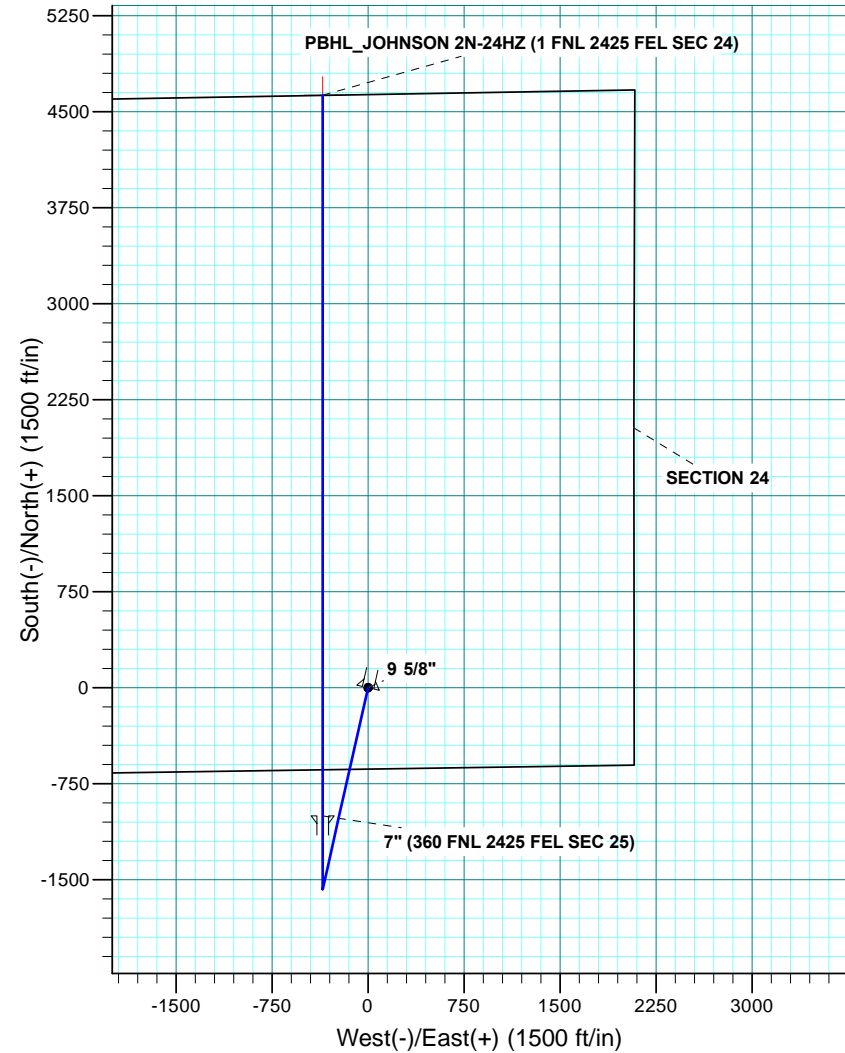
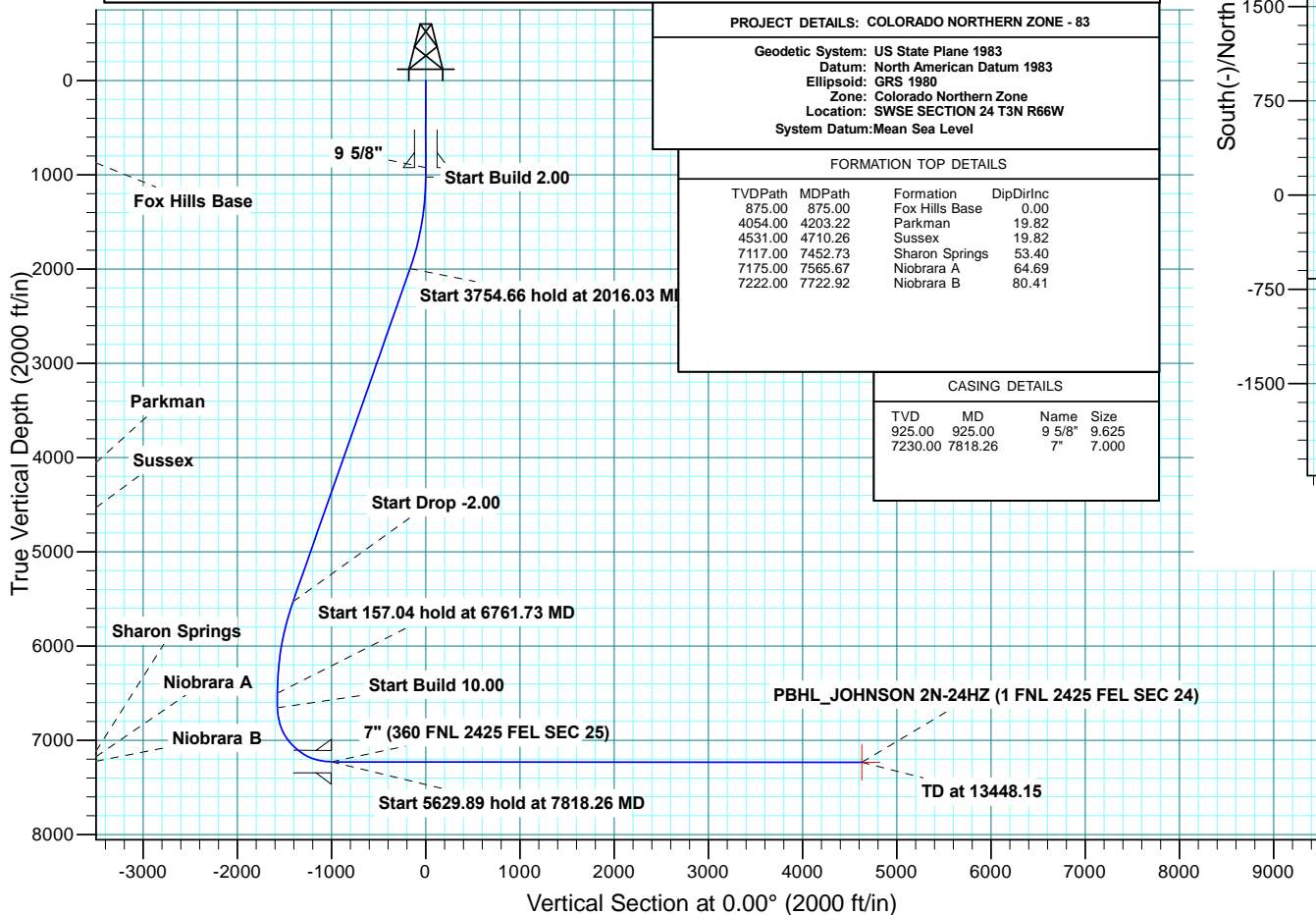


