

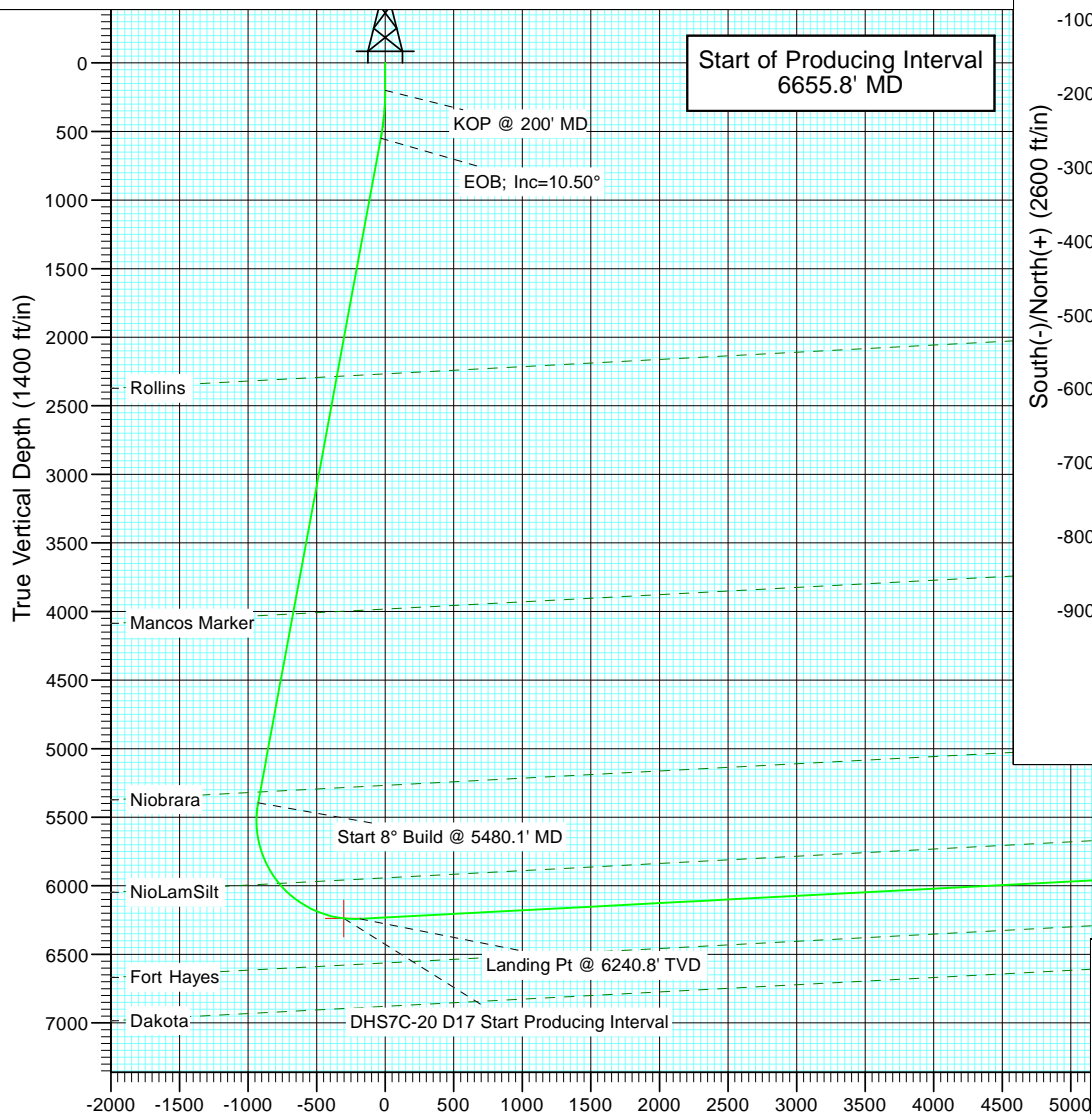


Project: North Piceance  
Site: D17 998  
Well: DHS7C-20 D17  
Wellbore: HZ  
Design: Plan #2

