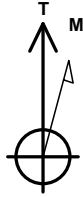


GRMR Oil & Gas, LLC

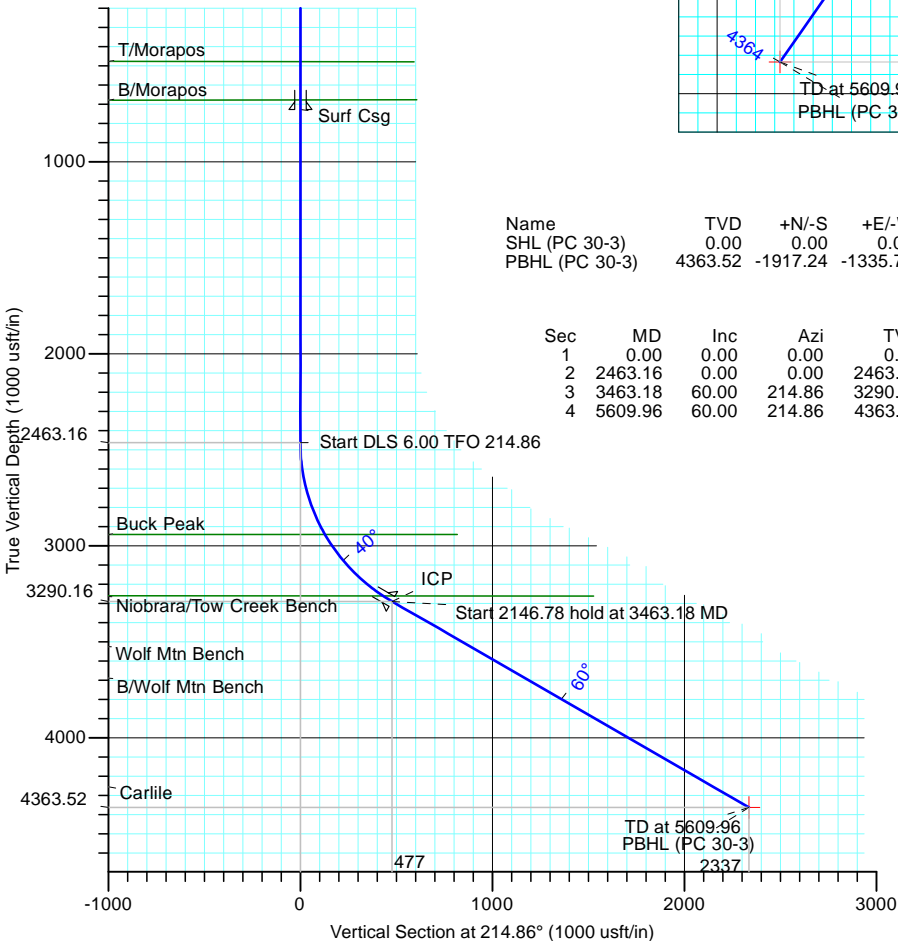
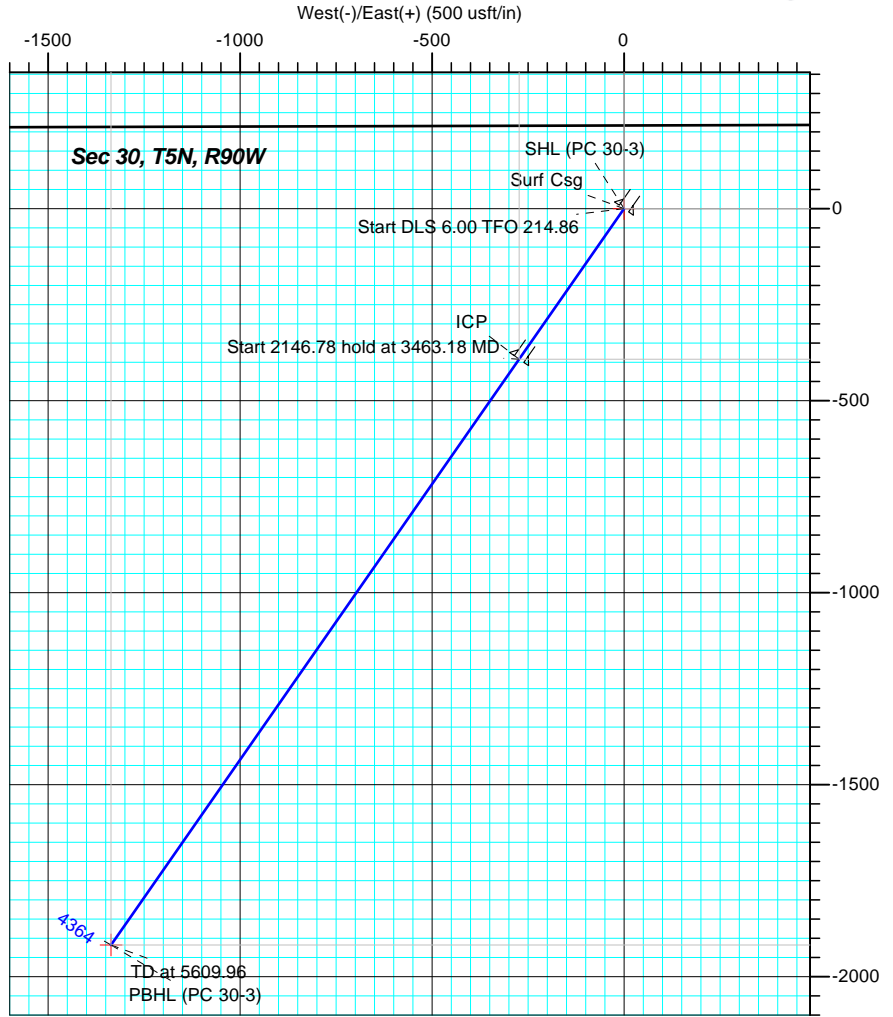
Project: Moffat County, CO
 Site: Peter McCue
 Well: 30-3
 Wellbore: OH
 Design: Draft #2a