WELL DETAILS: JOHNSON 2N-24HZ										
GL 5038 & KB 17 @ 5055.00ft (ASSUMED)										
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
		0.00	0.00	1318597.04	3216975.34	40.2053370	-104.7231640			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1025.00	0.00	0.00	1025.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
2016.03	19.82	192.72	1996.39	-165.55	-37.36	2.00	192.72	-165.55		Start 3754.66 hold at 2016.03 MD
5770.69	19.82	192.72	5528.61	-1407.45	-317.58	0.00	0.00	-1407.45		Start Drop -2.00
6761.73	0.00	0.00	6500.00	-1573.00	-354.94	2.00	180.00	-1573.00		Start 157.04 hold at 6761.73 MD
6918.77	0.00	0.00	6657.04	-1573.00	-354.94	0.00	0.00	-1573.00		Start Build 10.00
7818.26	89.95	0.00	7230.00	-1000.55	-354.94	10.00	0.00	-1000.55		Start 5629.89 hold at 7818.26 MD
13448.15	89.95	0.00	7235.00	4629.34	-354.94	0.00	0.00	4629.34	PBHL_JOHNSON 2N-24HZ	TD at 13448.15
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7235.00	4629.34	-354.94	1323223.09	3216579.86	40.2180450	-104.7244350	Point		

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: SWSE SECTION 24 T3N R66W
System Datum: Mean Sea Level

FORMATION TOP DETAILS			
TVDPATH	MDPATH	FORMATION	DIPDIRINC
875.00	875.00	Fox Hills Base	0.00
4054.00	4203.22	Parkman	19.82
4531.00	4710.26	Sussex	19.82
7117.00	7452.73	Sharon Springs	53.40
7175.00	7565.67	Niobrara A	64.69
7222.00	7722.92	Niobrara B	80.41

