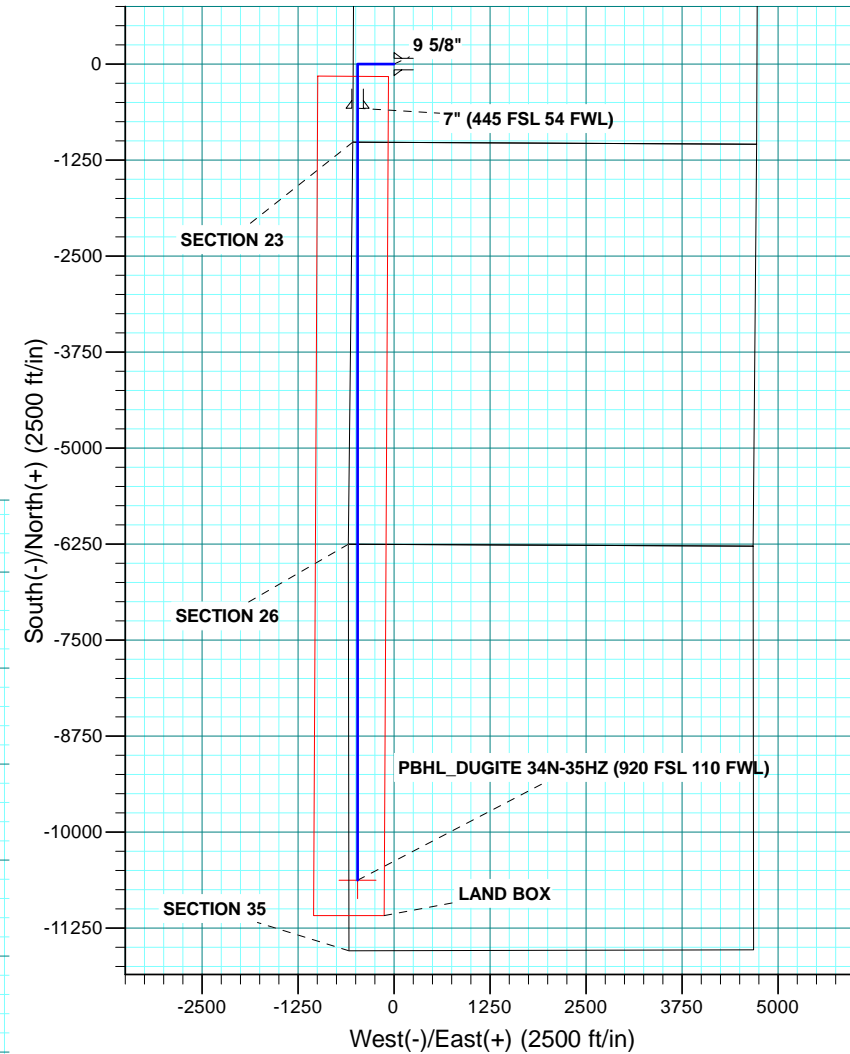
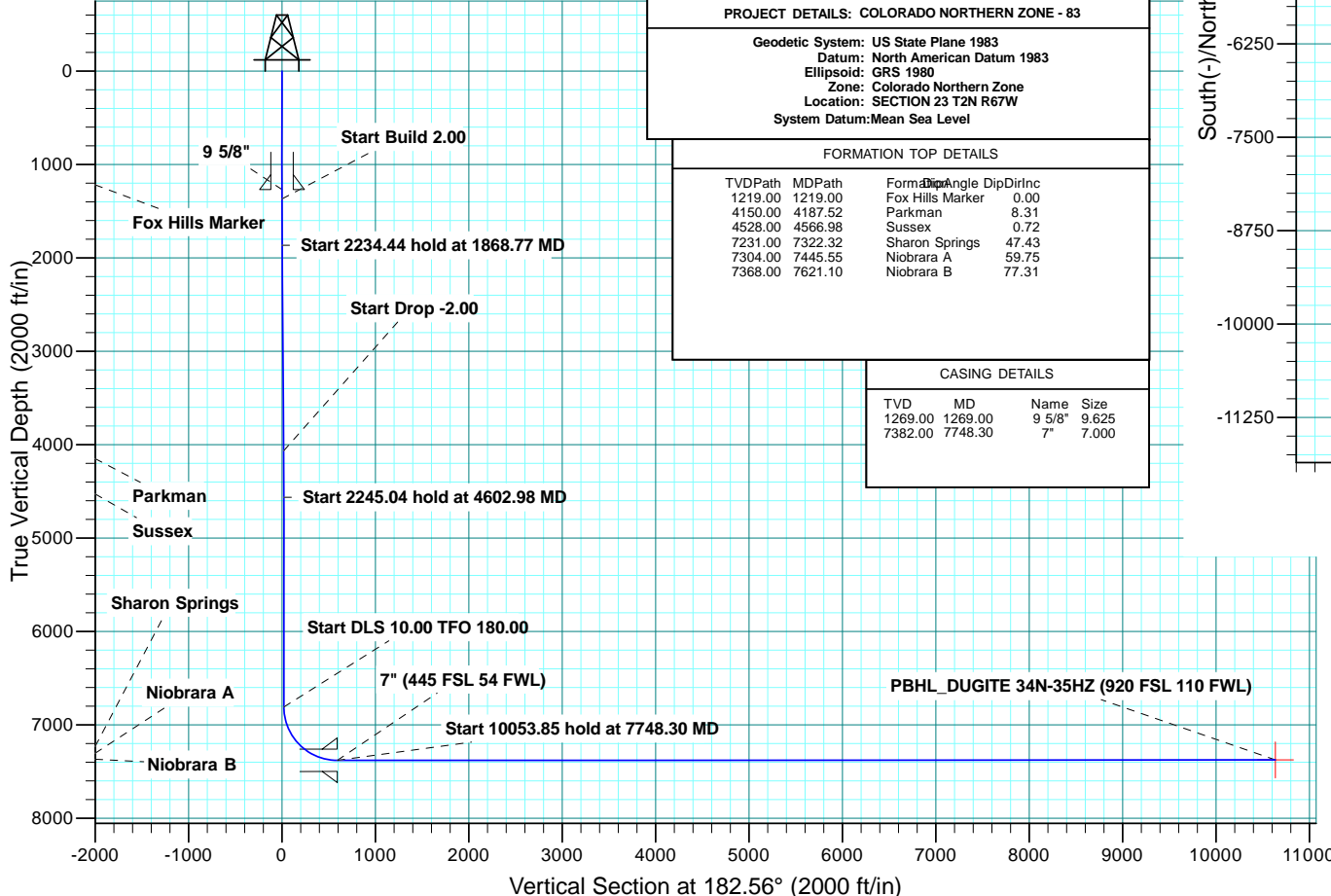


WELL DETAILS: DUGITE 34N-35HZ										
GL 4970 & KB 17 @ 4987.00ft (ASSUMED)										
		+N-S 0.00	+E-W 0.00	Northing 1286904.71	Easting 3177424.82	Latitude 40.1192040	Longitude -104.8655730			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1369.00	0.00	0.00	1369.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
1868.77	10.00	270.00	1866.24	0.00	-43.48	2.00	270.00	1.94		Start 2234.44 hold at 1868.77 MD
4103.21	10.00	270.00	4066.76	0.00	-431.31	0.00	0.00	19.25		Start Drop -2.00
4602.98	0.00	0.00	4564.00	0.00	-474.79	2.00	180.00	21.19		Start 2245.04 hold at 4602.98 MD
6848.02	0.00	0.00	6809.04	0.00	-474.79	0.00	0.00	21.19		Start DLS 10.00 TFO 180.00
7748.30	90.03	180.00	7382.00	-573.24	-474.79	10.00	180.00	593.86		Start 10053.85 hold at 7748.30 MD
17802.16	90.03	180.00	7377.00	-10627.10	-474.79	0.00	0.00	10637.70	PBHL_DUGITE 34N-35HZ	TD at 17802.16
DESIGN TARGET DETAILS										
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7377.00	-10627.10	-474.79	1276274.51	3177026.07	40.0900310	-104.8672700	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	DipAngle	DipDirInc
1219.00	1219.00	Fox Hills Marker		0.00
4150.00	4187.52	Parkman		8.31
4528.00	4566.98	Sussex		0.72
7231.00	7322.32	Sharon Springs		47.43
7304.00	7445.55	Niobrara A		59.75
7368.00	7621.10	Niobrara B		77.31
CASING DETAILS				
TVD	MD	Name	Size	
1269.00	1269.00	9 5/8"	9.625	
7382.00	7748.30	7"	7.000	





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

DUGITE 13-23HZ PAD

DUGITE 34N-35HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

19 February, 2014

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well DUGITE 34N-35HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Site:	DUGITE 13-23HZ PAD	North Reference:	True
Well:	DUGITE 34N-35HZ	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	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 34N-35HZ, 1020' FSL 530' FWL			
Well Position	+N/-S	-0.01 ft	Northing:	1,286,904.71 usft
	+E/-W	-29.92 ft	Easting:	3,177,424.82 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,970.00 ft

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

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	182.56

