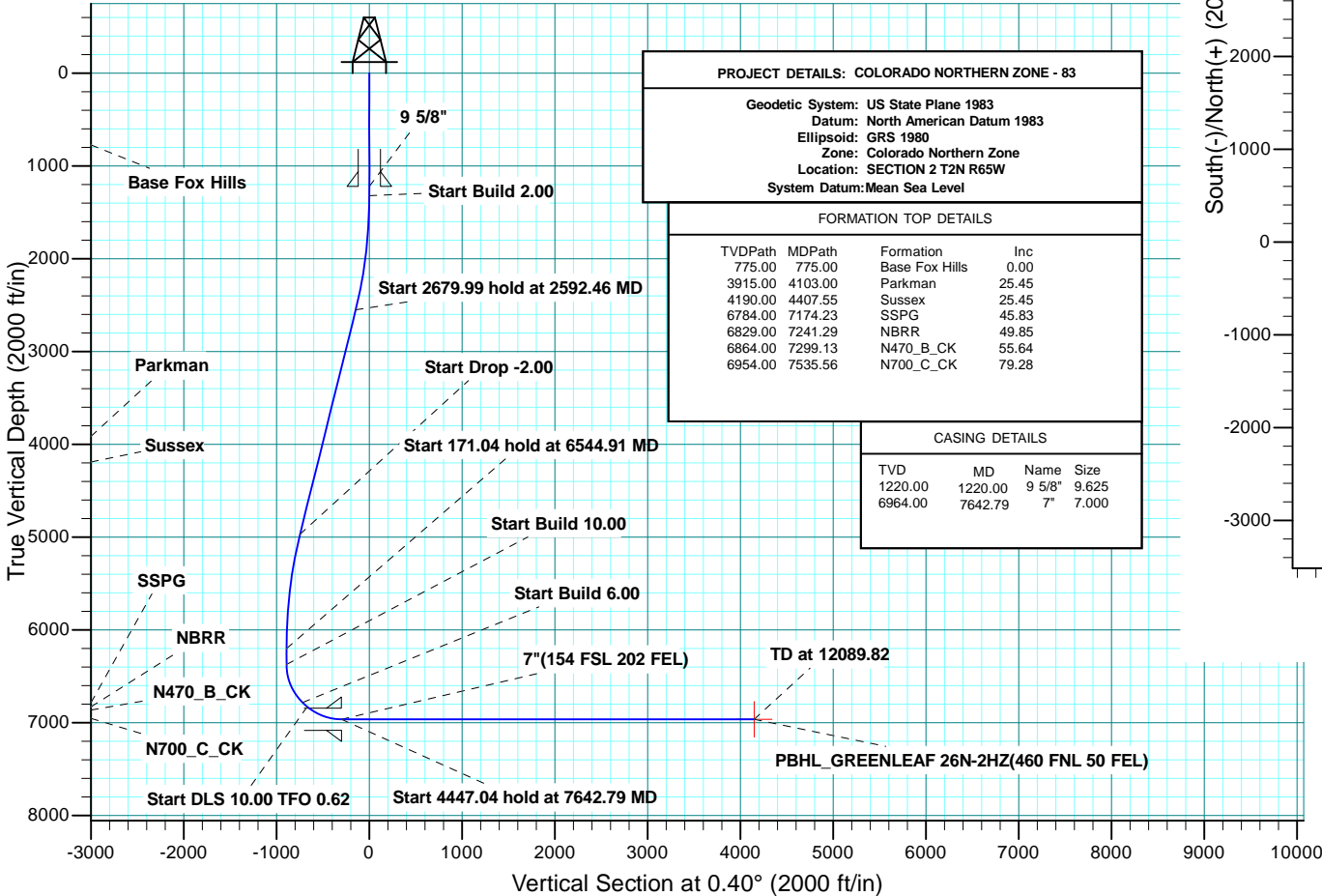




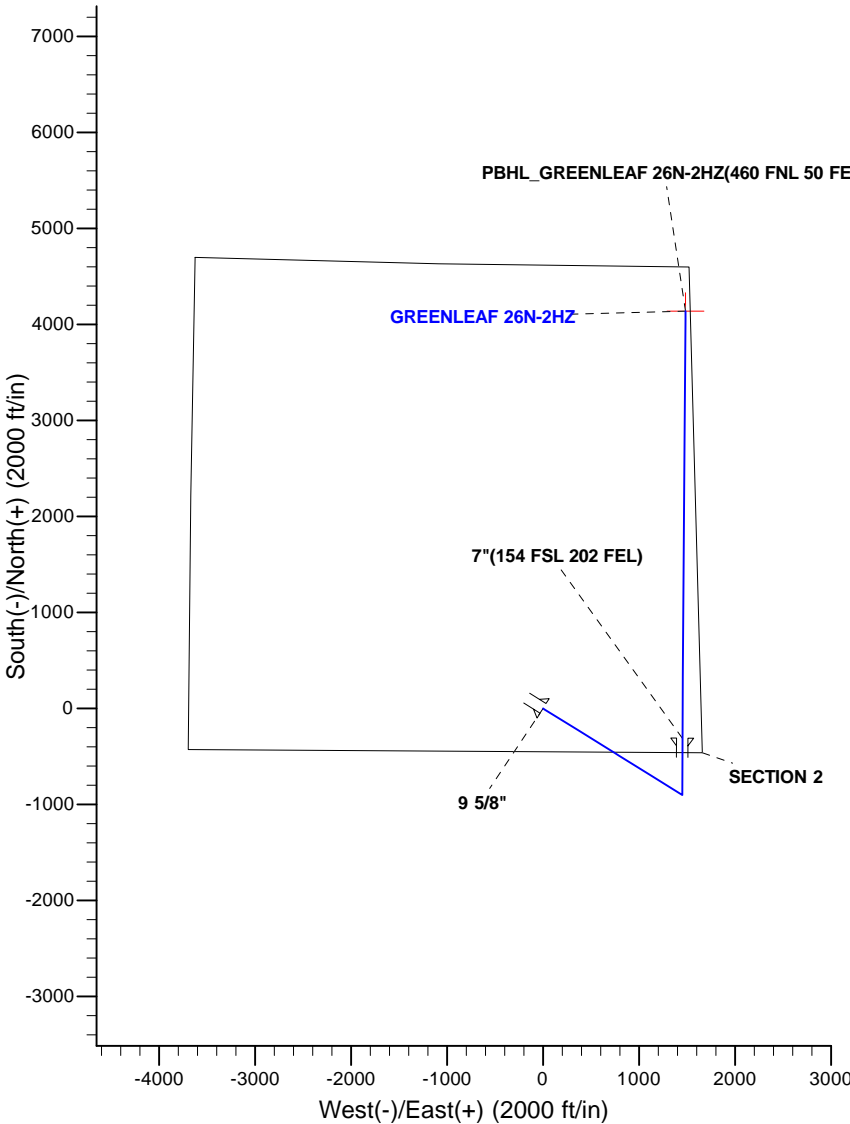
Project: COLORADO NORTHERN ZONE - 83
Site: GREENLEAF 15-2HZ PAD
Well: GREENLEAF 26N-2HZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY