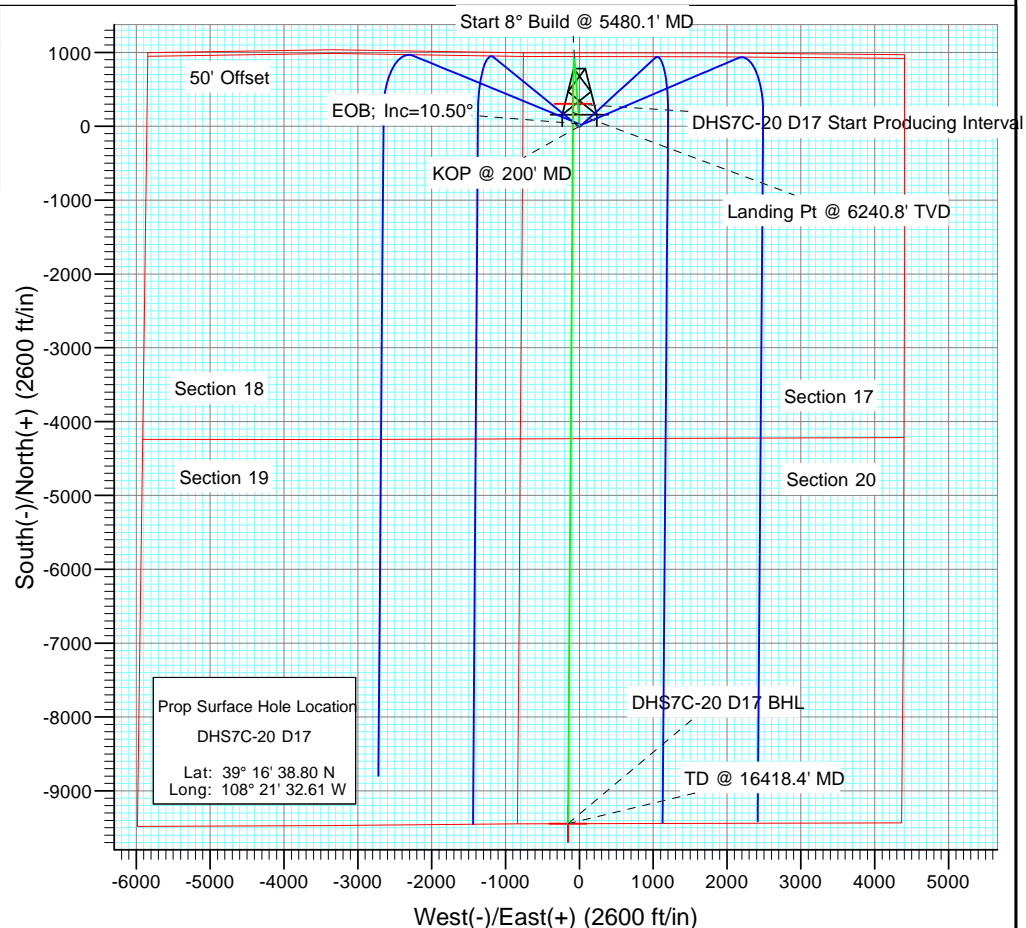


#### SECTION DETAILS

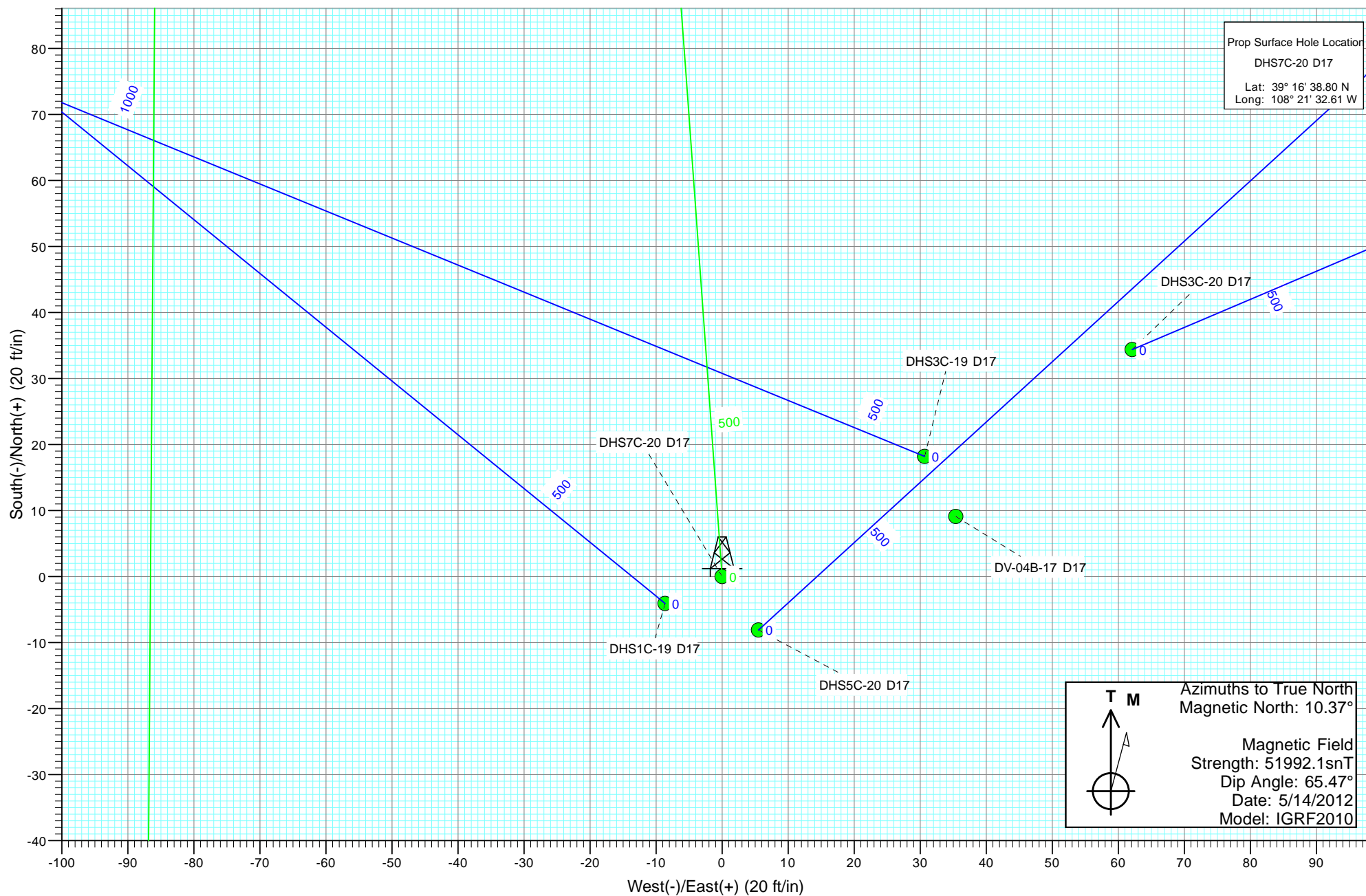
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	KOP @ 200' MD
3	549.9	10.50	355.88	548.0	31.9	-2.3	3.00	355.88	-31.8	EOB; Inc=10.50°
4	5480.1	10.50	355.88	5395.6	927.8	-66.9	0.00	0.00	-926.6	Start 8° Build @ 5480.1' MD
5	6773.4	93.00	180.41	6240.8	186.1	-85.3	8.00	-175.35	-184.7	Landing Pt @ 6240.8' TVD
6	16418.4	93.00	180.41	5736.0	-9445.4	-154.2	0.00	0.00	9446.6	TD @ 16418.4' MD



