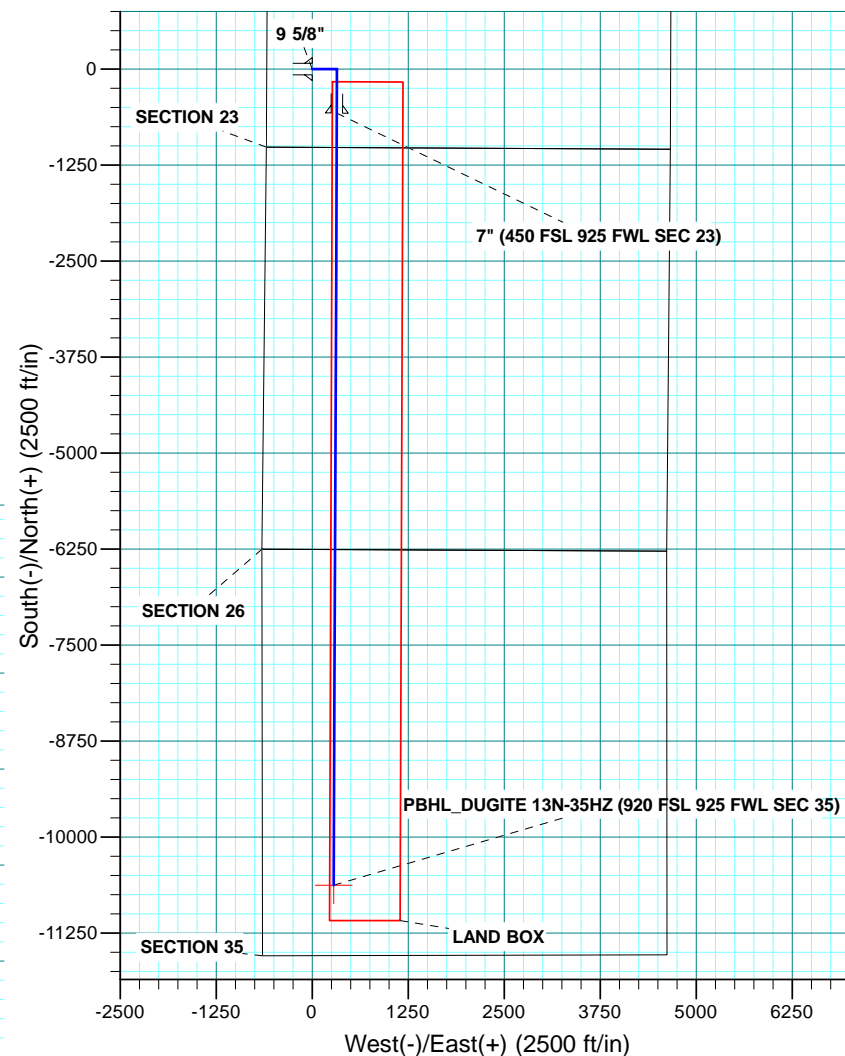
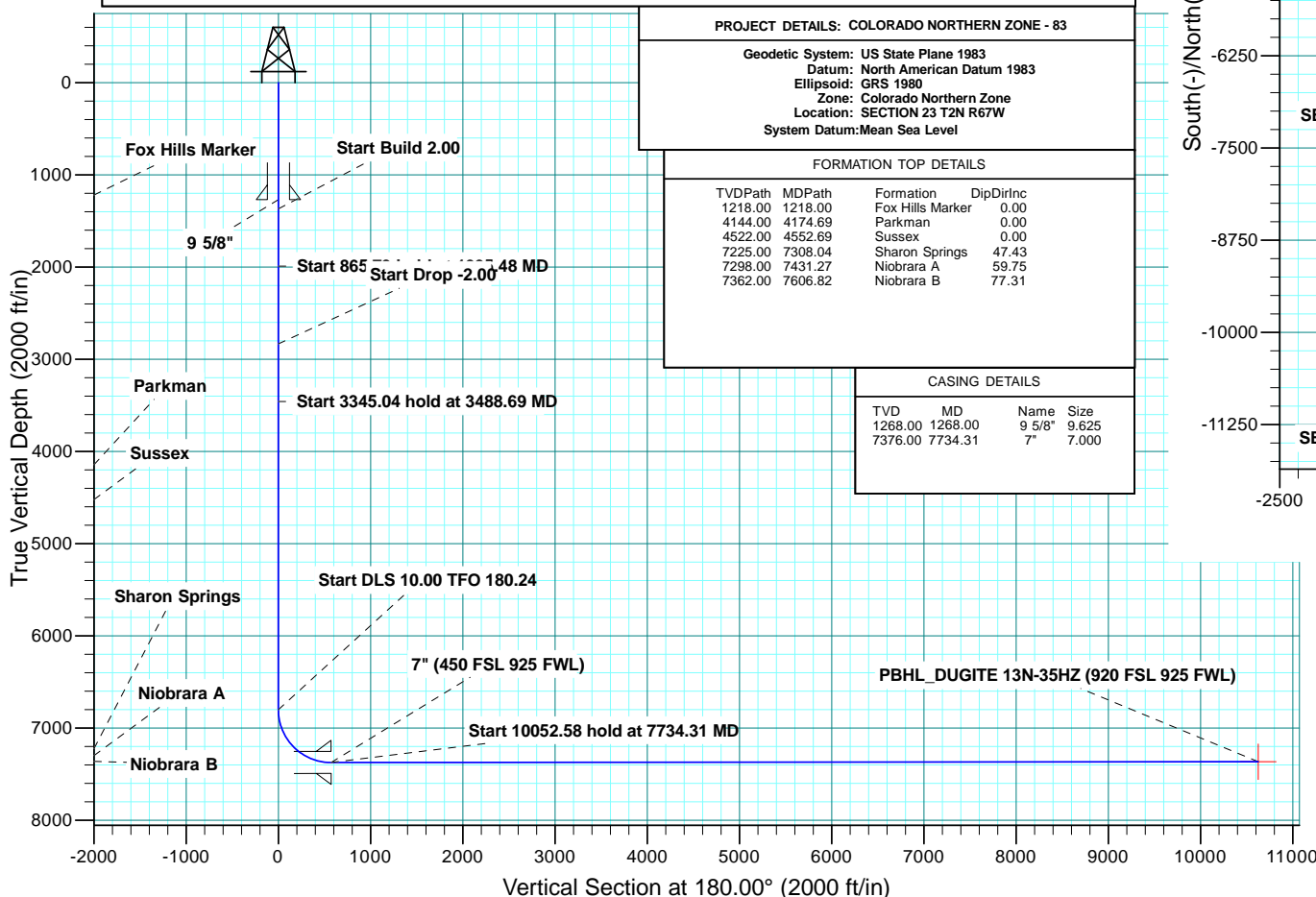


WELL DETAILS: DUGITE 13N-35HZ										
GL 4969 & KB 17 @ 4986.00ft (ASSUMED)										
		+N-S 0.00	+E-W 0.00	Northing 1286904.77	Easting 3177484.95	Latitude 40.1192030	Longitude -104.8653580			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1368.00	0.00	0.00	1368.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
1995.48	12.55	90.00	1990.48	0.00	68.44	2.00	90.00	0.00		Start 865.73 hold at 1995.48 MD
2861.21	12.55	90.00	2835.52	0.00	256.56	0.00	0.00	0.00		Start Drop -2.00
3488.69	0.00	0.00	3458.00	0.00	325.00	2.00	180.00	0.00		Start 3345.04 hold at 3488.69 MD
6833.73	0.00	0.00	6803.04	0.00	325.00	0.00	0.00	0.00		Start DLS 10.00 TFO 180.24
7734.31	90.06	180.24	7376.00	-573.52	322.57	10.00	180.24	573.52		Start 10052.58 hold at 7734.31 MD
17786.88	90.06	180.24	7366.00	-10626.01	280.06	0.00	0.00	10626.01	PBHL_DUGITE 13N-35HZ	TD at 17786.88
DESIGN TARGET DETAILS										
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7366.00	-10626.01	280.06	1276281.06	3177841.05	40.0900330	-104.8643570	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: SECTION 23 T2N R67W			
System Datum: Mean Sea Level			
FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	DipDirInc
1218.00	1218.00	Fox Hills Marker	0.00
4144.00	4174.69	Parkman	0.00
4522.00	4552.69	Sussex	0.00
7225.00	7308.04	Sharon Springs	47.43
7298.00	7431.27	Niobrara A	59.75
7362.00	7606.82	Niobrara B	77.31
CASING DETAILS			
TVD	MD	Name	Size
1268.00	1268.00	9 5/8"	9.625
7376.00	7734.31	7"	7.000





**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**DUGITE 13-23HZ PAD**

**DUGITE 13N-35HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**21 March, 2014**

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well DUGITE 13N-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Site:</b>	DUGITE 13-23HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DUGITE 13N-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

<b>Project</b>	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
<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 Northern Zone		

Site		DUGITE 13-23HZ PAD, SECTION 23 T2N R67W			
Site Position:		Northing:	1,286,904.93 usft	Latitude:	40.1192040
From:	Lat/Long	Easting:	3,177,454.74 usft	Longitude:	-104.8654660