WELL DETAILS: GREENLEAF 26N-2HZ								
GL 4847 & KB 17 @ 4864.00ft (ASSUMED)								
+N/-S 0.00		+E/-W 0.00		Northing 1302940.68	Easting 3243927.74	Latitude 40.1616720	Longitude -104.6272240	
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
1320.00	0.00	0.00	1320.00	0.00	0.00	0.00	0.00	0.00
2592.46	25.45	121.88	2551.03	-146.81	236.05	2.00	121.88	-145.16
5272.45	25.45	121.88	4970.97	-755.03	1213.95	0.00	0.00	-746.53
6544.91	0.00	0.00	6202.00	-901.84	1450.00	2.00	180.00	-891.70
6715.95	0.00	0.00	6373.04	-901.84	1450.00	0.00	0.00	-891.70
7174.23	45.83	0.00	6784.00	-728.12	1450.00	10.00	0.00	-717.98
7241.29	49.85	0.00	6829.00	-678.42	1450.00	6.00	0.00	-668.28
7642.79	90.00	0.40	6964.00	-308.99	1451.47	10.00	0.62	-298.85
12089.82	90.00	0.40	6964.00	4137.94	1482.73	0.00	0.00	4148.19PBHL_GREENLEAF 26N-2HZ(460 FNL 50 FEL)
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL 6964.00	4137.94	1482.73	1307093.00	3245369.66	40.1730310	-104.6219180		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: SECTION 2 T2N R65W			
System Datum: Mean Sea Level			
FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	Inc
775.00	775.00	Base Fox Hills	0.00
3915.00	4103.00	Parkman	25.45
4190.00	4407.55	Sussex	25.45
6784.00	7174.23	SSPG	45.83
6829.00	7241.29	NBRR	49.85
6864.00	7299.13	N470_B_CK	55.64
6954.00	7535.56	N700_C_CK	79.28
CASING DETAILS			
TVD	MD	Name	Size
1220.00	1220.00	9 5/8"	9.625
6964.00	7642.79	7"	7.000





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

GREENLEAF 15-2HZ PAD

GREENLEAF 26N-2HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

03 September, 2014

Database:	Denver Sales	Local Co-ordinate Reference:	Well GREENLEAF 26N-2HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Site:	GREENLEAF 15-2HZ PAD	North Reference:	True
Well:	GREENLEAF 26N-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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	GREENLEAF 15-2HZ PAD, SECTION 2 T2N R65W			
Site Position:		Northing:	1,302,940.31 usft	Latitude: 40.1616750
From:	Lat/Long	Easting:	3,243,777.93 usft	Longitude: -104.6277600
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.56 °

Well	GREENLEAF 26N-2HZ, 452 FSL 1645 FEL			
Well Position	+N/-S	-1.10 ft	Northing:	1,302,940.67 usft
	+E/-W	149.81 ft	Easting:	3,243,927.74 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,847.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/21/2014	8.43	66.77	52,581

Design	PLAN #1 PRELIMINARY			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.40

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,320.00	0.00	0.00	1,320.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,592.46	25.45	121.88	2,551.03	-146.81	236.05	2.00	2.00	0.00	121.88	
5,272.45	25.45	121.88	4,970.97	-755.03	1,213.95	0.00	0.00	0.00	0.00	
6,544.91	0.00	0.00	6,202.00	-901.84	1,450.00	2.00	-2.00	0.00	180.00	
6,715.95	0.00	0.00	6,373.04	-901.84	1,450.00	0.00	0.00	0.00	0.00	
7,174.23	45.83	0.00	6,784.00	-728.12	1,450.00	10.00	10.00	0.00	0.00	
7,241.29	49.85	0.00	6,829.00	-678.42	1,450.00	6.00	6.00	0.00	0.00	
7,642.79	90.00	0.40	6,964.00	-308.99	1,451.47	10.00	10.00	0.10	0.62	
12,089.82	90.00	0.40	6,964.00	4,137.94	1,482.73	0.00	0.00	0.00	0.00	PBHL_GREENLEAF :