Vertical Section at 180.94° (1400 ft/in)

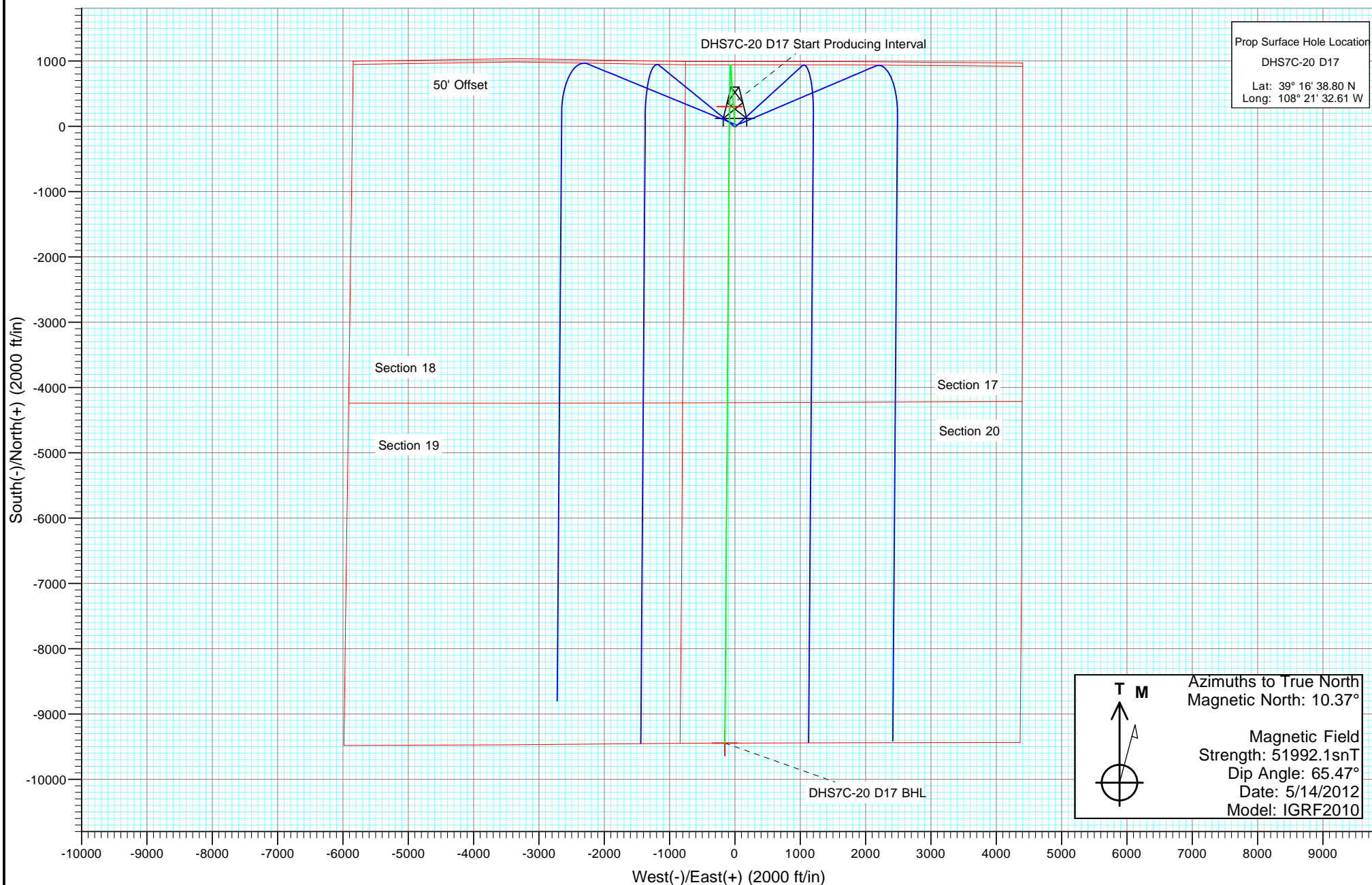


Plan #2 DHS7C-20 D17 WELL @ 5805.0ft (Original Well Elev) North American Datum 1983 Well DHS7C-20 D17, True North							
Type	Target	Azimuth	Origin	N/S	E/W	From TVD	
TD	No Target (Freehand)	180.94	Slot	0.0	0.0	0.0	
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
DHS7C-20 D17 BHL	5736.0	-9445.4	-154.2	39° 15' 5.44 N	108° 21' 34.57 W		
DHS7C-20 D17 Start Producing Interval	6237.3	303.5	-84.3	39° 16' 41.80 N	108° 21' 33.68 W		





Project: North Piceance  
Site: D17 998  
Well: DHS7C-20 D17  
Wellbore: HZ  
Design: Plan #2



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DHS7C-20 D17
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Site:</b>	D17 998	<b>North Reference:</b>	True
<b>Well:</b>	DHS7C-20 D17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

<b>Project</b>	North Piceance		
<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 Central Zone		

Site		D17 998			
Site Position:		Northing:	1,538,697.26 ft	Latitude:	39° 16' 38.98 N
From:	Lat/Long	Easting:	2,190,836.33 ft	Longitude:	108° 21' 32.22 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.80 °

Well	DHS7C-20 D17					
Well Position	+N/-S	0.0 ft	Northing:	1,538,680.01 ft	Latitude:	39° 16' 38.80 N
	+E/-W	0.0 ft	Easting:	2,190,805.11 ft	Longitude:	108° 21' 32.61 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,773.0 ft

<b>Wellbore</b>	HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/14/2012	10.37	65.47	51,992

<b>Design</b>	Plan #2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	180.94

<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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
549.9	10.50	355.88	548.0	31.9	-2.3	3.00	3.00	0.00	355.88	
5,480.1	10.50	355.88	5,395.6	927.8	-66.9	0.00	0.00	0.00	0.00	
6,773.4	93.00	180.41	6,240.8	186.1	-85.3	8.00	6.38	-13.57	-175.35	
16,418.4	93.00	180.41	5,736.0	-9,445.4	-154.2	0.00	0.00	0.00	0.00	DHS7C-20 D17 BHL

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DHS7C-20 D17
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Site:</b>	D17 998	<b>North Reference:</b>	True
<b>Well:</b>	DHS7C-20 D17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