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well	DUGITE 13N-35HZ					
Well Position	+N/-S	-0.37 ft	Northing:	1,286,904.77 usft	Latitude:	40.1192030
	+E/-W	30.20 ft	Easting:	3,177,484.95 usft	Longitude:	-104.8653580
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,969.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2013	2/18/2014	8.58	66.70	52,610

<b>Design</b>	PLAN #1 PRELIMINARY			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	180.00

<b>Plan Sections</b>										
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	
1,368.00	0.00	0.00	1,368.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,995.48	12.55	90.00	1,990.48	0.00	68.44	2.00	2.00	0.00	90.00	
2,861.21	12.55	90.00	2,835.52	0.00	256.56	0.00	0.00	0.00	0.00	
3,488.69	0.00	0.00	3,458.00	0.00	325.00	2.00	-2.00	0.00	180.00	
6,833.73	0.00	0.00	6,803.04	0.00	325.00	0.00	0.00	0.00	0.00	
7,734.31	90.06	180.24	7,376.00	-573.52	322.57	10.00	10.00	-19.96	180.24	
17,786.88	90.06	180.24	7,366.00	-10,626.01	280.06	0.00	0.00	0.00	0.00	PBHL_DUGITE 13N-35HZ

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well DUGITE 13N-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Site:</b>	DUGITE 13-23HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DUGITE 13N-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
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
1,218.00	0.00	0.00	1,218.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fox Hills Marker</b>									
1,268.00	0.00	0.00	1,268.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,368.00	0.00	0.00	1,368.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
1,400.00	0.64	90.00	1,400.00	0.00	0.18	0.00	2.00	2.00	0.00
1,500.00	2.64	90.00	1,499.95	0.00	3.04	0.00	2.00	2.00	0.00
1,600.00	4.64	90.00	1,599.75	0.00	9.39	0.00	2.00	2.00	0.00
1,700.00	6.64	90.00	1,699.26	0.00	19.22	0.00	2.00	2.00	0.00
1,800.00	8.64	90.00	1,798.36	0.00	32.51	0.00	2.00	2.00	0.00
1,900.00	10.64	90.00	1,896.95	0.00	49.26	0.00	2.00	2.00	0.00
1,995.48	12.55	90.00	1,990.48	0.00	68.44	0.00	2.00	2.00	0.00
<b>Start 865.73 hold at 1995.48 MD</b>									
2,000.00	12.55	90.00	1,994.89	0.00	69.43	0.00	0.00	0.00	0.00
2,100.00	12.55	90.00	2,092.50	0.00	91.16	0.00	0.00	0.00	0.00
2,200.00	12.55	90.00	2,190.11	0.00	112.88	0.00	0.00	0.00	0.00
2,300.00	12.55	90.00	2,287.72	0.00	134.61	0.00	0.00	0.00	0.00