Database:	Denver Sales	Local Co-ordinate Reference:	Well GREENLEAF 26N-2HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Site:	GREENLEAF 15-2HZ PAD	North Reference:	True
Well:	GREENLEAF 26N-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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)
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	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
775.00	0.00	0.00	775.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Fox Hills									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,220.00	0.00	0.00	1,220.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,320.00	0.00	0.00	1,320.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,400.00	1.60	121.88	1,399.99	-0.59	0.95	-0.58	2.00	2.00	0.00
1,500.00	3.60	121.88	1,499.88	-2.99	4.80	-2.95	2.00	2.00	0.00
1,600.00	5.60	121.88	1,599.55	-7.22	11.61	-7.14	2.00	2.00	0.00
1,700.00	7.60	121.88	1,698.89	-13.29	21.37	-13.14	2.00	2.00	0.00
1,800.00	9.60	121.88	1,797.76	-21.19	34.07	-20.95	2.00	2.00	0.00
1,900.00	11.60	121.88	1,896.05	-30.90	49.69	-30.56	2.00	2.00	0.00
2,000.00	13.60	121.88	1,993.63	-42.42	68.21	-41.95	2.00	2.00	0.00
2,100.00	15.60	121.88	2,090.40	-55.74	89.61	-55.11	2.00	2.00	0.00
2,200.00	17.60	121.88	2,186.23	-70.82	113.87	-70.03	2.00	2.00	0.00
2,300.00	19.60	121.88	2,281.00	-87.67	140.95	-86.68	2.00	2.00	0.00
2,400.00	21.60	121.88	2,374.60	-106.25	170.83	-105.05	2.00	2.00	0.00
2,500.00	23.60	121.88	2,466.92	-126.54	203.46	-125.12	2.00	2.00	0.00
2,592.46	25.45	121.88	2,551.03	-146.81	236.05	-145.16	2.00	2.00	0.00
Start 2679.99 hold at 2592.46 MD									
2,600.00	25.45	121.88	2,557.84	-148.52	238.80	-146.85	0.00	0.00	0.00
2,700.00	25.45	121.88	2,648.14	-171.22	275.29	-169.29	0.00	0.00	0.00
2,800.00	25.45	121.88	2,738.43	-193.91	311.78	-191.73	0.00	0.00	0.00
2,900.00	25.45	121.88	2,828.73	-216.61	348.27	-214.17	0.00	0.00	0.00
3,000.00	25.45	121.88	2,919.03	-239.30	384.76	-236.61	0.00	0.00	0.00
3,100.00	25.45	121.88	3,009.32	-262.00	421.25	-259.05	0.00	0.00	0.00
3,200.00	25.45	121.88	3,099.62	-284.69	457.73	-281.49	0.00	0.00	0.00
3,300.00	25.45	121.88	3,189.92	-307.39	494.22	-303.93	0.00	0.00	0.00
3,400.00	25.45	121.88	3,280.21	-330.08	530.71	-326.37	0.00	0.00	0.00
3,500.00	25.45	121.88	3,370.51	-352.78	567.20	-348.81	0.00	0.00	0.00
3,600.00	25.45	121.88	3,460.81	-375.47	603.69	-371.25	0.00	0.00	0.00
3,700.00	25.45	121.88	3,551.10	-398.17	640.18	-393.69	0.00	0.00	0.00
3,800.00	25.45	121.88	3,641.40	-420.86	676.67	-416.13	0.00	0.00	0.00
3,900.00	25.45	121.88	3,731.70	-443.56	713.16	-438.57	0.00	0.00	0.00
4,000.00	25.45	121.88	3,821.99	-466.25	749.65	-461.00	0.00	0.00	0.00
4,100.00	25.45	121.88	3,912.29	-488.94	786.14	-483.44	0.00	0.00	0.00
4,103.00	25.45	121.88	3,915.00	-489.63	787.23	-484.12	0.00	0.00	0.00
Parkman									
4,200.00	25.45	121.88	4,002.59	-511.64	822.63	-505.88	0.00	0.00	0.00
4,300.00	25.45	121.88	4,092.88	-534.33	859.11	-528.32	0.00	0.00	0.00