CASING DETAILS			
TVD	MD	Name	Size
925.00	925.00	9 5/8"	9.625
7230.00	7818.26	7"	7.000





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

JOHNSON 15-24HZ PAD

JOHNSON 2N-24HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

13 March, 2014

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JOHNSON 2N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Site:	JOHNSON 15-24HZ PAD	North Reference:	True
Well:	JOHNSON 2N-24HZ	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	JOHNSON 15-24HZ PAD, SWSE SECTION 24 T3N R66W				
Site Position:	Northing:	1,318,598.67 usft	Latitude:	40.2053400	
From:	Lat/Long	Easting:	3,217,035.38 usft	Longitude:	-104.7229490
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.50 °

Well	JOHNSON 2N-24HZ					
Well Position	+N/-S	-1.10 ft	Northing:	1,318,597.04 usft	Latitude:	40.2053370
	+E/-W	-60.05 ft	Easting:	3,216,975.34 usft	Longitude:	-104.7231640
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,038.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	3/13/2014	8.50	66.79	52,662

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	0.00

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,025.00	0.00	0.00	1,025.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,016.03	19.82	192.72	1,996.39	-165.55	-37.36	2.00	2.00	0.00	192.72	
5,770.69	19.82	192.72	5,528.61	-1,407.45	-317.58	0.00	0.00	0.00	0.00	
6,761.73	0.00	0.00	6,500.00	-1,573.00	-354.94	2.00	-2.00	0.00	180.00	
6,918.77	0.00	0.00	6,657.04	-1,573.00	-354.94	0.00	0.00	0.00	0.00	
7,818.26	89.95	0.00	7,230.00	-1,000.55	-354.94	10.00	10.00	0.00	0.00	
13,448.15	89.95	0.00	7,235.00	4,629.34	-354.94	0.00	0.00	0.00	0.00	PBHL_JOHNSON 2N