2,400.00	12.55	90.00	2,385.33	0.00	156.34	0.00	0.00	0.00	0.00
2,500.00	12.55	90.00	2,482.94	0.00	178.07	0.00	0.00	0.00	0.00
2,600.00	12.55	90.00	2,580.55	0.00	199.80	0.00	0.00	0.00	0.00
2,700.00	12.55	90.00	2,678.16	0.00	221.53	0.00	0.00	0.00	0.00
2,800.00	12.55	90.00	2,775.77	0.00	243.25	0.00	0.00	0.00	0.00
2,861.21	12.55	90.00	2,835.52	0.00	256.56	0.00	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
2,900.00	11.77	90.00	2,873.44	0.00	264.73	0.00	2.00	-2.00	0.00
3,000.00	9.77	90.00	2,971.67	0.00	283.42	0.00	2.00	-2.00	0.00
3,100.00	7.77	90.00	3,070.50	0.00	298.67	0.00	2.00	-2.00	0.00
3,200.00	5.77	90.00	3,169.79	0.00	310.47	0.00	2.00	-2.00	0.00
3,300.00	3.77	90.00	3,269.44	0.00	318.79	0.00	2.00	-2.00	0.00
3,400.00	1.77	90.00	3,369.32	0.00	323.63	0.00	2.00	-2.00	0.00
3,488.69	0.00	0.00	3,458.00	0.00	325.00	0.00	2.00	-2.00	0.00
<b>Start 3345.04 hold at 3488.69 MD</b>									
3,500.00	0.00	0.00	3,469.31	0.00	325.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,569.31	0.00	325.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,669.31	0.00	325.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,769.31	0.00	325.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,869.31	0.00	325.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	3,969.31	0.00	325.00	0.00	0.00	0.00	0.00

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Site:</b>	DUGITE 13-23HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DUGITE 13N-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
4,100.00	0.00	0.00	4,069.31	0.00	325.00	0.00	0.00	0.00	0.00
4,174.69	0.00	0.00	4,144.00	0.00	325.00	0.00	0.00	0.00	0.00
<b>Parkman</b>									
4,200.00	0.00	0.00	4,169.31	0.00	325.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,269.31	0.00	325.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,369.31	0.00	325.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,469.31	0.00	325.00	0.00	0.00	0.00	0.00
4,552.69	0.00	0.00	4,522.00	0.00	325.00	0.00	0.00	0.00	0.00
<b>Sussex</b>									
