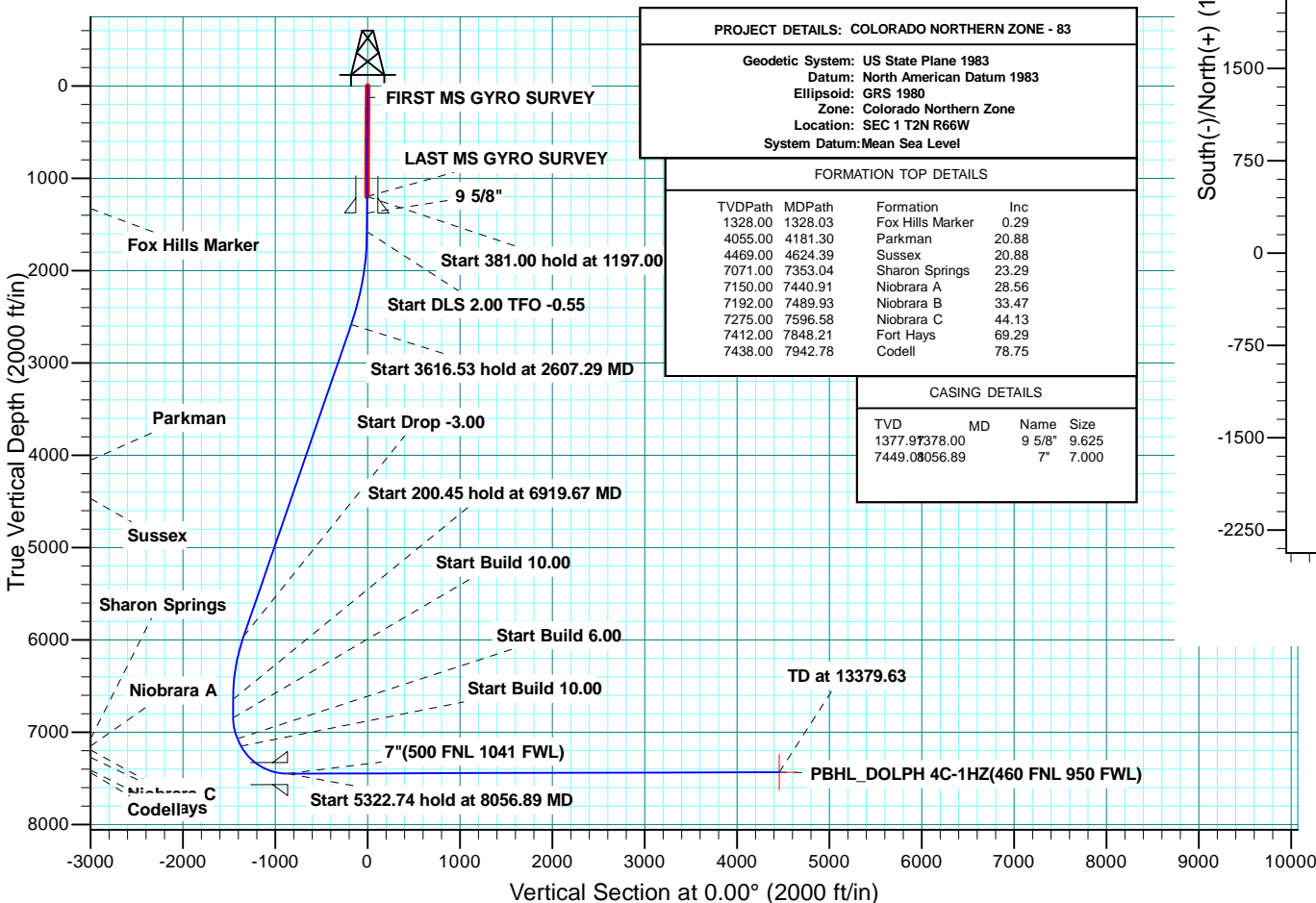




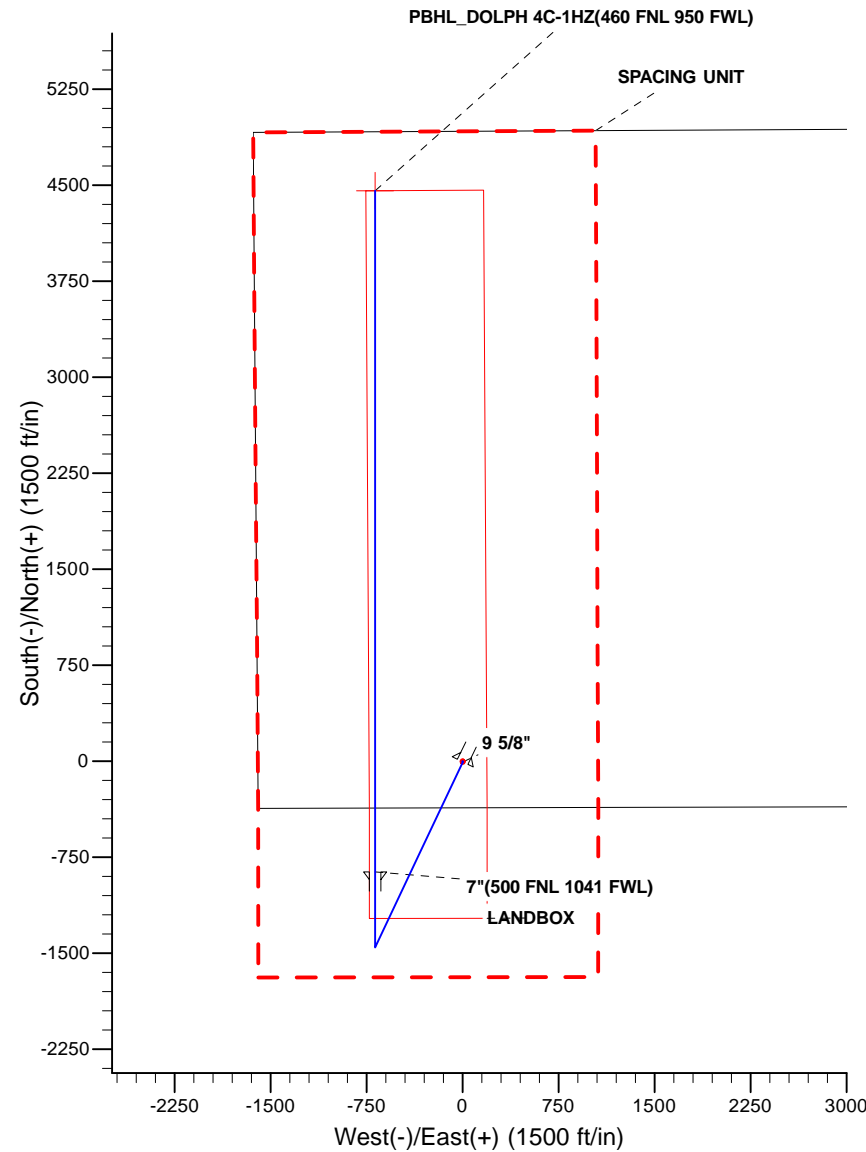
Project: COLORADO NORTHERN ZONE - 83
Site: DOLPH 14-1HZ PAD
Well: DOLPH 4C-1HZ
Wellbore: OH
Design: PLAN #3 PRODUCTION



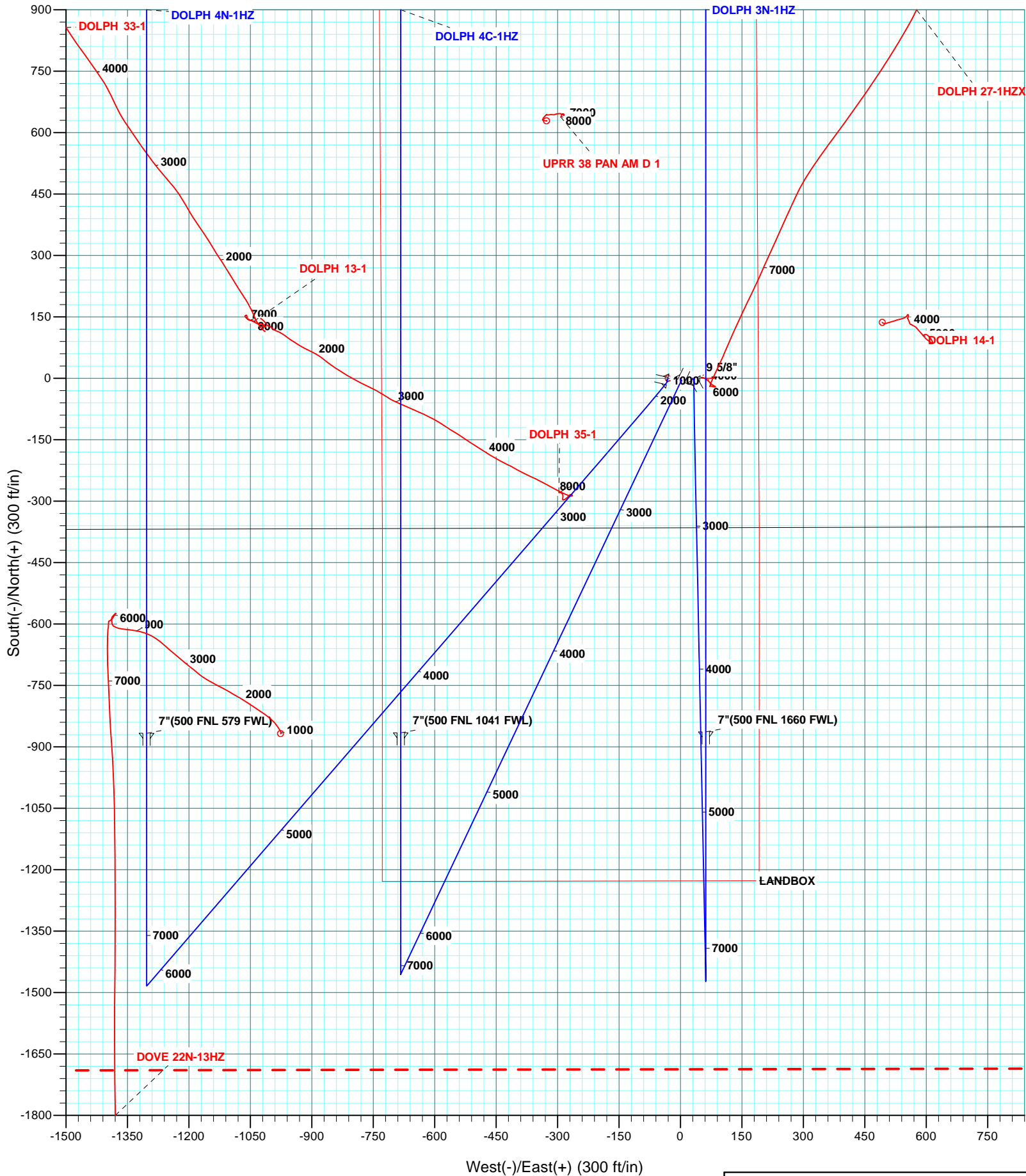
WELL DETAILS: DOLPH 4C-1HZ									
GL 4999 & KB 25 @ 5024.00ft (HP 311)									
		+N/-S 0.00	+E/-W 0.00	Northing 1302486.53	Easting 3215443.93	Latitude 40.1611500	Longitude -104.7291480		
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
1197.00	0.29	205.83	1196.97	-5.34	2.29	0.00	0.00	-5.34	
1578.00	0.29	205.83	1577.97	-7.08	1.45	0.00	0.00	-7.08	
2607.29	20.88	205.29	2584.31	-177.07	-78.89	2.00	-0.55	-177.07	
6223.81	20.88	205.29	5963.44	-1342.29	-629.40	0.00	0.00	-1342.29	
6919.67	0.00	0.00	6644.00	-1455.65	-682.96	3.00	180.00	-1455.65	
7120.12	0.00	0.00	6844.45	-1455.65	-682.96	0.00	0.00	-1455.65	
7353.04	23.29	0.00	7071.00	-1408.96	-682.96	10.00	0.00	-1408.96	
7440.91	28.56	0.00	7150.00	-1370.55	-682.96	6.00	0.00	-1370.55	
8056.89	90.16	0.00	7449.01	-865.71	-682.96	10.00	0.00	-865.71	
13379.63	90.16	0.00	7434.00	4457.00	-682.96	0.00	0.00	4457.00	PBHL_DOLPH 4C-1HZ(460 FNL 950 FWL)
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL 7434.00	4457.00	-682.96	1306937.42	3214722.26	40.1733850	-104.7315920		Point	
- plan hits target center									