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	
1,369.00	0.00	0.00	1,369.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,868.77	10.00	270.00	1,866.24	0.00	-43.48	2.00	2.00	0.00	270.00	
4,103.21	10.00	270.00	4,066.76	0.00	-431.31	0.00	0.00	0.00	0.00	
4,602.98	0.00	0.00	4,564.00	0.00	-474.79	2.00	-2.00	0.00	180.00	
6,848.02	0.00	0.00	6,809.04	0.00	-474.79	0.00	0.00	0.00	0.00	
7,748.30	90.03	180.00	7,382.00	-573.24	-474.79	10.00	10.00	19.99	180.00	
17,802.16	90.03	180.00	7,377.00	-10,627.10	-474.79	0.00	0.00	0.00	0.00	PBHL_DUGITE 34N-35HZ

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well DUGITE 34N-35HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Site:	DUGITE 13-23HZ PAD	North Reference:	True
Well:	DUGITE 34N-35HZ	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
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
1,219.00	0.00	0.00	1,219.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Marker									
1,269.00	0.00	0.00	1,269.00	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
1,369.00	0.00	0.00	1,369.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,400.00	0.62	270.00	1,400.00	0.00	-0.17	0.01	2.00	2.00	0.00
1,500.00	2.62	270.00	1,499.95	0.00	-2.99	0.13	2.00	2.00	0.00
1,600.00	4.62	270.00	1,599.75	0.00	-9.31	0.42	2.00	2.00	0.00
1,700.00	6.62	270.00	1,699.26	0.00	-19.10	0.85	2.00	2.00	0.00
1,800.00	8.62	270.00	1,798.38	0.00	-32.36	1.44	2.00	2.00	0.00
1,868.77	10.00	270.00	1,866.24	0.00	-43.48	1.94	2.00	2.00	0.00
Start 2234.44 hold at 1868.77 MD									
1,900.00	10.00	270.00	1,896.99	0.00	-48.90	2.18	0.00	0.00	0.00
2,000.00	10.00	270.00	1,995.48	0.00	-66.26	2.96	0.00	0.00	0.00
2,100.00	10.00	270.00	2,093.96	0.00	-83.62	3.73	0.00	0.00	0.00
2,200.00	10.00	270.00	2,192.44	0.00	-100.97	4.51	0.00	0.00	0.00
2,300.00	10.00	270.00	2,290.92	0.00	-118.33	5.28	0.00	0.00	0.00
2,400.00	10.00	270.00	2,389.41	0.00	-135.69	6.06	0.00	0.00	0.00
2,500.00	10.00	270.00	2,487.89	0.00	-153.04	6.83	0.00	0.00	0.00
2,600.00	10.00	270.00	2,586.37	0.00	-170.40	7.61	0.00	0.00	0.00
2,700.00	10.00	270.00	2,684.85	0.00	-187.76	8.38	0.00	0.00	0.00
2,800.00	10.00	270.00	2,783.33	0.00	-205.12	9.15	0.00	0.00	0.00
2,900.00	10.00	270.00	2,881.82	0.00	-222.47	9.93	0.00	0.00	0.00
3,000.00	10.00	270.00	2,980.30	0.00	-239.83	10.70	0.00	0.00	0.00
