.00	0.00	0.00	2,784.41	25.70	-202.43	204.05	0.00	0.00	0.00
2,900.00	0.00	0.00	2,884.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,000.00	0.00	0.00	2,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,100.00	0.00	0.00	3,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,200.00	0.00	0.00	3,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,300.00	0.00	0.00	3,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,400.00	0.00	0.00	3,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,500.00	0.00	0.00	3,484.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,600.00	0.00	0.00	3,584.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,700.00	0.00	0.00	3,684.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,800.00	0.00	0.00	3,784.41	25.70	-202.43	204.05	0.00	0.00	0.00
3,900.00	0.00	0.00	3,884.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,000.00	0.00	0.00	3,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,100.00	0.00	0.00	4,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,120.59	0.00	0.00	4,105.00	25.70	-202.43	204.05	0.00	0.00	0.00
PK Depth									
4,200.00	0.00	0.00	4,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,300.00	0.00	0.00	4,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,400.00	0.00	0.00	4,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,500.00	0.00	0.00	4,484.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,600.00	0.00	0.00	4,584.41	25.70	-202.43	204.05	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 23-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 23-36		
<b>Design:</b>	Northglenn State 23-36 (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	4,684.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,800.00	0.00	0.00	4,784.41	25.70	-202.43	204.05	0.00	0.00	0.00
4,870.59	0.00	0.00	4,855.00	25.70	-202.43	204.05	0.00	0.00	0.00
SX Depth									
4,900.00	0.00	0.00	4,884.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,000.00	0.00	0.00	4,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,100.00	0.00	0.00	5,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,200.00	0.00	0.00	5,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,300.00	0.00	0.00	5,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,400.00	0.00	0.00	5,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,500.00	0.00	0.00	5,484.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,600.00	0.00	0.00	5,584.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,700.00	0.00	0.00	5,684.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,800.00	0.00	0.00	5,784.41	25.70	-202.43	204.05	0.00	0.00	0.00
5,900.00	0.00	0.00	5,884.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,000.00	0.00	0.00	5,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,100.00	0.00	0.00	6,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,200.00	0.00	0.00	6,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,300.00	0.00	0.00	6,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,400.00	0.00	0.00	6,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,500.00	0.00	0.00	6,484.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,600.00	0.00	0.00	6,584.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,700.00	0.00	0.00	6,684.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,800.00	0.00	0.00	6,784.41	25.70	-202.43	204.05	0.00	0.00	0.00
6,900.00	0.00	0.00	6,884.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,000.00	0.00	0.00	6,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,100.00	0.00	0.00	7,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,200.00	0.00	0.00	7,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,300.00	0.00	0.00	7,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,400.00	0.00	0.00	7,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,480.59	0.00	0.00	7,465.00	25.70	-202.43	204.05	0.00	0.00	0.00
NIO Depth									
7,500.00	0.00	0.00	7,484.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,600.00	0.00	0.00	7,584.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,700.00	0.00	0.00	7,684.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,800.00	0.00	0.00	7,784.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,900.00	0.00	0.00	7,884.41	25.70	-202.43	204.05	0.00	0.00	0.00
7,926.59	0.00	0.00	7,911.00	25.70	-202.43	204.05	0.00	0.00	0.00
CD Depth									
7,996.59	0.00	0.00	7,981.00	25.70	-202.43	204.05	0.00	0.00	0.00
GH Depth									
8,000.00	0.00	0.00	7,984.41	25.70	-202.43	204.05	0.00	0.00	0.00
8,100.00	0.00	0.00	8,084.41	25.70	-202.43	204.05	0.00	0.00	0.00
8,200.00	0.00	0.00	8,184.41	25.70	-202.43	204.05	0.00	0.00	0.00
8,300.00	0.00	0.00	8,284.41	25.70	-202.43	204.05	0.00	0.00	0.00
8,347.59	0.00	0.00	8,332.00	25.70	-202.43	204.05	0.00	0.00	0.00
J Depth									
8,400.00	0.00	0.00	8,384.41	25.70	-202.43	204.05	0.00	0.00	0.00
8,480.59	0.00	0.00	8,465.00	25.70	-202.43	204.05	0.00	0.00	0.00
Northglenn State 23-36 BHL									

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Northglenn State 23-36
<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 23-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Northglenn State 23-36		
<b>Design:</b>	Northglenn State 23-36 (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 23-3	0.00	0.00	8,465.00	25.70	-202.43	1,244,737.93	3,153,469.61	40.003890	-104.952160
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)		Name	(")	(")
1,005.96	1,000.00	8 5/8"		8-5/8	11

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)		Name	Lithology	(°)	(°)
4,120.59	4,105.00	PK Depth				
4,870.59	4,855.00	SX Depth				
7,480.59	7,465.00	NIO Depth				
7,926.59	7,911.00	CD Depth				
7,996.59	7,981.00	GH Depth				
8,347.59	8,332.00	J Depth				