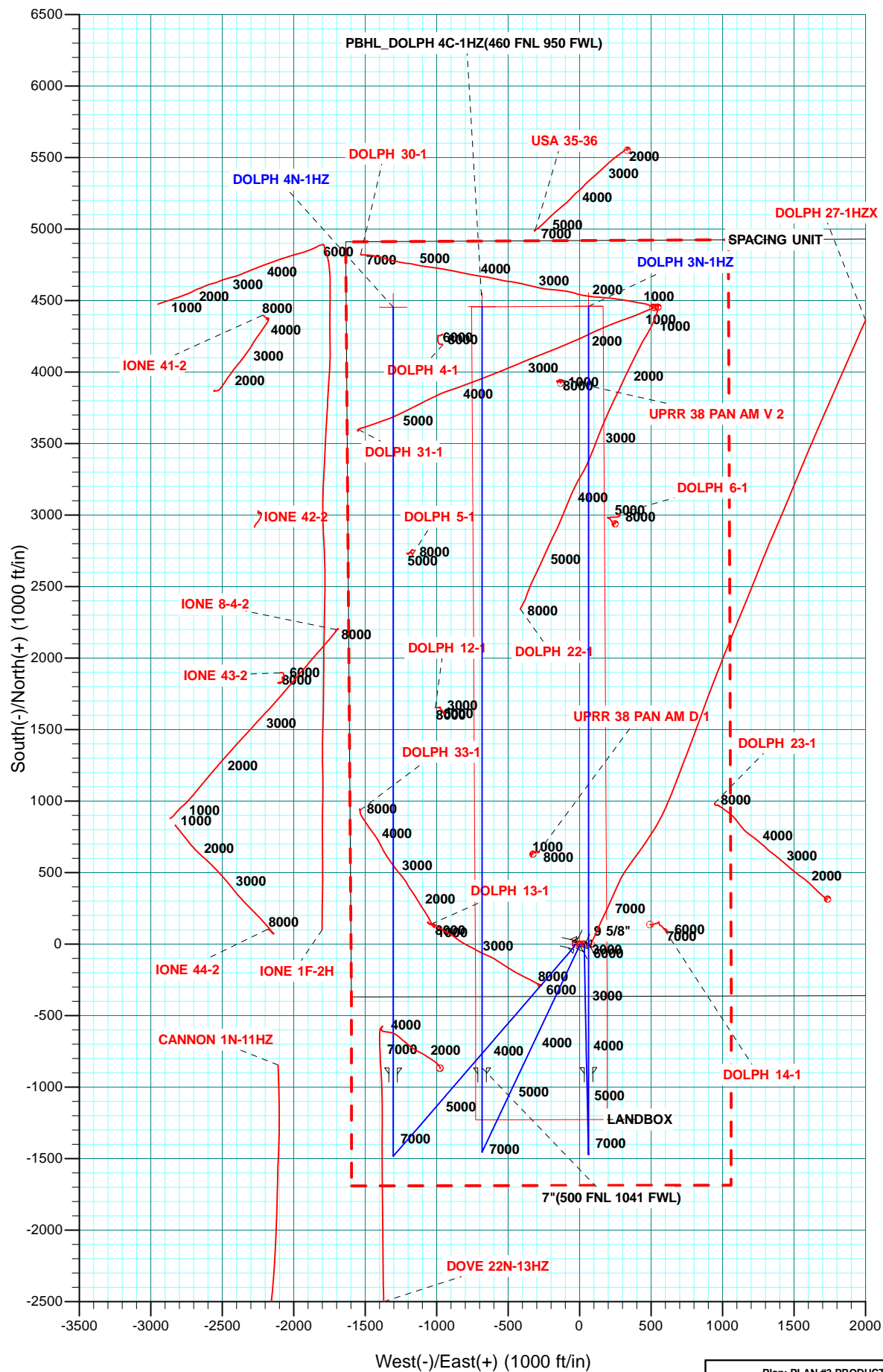
PROJECT DETAILS: COLORADO NORTHERN ZONE - 83				
Geodetic System: US State Plane 1983				
Datum: North American Datum 1983				
Ellipsoid: GRS 1980				
Zone: Colorado Northern Zone				
Location: SEC 1 T2N R66W				
System Datum: Mean Sea Level				
FORMATION TOP DETAILS				
TVDPath	MDPath	Formation	Inc	
1328.00	1328.03	Fox Hills Marker	0.29	
4055.00	4181.30	Parkman	20.88	
4469.00	4624.39	Sussex	20.88	
7071.00	7353.04	Sharon Springs	23.29	
7150.00	7440.91	Niobrara A	28.56	
7192.00	7489.93	Niobrara B	33.47	
7275.00	7596.58	Niobrara C	44.13	
7412.00	7848.21	Fort Hays	69.29	
7438.00	7942.78	Codell	78.75	
CASING DETAILS				
TVD	MD	Name	Size	
1377.97	378.00	9 5/8"	9.625	
7449.08	056.89	7"	7.000	