### 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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200' MD
300.0	3.00	355.88	300.0	2.6	-0.2	-2.6	3.00	3.00	
400.0	6.00	355.88	399.6	10.4	-0.8	-10.4	3.00	3.00	
500.0	9.00	355.88	498.8	23.5	-1.7	-23.4	3.00	3.00	
549.9	10.50	355.88	548.0	31.9	-2.3	-31.8	3.00	3.00	EOB; Inc=10.50°
600.0	10.50	355.88	597.2	41.0	-3.0	-40.9	0.00	0.00	
700.0	10.50	355.88	695.5	59.2	-4.3	-59.1	0.00	0.00	
800.0	10.50	355.88	793.9	77.3	-5.6	-77.2	0.00	0.00	
900.0	10.50	355.88	892.2	95.5	-6.9	-95.4	0.00	0.00	
1,000.0	10.50	355.88	990.5	113.7	-8.2	-113.5	0.00	0.00	
1,100.0	10.50	355.88	1,088.8	131.8	-9.5	-131.7	0.00	0.00	
1,200.0	10.50	355.88	1,187.2	150.0	-10.8	-149.8	0.00	0.00	
1,300.0	10.50	355.88	1,285.5	168.2	-12.1	-168.0	0.00	0.00	
1,400.0	10.50	355.88	1,383.8	186.4	-13.4	-186.1	0.00	0.00	
1,500.0	10.50	355.88	1,482.1	204.5	-14.7	-204.3	0.00	0.00	
1,600.0	10.50	355.88	1,580.5	222.7	-16.1	-222.4	0.00	0.00	
1,700.0	10.50	355.88	1,678.8	240.9	-17.4	-240.6	0.00	0.00	
1,800.0	10.50	355.88	1,777.1	259.1	-18.7	-258.7	0.00	0.00	
1,900.0	10.50	355.88	1,875.4	277.2	-20.0	-276.9	0.00	0.00	
2,000.0	10.50	355.88	1,973.8	295.4	-21.3	-295.0	0.00	0.00	
2,100.0	10.50	355.88	2,072.1	313.6	-22.6	-313.2	0.00	0.00	
2,200.0	10.50	355.88	2,170.4	331.7	-23.9	-331.3	0.00	0.00	
2,300.0	10.50	355.88	2,268.8	349.9	-25.2	-349.5	0.00	0.00	
2,317.1	10.50	355.88	2,285.6	353.0	-25.4	-352.6	0.00	0.00	Rollins
2,400.0	10.50	355.88	2,367.1	368.1	-26.5	-367.6	0.00	0.00	
2,500.0	10.50	355.88	2,465.4	386.3	-27.8	-385.8	0.00	0.00	
2,600.0	10.50	355.88	2,563.7	404.4	-29.2	-403.9	0.00	0.00	
2,700.0	10.50	355.88	2,662.1	422.6	-30.5	-422.0	0.00	0.00	
2,800.0	10.50	355.88	2,760.4	440.8	-31.8	-440.2	0.00	0.00	
2,900.0	10.50	355.88	2,858.7	458.9	-33.1	-458.3	0.00	0.00	
3,000.0	10.50	355.88	2,957.0	477.1	-34.4	-476.5	0.00	0.00	
3,100.0	10.50	355.88	3,055.4	495.3	-35.7	-494.6	0.00	0.00	
3,200.0	10.50	355.88	3,153.7	513.5	-37.0	-512.8	0.00	0.00	
3,300.0	10.50	355.88	3,252.0	531.6	-38.3	-530.9	0.00	0.00	
3,400.0	10.50	355.88	3,350.3	549.8	-39.6	-549.1	0.00	0.00	
3,500.0	10.50	355.88	3,448.7	568.0	-40.9	-567.2	0.00	0.00	
3,600.0	10.50	355.88	3,547.0	586.2	-42.2	-585.4	0.00	0.00	
3,700.0	10.50	355.88	3,645.3	604.3	-43.6	-603.5	0.00	0.00	
3,800.0	10.50	355.88	3,743.6	622.5	-44.9	-621.7	0.00	0.00	
3,900.0	10.50	355.88	3,842.0	640.7	-46.2	-639.8	0.00	0.00	
4,000.0	10.50	355.88	3,940.3	658.8	-47.5	-658.0	0.00	0.00	
4,078.4	10.50	355.88	4,017.4	673.1	-48.5	-672.2	0.00	0.00	Mancos Marker
4,100.0	10.50	355.88	4,038.6	677.0	-48.8	-676.1	0.00	0.00	
4,200.0	10.50	355.88	4,137.0	695.2	-50.1	-694.3	0.00	0.00	
4,300.0	10.50	355.88	4,235.3	713.4	-51.4	-712.4	0.00	0.00	
4,400.0	10.50	355.88	4,333.6	731.5	-52.7	-730.6	0.00	0.00	
4,500.0	10.50	355.88	4,431.9	749.7	-54.0	-748.7	0.00	0.00	
4,600.0	10.50	355.88	4,530.3	767.9	-55.3	-766.9	0.00	0.00	
4,700.0	10.50	355.88	4,628.6	786.0	-56.7	-785.0	0.00	0.00	
4,800.0	10.50	355.88	4,726.9	804.2	-58.0	-803.2	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DHS7C-20 D17
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Site:</b>	D17 998	<b>North Reference:</b>	True
<b>Well:</b>	DHS7C-20 D17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

