

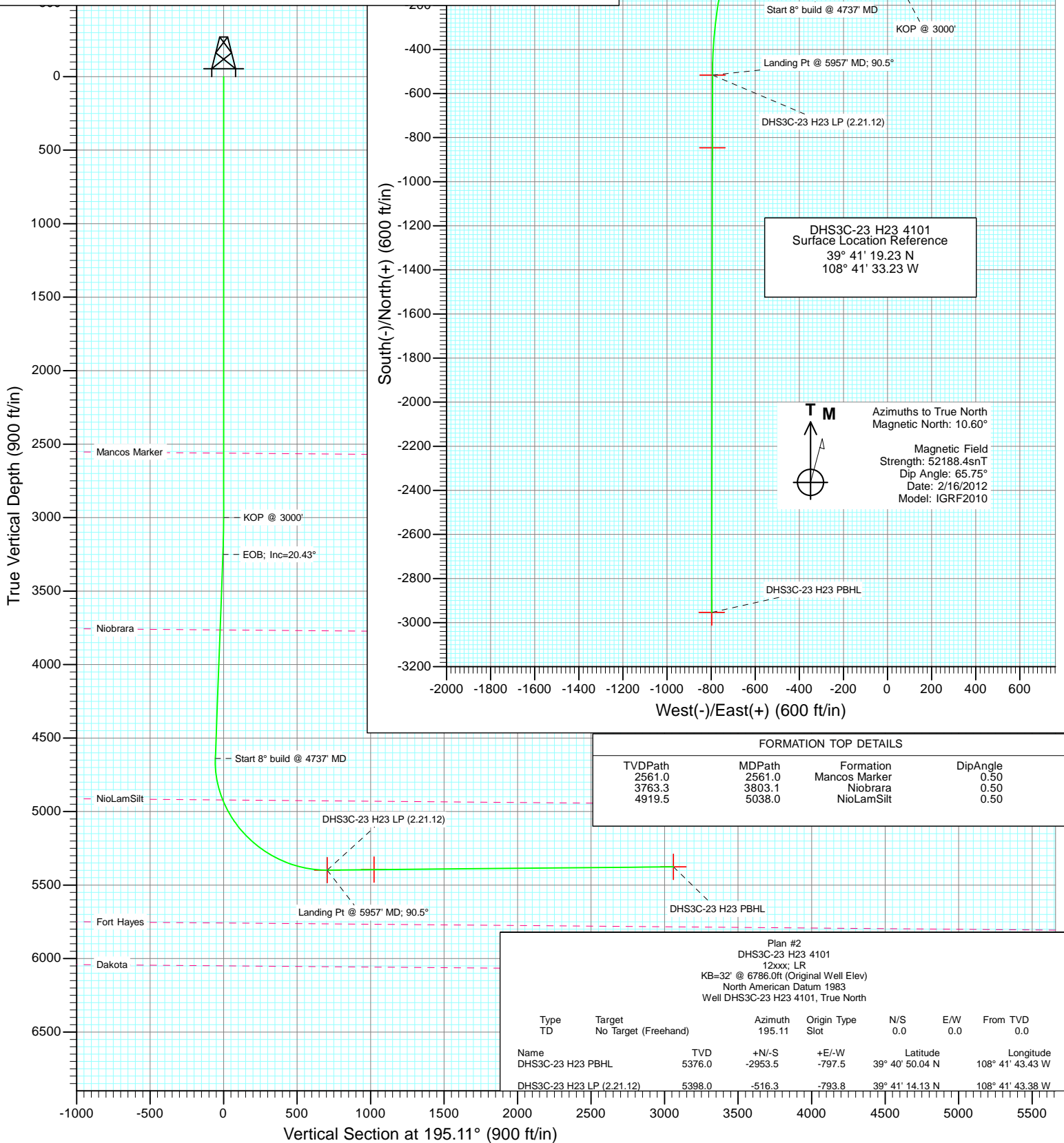


Project: North Piceance
Site: H23 4101
Well: DHS3C-23 H23 4101
Wellbore: Hz
Design: Plan #2



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3255.4	20.43	290.83	3250.0	16.0	-42.1	8.00	290.83	-4.5	
4	4737.4	20.43	290.83	4638.8	200.0	-525.7	0.00	0.00	-56.1	
5	5957.3	90.52	180.09	5398.0	-516.3	-793.8	8.00	-109.37	705.4	DHS3C-23 H23 LP (2.21.12)
6	8394.6	90.52	180.09	5376.0	-2953.5	-797.5	0.00	0.00	3059.3	DHS3C-23 H23 PBHL



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS3C-23 H23 4101
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Site:	H23 4101	North Reference:	True
Well:	DHS3C-23 H23 4101	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Project	North Piceance		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		H23 4101			
Site Position:		Northing:	1,691,517.95 ft	Latitude:	39° 41' 19.23 N
From:	Lat/Long	Easting:	2,101,712.46 ft	Longitude:	108° 41' 33.23 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-2.01 °