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JOHNSON 2N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Site:	JOHNSON 15-24HZ PAD	North Reference:	True
Well:	JOHNSON 2N-24HZ	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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
875.00	0.00	0.00	875.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base										
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
925.00	0.00	0.00	925.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,025.00	0.00	0.00	1,025.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
1,100.00	1.50	192.72	1,099.99	-0.96	-0.22	-0.96	2.00	2.00	0.00	0.00
1,200.00	3.50	192.72	1,199.89	-5.21	-1.18	-5.21	2.00	2.00	0.00	0.00
1,300.00	5.50	192.72	1,299.58	-12.87	-2.90	-12.87	2.00	2.00	0.00	0.00
1,400.00	7.50	192.72	1,398.93	-23.91	-5.39	-23.91	2.00	2.00	0.00	0.00
1,500.00	9.50	192.72	1,497.83	-38.33	-8.65	-38.33	2.00	2.00	0.00	0.00
1,600.00	11.50	192.72	1,596.15	-56.10	-12.66	-56.10	2.00	2.00	0.00	0.00
1,700.00	13.50	192.72	1,693.77	-77.21	-17.42	-77.21	2.00	2.00	0.00	0.00
1,800.00	15.50	192.72	1,790.58	-101.64	-22.93	-101.64	2.00	2.00	0.00	0.00
1,900.00	17.50	192.72	1,886.46	-129.34	-29.18	-129.34	2.00	2.00	0.00	0.00
2,000.00	19.50	192.72	1,981.29	-160.29	-36.17	-160.29	2.00	2.00	0.00	0.00
2,016.03	19.82	192.72	1,996.39	-165.55	-37.36	-165.55	2.00	2.00	0.00	0.00
Start 3754.66 hold at 2016.03 MD										
2,100.00	19.82	192.72	2,075.38	-193.32	-43.62	-193.32	0.00	0.00	0.00	0.00
2,200.00	19.82	192.72	2,169.45	-226.40	-51.09	-226.40	0.00	0.00	0.00	0.00
2,300.00	19.82	192.72	2,263.53	-259.48	-58.55	-259.48	0.00	0.00	0.00	0.00
2,400.00	19.82	192.72	2,357.60	-292.55	-66.01	-292.55	0.00	0.00	0.00	0.00
2,500.00	19.82	192.72	2,451.68	-325.63	-73.48	-325.63	0.00	0.00	0.00	0.00
2,600.00	19.82	192.72	2,545.76	-358.71	-80.94	-358.71	0.00	0.00	0.00	0.00
2,700.00	19.82	192.72	2,639.83	-391.78	-88.40	-391.78	0.00	0.00	0.00	0.00
2,800.00	19.82	192.72	2,733.91	-424.86	-95.87	-424.86	0.00	0.00	0.00	0.00
2,900.00	19.82	192.72	2,827.98	-457.93	-103.33	-457.93	0.00	0.00	0.00	0.00
3,000.00	19.82	192.72	2,922.06	-491.01	-110.79	-491.01	0.00	0.00	0.00	0.00
3,100.00	19.82	192.72	3,016.14	-524.09	-118.26	-524.09	0.00	0.00	0.00	0.00
3,200.00	19.82	192.72	3,110.21	-557.16	-125.72	-557.16	0.00	0.00	0.00	0.00
3,300.00	19.82	192.72	3,204.29	-590.24	-133.18	-590.24	0.00	0.00	0.00	0.00
3,400.00	19.82	192.72	3,298.36	-623.31	-140.65	-623.31	0.00	0.00	0.00	0.00
3,500.00	19.82	192.72	3,392.44	-656.39	-148.11	-656.39	0.00	0.00	0.00	0.00
3,600.00	19.82	192.72	3,486.52	-689.47	-155.57	-689.47	0.00	0.00	0.00	0.00
3,700.00	19.82	192.72	3,580.59	-722.54	-163.04	-722.54	0.00	0.00	0.00	0.00
3,800.00	19.82	192.72	3,674.67	-755.62	-170.50	-755.62	0.00	0.00	0.00	0.00
3,900.00	19.82	192.72	3,768.74	-788.69	-177.96	-788.69	0.00	0.00	0.00	0.00
4,000.00	19.82	192.72	3,862.82	-821.77	-185.43	-821.77	0.00	0.00	0.00	0.00
4,100.00	19.82	192.72	3,956.89	-854.85	-192.89	-854.85	0.00	0.00	0.00	0.00
4,200.00	19.82	192.72	4,050.97	-887.92	-200.35	-887.92	0.00	0.00	0.00	0.00
4,203.22	19.82	192.72	4,054.00	-888.99	-200.59	-888.99	0.00	0.00	0.00	0.00