Database:	Denver Sales	Local Co-ordinate Reference:	Well GREENLEAF 26N-2HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Site:	GREENLEAF 15-2HZ PAD	North Reference:	True
Well:	GREENLEAF 26N-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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)
4,400.00	25.45	121.88	4,183.18	-557.03	895.60	-550.76	0.00	0.00	0.00
4,407.55	25.45	121.88	4,190.00	-558.74	898.36	-552.46	0.00	0.00	0.00
Sussex									
4,500.00	25.45	121.88	4,273.48	-579.72	932.09	-573.20	0.00	0.00	0.00
4,600.00	25.45	121.88	4,363.77	-602.42	968.58	-595.64	0.00	0.00	0.00
4,700.00	25.45	121.88	4,454.07	-625.11	1,005.07	-618.08	0.00	0.00	0.00
4,800.00	25.45	121.88	4,544.37	-647.81	1,041.56	-640.52	0.00	0.00	0.00
4,900.00	25.45	121.88	4,634.66	-670.50	1,078.05	-662.96	0.00	0.00	0.00
5,000.00	25.45	121.88	4,724.96	-693.20	1,114.54	-685.40	0.00	0.00	0.00
5,100.00	25.45	121.88	4,815.26	-715.89	1,151.03	-707.84	0.00	0.00	0.00
5,200.00	25.45	121.88	4,905.55	-738.59	1,187.52	-730.28	0.00	0.00	0.00
5,272.45	25.45	121.88	4,970.97	-755.03	1,213.95	-746.53	0.00	0.00	0.00
Start Drop -2.00									
5,300.00	24.90	121.88	4,995.91	-761.22	1,223.90	-752.65	2.00	-2.00	0.00
5,400.00	22.90	121.88	5,087.33	-782.61	1,258.30	-773.81	2.00	-2.00	0.00
5,500.00	20.90	121.88	5,180.11	-802.31	1,289.97	-793.28	2.00	-2.00	0.00
5,600.00	18.90	121.88	5,274.13	-820.28	1,318.87	-811.06	2.00	-2.00	0.00
5,700.00	16.90	121.88	5,369.29	-836.51	1,344.97	-827.10	2.00	-2.00	0.00
5,800.00	14.90	121.88	5,465.46	-850.98	1,368.23	-841.41	2.00	-2.00	0.00
5,900.00	12.90	121.88	5,562.53	-863.66	1,388.62	-853.95	2.00	-2.00	0.00
6,000.00	10.90	121.88	5,660.37	-874.55	1,406.13	-864.71	2.00	-2.00	0.00
6,100.00	8.90	121.88	5,758.88	-883.63	1,420.72	-873.69	2.00	-2.00	0.00
6,200.00	6.90	121.88	5,857.93	-890.89	1,432.39	-880.87	2.00	-2.00	0.00
6,300.00	4.90	121.88	5,957.39	-896.31	1,441.12	-886.23	2.00	-2.00	0.00
6,400.00	2.90	121.88	6,057.16	-899.90	1,446.89	-889.78	2.00	-2.00	0.00
6,500.00	0.90	121.88	6,157.10	-901.65	1,449.70	-891.51	2.00	-2.00	0.00
6,544.91	0.00	0.00	6,202.00	-901.84	1,450.00	-891.70	2.00	-2.00	-271.41
Start 171.04 hold at 6544.91 MD									
6,600.00	0.00	0.00	6,257.09	-901.84	1,450.00	-891.70	0.00	0.00	0.00
6,700.00	0.00	0.00	6,357.09	-901.84	1,450.00	-891.70	0.00	0.00	0.00
6,715.95	0.00	0.00	6,373.04	-901.84	1,450.00	-891.70	0.00	0.00	0.00
Start Build 10.00									
6,800.00	8.41	0.00	6,456.79	-895.69	1,450.00	-885.54	10.00	10.00	0.00
6,900.00	18.41	0.00	6,553.94	-872.53	1,450.00	-862.39	10.00	10.00	0.00
7,000.00	28.41	0.00	6,645.60	-832.86	1,450.00	-822.71	10.00	10.00	0.00
7,100.00	38.41	0.00	6,728.97	-777.87	1,450.00	-767.73	10.00	10.00	0.00
7,174.23	45.83	0.00	6,784.00	-728.12	1,450.00	-717.98	10.00	10.00	0.00
Start Build 6.00 - SSPG									
7,200.00	47.37	0.00	6,801.70	-709.40	1,450.00	-699.26	6.00	6.00	0.00
7,241.29	49.85	0.00	6,829.00	-678.42	1,450.00	-668.28	6.00	6.00	0.00
Start DLS 10.00 TFO 0.62 - NBRR									
7,299.13	55.64	0.08	6,864.00	-632.41	1,450.03	-622.27	10.00	10.00	0.13
N470_B_CK									
7,300.00	55.72	0.08	6,864.49	-631.69	1,450.03	-621.55	10.00	10.00	0.12
7,400.00	65.72	0.19	6,913.33	-544.57	1,450.24	-534.44	10.00	10.00	0.11
7,500.00	75.72	0.28	6,946.30	-450.30	1,450.63	-440.16	10.00	10.00	0.09
7,535.56	79.28	0.31	6,954.00	-415.59	1,450.81	-405.45	10.00	10.00	0.09
N700_C_CK									
7,600.00	85.72	0.37	6,962.41	-351.74	1,451.18	-341.60	10.00	10.00	0.08
7,642.79	90.00	0.40	6,964.00	-308.99	1,451.47	-298.85	10.00	10.00	0.08
Start 4447.04 hold at 7642.79 MD - 7"(154 FSL 202 FEL)									
7,700.00	90.00	0.40	6,964.00	-251.78	1,451.87	-241.64	0.00	0.00	0.00
7,800.00	90.00	0.40	6,964.00	-151.78	1,452.58	-141.64	0.00	0.00	0.00

