



## **Delta Petroleum**

**Mesa County, CO**

**Pad 9C**

**NVega 28-14H**

**Wellbore #1**

**Plan: Preliminary Plan for APD**

## **Standard Planning Report**

**02 September, 2010**

Delta Petroleum  
NVega 28-14H  
Mesa County, CO

Geodetic System: US State Plane 1983  
Zone: Colorado Central Zone  
WELL @ 0.0ft (Original Well Elev)  
Ground Level: 0.0  
Latitude: 39° 15' 15.282 N  
Longitude: 107° 46' 53.310 W  
Magnetic North is 10.33° East of True North (Magnetic Declination)



FORMATION TOP DETAILS

No formation data is available

SECTION DETAILS

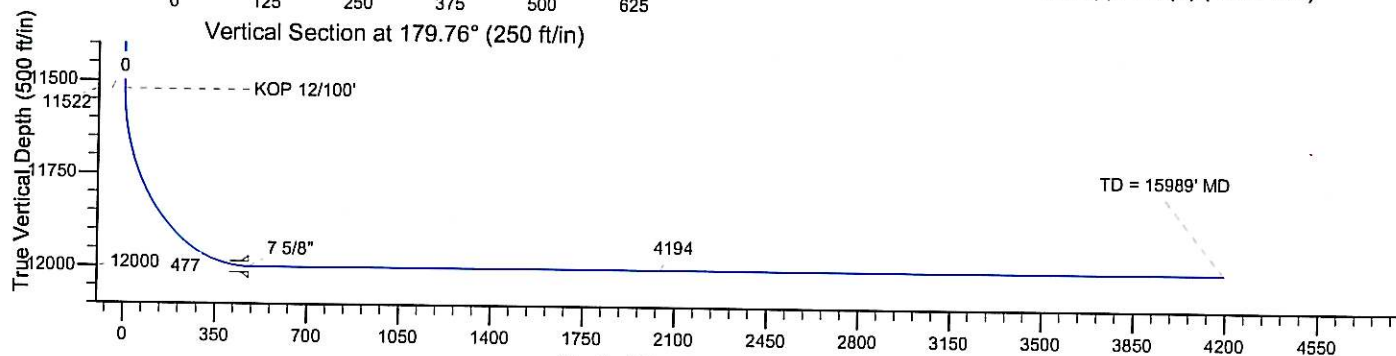
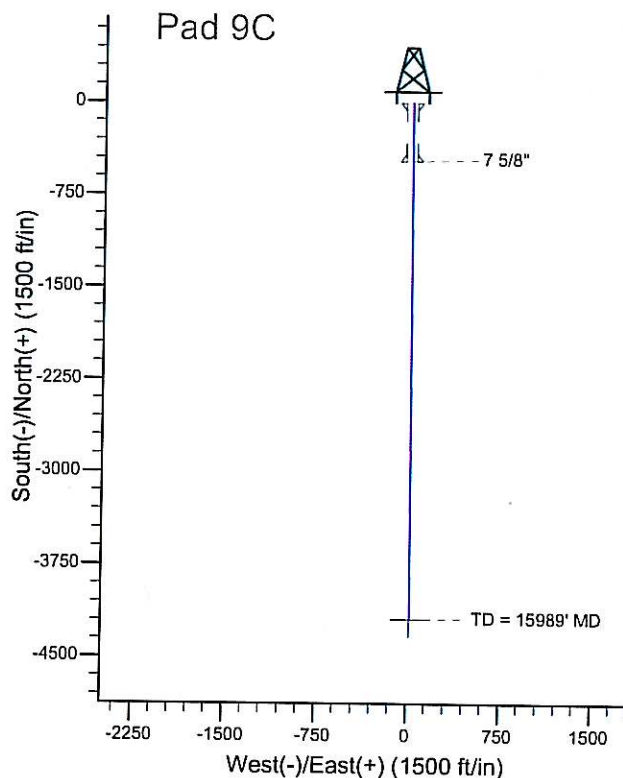
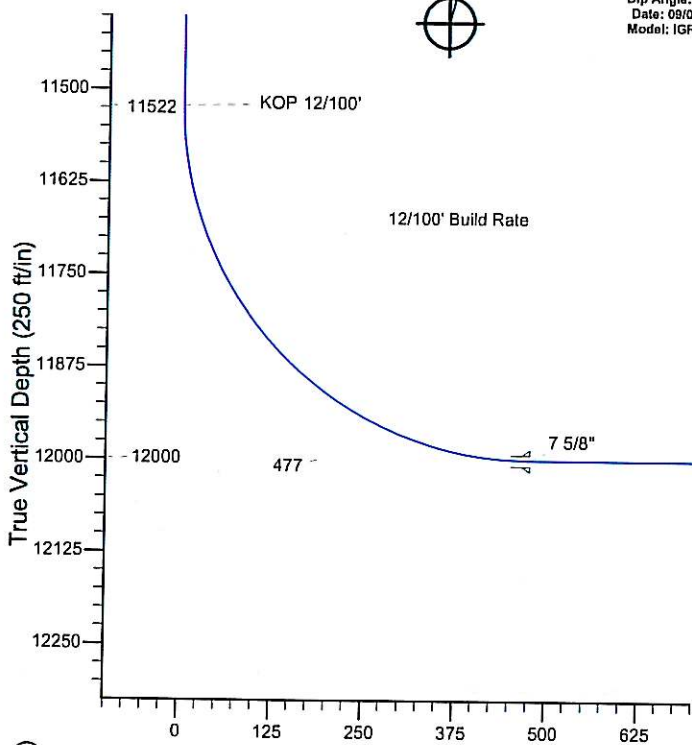
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
11522.5	0.00	0.00	11522.5	0.0	0.0	0.00	0.00	0.0
12272.5	90.00	179.76	12000.0	-477.5	2.0	12.00	179.76	477.5
15988.7	90.00	179.76	12000.0	-4193.6	17.6	0.00	0.00	4193.6