Parkman										
4,300.00	19.82	192.72	4,145.05	-921.00	-207.82	-921.00	0.00	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JOHNSON 2N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Site:	JOHNSON 15-24HZ PAD	North Reference:	True
Well:	JOHNSON 2N-24HZ	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	19.82	192.72	4,239.12	-954.08	-215.28	-954.08	0.00	0.00	0.00
4,500.00	19.82	192.72	4,333.20	-987.15	-222.74	-987.15	0.00	0.00	0.00
4,600.00	19.82	192.72	4,427.27	-1,020.23	-230.21	-1,020.23	0.00	0.00	0.00
4,700.00	19.82	192.72	4,521.35	-1,053.30	-237.67	-1,053.30	0.00	0.00	0.00
4,710.26	19.82	192.72	4,531.00	-1,056.70	-238.44	-1,056.70	0.00	0.00	0.00
Sussex									
4,800.00	19.82	192.72	4,615.43	-1,086.38	-245.13	-1,086.38	0.00	0.00	0.00
4,900.00	19.82	192.72	4,709.50	-1,119.46	-252.60	-1,119.46	0.00	0.00	0.00
5,000.00	19.82	192.72	4,803.58	-1,152.53	-260.06	-1,152.53	0.00	0.00	0.00
5,100.00	19.82	192.72	4,897.65	-1,185.61	-267.52	-1,185.61	0.00	0.00	0.00
5,200.00	19.82	192.72	4,991.73	-1,218.68	-274.99	-1,218.68	0.00	0.00	0.00
5,300.00	19.82	192.72	5,085.80	-1,251.76	-282.45	-1,251.76	0.00	0.00	0.00
5,400.00	19.82	192.72	5,179.88	-1,284.84	-289.92	-1,284.84	0.00	0.00	0.00
5,500.00	19.82	192.72	5,273.96	-1,317.91	-297.38	-1,317.91	0.00	0.00	0.00
5,600.00	19.82	192.72	5,368.03	-1,350.99	-304.84	-1,350.99	0.00	0.00	0.00
5,700.00	19.82	192.72	5,462.11	-1,384.07	-312.31	-1,384.07	0.00	0.00	0.00
5,770.69	19.82	192.72	5,528.61	-1,407.45	-317.58	-1,407.45	0.00	0.00	0.00
Start Drop -2.00									
5,800.00	19.23	192.72	5,556.23	-1,417.00	-319.74	-1,417.00	2.00	-2.00	0.00
5,900.00	17.23	192.72	5,651.21	-1,447.53	-326.62	-1,447.53	2.00	-2.00	0.00
6,000.00	15.23	192.72	5,747.22	-1,474.80	-332.78	-1,474.80	2.00	-2.00	0.00
6,100.00	13.23	192.72	5,844.14	-1,498.78	-338.19	-1,498.78	2.00	-2.00	0.00
6,200.00	11.23	192.72	5,941.86	-1,519.45	-342.85	-1,519.45	2.00	-2.00	0.00
6,300.00	9.23	192.72	6,040.27	-1,536.78	-346.77	-1,536.78	2.00	-2.00	0.00
6,400.00	7.23	192.72	6,139.23	-1,550.75	-349.92	-1,550.75	2.00	-2.00	0.00
6,500.00	5.23	192.72	6,238.64	-1,561.35	-352.31	-1,561.35	2.00	-2.00	0.00
6,600.00	3.23	192.72	6,338.36	-1,568.55	-353.93	-1,568.55	2.00	-2.00	0.00
6,700.00	1.23	192.72	6,438.28	-1,572.35	-354.79	-1,572.35	2.00	-2.00	0.00
6,761.73	0.00	0.00	6,500.00	-1,573.00	-354.94	-1,573.00	2.00	-2.00	271.00
Start 157.04 hold at 6761.73 MD									
6,800.00	0.00	0.00	6,538.27	-1,573.00	-354.94	-1,573.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,638.27	-1,573.00	-354.94	-1,573.00	0.00	0.00	0.00
6,918.77	0.00	0.00	6,657.04	-1,573.00	-354.94	-1,573.00	0.00	0.00	0.00
Start Build 10.00									
7,000.00	8.12	0.00	6,738.00	-1,567.25	-354.94	-1,567.25	10.00	10.00	0.00
7,100.00	18.12	0.00	6,835.26	-1,544.58	-354.94	-1,544.58	10.00	10.00	0.00
7,200.00	28.12	0.00	6,927.11	-1,505.35	-354.94	-1,505.35	10.00	10.00	0.00
7,300.00	38.12	0.00	7,010.76	-1,450.78	-354.94	-1,450.78	10.00	10.00	0.00
7,400.00	48.12	0.00	7,083.65	-1,382.51	-354.94	-1,382.51	10.00	10.00	0.00
7,452.73	53.40	0.00	7,117.00	-1,341.68	-354.94	-1,341.68	10.00	10.00	0.00