3,100.00	10.00	270.00	3,078.78	0.00	-257.19	11.48	0.00	0.00	0.00
3,200.00	10.00	270.00	3,177.26	0.00	-274.54	12.25	0.00	0.00	0.00
3,300.00	10.00	270.00	3,275.75	0.00	-291.90	13.03	0.00	0.00	0.00
3,400.00	10.00	270.00	3,374.23	0.00	-309.26	13.80	0.00	0.00	0.00
3,500.00	10.00	270.00	3,472.71	0.00	-326.61	14.58	0.00	0.00	0.00
3,600.00	10.00	270.00	3,571.19	0.00	-343.97	15.35	0.00	0.00	0.00
3,700.00	10.00	270.00	3,669.67	0.00	-361.33	16.13	0.00	0.00	0.00
3,800.00	10.00	270.00	3,768.16	0.00	-378.68	16.90	0.00	0.00	0.00
3,900.00	10.00	270.00	3,866.64	0.00	-396.04	17.68	0.00	0.00	0.00
4,000.00	10.00	270.00	3,965.12	0.00	-413.40	18.45	0.00	0.00	0.00
4,100.00	10.00	270.00	4,063.60	0.00	-430.75	19.23	0.00	0.00	0.00
4,103.21	10.00	270.00	4,066.76	0.00	-431.31	19.25	0.00	0.00	0.00
Start Drop -2.00									
4,187.52	8.31	270.00	4,150.00	0.00	-444.72	19.85	2.00	-2.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well DUGITE 34N-35HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Site:	DUGITE 13-23HZ PAD	North Reference:	True
Well:	DUGITE 34N-35HZ	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)
Parkman									
4,200.00	8.06	270.00	4,162.35	0.00	-446.50	19.93	2.00	-2.00	0.00
4,300.00	6.06	270.00	4,261.59	0.00	-458.79	20.48	2.00	-2.00	0.00
4,400.00	4.06	270.00	4,361.19	0.00	-467.61	20.87	2.00	-2.00	0.00
4,500.00	2.06	270.00	4,461.05	0.00	-472.94	21.11	2.00	-2.00	0.00
4,566.98	0.72	270.00	4,528.00	0.00	-474.57	21.18	2.00	-2.00	0.00
Sussex									
4,600.00	0.06	270.00	4,561.02	0.00	-474.79	21.19	2.00	-2.00	0.00
4,602.98	0.00	0.00	4,564.00	0.00	-474.79	21.19	2.00	-2.00	0.00
Start 2245.04 hold at 4602.98 MD									
4,700.00	0.00	0.00	4,661.02	0.00	-474.79	21.19	0.00	0.00	0.00
4,800.00	0.00	0.00	4,761.02	0.00	-474.79	21.19	0.00	0.00	0.00
4,900.00	0.00	0.00	4,861.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,000.00	0.00	0.00	4,961.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,100.00	0.00	0.00	5,061.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,200.00	0.00	0.00	5,161.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,300.00	0.00	0.00	5,261.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,400.00	0.00	0.00	5,361.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,500.00	0.00	0.00	5,461.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,600.00	0.00	0.00	5,561.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,700.00	0.00	0.00	5,661.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,800.00	0.00	0.00	5,761.02	0.00	-474.79	21.19	0.00	0.00	0.00