### 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)	Comments / Formations
4,900.0	10.50	355.88	4,825.2	822.4	-59.3	-821.3	0.00	0.00	
5,000.0	10.50	355.88	4,923.6	840.6	-60.6	-839.5	0.00	0.00	
5,100.0	10.50	355.88	5,021.9	858.7	-61.9	-857.6	0.00	0.00	
5,200.0	10.50	355.88	5,120.2	876.9	-63.2	-875.8	0.00	0.00	
5,300.0	10.50	355.88	5,218.5	895.1	-64.5	-893.9	0.00	0.00	
5,399.1	10.50	355.88	5,316.0	913.1	-65.8	-911.9	0.00	0.00	Niobrara
5,400.0	10.50	355.88	5,316.9	913.3	-65.8	-912.1	0.00	0.00	
5,480.1	10.50	355.88	5,395.6	927.8	-66.9	-926.6	0.00	0.00	Start 8° Build @ 5480.1' MD
5,500.0	8.91	355.04	5,415.2	931.1	-67.1	-929.9	8.00	-7.97	
5,600.0	1.21	316.17	5,514.8	939.6	-68.5	-938.4	8.00	-7.70	
5,700.0	7.18	187.19	5,614.5	934.2	-70.1	-932.9	8.00	5.97	
5,800.0	15.15	183.58	5,712.6	914.9	-71.7	-913.6	8.00	7.97	
5,900.0	23.15	182.44	5,807.0	882.2	-73.3	-880.9	8.00	7.99	
6,000.0	31.14	181.86	5,895.9	836.6	-75.0	-835.3	8.00	8.00	
6,100.0	39.14	181.50	5,977.6	779.1	-76.7	-777.8	8.00	8.00	
6,107.9	39.77	181.47	5,983.7	774.1	-76.8	-772.7	8.00	8.00	NioLamSilt
6,200.0	47.14	181.24	6,050.5	710.8	-78.3	-709.5	8.00	8.00	
6,300.0	55.14	181.04	6,113.2	633.1	-79.8	-631.7	8.00	8.00	
6,400.0	63.13	180.88	6,164.5	547.3	-81.3	-545.9	8.00	8.00	
6,500.0	71.13	180.74	6,203.3	455.2	-82.6	-453.8	8.00	8.00	
6,600.0	79.13	180.62	6,228.9	358.7	-83.7	-357.3	8.00	8.00	
6,655.8	83.60	180.55	6,237.3	303.5	-84.3	-302.1	8.00	8.00	Start of Producing Interval
6,700.0	87.13	180.50	6,240.9	259.5	-84.7	-258.1	8.00	8.00	
6,773.4	93.00	180.41	6,240.8	186.1	-85.3	-184.7	8.00	8.00	Landing Pt @ 6240.8' TVD
6,800.0	93.00	180.41	6,239.4	159.5	-85.4	-158.1	0.00	0.00	
6,900.0	93.00	180.41	6,234.2	59.7	-86.2	-58.3	0.00	0.00	
7,000.0	93.00	180.41	6,228.9	-40.2	-86.9	41.6	0.00	0.00	
7,100.0	93.00	180.41	6,223.7	-140.0	-87.6	141.4	0.00	0.00	
7,200.0	93.00	180.41	6,218.5	-239.9	-88.3	241.3	0.00	0.00	
7,300.0	93.00	180.41	6,213.2	-339.8	-89.0	341.2	0.00	0.00	
7,400.0	93.00	180.41	6,208.0	-439.6	-89.7	441.0	0.00	0.00	
7,500.0	93.00	180.41	6,202.8	-539.5	-90.4	540.9	0.00	0.00	
7,600.0	93.00	180.41	6,197.5	-639.3	-91.2	640.7	0.00	0.00	
7,700.0	93.00	180.41	6,192.3	-739.2	-91.9	740.6	0.00	0.00	
7,800.0	93.00	180.41	6,187.1	-839.1	-92.6	840.5	0.00	0.00	
7,900.0	93.00	180.41	6,181.8	-938.9	-93.3	940.3	0.00	0.00	
8,000.0	93.00	180.41	6,176.6	-1,038.8	-94.0	1,040.2	0.00	0.00	
8,100.0	93.00	180.41	6,171.3	-1,138.6	-94.7	1,140.0	0.00	0.00	
8,200.0	93.00	180.41	6,166.1	-1,238.5	-95.4	1,239.9	0.00	0.00	
8,300.0	93.00	180.41	6,160.9	-1,338.4	-96.2	1,339.8	0.00	0.00	
8,400.0	93.00	180.41	6,155.6	-1,438.2	-96.9	1,439.6	0.00	0.00	
8,500.0	93.00	180.41	6,150.4	-1,538.1	-97.6	1,539.5	0.00	0.00	
8,600.0	93.00	180.41	6,145.2	-1,637.9	-98.3	1,639.3	0.00	0.00	
8,700.0	93.00	180.41	6,139.9	-1,737.8	-99.0	1,739.2	0.00	0.00	
8,800.0	93.00	180.41	6,134.7	-1,837.7	-99.7	1,839.0	0.00	0.00	
8,900.0	93.00	180.41	6,129.5	-1,937.5	-100.5	1,938.9	0.00	0.00	
9,000.0	93.00	180.41	6,124.2	-2,037.4	-101.2	2,038.8	0.00	0.00	
9,100.0	93.00	180.41	6,119.0	-2,137.2	-101.9	2,138.6	0.00	0.00	
9,200.0	93.00	180.41	6,113.8	-2,237.1	-102.6	2,238.5	0.00	0.00	
9,300.0	93.00	180.41	6,108.5	-2,337.0	-103.3	2,338.3	0.00	0.00	
9,400.0	93.00	180.41	6,103.3	-2,436.8	-104.0	2,438.2	0.00	0.00	
9,500.0	93.00	180.41	6,098.1	-2,536.7	-104.7	2,538.1	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DHS7C-20 D17
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Site:</b>	D17 998	<b>North Reference:</b>	True
<b>Well:</b>	DHS7C-20 D17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