28-14H



Azimuths to True North  
Magnetic North: 10.33°

Magnetic Field  
Strength: 52273.5nT  
Dip Angle: 65.60°  
Date: 09/02/2010  
Model: IGRF2010



Vertical Section at 179.76° (700 ft/in)  
WELLBORE TARGET DETAILS (LAT/LONG)

28-14H

TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
12000.0	-4193.6	17.6	39° 14' 33.832 N	107° 46' 53.087 W	Point



## Crescent Directional Drilling, LP

### Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NVega 28-14H
<b>Company:</b>	Delta Petroleum	<b>TVD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Site:</b>	Pad 9C	<b>North Reference:</b>	True
<b>Well:</b>	NVega 28-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Preliminary Plan for APD		

Project	Mesa County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		Pad 9C			
Site Position:		Northing:	1,525,604.75 ft	Latitude:	39° 15' 15.282 N
From:	Lat/Long	Easting:	2,354,023.24 ft	Longitude:	107° 46' 53.310 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.44 °

Well	NVega 28-14H					
Well Position	+N/-S	0.0 ft	Northing:	1,525,604.75 ft	Latitude:	39° 15' 15.282 N
	+E/-W	0.0 ft	Easting:	2,354,023.24 ft	Longitude:	107° 46' 53.310 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0 ft	

<b>Wellbore</b>	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/02/10	10.33	65.60	52,273

<b>Design</b>	Preliminary Plan for APD
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<b>Audit Notes:</b>			
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b> 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	179.76

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
11,522.5	0.00	0.00	11,522.5	0.0	0.0	0.00	0.00	0.00	0.00	
12,272.5	90.00	179.76	12,000.0	-477.5	2.0	12.00	12.00	0.00	179.76	
15,988.7	90.00	179.76	12,000.0	-4,193.6	17.6	0.00	0.00	0.00	0.00	28-14H





# Crescent Directional Drilling, LP

## Planning Report

**Database:** EDM 2003.16 Single User Db  
**Company:** Delta Petroleum  
**Project:** Mesa County, CO  
**Site:** Pad 9C  
**Well:** NVega 28-14H  
**Wellbore:** Wellbore #1  
**Design:** Preliminary Plan for APD