5,900.00	0.00	0.00	5,861.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,000.00	0.00	0.00	5,961.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,100.00	0.00	0.00	6,061.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,200.00	0.00	0.00	6,161.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,300.00	0.00	0.00	6,261.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,400.00	0.00	0.00	6,361.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,500.00	0.00	0.00	6,461.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,600.00	0.00	0.00	6,561.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,700.00	0.00	0.00	6,661.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,800.00	0.00	0.00	6,761.02	0.00	-474.79	21.19	0.00	0.00	0.00
6,848.02	0.00	0.00	6,809.04	0.00	-474.79	21.19	0.00	0.00	0.00
Start DLS 10.00 TFO 180.00									
6,900.00	5.20	180.00	6,860.95	-2.36	-474.79	23.55	10.00	10.00	0.00
7,000.00	15.20	180.00	6,959.25	-20.04	-474.79	41.21	10.00	10.00	0.00
7,100.00	25.20	180.00	7,052.98	-54.52	-474.79	75.66	10.00	10.00	0.00
7,200.00	35.20	180.00	7,139.30	-104.76	-474.79	125.85	10.00	10.00	0.00
7,300.00	45.20	180.00	7,215.58	-169.22	-474.79	190.24	10.00	10.00	0.00
7,322.32	47.43	180.00	7,231.00	-185.36	-474.79	206.37	10.00	10.00	0.00
Sharon Springs									
7,400.00	55.20	180.00	7,279.51	-245.95	-474.79	266.89	10.00	10.00	0.00
7,445.55	59.75	180.00	7,304.00	-284.35	-474.79	305.26	10.00	10.00	0.00
Niobrara A									
7,500.00	65.20	180.00	7,329.15	-332.61	-474.79	353.47	10.00	10.00	0.00
7,600.00	75.20	180.00	7,362.99	-426.58	-474.79	447.35	10.00	10.00	0.00
7,621.10	77.31	180.00	7,368.00	-447.08	-474.79	467.83	10.00	10.00	0.00
Niobrara B									
7,700.00	85.20	180.00	7,379.99	-525.00	-474.79	545.66	10.00	10.00	0.00
7,748.30	90.03	180.00	7,382.00	-573.24	-474.79	593.86	10.00	10.00	0.00
Start 10053.85 hold at 7748.30 MD - 7" (445 FSL 54 FWL)									
7,800.00	90.03	180.00	7,381.97	-624.94	-474.79	645.51	0.00	0.00	0.00