### 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)	Comments / Formations
9,600.0	93.00	180.41	6,092.8	-2,636.5	-105.5	2,637.9	0.00	0.00	
9,700.0	93.00	180.41	6,087.6	-2,736.4	-106.2	2,737.8	0.00	0.00	
9,800.0	93.00	180.41	6,082.4	-2,836.3	-106.9	2,837.6	0.00	0.00	
9,900.0	93.00	180.41	6,077.1	-2,936.1	-107.6	2,937.5	0.00	0.00	
10,000.0	93.00	180.41	6,071.9	-3,036.0	-108.3	3,037.4	0.00	0.00	
10,100.0	93.00	180.41	6,066.7	-3,135.8	-109.0	3,137.2	0.00	0.00	
10,200.0	93.00	180.41	6,061.4	-3,235.7	-109.7	3,237.1	0.00	0.00	
10,300.0	93.00	180.41	6,056.2	-3,335.6	-110.5	3,336.9	0.00	0.00	
10,400.0	93.00	180.41	6,051.0	-3,435.4	-111.2	3,436.8	0.00	0.00	
10,500.0	93.00	180.41	6,045.7	-3,535.3	-111.9	3,536.6	0.00	0.00	
10,600.0	93.00	180.41	6,040.5	-3,635.2	-112.6	3,636.5	0.00	0.00	
10,700.0	93.00	180.41	6,035.3	-3,735.0	-113.3	3,736.4	0.00	0.00	
10,800.0	93.00	180.41	6,030.0	-3,834.9	-114.0	3,836.2	0.00	0.00	
10,900.0	93.00	180.41	6,024.8	-3,934.7	-114.7	3,936.1	0.00	0.00	
11,000.0	93.00	180.41	6,019.6	-4,034.6	-115.5	4,035.9	0.00	0.00	
11,100.0	93.00	180.41	6,014.3	-4,134.5	-116.2	4,135.8	0.00	0.00	
11,200.0	93.00	180.41	6,009.1	-4,234.3	-116.9	4,235.7	0.00	0.00	
11,300.0	93.00	180.41	6,003.9	-4,334.2	-117.6	4,335.5	0.00	0.00	
11,400.0	93.00	180.41	5,998.6	-4,434.0	-118.3	4,435.4	0.00	0.00	
11,500.0	93.00	180.41	5,993.4	-4,533.9	-119.0	4,535.2	0.00	0.00	
11,600.0	93.00	180.41	5,988.2	-4,633.8	-119.7	4,635.1	0.00	0.00	
11,700.0	93.00	180.41	5,982.9	-4,733.6	-120.5	4,735.0	0.00	0.00	
11,800.0	93.00	180.41	5,977.7	-4,833.5	-121.2	4,834.8	0.00	0.00	
11,900.0	93.00	180.41	5,972.5	-4,933.3	-121.9	4,934.7	0.00	0.00	
12,000.0	93.00	180.41	5,967.2	-5,033.2	-122.6	5,034.5	0.00	0.00	
12,100.0	93.00	180.41	5,962.0	-5,133.1	-123.3	5,134.4	0.00	0.00	
12,200.0	93.00	180.41	5,956.8	-5,232.9	-124.0	5,234.2	0.00	0.00	
12,300.0	93.00	180.41	5,951.5	-5,332.8	-124.7	5,334.1	0.00	0.00	
12,400.0	93.00	180.41	5,946.3	-5,432.6	-125.5	5,434.0	0.00	0.00	
12,500.0	93.00	180.41	5,941.1	-5,532.5	-126.2	5,533.8	0.00	0.00	
12,600.0	93.00	180.41	5,935.8	-5,632.4	-126.9	5,633.7	0.00	0.00	
12,700.0	93.00	180.41	5,930.6	-5,732.2	-127.6	5,733.5	0.00	0.00	
12,800.0	93.00	180.41	5,925.4	-5,832.1	-128.3	5,833.4	0.00	0.00	
12,900.0	93.00	180.41	5,920.1	-5,931.9	-129.0	5,933.3	0.00	0.00	
13,000.0	93.00	180.41	5,914.9	-6,031.8	-129.7	6,033.1	0.00	0.00	
13,100.0	93.00	180.41	5,909.7	-6,131.7	-130.5	6,133.0	0.00	0.00	
13,200.0	93.00	180.41	5,904.4	-6,231.5	-131.2	6,232.8	0.00	0.00	
13,300.0	93.00	180.41	5,899.2	-6,331.4	-131.9	6,332.7	0.00	0.00	
13,400.0	93.00	180.41	5,894.0	-6,431.2	-132.6	6,432.5	0.00	0.00	
13,500.0	93.00	180.41	5,888.7	-6,531.1	-133.3	6,532.4	0.00	0.00	
13,600.0	93.00	180.41	5,883.5	-6,631.0	-134.0	6,632.3	0.00	0.00	
13,700.0	93.00	180.41	5,878.3	-6,730.8	-134.8	6,732.1	0.00	0.00	
13,800.0	93.00	180.41	5,873.0	-6,830.7	-135.5	6,832.0	0.00	0.00	
13,900.0	93.00	180.41	5,867.8	-6,930.5	-136.2	6,931.8	0.00	0.00	
14,000.0	93.00	180.41	5,862.6	-7,030.4	-136.9	7,031.7	0.00	0.00	
14,100.0	93.00	180.41	5,857.3	-7,130.3	-137.6	7,131.6	0.00	0.00	
14,200.0	93.00	180.41	5,852.1	-7,230.1	-138.3	7,231.4	0.00	0.00	
14,300.0	93.00	180.41	5,846.9	-7,330.0	-139.0	7,331.3	0.00	0.00	
14,400.0	93.00	180.41	5,841.6	-7,429.8	-139.8	7,431.1	0.00	0.00	
14,500.0	93.00	180.41	5,836.4	-7,529.7	-140.5	7,531.0	0.00	0.00	
14,600.0	93.00	180.41	5,831.2	-7,629.6	-141.2	7,630.9	0.00	0.00	
14,700.0	93.00	180.41	5,825.9	-7,729.4	-141.9	7,730.7	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DHS7C-20 D17
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Site:</b>	D17 998	<b>North Reference:</b>	True
<b>Well:</b>	DHS7C-20 D17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