Sharon Springs									
7,500.00	58.12	0.00	7,143.59	-1,302.62	-354.94	-1,302.62	10.00	10.00	0.00
7,565.67	64.69	0.00	7,175.00	-1,244.99	-354.94	-1,244.99	10.00	10.00	0.00
Niobrara A									
7,600.00	68.12	0.00	7,188.74	-1,213.53	-354.94	-1,213.53	10.00	10.00	0.00
7,700.00	78.12	0.00	7,217.73	-1,117.96	-354.94	-1,117.96	10.00	10.00	0.00
7,722.92	80.41	0.00	7,222.00	-1,095.45	-354.94	-1,095.45	10.00	10.00	0.00
Niobrara B									
7,800.00	88.12	0.00	7,229.69	-1,018.81	-354.94	-1,018.81	10.00	10.00	0.00
7,818.26	89.95	0.00	7,230.00	-1,000.55	-354.94	-1,000.55	10.00	10.00	0.00
Start 5629.89 hold at 7818.26 MD - 7" (360 FNL 2425 FEL SEC 25)									
7,900.00	89.95	0.00	7,230.07	-918.81	-354.94	-918.81	0.00	0.00	0.00
8,000.00	89.95	0.00	7,230.16	-818.81	-354.94	-818.81	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JOHNSON 2N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Site:	JOHNSON 15-24HZ PAD	North Reference:	True
Well:	JOHNSON 2N-24HZ	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)
8,100.00	89.95	0.00	7,230.25	-718.81	-354.94	-718.81	0.00	0.00	0.00
8,200.00	89.95	0.00	7,230.34	-618.81	-354.94	-618.81	0.00	0.00	0.00
8,300.00	89.95	0.00	7,230.43	-518.81	-354.94	-518.81	0.00	0.00	0.00
8,400.00	89.95	0.00	7,230.52	-418.81	-354.94	-418.81	0.00	0.00	0.00
8,500.00	89.95	0.00	7,230.60	-318.81	-354.94	-318.81	0.00	0.00	0.00
8,600.00	89.95	0.00	7,230.69	-218.81	-354.94	-218.81	0.00	0.00	0.00
8,700.00	89.95	0.00	7,230.78	-118.81	-354.94	-118.81	0.00	0.00	0.00
8,800.00	89.95	0.00	7,230.87	-18.81	-354.94	-18.81	0.00	0.00	0.00
8,900.00	89.95	0.00	7,230.96	81.19	-354.94	81.19	0.00	0.00	0.00
9,000.00	89.95	0.00	7,231.05	181.19	-354.94	181.19	0.00	0.00	0.00
9,100.00	89.95	0.00	7,231.14	281.19	-354.94	281.19	0.00	0.00	0.00
9,200.00	89.95	0.00	7,231.23	381.19	-354.94	381.19	0.00	0.00	0.00
9,300.00	89.95	0.00	7,231.32	481.19	-354.94	481.19	0.00	0.00	0.00
9,400.00	89.95	0.00	7,231.40	581.19	-354.94	581.19	0.00	0.00	0.00
9,500.00	89.95	0.00	7,231.49	681.19	-354.94	681.19	0.00	0.00	0.00
9,600.00	89.95	0.00	7,231.58	781.19	-354.94	781.19	0.00	0.00	0.00
9,700.00	89.95	0.00	7,231.67	881.19	-354.94	881.19	0.00	0.00	0.00
9,800.00	89.95	0.00	7,231.76	981.19	-354.94	981.19	0.00	0.00	0.00
9,900.00	89.95	0.00	7,231.85	1,081.19	-354.94	1,081.19	0.00	0.00	0.00
10,000.00	89.95	0.00	7,231.94	1,181.19	-354.94	1,181.19	0.00	0.00	0.00
10,100.00	89.95	0.00	7,232.03	1,281.19	-354.94	1,281.19	0.00	0.00	0.00
10,200.00	89.95	0.00	7,232.11	1,381.19	-354.94	1,381.19	0.00	0.00	0.00
10,300.00	89.95	0.00	7,232.20	1,481.19	-354.94	1,481.19	0.00	0.00	0.00
10,400.00	89.95	0.00	7,232.29	1,581.19	-354.94	1,581.19	0.00	0.00	0.00
10,500.00	89.95	0.00	7,232.38	1,681.19	-354.94	1,681.19	0.00	0.00	0.00
10,600.00	89.95	0.00	7,232.47	1,781.19	-354.94	1,781.19	0.00	0.00	0.00
10,700.00	89.95	0.00	7,232.56	1,881.19	-354.94	1,881.19	0.00	0.00	0.00
10,800.00	89.95	0.00	7,232.65	1,981.19	-354.94	1,981.19	0.00	0.00	0.00
10,900.00	89.95	0.00	7,232.74	2,081.19	-354.94	2,081.19	0.00	0.00	0.00
11,000.00	89.95	0.00	7,232.83	2,181.19	-354.94	2,181.19	0.00	0.00	0.00