7,900.00	90.03	180.00	7,381.92	-724.94	-474.79	745.41	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well DUGITE 34N-35HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Site:	DUGITE 13-23HZ PAD	North Reference:	True
Well:	DUGITE 34N-35HZ	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)
8,000.00	90.03	180.00	7,381.87	-824.94	-474.79	845.31	0.00	0.00	0.00
8,100.00	90.03	180.00	7,381.82	-924.94	-474.79	945.21	0.00	0.00	0.00
8,200.00	90.03	180.00	7,381.77	-1,024.94	-474.79	1,045.11	0.00	0.00	0.00
8,300.00	90.03	180.00	7,381.72	-1,124.94	-474.79	1,145.01	0.00	0.00	0.00
8,400.00	90.03	180.00	7,381.68	-1,224.94	-474.79	1,244.91	0.00	0.00	0.00
8,500.00	90.03	180.00	7,381.63	-1,324.94	-474.79	1,344.81	0.00	0.00	0.00
8,600.00	90.03	180.00	7,381.58	-1,424.94	-474.79	1,444.71	0.00	0.00	0.00
8,700.00	90.03	180.00	7,381.53	-1,524.94	-474.79	1,544.61	0.00	0.00	0.00
8,800.00	90.03	180.00	7,381.48	-1,624.94	-474.79	1,644.51	0.00	0.00	0.00
8,900.00	90.03	180.00	7,381.43	-1,724.94	-474.79	1,744.41	0.00	0.00	0.00
9,000.00	90.03	180.00	7,381.38	-1,824.94	-474.79	1,844.31	0.00	0.00	0.00
9,100.00	90.03	180.00	7,381.33	-1,924.94	-474.79	1,944.21	0.00	0.00	0.00
9,200.00	90.03	180.00	7,381.28	-2,024.94	-474.79	2,044.11	0.00	0.00	0.00
9,300.00	90.03	180.00	7,381.23	-2,124.94	-474.79	2,144.01	0.00	0.00	0.00
9,400.00	90.03	180.00	7,381.18	-2,224.94	-474.79	2,243.91	0.00	0.00	0.00
9,500.00	90.03	180.00	7,381.13	-2,324.94	-474.79	2,343.81	0.00	0.00	0.00
9,600.00	90.03	180.00	7,381.08	-2,424.94	-474.79	2,443.71	0.00	0.00	0.00
9,700.00	90.03	180.00	7,381.03	-2,524.94	-474.79	2,543.62	0.00	0.00	0.00
9,800.00	90.03	180.00	7,380.98	-2,624.94	-474.79	2,643.52	0.00	0.00	0.00
9,900.00	90.03	180.00	7,380.93	-2,724.94	-474.79	2,743.42	0.00	0.00	0.00
10,000.00	90.03	180.00	7,380.88	-2,824.94	-474.79	2,843.32	0.00	0.00	0.00
10,100.00	90.03	180.00	7,380.83	-2,924.94	-474.79	2,943.22	0.00	0.00	0.00
10,200.00	90.03	180.00	7,380.78	-3,024.94	-474.79	3,043.12	0.00	0.00	0.00
10,300.00	90.03	180.00	7,380.73	-3,124.94	-474.79	3,143.02	0.00	0.00	0.00
10,400.00	90.03	180.00	7,380.68	-3,224.94	-474.79	3,242.92	0.00	0.00	0.00
10,500.00	90.03	180.00	7,380.63	-3,324.94	-474.79	3,342.82	0.00	0.00	0.00
10,600.00	90.03	180.00	7,380.58	-3,424.94	-474.79	3,442.72	0.00	0.00	0.00
10,700.00	90.03	180.00	7,380.53	-3,524.94	-474.79	3,542.62	0.00	0.00	0.00