### 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)	Comments / Formations
14,800.0	93.00	180.41	5,820.7	-7,829.3	-142.6	7,830.6	0.00	0.00	
14,900.0	93.00	180.41	5,815.5	-7,929.1	-143.3	7,930.4	0.00	0.00	
15,000.0	93.00	180.41	5,810.2	-8,029.0	-144.0	8,030.3	0.00	0.00	
15,100.0	93.00	180.41	5,805.0	-8,128.9	-144.8	8,130.1	0.00	0.00	
15,200.0	93.00	180.41	5,799.8	-8,228.7	-145.5	8,230.0	0.00	0.00	
15,300.0	93.00	180.41	5,794.5	-8,328.6	-146.2	8,329.9	0.00	0.00	
15,400.0	93.00	180.41	5,789.3	-8,428.4	-146.9	8,429.7	0.00	0.00	
15,500.0	93.00	180.41	5,784.1	-8,528.3	-147.6	8,529.6	0.00	0.00	
15,600.0	93.00	180.41	5,778.8	-8,628.2	-148.3	8,629.4	0.00	0.00	
15,700.0	93.00	180.41	5,773.6	-8,728.0	-149.0	8,729.3	0.00	0.00	
15,800.0	93.00	180.41	5,768.4	-8,827.9	-149.8	8,829.2	0.00	0.00	
15,900.0	93.00	180.41	5,763.1	-8,927.8	-150.5	8,929.0	0.00	0.00	
16,000.0	93.00	180.41	5,757.9	-9,027.6	-151.2	9,028.9	0.00	0.00	
16,100.0	93.00	180.41	5,752.7	-9,127.5	-151.9	9,128.7	0.00	0.00	
16,200.0	93.00	180.41	5,747.4	-9,227.3	-152.6	9,228.6	0.00	0.00	
16,300.0	93.00	180.41	5,742.2	-9,327.2	-153.3	9,328.5	0.00	0.00	
16,400.0	93.00	180.41	5,737.0	-9,427.1	-154.0	9,428.3	0.00	0.00	
16,418.4	93.00	180.41	5,736.0	-9,445.4	-154.2	9,446.6	0.00	0.00	TD @ 16418.4' MD

### 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									
DHS7C-20 D17 BHL	0.00	0.00	5,736.0	-9,445.4	-154.2	1,529,244.15	2,190,353.80	39° 15' 5.44 N	108° 21' 34.57 W
- plan hits target center									
- Point									
DHS7C-20 D17 Start Point	0.00	0.00	6,237.3	303.5	-84.3	1,538,986.04	2,190,730.40	39° 16' 41.80 N	108° 21' 33.68 W
- plan hits target center									
- Point									

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,317.1	2,267.0	Rollins		3.01	
4,078.4	3,982.0	Mancos Marker		3.01	
5,399.1	5,268.0	Niobrara		3.01	
6,107.9	5,943.0	NioLamSilt		3.01	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DHS7C-20 D17
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<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 5805.0ft (Original Well Elev)
<b>Site:</b>	D17 998	<b>North Reference:</b>	True
<b>Well:</b>	DHS7C-20 D17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200' MD
549.9	548.0	31.9	-2.3	EOB; Inc=10.50°
5,480.1	5,395.6	927.8	-66.9	Start 8° Build @ 5480.1' MD
6,655.8	6,237.3	303.5	-84.3	Start of Producing Interval
6,773.4	6,240.8	186.1	-85.3	Landing Pt @ 6240.8' TVD
16,418.4	5,736.0	-9,445.4	-154.2	TD @ 16418.4' MD