4,600.00	0.00	0.00	4,569.31	0.00	325.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,669.31	0.00	325.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,769.31	0.00	325.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,869.31	0.00	325.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,969.31	0.00	325.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,069.31	0.00	325.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,169.31	0.00	325.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,269.31	0.00	325.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,369.31	0.00	325.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,469.31	0.00	325.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,569.31	0.00	325.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,669.31	0.00	325.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,769.31	0.00	325.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,869.31	0.00	325.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,969.31	0.00	325.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,069.31	0.00	325.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,169.31	0.00	325.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,269.31	0.00	325.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,369.31	0.00	325.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,469.31	0.00	325.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,569.31	0.00	325.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,669.31	0.00	325.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,769.31	0.00	325.00	0.00	0.00	0.00	0.00
6,833.73	0.00	0.00	6,803.04	0.00	325.00	0.00	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 180.24</b>									
6,900.00	6.63	180.24	6,869.16	-3.83	324.98	3.83	10.00	10.00	0.00
7,000.00	16.63	180.24	6,966.98	-23.96	324.90	23.96	10.00	10.00	0.00
7,100.00	26.63	180.24	7,059.82	-60.76	324.74	60.76	10.00	10.00	0.00
7,200.00	36.63	180.24	7,144.87	-113.13	324.52	113.13	10.00	10.00	0.00
7,300.00	46.63	180.24	7,219.52	-179.48	324.24	179.48	10.00	10.00	0.00
7,308.04	47.43	180.24	7,225.00	-185.36	324.22	185.36	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,400.00	56.63	180.24	7,281.52	-257.77	323.91	257.77	10.00	10.00	0.00
7,431.27	59.75	180.24	7,298.00	-284.34	323.80	284.34	10.00	10.00	0.00
<b>Niobrara A</b>									
7,500.00	66.63	180.24	7,328.98	-345.65	323.54	345.65	10.00	10.00	0.00
7,600.00	76.63	180.24	7,360.46	-440.43	323.14	440.43	10.00	10.00	0.00
7,606.82	77.31	180.24	7,362.00	-447.08	323.11	447.08	10.00	10.00	0.00
<b>Niobrara B</b>									
7,700.00	86.63	180.24	7,375.01	-539.24	322.72	539.24	10.00	10.00	0.00