10,800.00	90.03	180.00	7,380.48	-3,624.94	-474.79	3,642.52	0.00	0.00	0.00
10,900.00	90.03	180.00	7,380.43	-3,724.94	-474.79	3,742.42	0.00	0.00	0.00
11,000.00	90.03	180.00	7,380.38	-3,824.94	-474.79	3,842.32	0.00	0.00	0.00
11,100.00	90.03	180.00	7,380.33	-3,924.94	-474.79	3,942.22	0.00	0.00	0.00
11,200.00	90.03	180.00	7,380.28	-4,024.94	-474.79	4,042.12	0.00	0.00	0.00
11,300.00	90.03	180.00	7,380.23	-4,124.94	-474.79	4,142.02	0.00	0.00	0.00
11,400.00	90.03	180.00	7,380.18	-4,224.94	-474.79	4,241.92	0.00	0.00	0.00
11,500.00	90.03	180.00	7,380.13	-4,324.94	-474.79	4,341.82	0.00	0.00	0.00
11,600.00	90.03	180.00	7,380.08	-4,424.94	-474.79	4,441.72	0.00	0.00	0.00
11,700.00	90.03	180.00	7,380.03	-4,524.94	-474.79	4,541.62	0.00	0.00	0.00
11,800.00	90.03	180.00	7,379.98	-4,624.94	-474.79	4,641.52	0.00	0.00	0.00
11,900.00	90.03	180.00	7,379.93	-4,724.94	-474.79	4,741.42	0.00	0.00	0.00
12,000.00	90.03	180.00	7,379.89	-4,824.94	-474.79	4,841.32	0.00	0.00	0.00
12,100.00	90.03	180.00	7,379.84	-4,924.94	-474.79	4,941.22	0.00	0.00	0.00
12,200.00	90.03	180.00	7,379.79	-5,024.94	-474.79	5,041.12	0.00	0.00	0.00
12,300.00	90.03	180.00	7,379.74	-5,124.94	-474.79	5,141.02	0.00	0.00	0.00
12,400.00	90.03	180.00	7,379.69	-5,224.94	-474.79	5,240.92	0.00	0.00	0.00
12,500.00	90.03	180.00	7,379.64	-5,324.94	-474.79	5,340.82	0.00	0.00	0.00
12,600.00	90.03	180.00	7,379.59	-5,424.94	-474.79	5,440.72	0.00	0.00	0.00
12,700.00	90.03	180.00	7,379.54	-5,524.94	-474.79	5,540.63	0.00	0.00	0.00
12,800.00	90.03	180.00	7,379.49	-5,624.94	-474.79	5,640.53	0.00	0.00	0.00
12,900.00	90.03	180.00	7,379.44	-5,724.94	-474.79	5,740.43	0.00	0.00	0.00
13,000.00	90.03	180.00	7,379.39	-5,824.94	-474.79	5,840.33	0.00	0.00	0.00
13,100.00	90.03	180.00	7,379.34	-5,924.94	-474.79	5,940.23	0.00	0.00	0.00
13,200.00	90.03	180.00	7,379.29	-6,024.94	-474.79	6,040.13	0.00	0.00	0.00
13,300.00	90.03	180.00	7,379.24	-6,124.94	-474.79	6,140.03	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well DUGITE 34N-35HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Site:	DUGITE 13-23HZ PAD	North Reference:	True
Well:	DUGITE 34N-35HZ	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)
13,400.00	90.03	180.00	7,379.19	-6,224.94	-474.79	6,239.93	0.00	0.00	0.00
13,500.00	90.03	180.00	7,379.14	-6,324.94	-474.79	6,339.83	0.00	0.00	0.00