PLAN #3 PRODUCTION



PLAN #3 PRODUCTION



Plan: PLAN #3 PRODUCTION (DOLPH 4C-1HZ/OH)

Created By: R.Scott Date: 17:15, August 12 2014



Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

DOLPH 14-1HZ PAD

DOLPH 4C-1HZ

OH

Plan: PLAN #3 PRODUCTION

Standard Planning Report

12 August, 2014

Database:	Denver Sales	Local Co-ordinate Reference:	Well DOLPH 4C-1HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Site:	DOLPH 14-1HZ PAD	North Reference:	True
Well:	DOLPH 4C-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3 PRODUCTION		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		DOLPH 14-1HZ PAD, SEC 1 T2N R66W			
Site Position:		Northing:	1,302,486.80 usft	Latitude:	40.1611500
From:	Lat/Long	Easting:	3,215,474.12 usft	Longitude:	-104.7290400
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.50

Well	DOLPH 4C-1HZ, 365 FSL 1599 FWL					
Well Position	+N/-S	0.00 ft	Northing:	1,302,486.53 usft	Latitude:	40.1611500
	+E/-W	-30.19 ft	Easting:	3,215,443.94 usft	Longitude:	-104.7291480
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,999.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	7/30/2014	8.49	66.75	52,578

Design	PLAN #3 PRODUCTION			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	1,197.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
1,197.00	0.29	205.83	1,196.97	-5.34	2.29	0.00	0.00	0.00	0.00	
1,578.00	0.29	205.83	1,577.97	-7.08	1.45	0.00	0.00	0.00	0.00	
2,607.29	20.88	205.29	2,584.31	-177.07	-78.89	2.00	2.00	-0.05	-0.55	
6,223.81	20.88	205.29	5,963.44	-1,342.29	-629.40	0.00	0.00	0.00	0.00	
6,919.67	0.00	0.00	6,644.00	-1,455.65	-682.96	3.00	-3.00	0.00	180.00	
7,120.12	0.00	0.00	6,844.45	-1,455.65	-682.96	0.00	0.00	0.00	0.00	
7,353.04	23.29	0.00	7,071.00	-1,408.96	-682.96	10.00	10.00	0.00	0.00	
7,440.91	28.56	0.00	7,150.00	-1,370.55	-682.96	6.00	6.00	0.00	0.00	
8,056.89	90.16	0.00	7,449.01	-865.71	-682.96	10.00	10.00	0.00	0.00	
13,379.63	90.16	0.00	7,434.00	4,457.00	-682.96	0.00	0.00	0.00	0.00	PBHL_DOLPH 4C-1H-