7,734.31	90.06	180.24	7,376.00	-573.53	322.57	573.53	10.00	10.00	0.00
<b>Start 10052.58 hold at 7734.31 MD - 7" (450 FSL 925 FWL)</b>									
7,800.00	90.06	180.24	7,375.93	-639.22	322.30	639.22	0.00	0.00	0.00
7,900.00	90.06	180.24	7,375.83	-739.22	321.87	739.22	0.00	0.00	0.00

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Site:</b>	DUGITE 13-23HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DUGITE 13N-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
8,000.00	90.06	180.24	7,375.73	-839.22	321.45	839.22	0.00	0.00	0.00
8,100.00	90.06	180.24	7,375.64	-939.21	321.03	939.21	0.00	0.00	0.00
8,200.00	90.06	180.24	7,375.54	-1,039.21	320.61	1,039.21	0.00	0.00	0.00
8,300.00	90.06	180.24	7,375.44	-1,139.21	320.18	1,139.21	0.00	0.00	0.00
8,400.00	90.06	180.24	7,375.34	-1,239.21	319.76	1,239.21	0.00	0.00	0.00
8,500.00	90.06	180.24	7,375.24	-1,339.21	319.34	1,339.21	0.00	0.00	0.00
8,600.00	90.06	180.24	7,375.14	-1,439.21	318.91	1,439.21	0.00	0.00	0.00
8,700.00	90.06	180.24	7,375.04	-1,539.21	318.49	1,539.21	0.00	0.00	0.00
8,800.00	90.06	180.24	7,374.94	-1,639.21	318.07	1,639.21	0.00	0.00	0.00
8,900.00	90.06	180.24	7,374.84	-1,739.21	317.65	1,739.21	0.00	0.00	0.00
9,000.00	90.06	180.24	7,374.74	-1,839.21	317.22	1,839.21	0.00	0.00	0.00
9,100.00	90.06	180.24	7,374.64	-1,939.20	316.80	1,939.20	0.00	0.00	0.00
9,200.00	90.06	180.24	7,374.54	-2,039.20	316.38	2,039.20	0.00	0.00	0.00
9,300.00	90.06	180.24	7,374.44	-2,139.20	315.95	2,139.20	0.00	0.00	0.00
9,400.00	90.06	180.24	7,374.34	-2,239.20	315.53	2,239.20	0.00	0.00	0.00
9,500.00	90.06	180.24	7,374.24	-2,339.20	315.11	2,339.20	0.00	0.00	0.00
9,600.00	90.06	180.24	7,374.14	-2,439.20	314.68	2,439.20	0.00	0.00	0.00
9,700.00	90.06	180.24	7,374.04	-2,539.20	314.26	2,539.20	0.00	0.00	0.00
9,800.00	90.06	180.24	7,373.94	-2,639.20	313.84	2,639.20	0.00	0.00	0.00
9,900.00	90.06	180.24	7,373.84	-2,739.20	313.42	2,739.20	0.00	0.00	0.00
10,000.00	90.06	180.24	7,373.75	-2,839.20	312.99	2,839.20	0.00	0.00	0.00
10,100.00	90.06	180.24	7,373.65	-2,939.20	312.57	2,939.20	0.00	0.00	0.00
10,200.00	90.06	180.24	7,373.55	-3,039.19	312.15	3,039.19	0.00	0.00	0.00
10,300.00	90.06	180.24	7,373.45	-3,139.19	311.72	3,139.19	0.00	0.00	0.00
10,400.00	90.06	180.24	7,373.35	-3,239.19	311.30	3,239.19	0.00	0.00	0.00
10,500.00	90.06	180.24	7,373.25	-3,339.19	310.88	3,339.19	0.00	0.00	0.00