Well	DHS3C-23 H23 4101					
Well Position	+N/-S	0.0 ft	Northing:	1,691,517.94 ft	Latitude:	39° 41' 19.23 N
	+E/-W	0.0 ft	Easting:	2,101,712.46 ft	Longitude:	108° 41' 33.23 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,754.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2012	10.60	65.75	52,188

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	195.11

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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,255.4	20.43	290.83	3,250.0	16.0	-42.1	8.00	8.00	0.00	290.83	
4,737.4	20.43	290.83	4,638.8	200.0	-525.7	0.00	0.00	0.00	0.00	
5,957.3	90.52	180.09	5,398.0	-516.3	-793.8	8.00	5.75	-9.08	-109.37	DHS3C-23 H23 LP (2
8,394.6	90.52	180.09	5,376.0	-2,953.5	-797.5	0.00	0.00	0.00	0.00	DHS3C-23 H23 PBHL

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Site:	H23 4101	North Reference:	True
Well:	DHS3C-23 H23 4101	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	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	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,561.0	0.00	0.00	2,561.0	0.0	0.0	0.0	0.00	0.00	Mancos Marker
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 3000'
3,100.0	8.00	290.83	3,099.7	2.5	-6.5	-0.7	8.00	8.00	
3,200.0	16.00	290.83	3,197.4	9.9	-25.9	-2.8	8.00	8.00	
3,255.4	20.43	290.83	3,250.0	16.0	-42.1	-4.5	8.00	8.00	EOB; Inc=20.43°
3,300.0	20.43	290.83	3,291.8	21.6	-56.7	-6.0	0.00	0.00	
3,400.0	20.43	290.83	3,385.5	34.0	-89.3	-9.5	0.00	0.00	
3,500.0	20.43	290.83	3,479.2	46.4	-121.9	-13.0	0.00	0.00	
3,600.0	20.43	290.83	3,572.9	58.8	-154.5	-16.5	0.00	0.00	
3,700.0	20.43	290.83	3,666.6	71.2	-187.2	-20.0	0.00	0.00	
3,800.0	20.43	290.83	3,760.4	83.6	-219.8	-23.5	0.00	0.00	
3,803.1	20.43	290.83	3,763.3	84.0	-220.8	-23.6	0.00	0.00	Niobrara
3,900.0	20.43	290.83	3,854.1	96.1	-252.4	-26.9	0.00	0.00	
4,000.0	20.43	290.83	3,947.8	108.5	-285.1	-30.4	0.00	0.00	
4,100.0	20.43	290.83	4,041.5	120.9	-317.7	-33.9	0.00	0.00	
4,200.0	20.43	290.83	4,135.2	133.3	-350.3	-37.4	0.00	0.00	
4,300.0	20.43	290.83	4,228.9	145.7	-382.9	-40.9	0.00	0.00	
4,400.0	20.43	290.83	4,322.6	158.1	-415.6	-44.3	0.00	0.00	
4,500.0	20.43	290.83	4,416.3	170.6	-448.2	-47.8	0.00	0.00	
4,600.0	20.43	290.83	4,510.0	183.0	-480.8	-51.3	0.00	0.00	
4,700.0	20.43	290.83	4,603.7	195.4	-513.4	-54.8	0.00	0.00	
4,737.4	20.43	290.83	4,638.8	200.0	-525.7	-56.1	0.00	0.00	Start 8° build @ 4737' MD