**Local Co-ordinate Reference:** Well NVega 28-14H  
**TVD Reference:** WELL @ 0.0ft (Original Well Elev)  
**MD Reference:** WELL @ 0.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00



## Crescent Directional Drilling, LP

### Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NVega 28-14H
<b>Company:</b>	Delta Petroleum	<b>TVD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Site:</b>	Pad 9C	<b>North Reference:</b>	True
<b>Well:</b>	NVega 28-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Preliminary Plan for APD		

#### 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)
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00





## Crescent Directional Drilling, LP

### Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NVega 28-14H
<b>Company:</b>	Delta Petroleum	<b>TVD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Site:</b>	Pad 9C	<b>North Reference:</b>	True
<b>Well:</b>	NVega 28-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Preliminary Plan for APD		

#### 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)
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,600.0	0.0	0.0	0.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,700.0	0.0	0.0	0.0	0.00	0.00	0.00
10,800.0	0.00	0.00	10,800.0	0.0	0.0	0.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,900.0	0.0	0.0	0.0	0.00	0.00	0.00
11,000.0	0.00	0.00	11,000.0	0.0	0.0	0.0	0.00	0.00	0.00
11,100.0	0.00	0.00	11,100.0	0.0	0.0	0.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,200.0	0.0	0.0	0.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,300.0	0.0	0.0	0.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,400.0	0.0	0.0	0.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,500.0	0.0	0.0	0.0	0.00	0.00	0.00
11,522.5	0.00	0.00	11,522.5	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP 12/100'</b>									
11,600.0	9.30	179.76	11,599.7	-6.3	0.0	6.3	12.00	12.00	0.00
11,700.0	21.30	179.76	11,695.9	-32.6	0.1	32.6	12.00	12.00	0.00
11,800.0	33.30	179.76	11,784.6	-78.4	0.3	78.4	12.00	12.00	0.00
11,900.0	45.30	179.76	11,861.9	-141.6	0.6	141.6	12.00	12.00	0.00
12,000.0	57.30	179.76	11,924.3	-219.5	0.9	219.5	12.00	12.00	0.00
12,100.0	69.30	179.76	11,969.1	-308.7	1.3	308.7	12.00	12.00	0.00
12,200.0	81.30	179.76	11,994.5	-405.2	1.7	405.2	12.00	12.00	0.00
12,272.5	90.00	179.76	12,000.0	-477.5	2.0	477.5	12.00	12.00	0.00
<b>EOB Hold 90 Deg - 7 5/8"</b>									
12,300.0	90.00	179.76	12,000.0	-505.0	2.1	505.0	0.00	0.00	0.00
12,400.0	90.00	179.76	12,000.0	-605.0	2.5	605.0	0.00	0.00	0.00
12,500.0	90.00	179.76	12,000.0	-705.0	3.0	705.0	0.00	0.00	0.00
12,600.0	90.00	179.76	12,000.0	-805.0	3.4	805.0	0.00	0.00	0.00
12,700.0	90.00	179.76	12,000.0	-905.0	3.8	905.0	0.00	0.00	0.00
12,800.0	90.00	179.76	12,000.0	-1,005.0	4.2	1,005.0	0.00	0.00	0.00
12,900.0	90.00	179.76	12,000.0	-1,105.0	4.6	1,105.0	0.00	0.00	0.00
13,000.0	90.00	179.76	12,000.0	-1,205.0	5.0	1,205.0	0.00	0.00	0.00
13,100.0	90.00	179.76	12,000.0	-1,305.0	5.5	1,305.0	0.00	0.00	0.00
13,200.0	90.00	179.76	12,000.0	-1,405.0	5.9	1,405.0	0.00	0.00	0.00
13,300.0	90.00	179.76	12,000.0	-1,505.0	6.3	1,505.0	0.00	0.00	0.00
13,400.0	90.00	179.76	12,000.0	-1,605.0	6.7	1,605.0	0.00	0.00	0.00
13,500.0	90.00	179.76	12,000.0	-1,704.9	7.1	1,705.0	0.00	0.00	0.00
13,600.0	90.00	179.76	12,000.0	-1,804.9	7.6	1,805.0	0.00	0.00	0.00
13,700.0	90.00	179.76	12,000.0	-1,904.9	8.0	1,905.0	0.00	0.00	0.00
13,800.0	90.00	179.76	12,000.0	-2,004.9	8.4	2,005.0	0.00	0.00	0.00
13,900.0	90.00	179.76	12,000.0	-2,104.9	8.8	2,105.0	0.00	0.00	0.00
14,000.0	90.00	179.76	12,000.0	-2,204.9	9.2	2,205.0	0.00	0.00	0.00
14,100.0	90.00	179.76	12,000.0	-2,304.9	9.7	2,305.0	0.00	0.00	0.00
14,200.0	90.00	179.76	12,000.0	-2,404.9	10.1	2,405.0	0.00	0.00	0.00
14,300.0	90.00	179.76	12,000.0	-2,504.9	10.5	2,505.0	0.00	0.00	0.00
14,400.0	90.00	179.76	12,000.0	-2,604.9	10.9	2,605.0	0.00	0.00	0.00
14,500.0	90.00	179.76	12,000.0	-2,704.9	11.3	2,705.0	0.00	0.00	0.00
14,600.0	90.00	179.76	12,000.0	-2,804.9	11.7	2,805.0	0.00	0.00	0.00
14,700.0	90.00	179.76	12,000.0	-2,904.9	12.2	2,905.0	0.00	0.00	0.00
14,800.0	90.00	179.76	12,000.0	-3,004.9	12.6	3,005.0	0.00	0.00	0.00
14,900.0	90.00	179.76	12,000.0	-3,104.9	13.0	3,105.0	0.00	0.00	0.00
15,000.0	90.00	179.76	12,000.0	-3,204.9	13.4	3,205.0	0.00	0.00	0.00
15,100.0	90.00	179.76	12,000.0	-3,304.9	13.8	3,305.0	0.00	0.00	0.00
15,200.0	90.00	179.76	12,000.0	-3,404.9	14.3	3,405.0	0.00	0.00	0.00