10,600.00	90.06	180.24	7,373.15	-3,439.19	310.46	3,439.19	0.00	0.00	0.00
10,700.00	90.06	180.24	7,373.05	-3,539.19	310.03	3,539.19	0.00	0.00	0.00
10,800.00	90.06	180.24	7,372.95	-3,639.19	309.61	3,639.19	0.00	0.00	0.00
10,900.00	90.06	180.24	7,372.85	-3,739.19	309.19	3,739.19	0.00	0.00	0.00
11,000.00	90.06	180.24	7,372.75	-3,839.19	308.76	3,839.19	0.00	0.00	0.00
11,100.00	90.06	180.24	7,372.65	-3,939.19	308.34	3,939.19	0.00	0.00	0.00
11,200.00	90.06	180.24	7,372.55	-4,039.19	307.92	4,039.19	0.00	0.00	0.00
11,300.00	90.06	180.24	7,372.45	-4,139.18	307.50	4,139.18	0.00	0.00	0.00
11,400.00	90.06	180.24	7,372.35	-4,239.18	307.07	4,239.18	0.00	0.00	0.00
11,500.00	90.06	180.24	7,372.25	-4,339.18	306.65	4,339.18	0.00	0.00	0.00
11,600.00	90.06	180.24	7,372.15	-4,439.18	306.23	4,439.18	0.00	0.00	0.00
11,700.00	90.06	180.24	7,372.05	-4,539.18	305.80	4,539.18	0.00	0.00	0.00
11,800.00	90.06	180.24	7,371.95	-4,639.18	305.38	4,639.18	0.00	0.00	0.00
11,900.00	90.06	180.24	7,371.86	-4,739.18	304.96	4,739.18	0.00	0.00	0.00
12,000.00	90.06	180.24	7,371.76	-4,839.18	304.54	4,839.18	0.00	0.00	0.00
12,100.00	90.06	180.24	7,371.66	-4,939.18	304.11	4,939.18	0.00	0.00	0.00
12,200.00	90.06	180.24	7,371.56	-5,039.18	303.69	5,039.18	0.00	0.00	0.00
12,300.00	90.06	180.24	7,371.46	-5,139.17	303.27	5,139.17	0.00	0.00	0.00
12,400.00	90.06	180.24	7,371.36	-5,239.17	302.84	5,239.17	0.00	0.00	0.00
12,500.00	90.06	180.24	7,371.26	-5,339.17	302.42	5,339.17	0.00	0.00	0.00
12,600.00	90.06	180.24	7,371.16	-5,439.17	302.00	5,439.17	0.00	0.00	0.00
12,700.00	90.06	180.24	7,371.06	-5,539.17	301.58	5,539.17	0.00	0.00	0.00
12,800.00	90.06	180.24	7,370.96	-5,639.17	301.15	5,639.17	0.00	0.00	0.00
12,900.00	90.06	180.24	7,370.86	-5,739.17	300.73	5,739.17	0.00	0.00	0.00
13,000.00	90.06	180.24	7,370.76	-5,839.17	300.31	5,839.17	0.00	0.00	0.00
13,100.00	90.06	180.24	7,370.66	-5,939.17	299.88	5,939.17	0.00	0.00	0.00
13,200.00	90.06	180.24	7,370.56	-6,039.17	299.46	6,039.17	0.00	0.00	0.00
13,300.00	90.06	180.24	7,370.46	-6,139.17	299.04	6,139.17	0.00	0.00	0.00

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well DUGITE 13N-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Site:</b>	DUGITE 13-23HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DUGITE 13N-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