Database:	Denver Sales	Local Co-ordinate Reference:	Well DOLPH 4C-1HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Site:	DOLPH 14-1HZ PAD	North Reference:	True
Well:	DOLPH 4C-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3 PRODUCTION		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,197.00	0.29	205.83	1,196.97	-5.34	2.29	-5.34	0.00	0.00	0.00
Start 381.00 hold at 1197.00 MD									
1,200.00	0.29	205.83	1,199.97	-5.36	2.29	-5.36	0.00	0.00	0.00
1,300.00	0.29	205.83	1,299.97	-5.81	2.06	-5.81	0.00	0.00	0.00
1,328.03	0.29	205.83	1,328.00	-5.94	2.00	-5.94	0.00	0.00	0.00
Fox Hills Marker									
1,378.00	0.29	205.83	1,377.97	-6.17	1.89	-6.17	0.00	0.00	0.00
9 5/8"									
1,400.00	0.29	205.83	1,399.97	-6.27	1.84	-6.27	0.00	0.00	0.00
1,500.00	0.29	205.83	1,499.97	-6.73	1.62	-6.73	0.00	0.00	0.00
1,578.00	0.29	205.83	1,577.97	-7.08	1.45	-7.08	0.00	0.00	0.00
Start DLS 2.00 TFO -0.55									
1,600.00	0.73	205.50	1,599.97	-7.26	1.37	-7.26	2.00	2.00	-1.50
1,700.00	2.73	205.34	1,699.92	-9.98	0.07	-9.98	2.00	2.00	-0.16
1,800.00	4.73	205.31	1,799.70	-15.86	-2.71	-15.86	2.00	2.00	-0.02
1,900.00	6.73	205.30	1,899.19	-24.89	-6.98	-24.89	2.00	2.00	-0.01
2,000.00	8.73	205.30	1,998.28	-37.05	-12.73	-37.05	2.00	2.00	-0.01
2,100.00	10.73	205.30	2,096.84	-52.33	-19.95	-52.33	2.00	2.00	0.00
2,200.00	12.73	205.29	2,194.74	-70.71	-28.63	-70.71	2.00	2.00	0.00
2,300.00	14.73	205.29	2,291.88	-92.17	-38.77	-92.17	2.00	2.00	0.00
2,400.00	16.73	205.29	2,388.13	-116.68	-50.35	-116.68	2.00	2.00	0.00
2,500.00	18.73	205.29	2,483.38	-144.21	-63.36	-144.21	2.00	2.00	0.00
2,600.00	20.73	205.29	2,577.50	-174.73	-77.78	-174.73	2.00	2.00	0.00
2,607.29	20.88	205.29	2,584.31	-177.07	-78.89	-177.07	2.00	2.00	0.00
Start 3616.53 hold at 2607.29 MD									
2,700.00	20.88	205.29	2,670.94	-206.94	-93.00	-206.94	0.00	0.00	0.00
2,800.00	20.88	205.29	2,764.38	-239.16	-108.22	-239.16	0.00	0.00	0.00
2,900.00	20.88	205.29	2,857.81	-271.38	-123.45	-271.38	0.00	0.00	0.00
3,000.00	20.88	205.29	2,951.25	-303.60	-138.67	-303.60	0.00	0.00	0.00
3,100.00	20.88	205.29	3,044.68	-335.82	-153.89	-335.82	0.00	0.00	0.00
3,200.00	20.88	205.29	3,138.12	-368.04	-169.11	-368.04	0.00	0.00	0.00
3,300.00	20.88	205.29	3,231.55	-400.26	-184.33	-400.26	0.00	0.00	0.00
3,400.00	20.88	205.29	3,324.99	-432.48	-199.56	-432.48	0.00	0.00	0.00
3,500.00	20.88	205.29	3,418.42	-464.70	-214.78	-464.70	0.00	0.00	0.00
3,600.00	20.88	205.29	3,511.86	-496.92	-230.00	-496.92	0.00	0.00	0.00
3,700.00	20.88	205.29	3,605.30	-529.14	-245.22	-529.14	0.00	0.00	0.00
3,800.00	20.88	205.29	3,698.73	-561.36	-260.44	-561.36	0.00	0.00	0.00
3,900.00	20.88	205.29	3,792.17	-593.58	-275.67	-593.58	0.00	0.00	0.00
4,000.00	20.88	205.29	3,885.60	-625.79	-290.89	-625.79	0.00	0.00	0.00
4,100.00	20.88	205.29	3,979.04	-658.01	-306.11	-658.01	0.00	0.00	0.00
4,181.30	20.88	205.29	4,055.00	-684.21	-318.49	-684.21	0.00	0.00	0.00
Parkman									
4,200.00	20.88	205.29	4,072.47	-690.23	-321.33	-690.23	0.00	0.00	0.00
4,300.00	20.88	205.29	4,165.91	-722.45	-336.56	-722.45	0.00	0.00	0.00
4,400.00	20.88	205.29	4,259.34	-754.67	-351.78	-754.67	0.00	0.00	0.00
4,500.00	20.88	205.29	4,352.78	-786.89	-367.00	-786.89	0.00	0.00	0.00
4,600.00	20.88	205.29	4,446.22	-819.11	-382.22	-819.11	0.00	0.00	0.00
4,624.39	20.88	205.29	4,469.00	-826.97	-385.93	-826.97	0.00	0.00	0.00
Sussex									
4,700.00	20.88	205.29	4,539.65	-851.33	-397.44	-851.33	0.00	0.00	0.00
4,800.00	20.88	205.29	4,633.09	-883.55	-412.67	-883.55	0.00	0.00	0.00
4,900.00	20.88	205.29	4,726.52	-915.77	-427.89	-915.77	0.00	0.00	0.00
5,000.00	20.88	205.29	4,819.96	-947.99	-443.11	-947.99	0.00	0.00	0.00