13,600.00	90.03	180.00	7,379.09	-6,424.94	-474.79	6,439.73	0.00	0.00	0.00
13,700.00	90.03	180.00	7,379.04	-6,524.94	-474.79	6,539.63	0.00	0.00	0.00
13,800.00	90.03	180.00	7,378.99	-6,624.94	-474.79	6,639.53	0.00	0.00	0.00
13,900.00	90.03	180.00	7,378.94	-6,724.94	-474.79	6,739.43	0.00	0.00	0.00
14,000.00	90.03	180.00	7,378.89	-6,824.94	-474.79	6,839.33	0.00	0.00	0.00
14,100.00	90.03	180.00	7,378.84	-6,924.94	-474.79	6,939.23	0.00	0.00	0.00
14,200.00	90.03	180.00	7,378.79	-7,024.94	-474.79	7,039.13	0.00	0.00	0.00
14,300.00	90.03	180.00	7,378.74	-7,124.94	-474.79	7,139.03	0.00	0.00	0.00
14,400.00	90.03	180.00	7,378.69	-7,224.94	-474.79	7,238.93	0.00	0.00	0.00
14,500.00	90.03	180.00	7,378.64	-7,324.94	-474.79	7,338.83	0.00	0.00	0.00
14,600.00	90.03	180.00	7,378.59	-7,424.94	-474.79	7,438.73	0.00	0.00	0.00
14,700.00	90.03	180.00	7,378.54	-7,524.94	-474.79	7,538.63	0.00	0.00	0.00
14,800.00	90.03	180.00	7,378.49	-7,624.94	-474.79	7,638.53	0.00	0.00	0.00
14,900.00	90.03	180.00	7,378.44	-7,724.94	-474.79	7,738.43	0.00	0.00	0.00
15,000.00	90.03	180.00	7,378.39	-7,824.94	-474.79	7,838.33	0.00	0.00	0.00
15,100.00	90.03	180.00	7,378.34	-7,924.94	-474.79	7,938.23	0.00	0.00	0.00
15,200.00	90.03	180.00	7,378.29	-8,024.94	-474.79	8,038.13	0.00	0.00	0.00
15,300.00	90.03	180.00	7,378.24	-8,124.94	-474.79	8,138.03	0.00	0.00	0.00
15,400.00	90.03	180.00	7,378.19	-8,224.94	-474.79	8,237.93	0.00	0.00	0.00
15,500.00	90.03	180.00	7,378.14	-8,324.94	-474.79	8,337.83	0.00	0.00	0.00
15,600.00	90.03	180.00	7,378.10	-8,424.94	-474.79	8,437.73	0.00	0.00	0.00
15,700.00	90.03	180.00	7,378.05	-8,524.94	-474.79	8,537.64	0.00	0.00	0.00
15,800.00	90.03	180.00	7,378.00	-8,624.94	-474.79	8,637.54	0.00	0.00	0.00
15,900.00	90.03	180.00	7,377.95	-8,724.94	-474.79	8,737.44	0.00	0.00	0.00
16,000.00	90.03	180.00	7,377.90	-8,824.94	-474.79	8,837.34	0.00	0.00	0.00
16,100.00	90.03	180.00	7,377.85	-8,924.94	-474.79	8,937.24	0.00	0.00	0.00
16,200.00	90.03	180.00	7,377.80	-9,024.94	-474.79	9,037.14	0.00	0.00	0.00
16,300.00	90.03	180.00	7,377.75	-9,124.94	-474.79	9,137.04	0.00	0.00	0.00
16,400.00	90.03	180.00	7,377.70	-9,224.94	-474.79	9,236.94	0.00	0.00	0.00
16,500.00	90.03	180.00	7,377.65	-9,324.94	-474.79	9,336.84	0.00	0.00	0.00
16,600.00	90.03	180.00	7,377.60	-9,424.94	-474.79	9,436.74	0.00	0.00	0.00