13,400.00	90.06	180.24	7,370.36	-6,239.16	298.62	6,239.16	0.00	0.00	0.00
13,500.00	90.06	180.24	7,370.26	-6,339.16	298.19	6,339.16	0.00	0.00	0.00
13,600.00	90.06	180.24	7,370.16	-6,439.16	297.77	6,439.16	0.00	0.00	0.00
13,700.00	90.06	180.24	7,370.07	-6,539.16	297.35	6,539.16	0.00	0.00	0.00
13,800.00	90.06	180.24	7,369.97	-6,639.16	296.92	6,639.16	0.00	0.00	0.00
13,900.00	90.06	180.24	7,369.87	-6,739.16	296.50	6,739.16	0.00	0.00	0.00
14,000.00	90.06	180.24	7,369.77	-6,839.16	296.08	6,839.16	0.00	0.00	0.00
14,100.00	90.06	180.24	7,369.67	-6,939.16	295.66	6,939.16	0.00	0.00	0.00
14,200.00	90.06	180.24	7,369.57	-7,039.16	295.23	7,039.16	0.00	0.00	0.00
14,300.00	90.06	180.24	7,369.47	-7,139.16	294.81	7,139.16	0.00	0.00	0.00
14,400.00	90.06	180.24	7,369.37	-7,239.15	294.39	7,239.15	0.00	0.00	0.00
14,500.00	90.06	180.24	7,369.27	-7,339.15	293.96	7,339.15	0.00	0.00	0.00
14,600.00	90.06	180.24	7,369.17	-7,439.15	293.54	7,439.15	0.00	0.00	0.00
14,700.00	90.06	180.24	7,369.07	-7,539.15	293.12	7,539.15	0.00	0.00	0.00
14,800.00	90.06	180.24	7,368.97	-7,639.15	292.70	7,639.15	0.00	0.00	0.00
14,900.00	90.06	180.24	7,368.87	-7,739.15	292.27	7,739.15	0.00	0.00	0.00
15,000.00	90.06	180.24	7,368.77	-7,839.15	291.85	7,839.15	0.00	0.00	0.00
15,100.00	90.06	180.24	7,368.67	-7,939.15	291.43	7,939.15	0.00	0.00	0.00
15,200.00	90.06	180.24	7,368.57	-8,039.15	291.00	8,039.15	0.00	0.00	0.00
15,300.00	90.06	180.24	7,368.47	-8,139.15	290.58	8,139.15	0.00	0.00	0.00
15,400.00	90.06	180.24	7,368.37	-8,239.15	290.16	8,239.15	0.00	0.00	0.00
15,500.00	90.06	180.24	7,368.27	-8,339.14	289.73	8,339.14	0.00	0.00	0.00
15,600.00	90.06	180.24	7,368.18	-8,439.14	289.31	8,439.14	0.00	0.00	0.00
15,700.00	90.06	180.24	7,368.08	-8,539.14	288.89	8,539.14	0.00	0.00	0.00
15,800.00	90.06	180.24	7,367.98	-8,639.14	288.47	8,639.14	0.00	0.00	0.00
15,900.00	90.06	180.24	7,367.88	-8,739.14	288.04	8,739.14	0.00	0.00	0.00
16,000.00	90.06	180.24	7,367.78	-8,839.14	287.62	8,839.14	0.00	0.00	0.00
16,100.00	90.06	180.24	7,367.68	-8,939.14	287.20	8,939.14	0.00	0.00	0.00
16,200.00	90.06	180.24	7,367.58	-9,039.14	286.77	9,039.14	0.00	0.00	0.00
16,300.00	90.06	180.24	7,367.48	-9,139.14	286.35	9,139.14	0.00	0.00	0.00
16,400.00	90.06	180.24	7,367.38	-9,239.14	285.93	9,239.14	0.00	0.00	0.00
16,500.00	90.06	180.24	7,367.28	-9,339.14	285.51	9,339.14	0.00	0.00	0.00