Database:	Denver Sales	Local Co-ordinate Reference:	Well DOLPH 4C-1HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Site:	DOLPH 14-1HZ PAD	North Reference:	True
Well:	DOLPH 4C-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3 PRODUCTION		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.00	20.88	205.29	4,913.39	-980.21	-458.33	-980.21	0.00	0.00	0.00
5,200.00	20.88	205.29	5,006.83	-1,012.43	-473.55	-1,012.43	0.00	0.00	0.00
5,300.00	20.88	205.29	5,100.26	-1,044.65	-488.78	-1,044.65	0.00	0.00	0.00
5,400.00	20.88	205.29	5,193.70	-1,076.87	-504.00	-1,076.87	0.00	0.00	0.00
5,500.00	20.88	205.29	5,287.14	-1,109.08	-519.22	-1,109.08	0.00	0.00	0.00
5,600.00	20.88	205.29	5,380.57	-1,141.30	-534.44	-1,141.30	0.00	0.00	0.00
5,700.00	20.88	205.29	5,474.01	-1,173.52	-549.66	-1,173.52	0.00	0.00	0.00
5,800.00	20.88	205.29	5,567.44	-1,205.74	-564.89	-1,205.74	0.00	0.00	0.00
5,900.00	20.88	205.29	5,660.88	-1,237.96	-580.11	-1,237.96	0.00	0.00	0.00
6,000.00	20.88	205.29	5,754.31	-1,270.18	-595.33	-1,270.18	0.00	0.00	0.00
6,100.00	20.88	205.29	5,847.75	-1,302.40	-610.55	-1,302.40	0.00	0.00	0.00
6,200.00	20.88	205.29	5,941.18	-1,334.62	-625.78	-1,334.62	0.00	0.00	0.00
6,223.81	20.88	205.29	5,963.44	-1,342.29	-629.40	-1,342.29	0.00	0.00	0.00
Start Drop -3.00									
6,300.00	18.59	205.29	6,035.14	-1,365.55	-640.39	-1,365.55	3.00	-3.00	0.00
6,400.00	15.59	205.29	6,130.72	-1,392.12	-652.94	-1,392.12	3.00	-3.00	0.00
6,500.00	12.59	205.29	6,227.70	-1,414.13	-663.34	-1,414.13	3.00	-3.00	0.00
6,600.00	9.59	205.29	6,325.82	-1,431.52	-671.55	-1,431.52	3.00	-3.00	0.00
6,700.00	6.59	205.29	6,424.81	-1,444.24	-677.57	-1,444.24	3.00	-3.00	0.00
6,800.00	3.59	205.29	6,524.41	-1,452.26	-681.35	-1,452.26	3.00	-3.00	0.00
6,900.00	0.59	205.29	6,624.33	-1,455.56	-682.91	-1,455.56	3.00	-3.00	0.00
6,919.67	0.00	0.00	6,644.00	-1,455.65	-682.96	-1,455.65	3.00	-3.00	0.00
Start 200.45 hold at 6919.67 MD									
7,000.00	0.00	0.00	6,724.33	-1,455.65	-682.96	-1,455.65	0.00	0.00	0.00
7,100.00	0.00	0.00	6,824.33	-1,455.65	-682.96	-1,455.65	0.00	0.00	0.00
7,120.12	0.00	0.00	6,844.45	-1,455.65	-682.96	-1,455.65	0.00	0.00	0.00
Start Build 10.00									
7,200.00	7.99	0.00	6,924.07	-1,450.09	-682.96	-1,450.09	10.00	10.00	0.00
7,300.00	17.99	0.00	7,021.39	-1,427.65	-682.96	-1,427.65	10.00	10.00	0.00
7,353.04	23.29	0.00	7,071.00	-1,408.96	-682.96	-1,408.96	10.00	10.00	0.00
Start Build 6.00 - Sharon Springs									
7,400.00	26.11	0.00	7,113.66	-1,389.34	-682.96	-1,389.34	6.00	6.00	0.00
7,440.91	28.56	0.00	7,150.00	-1,370.55	-682.96	-1,370.55	6.00	6.00	0.00
Start Build 10.00 - Niobrara A									
7,489.93	33.47	0.00	7,192.00	-1,345.30	-682.96	-1,345.30	10.00	10.00	0.00
Niobrara B									
7,500.00	34.47	0.00	7,200.35	-1,339.67	-682.96	-1,339.67	10.00	10.00	0.00
7,596.58	44.13	0.00	7,275.00	-1,278.57	-682.96	-1,278.57	10.00	10.00	0.00
Niobrara C									
7,600.00	44.47	0.00	7,277.45	-1,276.18	-682.96	-1,276.18	10.00	10.00	0.00
7,700.00	54.47	0.00	7,342.35	-1,200.27	-682.96	-1,200.27	10.00	10.00	0.00
7,800.00	64.47	0.00	7,393.08	-1,114.24	-682.96	-1,114.24	10.00	10.00	0.00
7,848.21	69.29	0.00	7,412.00	-1,069.91	-682.96	-1,069.91	10.00	10.00	0.00
Fort Hays									
7,900.00	74.47	0.00	7,428.10	-1,020.71	-682.96	-1,020.71	10.00	10.00	0.00
7,942.78	78.75	0.00	7,438.00	-979.11	-682.96	-979.11	10.00	10.00	0.00
Codell									
8,000.00	84.47	0.00	7,446.35	-922.52	-682.96	-922.52	10.00	10.00	0.00
8,056.89	90.16	0.00	7,449.01	-865.71	-682.96	-865.71	10.00	10.00	0.00
Start 5322.74 hold at 8056.89 MD - 7"(500 FNL 1041 FWL)									
8,100.00	90.16	0.00	7,448.89	-822.60	-682.96	-822.60	0.00	0.00	0.00
8,200.00	90.16	0.00	7,448.60	-722.60	-682.96	-722.60	0.00	0.00	0.00
8,300.00	90.16	0.00	7,448.32	-622.60	-682.96	-622.60	0.00	0.00	0.00