16,700.00	90.03	180.00	7,377.55	-9,524.94	-474.79	9,536.64	0.00	0.00	0.00
16,800.00	90.03	180.00	7,377.50	-9,624.94	-474.79	9,636.54	0.00	0.00	0.00
16,900.00	90.03	180.00	7,377.45	-9,724.94	-474.79	9,736.44	0.00	0.00	0.00
17,000.00	90.03	180.00	7,377.40	-9,824.94	-474.79	9,836.34	0.00	0.00	0.00
17,100.00	90.03	180.00	7,377.35	-9,924.94	-474.79	9,936.24	0.00	0.00	0.00
17,200.00	90.03	180.00	7,377.30	-10,024.94	-474.79	10,036.14	0.00	0.00	0.00
17,300.00	90.03	180.00	7,377.25	-10,124.94	-474.79	10,136.04	0.00	0.00	0.00
17,400.00	90.03	180.00	7,377.20	-10,224.94	-474.79	10,235.94	0.00	0.00	0.00
17,500.00	90.03	180.00	7,377.15	-10,324.94	-474.79	10,335.84	0.00	0.00	0.00
17,600.00	90.03	180.00	7,377.10	-10,424.94	-474.79	10,435.74	0.00	0.00	0.00
17,700.00	90.03	180.00	7,377.05	-10,524.94	-474.79	10,535.64	0.00	0.00	0.00
17,800.00	90.03	180.00	7,377.00	-10,624.94	-474.79	10,635.54	0.00	0.00	0.00
17,802.16	90.03	180.00	7,377.00	-10,627.10	-474.79	10,637.70	0.00	0.00	0.00
TD at 17802.16 - PBHL_DUGITE 34N-35HZ (920 FSL 110 FWL)									

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well DUGITE 34N-35HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4970 & KB 17 @ 4987.00ft (ASSUMED)
Site:	DUGITE 13-23HZ PAD	North Reference:	True
Well:	DUGITE 34N-35HZ	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_DUGITE 34N-35H	0.00	0.00	7,377.00	-10,627.10	-474.79	1,276,274.51	3,177,026.07	40.0900310	-104.8672700
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,269.00	1,269.00	9 5/8"		9.625	12.250
7,748.30	7,382.00	7" (445 FSL 54 FWL)		7.000	7.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
1,219.00	1,219.00	Fox Hills Marker				
4,187.52	4,150.00	Parkman				
4,566.98	4,528.00	Sussex				
7,322.32	7,231.00	Sharon Springs				
7,445.55	7,304.00	Niobrara A				
7,621.10	7,368.00	Niobrara B				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,369.00	1,369.00	0.00	0.00	Start Build 2.00	
1,868.77	1,866.24	0.00	-43.48	Start 2234.44 hold at 1868.77 MD	
4,103.21	4,066.76	0.00	-431.31	Start Drop -2.00	
4,602.98	4,564.00	0.00	-474.79	Start 2245.04 hold at 4602.98 MD	
6,848.02	6,809.04	0.00	-474.79	Start DLS 10.00 TFO 180.00	
7,748.30	7,382.00	-573.24	-474.79	Start 10053.85 hold at 7748.30 MD	
17,802.16	7,377.00	-10,627.10	-474.79	TD at 17802.16	