16,600.00	90.06	180.24	7,367.18	-9,439.13	285.08	9,439.13	0.00	0.00	0.00
16,700.00	90.06	180.24	7,367.08	-9,539.13	284.66	9,539.13	0.00	0.00	0.00
16,800.00	90.06	180.24	7,366.98	-9,639.13	284.24	9,639.13	0.00	0.00	0.00
16,900.00	90.06	180.24	7,366.88	-9,739.13	283.81	9,739.13	0.00	0.00	0.00
17,000.00	90.06	180.24	7,366.78	-9,839.13	283.39	9,839.13	0.00	0.00	0.00
17,100.00	90.06	180.24	7,366.68	-9,939.13	282.97	9,939.13	0.00	0.00	0.00
17,200.00	90.06	180.24	7,366.58	-10,039.13	282.55	10,039.13	0.00	0.00	0.00
17,300.00	90.06	180.24	7,366.48	-10,139.13	282.12	10,139.13	0.00	0.00	0.00
17,400.00	90.06	180.24	7,366.38	-10,239.13	281.70	10,239.13	0.00	0.00	0.00
17,500.00	90.06	180.24	7,366.29	-10,339.13	281.28	10,339.13	0.00	0.00	0.00
17,600.00	90.06	180.24	7,366.19	-10,439.12	280.85	10,439.12	0.00	0.00	0.00
17,700.00	90.06	180.24	7,366.09	-10,539.12	280.43	10,539.12	0.00	0.00	0.00
17,786.88	90.06	180.24	7,366.00	-10,626.01	280.06	10,626.01	0.00	0.00	0.00
TD at 17786.88 - PBHL_DUGITE 13N-35HZ (920 FSL 925 FWL)									

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well DUGITE 13N-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4969 & KB 17 @ 4986.00ft (ASSUMED)
<b>Site:</b>	DUGITE 13-23HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DUGITE 13N-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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_DUGITE 13N-35H	0.00	0.00	7,366.00	-10,626.01	280.06	1,276,281.06	3,177,841.05	40.0900330	-104.8643570
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,268.00	1,268.00	9 5/8"	9.625	12.250	
7,734.31	7,376.00	7" (450 FSL 925 FWL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,218.00	1,218.00	Fox Hills Marker				
4,174.69	4,144.00	Parkman				
4,552.69	4,522.00	Sussex				
7,308.04	7,225.00	Sharon Springs				
7,431.27	7,298.00	Niobrara A				
7,606.82	7,362.00	Niobrara B				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,368.00	1,368.00	0.00	0.00	Start Build 2.00	
1,995.48	1,990.48	0.00	68.44	Start 865.73 hold at 1995.48 MD	
2,861.21	2,835.52	0.00	256.56	Start Drop -2.00	
3,488.69	3,458.00	0.00	325.00	Start 3345.04 hold at 3488.69 MD	
6,833.73	6,803.04	0.00	325.00	Start DLS 10.00 TFO 180.24	
7,734.31	7,376.00	-573.52	322.57	Start 10052.58 hold at 7734.31 MD	
17,786.88	7,366.00	-10,626.01	280.06	TD at 17786.88	