Database:	Denver Sales	Local Co-ordinate Reference:	Well DOLPH 4C-1HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Site:	DOLPH 14-1HZ PAD	North Reference:	True
Well:	DOLPH 4C-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3 PRODUCTION		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.00	90.16	0.00	7,448.04	-522.60	-682.96	-522.60	0.00	0.00	0.00
8,500.00	90.16	0.00	7,447.76	-422.60	-682.96	-422.60	0.00	0.00	0.00
8,600.00	90.16	0.00	7,447.48	-322.60	-682.96	-322.60	0.00	0.00	0.00
8,700.00	90.16	0.00	7,447.19	-222.60	-682.96	-222.60	0.00	0.00	0.00
8,800.00	90.16	0.00	7,446.91	-122.61	-682.96	-122.61	0.00	0.00	0.00
8,900.00	90.16	0.00	7,446.63	-22.61	-682.96	-22.61	0.00	0.00	0.00
9,000.00	90.16	0.00	7,446.35	77.39	-682.96	77.39	0.00	0.00	0.00
9,100.00	90.16	0.00	7,446.07	177.39	-682.96	177.39	0.00	0.00	0.00
9,200.00	90.16	0.00	7,445.78	277.39	-682.96	277.39	0.00	0.00	0.00
9,300.00	90.16	0.00	7,445.50	377.39	-682.96	377.39	0.00	0.00	0.00
9,400.00	90.16	0.00	7,445.22	477.39	-682.96	477.39	0.00	0.00	0.00
9,500.00	90.16	0.00	7,444.94	577.39	-682.96	577.39	0.00	0.00	0.00
9,600.00	90.16	0.00	7,444.66	677.39	-682.96	677.39	0.00	0.00	0.00
9,700.00	90.16	0.00	7,444.37	777.39	-682.96	777.39	0.00	0.00	0.00
9,800.00	90.16	0.00	7,444.09	877.39	-682.96	877.39	0.00	0.00	0.00
9,900.00	90.16	0.00	7,443.81	977.39	-682.96	977.39	0.00	0.00	0.00
10,000.00	90.16	0.00	7,443.53	1,077.39	-682.96	1,077.39	0.00	0.00	0.00
10,100.00	90.16	0.00	7,443.25	1,177.39	-682.96	1,177.39	0.00	0.00	0.00
10,200.00	90.16	0.00	7,442.96	1,277.39	-682.96	1,277.39	0.00	0.00	0.00
10,300.00	90.16	0.00	7,442.68	1,377.39	-682.96	1,377.39	0.00	0.00	0.00
10,400.00	90.16	0.00	7,442.40	1,477.39	-682.96	1,477.39	0.00	0.00	0.00
10,500.00	90.16	0.00	7,442.12	1,577.39	-682.96	1,577.39	0.00	0.00	0.00
10,600.00	90.16	0.00	7,441.84	1,677.39	-682.96	1,677.39	0.00	0.00	0.00
10,700.00	90.16	0.00	7,441.55	1,777.39	-682.96	1,777.39	0.00	0.00	0.00
10,800.00	90.16	0.00	7,441.27	1,877.39	-682.96	1,877.39	0.00	0.00	0.00
10,900.00	90.16	0.00	7,440.99	1,977.39	-682.96	1,977.39	0.00	0.00	0.00
11,000.00	90.16	0.00	7,440.71	2,077.39	-682.96	2,077.39	0.00	0.00	0.00
11,100.00	90.16	0.00	7,440.43	2,177.39	-682.96	2,177.39	0.00	0.00	0.00
11,200.00	90.16	0.00	7,440.15	2,277.39	-682.96	2,277.39	0.00	0.00	0.00
11,300.00	90.16	0.00	7,439.86	2,377.38	-682.96	2,377.38	0.00	0.00	0.00
11,400.00	90.16	0.00	7,439.58	2,477.38	-682.96	2,477.38	0.00	0.00	0.00
11,500.00	90.16	0.00	7,439.30	2,577.38	-682.96	2,577.38	0.00	0.00	0.00
11,600.00	90.16	0.00	7,439.02	2,677.38	-682.96	2,677.38	0.00	0.00	0.00
11,700.00	90.16	0.00	7,438.74	2,777.38	-682.96	2,777.38	0.00	0.00	0.00
11,800.00	90.16	0.00	7,438.45	2,877.38	-682.96	2,877.38	0.00	0.00	0.00
11,900.00	90.16	0.00	7,438.17	2,977.38	-682.96	2,977.38	0.00	0.00	0.00
12,000.00	90.16	0.00	7,437.89	3,077.38	-682.96	3,077.38	0.00	0.00	0.00
12,100.00	90.16	0.00	7,437.61	3,177.38	-682.96	3,177.38	0.00	0.00	0.00
12,200.00	90.16	0.00	7,437.33	3,277.38	-682.96	3,277.38	0.00	0.00	0.00
12,300.00	90.16	0.00	7,437.04	3,377.38	-682.96	3,377.38	0.00	0.00	0.00
12,400.00	90.16	0.00	7,436.76	3,477.38	-682.96	3,477.38	0.00	0.00	0.00
12,500.00	90.16	0.00	7,436.48	3,577.38	-682.96	3,577.38	0.00	0.00	0.00
12,600.00	90.16	0.00	7,436.20	3,677.38	-682.96	3,677.38	0.00	0.00	0.00
12,700.00	90.16	0.00	7,435.92	3,777.38	-682.96	3,777.38	0.00	0.00	0.00
12,800.00	90.16	0.00	7,435.63	3,877.38	-682.96	3,877.38	0.00	0.00	0.00
12,900.00	90.16	0.00	7,435.35	3,977.38	-682.96	3,977.38	0.00	0.00	0.00
13,000.00	90.16	0.00	7,435.07	4,077.38	-682.96	4,077.38	0.00	0.00	0.00
13,100.00	90.16	0.00	7,434.79	4,177.38	-682.96	4,177.38	0.00	0.00	0.00
13,200.00	90.16	0.00	7,434.51	4,277.38	-682.96	4,277.38	0.00	0.00	0.00
13,300.00	90.16	0.00	7,434.22	4,377.38	-682.96	4,377.38	0.00	0.00	0.00
13,379.63	90.16	0.00	7,434.00	4,457.00	-682.96	4,457.00	0.00	0.00	0.00
TD at 13379.63 - PBHL_DOLPH 4C-1HZ(460 FNL 950 FWL)									