## Crescent Directional Drilling, LP

### Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NVega 28-14H
<b>Company:</b>	Delta Petroleum	<b>TVD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 0.0ft (Original Well Elev)
<b>Site:</b>	Pad 9C	<b>North Reference:</b>	True
<b>Well:</b>	NVega 28-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Preliminary Plan for APD		

#### 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)
15,300.0	90.00	179.76	12,000.0	-3,504.9	14.7	3,505.0	0.00	0.00	0.00
15,400.0	90.00	179.76	12,000.0	-3,604.9	15.1	3,605.0	0.00	0.00	0.00
15,500.0	90.00	179.76	12,000.0	-3,704.9	15.5	3,705.0	0.00	0.00	0.00
15,600.0	90.00	179.76	12,000.0	-3,804.9	15.9	3,805.0	0.00	0.00	0.00
15,700.0	90.00	179.76	12,000.0	-3,904.9	16.4	3,905.0	0.00	0.00	0.00
15,800.0	90.00	179.76	12,000.0	-4,004.9	16.8	4,005.0	0.00	0.00	0.00
15,900.0	90.00	179.76	12,000.0	-4,104.9	17.2	4,105.0	0.00	0.00	0.00
15,988.6	90.00	179.76	12,000.0	-4,193.5	17.6	4,193.6	0.00	0.00	0.00
<b>TD = 15989' MD</b>									
15,988.7	90.00	179.76	12,000.0	-4,193.6	17.6	4,193.6	0.00	0.00	0.00
<b>28-14H</b>									

#### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
28-14H	0.00	0.00	12,000.0	-4,193.6	17.6	1,521,412.04	2,353,935.49	39° 14' 33.832 N	107° 46' 53.087 W
- plan hits target center									
- Point									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,200.0	2,200.0	13 3/8"	13-3/8	17-1/2
8,500.0	8,500.0	9 5/8"	9-5/8	12-1/4
12,272.5	12,000.0	7 5/8"	7-5/8	8-3/4

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,522.5	11,522.5	0.0	0.0	KOP 12/100'
12,272.5	12,000.0	-477.5	2.0	EOB Hold 90 Deg
15,988.6	12,000.0	-4,193.5	17.6	TD = 15989' MD