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS3C-23 H23 4101
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Site:	H23 4101	North Reference:	True
Well:	DHS3C-23 H23 4101	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	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
4,800.0	19.33	276.44	4,697.7	205.1	-546.2	-55.6	8.00	-1.76	
4,900.0	20.10	252.68	4,792.0	201.8	-579.1	-43.9	8.00	0.77	
5,000.0	23.61	233.22	4,884.9	184.7	-611.6	-18.9	8.00	3.51	
5,038.0	25.45	227.39	4,919.5	174.6	-623.7	-6.0	8.00	4.86	NioLamSilt
5,100.0	28.87	219.51	4,974.6	154.0	-643.0	18.9	8.00	5.52	
5,200.0	35.11	210.01	5,059.5	110.4	-672.8	68.8	8.00	6.24	
5,300.0	41.89	203.15	5,137.7	54.7	-700.3	129.7	8.00	6.78	
5,400.0	48.98	197.93	5,207.9	-12.0	-725.1	200.6	8.00	7.09	
5,500.0	56.25	193.74	5,268.6	-88.4	-746.7	279.9	8.00	7.28	
5,600.0	63.65	190.22	5,318.6	-173.0	-764.5	366.3	8.00	7.40	
5,700.0	71.12	187.12	5,357.1	-264.2	-778.3	457.9	8.00	7.47	
5,800.0	78.64	184.28	5,383.1	-360.1	-787.9	553.1	8.00	7.52	
5,900.0	86.19	181.60	5,396.3	-459.1	-792.9	649.9	8.00	7.54	
5,957.3	90.52	180.09	5,398.0	-516.3	-793.8	705.4	8.00	7.55	Landing Pt @ 5957' MD; 90.5° - DHS3C-23 H2'
6,000.0	90.52	180.09	5,397.6	-559.0	-793.8	746.6	0.00	0.00	
6,100.0	90.52	180.09	5,396.7	-659.0	-794.0	843.2	0.00	0.00	
6,200.0	90.52	180.09	5,395.8	-759.0	-794.1	939.8	0.00	0.00	
6,286.9	90.52	180.09	5,395.0	-845.9	-794.3	1,023.7	0.00	0.00	DHS3C-23 H23 LP
6,300.0	90.52	180.09	5,394.9	-859.0	-794.3	1,036.3	0.00	0.00	
6,400.0	90.52	180.09	5,394.0	-959.0	-794.5	1,132.9	0.00	0.00	
6,500.0	90.52	180.09	5,393.1	-1,059.0	-794.6	1,229.5	0.00	0.00	
6,600.0	90.52	180.09	5,392.2	-1,159.0	-794.8	1,326.1	0.00	0.00	
6,700.0	90.52	180.09	5,391.3	-1,259.0	-794.9	1,422.7	0.00	0.00	
6,800.0	90.52	180.09	5,390.4	-1,359.0	-795.1	1,519.2	0.00	0.00	
6,900.0	90.52	180.09	5,389.5	-1,459.0	-795.2	1,615.8	0.00	0.00	
7,000.0	90.52	180.09	5,388.6	-1,559.0	-795.4	1,712.4	0.00	0.00	
7,100.0	90.52	180.09	5,387.7	-1,659.0	-795.5	1,809.0	0.00	0.00	
7,200.0	90.52	180.09	5,386.8	-1,759.0	-795.7	1,905.6	0.00	0.00	
7,300.0	90.52	180.09	5,385.9	-1,859.0	-795.8	2,002.1	0.00	0.00	
7,400.0	90.52	180.09	5,385.0	-1,959.0	-796.0	2,098.7	0.00	0.00	
7,500.0	90.52	180.09	5,384.1	-2,058.9	-796.1	2,195.3	0.00	0.00	
7,600.0	90.52	180.09	5,383.2	-2,158.9	-796.3	2,291.9	0.00	0.00	
7,700.0	90.52	180.09	5,382.3	-2,258.9	-796.4	2,388.4	0.00	0.00	
7,800.0	90.52	180.09	5,381.4	-2,358.9	-796.6	2,485.0	0.00	0.00	
7,900.0	90.52	180.09	5,380.5	-2,458.9	-796.7	2,581.6	0.00	0.00	
8,000.0	90.52	180.09	5,379.6	-2,558.9	-796.9	2,678.2	0.00	0.00	
8,100.0	90.52	180.09	5,378.7	-2,658.9	-797.0	2,774.8	0.00	0.00	
8,200.0	90.52	180.09	5,377.8	-2,758.9	-797.2	2,871.3	0.00	0.00	
8,300.0	90.52	180.09	5,376.9	-2,858.9	-797.3	2,967.9	0.00	0.00	
8,394.6	90.52	180.09	5,376.0	-2,953.5	-797.5	3,059.3	0.00	0.00	TD at 8394.6 - DHS3C-23 H23 PBHL

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS3C-23 H23 4101
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	KB=32' @ 6786.0ft (Original Well Elev)
Site:	H23 4101	North Reference:	True
Well:	DHS3C-23 H23 4101	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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)		
DHS3C-23 H23 PBHL	0.00	0.00	5,376.0	-2,953.5	-797.5	1,688,594.24	2,100,811.71	39° 40' 50.04 N	108° 41' 43.43 W
- plan hits target center									
- Point									
DHS3C-23 H23 LP	0.00	0.00	5,395.0	-845.9	-794.3	1,690,700.49	2,100,888.95	39° 41' 10.87 N	108° 41' 43.39 W
- plan hits target center									
- Point									
DHS3C-23 H23 LP (2.21	0.00	0.00	5,398.0	-516.3	-793.8	1,691,029.80	2,100,901.03	39° 41' 14.13 N	108° 41' 43.38 W
- plan hits target center									
- Point									

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,561.0	2,561.0	Mancos Marker		0.50	180.09
3,803.1	3,764.0	Niobrara		0.50	180.09
5,038.0	4,921.0	NioLamSilt		0.50	180.09

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
3,000.0	3,000.0	0.0	0.0	KOP @ 3000'
3,255.4	3,250.0	16.0	-42.1	EOB; Inc=20.43°
4,737.4	4,638.8	200.0	-525.7	Start 8° build @ 4737' MD
5,957.3	5,398.0	-516.3	-793.8	Landing Pt @ 5957' MD; 90.5°
8,394.6	5,376.0	-2,953.5	-797.5	TD at 8394.6