Database:	Denver Sales	Local Co-ordinate Reference:	Well GREENLEAF 26N-2HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Site:	GREENLEAF 15-2HZ PAD	North Reference:	True
Well:	GREENLEAF 26N-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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)
7,900.00	90.00	0.40	6,964.00	-51.78	1,453.28	-41.64	0.00	0.00	0.00
8,000.00	90.00	0.40	6,964.00	48.21	1,453.98	58.36	0.00	0.00	0.00
8,100.00	90.00	0.40	6,964.00	148.21	1,454.69	158.36	0.00	0.00	0.00
8,200.00	90.00	0.40	6,964.00	248.21	1,455.39	258.36	0.00	0.00	0.00
8,300.00	90.00	0.40	6,964.00	348.21	1,456.09	358.36	0.00	0.00	0.00
8,400.00	90.00	0.40	6,964.00	448.20	1,456.79	458.36	0.00	0.00	0.00
8,500.00	90.00	0.40	6,964.00	548.20	1,457.50	558.36	0.00	0.00	0.00
8,600.00	90.00	0.40	6,964.00	648.20	1,458.20	658.36	0.00	0.00	0.00
8,700.00	90.00	0.40	6,964.00	748.20	1,458.90	758.36	0.00	0.00	0.00
8,800.00	90.00	0.40	6,964.00	848.19	1,459.60	858.36	0.00	0.00	0.00
8,900.00	90.00	0.40	6,964.00	948.19	1,460.31	958.36	0.00	0.00	0.00
9,000.00	90.00	0.40	6,964.00	1,048.19	1,461.01	1,058.36	0.00	0.00	0.00
9,100.00	90.00	0.40	6,964.00	1,148.19	1,461.71	1,158.36	0.00	0.00	0.00
9,200.00	90.00	0.40	6,964.00	1,248.18	1,462.42	1,258.36	0.00	0.00	0.00
9,300.00	90.00	0.40	6,964.00	1,348.18	1,463.12	1,358.36	0.00	0.00	0.00
9,400.00	90.00	0.40	6,964.00	1,448.18	1,463.82	1,458.36	0.00	0.00	0.00
9,500.00	90.00	0.40	6,964.00	1,548.18	1,464.52	1,558.36	0.00	0.00	0.00
9,600.00	90.00	0.40	6,964.00	1,648.17	1,465.23	1,658.36	0.00	0.00	0.00
9,700.00	90.00	0.40	6,964.00	1,748.17	1,465.93	1,758.36	0.00	0.00	0.00
9,800.00	90.00	0.40	6,964.00	1,848.17	1,466.63	1,858.36	0.00	0.00	0.00
9,900.00	90.00	0.40	6,964.00	1,948.17	1,467.34	1,958.36	0.00	0.00	0.00
10,000.00	90.00	0.40	6,964.00	2,048.16	1,468.04	2,058.36	0.00	0.00	0.00
10,100.00	90.00	0.40	6,964.00	2,148.16	1,468.74	2,158.36	0.00	0.00	0.00
10,200.00	90.00	0.40	6,964.00	2,248.16	1,469.44	2,258.36	0.00	0.00	0.00
10,300.00	90.00	0.40	6,964.00	2,348.16	1,470.15	2,358.36	0.00	0.00	0.00
10,400.00	90.00	0.40	6,964.00	2,448.15	1,470.85	2,458.36	0.00	0.00	0.00
10,500.00	90.00	0.40	6,964.00	2,548.15	1,471.55	2,558.36	0.00	0.00	0.00
10,600.00	90.00	0.40	6,964.00	2,648.15	1,472.26	2,658.36	0.00	0.00	0.00
10,700.00	90.00	0.40	6,964.00	2,748.15	1,472.96	2,758.36	0.00	0.00	0.00
10,800.00	90.00	0.40	6,964.00	2,848.14	1,473.66	2,858.36	0.00	0.00	0.00
10,900.00	90.00	0.40	6,964.00	2,948.14	1,474.36	2,958.36	0.00	0.00	0.00
11,000.00	90.00	0.40	6,964.00	3,048.14	1,475.07	3,058.36	0.00	0.00	0.00
11,100.00	90.00	0.40	6,964.00	3,148.14	1,475.77	3,158.36	0.00	0.00	0.00
11,200.00	90.00	0.40	6,964.00	3,248.13	1,476.47	3,258.36	0.00	0.00	0.00
11,300.00	90.00	0.40	6,964.00	3,348.13	1,477.18	3,358.36	0.00	0.00	0.00
11,400.00	90.00	0.40	6,964.00	3,448.13	1,477.88	3,458.36	0.00	0.00	0.00
11,500.00	90.00	0.40	6,964.00	3,548.13	1,478.58	3,558.36	0.00	0.00	0.00
11,600.00	90.00	0.40	6,964.00	3,648.13	1,479.28	3,658.36	0.00	0.00	0.00
11,700.00	90.00	0.40	6,964.00	3,748.12	1,479.99	3,758.36	0.00	0.00	0.00
11,800.00	90.00	0.40	6,964.00	3,848.12	1,480.69	3,858.36	0.00	0.00	0.00
11,900.00	90.00	0.40	6,964.00	3,948.12	1,481.39	3,958.36	0.00	0.00	0.00
12,000.00	90.00	0.40	6,964.00	4,048.12	1,482.10	4,058.36	0.00	0.00	0.00
12,089.82	90.00	0.40	6,964.00	4,137.94	1,482.73	4,148.19	0.00	0.00	0.00
TD at 12089.82 - PBHL_GREENLEAF 26N-2HZ(460 FNL 50 FEL)									