Azimuths to True North
 Magnetic North: 9.67°
 Magnetic Field
 Strength: 52065.4snT
 Dip Angle: 66.38°
 Date: 4/26/2016
 Model: HDGM

PROJECT DETAILS: Moffat County, CO

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 Datum: GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (PC 30-3)	0.00	0.00	0.00	1381668.55	2432071.73	40° 21' 47.390 N	107° 32' 17.650 W
PBHL (PC 30-3)	4363.52	-1917.24	-1335.73	1379782.52	2430692.29	40° 21' 28.444 N	107° 32' 34.904 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSEct	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2463.16	0.00	0.00	2463.16	0.00	0.00	0.00	0.00	0.00	
3	3463.18	60.00	214.86	3290.16	-391.77	-272.95	6.00	214.86	477.48	
4	5609.96	60.00	214.86	4363.52	-1917.24	-1335.73	0.00	0.00	2336.66	PBHL (PC 30-3)

CASING DETAILS

TVD	MD	Name
729.00	729.00	Surf Csg
3290.15	3463.16	ICP

FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
479.00	479.00	T/Morapos
679.00	679.00	B/Morapos
2942.00	2964.75	Buck Peak
3264.00	3413.10	Niobrara/Tow Creek Bench
3525.00	3932.87	Wolf Mtn Bench
3689.00	4260.88	B/Wolf Mtn Bench
4255.00	5392.91	Carlile



LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax: 936/756-7595

Plan: Draft #2a (30-3/OH)
 Created By: Nora Tucker Date: 15:06, May 13 2016

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Project	Moffat County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Peter McCue				
Site Position:		Northing:	1,381,668.55 usft	Latitude:	40° 21' 47.390 N
From:	Lat/Long	Easting:	2,432,071.74 usft	Longitude:	107° 32' 17.650 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.32 °

Well	30-3					
Well Position	+N/-S	0.00 usft	Northing:	1,381,668.55 usft	Latitude:	40° 21' 47.390 N
	+E/-W	0.00 usft	Easting:	2,432,071.74 usft	Longitude:	107° 32' 17.650 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,480.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/26/2016	9.67	66.38	52,065