11,100.00	89.95	0.00	7,232.91	2,281.19	-354.94	2,281.19	0.00	0.00	0.00
11,200.00	89.95	0.00	7,233.00	2,381.19	-354.94	2,381.19	0.00	0.00	0.00
11,300.00	89.95	0.00	7,233.09	2,481.19	-354.94	2,481.19	0.00	0.00	0.00
11,400.00	89.95	0.00	7,233.18	2,581.19	-354.94	2,581.19	0.00	0.00	0.00
11,500.00	89.95	0.00	7,233.27	2,681.19	-354.94	2,681.19	0.00	0.00	0.00
11,600.00	89.95	0.00	7,233.36	2,781.19	-354.94	2,781.19	0.00	0.00	0.00
11,700.00	89.95	0.00	7,233.45	2,881.19	-354.94	2,881.19	0.00	0.00	0.00
11,800.00	89.95	0.00	7,233.54	2,981.19	-354.94	2,981.19	0.00	0.00	0.00
11,900.00	89.95	0.00	7,233.62	3,081.19	-354.94	3,081.19	0.00	0.00	0.00
12,000.00	89.95	0.00	7,233.71	3,181.19	-354.94	3,181.19	0.00	0.00	0.00
12,100.00	89.95	0.00	7,233.80	3,281.19	-354.94	3,281.19	0.00	0.00	0.00
12,200.00	89.95	0.00	7,233.89	3,381.19	-354.94	3,381.19	0.00	0.00	0.00
12,300.00	89.95	0.00	7,233.98	3,481.19	-354.94	3,481.19	0.00	0.00	0.00
12,400.00	89.95	0.00	7,234.07	3,581.19	-354.94	3,581.19	0.00	0.00	0.00
12,500.00	89.95	0.00	7,234.16	3,681.19	-354.94	3,681.19	0.00	0.00	0.00
12,600.00	89.95	0.00	7,234.25	3,781.19	-354.94	3,781.19	0.00	0.00	0.00
12,700.00	89.95	0.00	7,234.34	3,881.19	-354.94	3,881.19	0.00	0.00	0.00
12,800.00	89.95	0.00	7,234.42	3,981.19	-354.94	3,981.19	0.00	0.00	0.00
12,900.00	89.95	0.00	7,234.51	4,081.19	-354.94	4,081.19	0.00	0.00	0.00
13,000.00	89.95	0.00	7,234.60	4,181.19	-354.94	4,181.19	0.00	0.00	0.00
13,100.00	89.95	0.00	7,234.69	4,281.19	-354.94	4,281.19	0.00	0.00	0.00
13,200.00	89.95	0.00	7,234.78	4,381.19	-354.94	4,381.19	0.00	0.00	0.00
13,300.00	89.95	0.00	7,234.87	4,481.19	-354.94	4,481.19	0.00	0.00	0.00
13,400.00	89.95	0.00	7,234.96	4,581.19	-354.94	4,581.19	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JOHNSON 2N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5038 & KB 17 @ 5055.00ft (ASSUMED)
Site:	JOHNSON 15-24HZ PAD	North Reference:	True
Well:	JOHNSON 2N-24HZ	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)
13,448.15	89.95	0.00	7,235.00	4,629.34	-354.94	4,629.34	0.00	0.00	0.00
TD at 13448.15 - PBHL_JOHNSON 2N-24HZ (1 FNL 2425 FEL SEC 24)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_JOHNSON 2N-24 - hit/miss target - Shape - Point	0.00	0.00	7,235.00	4,629.34	-354.94	1,323,223.09	3,216,579.86	40.2180450	-104.7244350

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
925.00	925.00	9 5/8"	9.625	12.250	
7,818.26	7,230.007"	(360 FNL 2425 FEL SEC 25)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
875.00	875.00	Fox Hills Base				
4,203.22	4,054.00	Parkman				
4,710.26	4,531.00	Sussex				
7,452.73	7,117.00	Sharon Springs				
7,565.67	7,175.00	Niobrara A				
7,722.92	7,222.00	Niobrara B				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,025.00	1,025.00	0.00	0.00	Start Build 2.00	
2,016.03	1,996.39	-165.55	-37.36	Start 3754.66 hold at 2016.03 MD	
5,770.69	5,528.61	-1,407.45	-317.58	Start Drop -2.00	
6,761.73	6,500.00	-1,573.00	-354.94	Start 157.04 hold at 6761.73 MD	
6,918.77	6,657.04	-1,573.00	-354.94	Start Build 10.00	
7,818.26	7,230.00	-1,000.55	-354.94	Start 5629.89 hold at 7818.26 MD	
13,448.15	7,235.00	4,629.34	-354.94	TD at 13448.15	