Database:	Denver Sales	Local Co-ordinate Reference:	Well GREENLEAF 26N-2HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4847 & KB 17 @ 4864.00ft (ASSUMED)
Site:	GREENLEAF 15-2HZ PAD	North Reference:	True
Well:	GREENLEAF 26N-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL_GREENLEAF 26I	0.00	0.00	6,964.00	4,137.94	1,482.73	1,307,093.00	3,245,369.67	40.1730310	-104.6219180
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,220.00	1,220.00	9 5/8"		9.625	13.500
7,642.79	6,964.00	7"(154 FSL 202 FEL)		7.000	8.750

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
775.00	775.00	Base Fox Hills				
4,103.00	3,915.00	Parkman				
4,407.55	4,190.00	Sussex				
7,174.23	6,784.00	SSPG				
7,241.29	6,829.00	NBRR				
7,299.13	6,864.00	N470_B_CK				
7,535.56	6,954.00	N700_C_CK				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,320.00	1,320.00	0.00	0.00	Start Build 2.00	
2,592.46	2,551.03	-146.81	236.05	Start 2679.99 hold at 2592.46 MD	
5,272.45	4,970.97	-755.03	1,213.95	Start Drop -2.00	
6,544.91	6,202.00	-901.84	1,450.00	Start 171.04 hold at 6544.91 MD	
6,715.95	6,373.04	-901.84	1,450.00	Start Build 10.00	
7,174.23	6,784.00	-728.12	1,450.00	Start Build 6.00	
7,241.29	6,829.00	-678.42	1,450.00	Start DLS 10.00 TFO 0.62	
7,642.79	6,964.00	-308.99	1,451.47	Start 4447.04 hold at 7642.79 MD	
12,089.82	6,964.00	4,137.94	1,482.73	TD at 12089.82	