Design	Draft #2a			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	214.86

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
2,463.16	0.00	0.00	2,463.16	0.00	0.00	0.00	0.00	0.00	0.00	
3,463.18	60.00	214.86	3,290.16	-391.77	-272.95	6.00	6.00	-14.51	214.86	
5,609.96	60.00	214.86	4,363.52	-1,917.24	-1,335.73	0.00	0.00	0.00	0.00	PBHL (PC 30-3)

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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
SHL (PC 30-3)										
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
479.00	0.00	0.00	479.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Morapos										
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
679.00	0.00	0.00	679.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B/Morapos										
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
729.00	0.00	0.00	729.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surf Csg										
800.00	0.00	0.00	800.00	0.00	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	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	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	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,463.16	0.00	0.00	2,463.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	2.21	214.86	2,499.99	-0.58	-0.41	0.71	6.00	6.00	6.00	0.00
2,550.00	5.21	214.86	2,549.88	-3.24	-2.26	3.95	6.00	6.00	6.00	0.00
2,600.00	8.21	214.86	2,599.53	-8.03	-5.60	9.79	6.00	6.00	6.00	0.00
2,650.00	11.21	214.86	2,648.81	-14.95	-10.42	18.22	6.00	6.00	6.00	0.00
2,700.00	14.21	214.86	2,697.58	-23.98	-16.70	29.22	6.00	6.00	6.00	0.00
2,750.00	17.21	214.86	2,745.71	-35.08	-24.44	42.76	6.00	6.00	6.00	0.00
2,800.00	20.21	214.86	2,793.06	-48.24	-33.61	58.79	6.00	6.00	6.00	0.00
2,850.00	23.21	214.86	2,839.51	-63.42	-44.18	77.29	6.00	6.00	6.00	0.00
2,900.00	26.21	214.86	2,884.92	-80.56	-56.13	98.19	6.00	6.00	6.00	0.00
2,950.00	29.21	214.86	2,929.18	-99.64	-69.42	121.44	6.00	6.00	6.00	0.00
2,964.75	30.10	214.86	2,942.00	-105.63	-73.59	128.73	6.00	6.00	6.00	0.00
Buck Peak										
3,000.00	32.21	214.86	2,972.17	-120.59	-84.01	146.97	6.00	6.00	6.00	0.00
3,050.00	35.21	214.86	3,013.75	-143.35	-99.87	174.71	6.00	6.00	6.00	0.00
3,100.00	38.21	214.86	3,053.83	-167.87	-116.96	204.60	6.00	6.00	6.00	0.00
3,150.00	41.21	214.86	3,092.29	-194.08	-135.22	236.54	6.00	6.00	6.00	0.00
3,200.00	44.21	214.86	3,129.03	-221.91	-154.60	270.45	6.00	6.00	6.00	0.00
3,250.00	47.21	214.86	3,163.94	-251.27	-175.06	306.24	6.00	6.00	6.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,300.00	50.21	214.86	3,196.93	-282.09	-196.53	343.80	6.00	6.00	0.00	
3,350.00	53.21	214.86	3,227.91	-314.29	-218.96	383.04	6.00	6.00	0.00	
3,400.00	56.21	214.86	3,256.79	-347.77	-242.29	423.85	6.00	6.00	0.00	
3,413.10	57.00	214.86	3,264.00	-356.75	-248.54	434.79	6.00	6.00	0.00	
Niobrara/Tow Creek Bench										
3,450.00	59.21	214.86	3,283.50	-382.45	-266.45	466.11	6.00	6.00	0.00	
3,463.16	60.00	214.86	3,290.15	-391.76	-272.94	477.46	6.00	6.00	0.00	
ICP										
3,463.18	60.00	214.86	3,290.16	-391.77	-272.95	477.48	6.00	6.00	0.00	