Database:	Denver Sales	Local Co-ordinate Reference:	Well DOLPH 4C-1HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4999 & KB 25 @ 5024.00ft (HP 311)
Site:	DOLPH 14-1HZ PAD	North Reference:	True
Well:	DOLPH 4C-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3 PRODUCTION		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_DOLPH 4C-1HZ(0.00	0.00	7,434.00	4,457.00	-682.96	1,306,937.42	3,214,722.26	40.1733850	-104.7315920
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,378.00	1,377.97	9 5/8"	9.625	13.500	
8,056.89	7,449.01	7"(500 FNL 1041 FWL)	7.000	8.750	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,328.03	1,328.00	Fox Hills Marker				
4,181.30	4,055.00	Parkman				
4,624.39	4,469.00	Sussex				
7,353.04	7,071.00	Sharon Springs				
7,440.91	7,150.00	Niobrara A				
7,489.93	7,192.00	Niobrara B				
7,596.58	7,275.00	Niobrara C				
7,848.21	7,412.00	Fort Hays				
7,942.78	7,438.00	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,197.00	1,196.97	-5.34	2.29	Start 381.00 hold at 1197.00 MD	
1,578.00	1,577.97	-7.08	1.45	Start DLS 2.00 TFO -0.55	
2,607.29	2,584.31	-177.07	-78.89	Start 3616.53 hold at 2607.29 MD	
6,223.81	5,963.44	-1,342.29	-629.40	Start Drop -3.00	
6,919.67	6,644.00	-1,455.65	-682.96	Start 200.45 hold at 6919.67 MD	
7,120.12	6,844.45	-1,455.65	-682.96	Start Build 10.00	
7,353.04	7,071.00	-1,408.96	-682.96	Start Build 6.00	
7,440.91	7,150.00	-1,370.55	-682.96	Start Build 10.00	
8,056.89	7,449.01	-865.71	-682.96	Start 5322.74 hold at 8056.89 MD	
13,379.63	7,434.00	4,457.00	-682.96	TD at 13379.63	