3,500.00	60.00	214.86	3,308.57	-417.94	-291.18	509.37	0.00	0.00	0.00	
3,600.00	60.00	214.86	3,358.57	-489.00	-340.68	595.97	0.00	0.00	0.00	
3,700.00	60.00	214.86	3,408.57	-560.06	-390.19	682.58	0.00	0.00	0.00	
3,800.00	60.00	214.86	3,458.57	-631.12	-439.69	769.18	0.00	0.00	0.00	
3,900.00	60.00	214.86	3,508.57	-702.17	-489.20	855.78	0.00	0.00	0.00	
3,932.87	60.00	214.86	3,525.00	-725.53	-505.47	884.25	0.00	0.00	0.00	
Wolf Mtn Bench										
4,000.00	60.00	214.86	3,558.57	-773.23	-538.71	942.39	0.00	0.00	0.00	
4,100.00	60.00	214.86	3,608.56	-844.29	-588.21	1,028.99	0.00	0.00	0.00	
4,200.00	60.00	214.86	3,658.56	-915.35	-637.72	1,115.59	0.00	0.00	0.00	
4,260.88	60.00	214.86	3,689.00	-958.61	-667.85	1,168.31	0.00	0.00	0.00	
B/Wolf Mtn Bench										
4,300.00	60.00	214.86	3,708.56	-986.41	-687.22	1,202.20	0.00	0.00	0.00	
4,400.00	60.00	214.86	3,758.56	-1,057.47	-736.73	1,288.80	0.00	0.00	0.00	
4,500.00	60.00	214.86	3,808.56	-1,128.52	-786.24	1,375.40	0.00	0.00	0.00	
4,600.00	60.00	214.86	3,858.56	-1,199.58	-835.74	1,462.01	0.00	0.00	0.00	
4,700.00	60.00	214.86	3,908.56	-1,270.64	-885.25	1,548.61	0.00	0.00	0.00	
4,800.00	60.00	214.86	3,958.55	-1,341.70	-934.75	1,635.21	0.00	0.00	0.00	
4,900.00	60.00	214.86	4,008.55	-1,412.76	-984.26	1,721.82	0.00	0.00	0.00	
5,000.00	60.00	214.86	4,058.55	-1,483.82	-1,033.76	1,808.42	0.00	0.00	0.00	
5,100.00	60.00	214.86	4,108.55	-1,554.88	-1,083.27	1,895.02	0.00	0.00	0.00	
5,200.00	60.00	214.86	4,158.55	-1,625.93	-1,132.78	1,981.63	0.00	0.00	0.00	
5,300.00	60.00	214.86	4,208.55	-1,696.99	-1,182.28	2,068.23	0.00	0.00	0.00	
5,392.91	60.00	214.86	4,255.00	-1,763.01	-1,228.28	2,148.69	0.00	0.00	0.00	
Carlile										
5,400.00	60.00	214.86	4,258.55	-1,768.05	-1,231.79	2,154.83	0.00	0.00	0.00	
5,500.00	60.00	214.86	4,308.54	-1,839.11	-1,281.29	2,241.44	0.00	0.00	0.00	
5,609.96	60.00	214.86	4,363.52	-1,917.24	-1,335.73	2,336.66	0.00	0.00	0.00	
PBHL (PC 30-3)										

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (PC 30-3) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W
PBHL (PC 30-3) - plan hits target center - Point	0.00	0.00	4,363.52	-1,917.24	-1,335.73	1,379,782.52	2,430,692.30	40° 21' 28.444 N	107° 32' 34.904 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
729.00	729.00	Surf Csg			
3,463.16	3,290.15	ICP			

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
479.00	479.00	T/Morapos		0.00	214.77
679.00	679.00	B/Morapos		0.00	214.77
2,964.75	2,942.00	Buck Peak		0.00	214.77
3,413.10	3,264.00	Niobrara/Tow Creek Bench		0.00	214.77
3,932.87	3,525.00	Wolf Mtn Bench		0.00	214.77
4,260.88	3,689.00	B/Wolf Mtn Bench		0.00	214.77
5,392.91	4,255.00	Carlile		0.00	214.77

GRMR Oil & Gas, LLC

Moffat County, CO

Peter McCue

30-3

OH

Plan: Draft #2a

Standard Planning Report - Geographic

28 April, 2016

LEAM Drilling Systems LLC

Planning Report - Geographic

Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Project	Moffat County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Peter McCue		
Site Position:		Northing:	1,381,668.55 usft
From:	Lat/Long	Easting:	2,432,071.74 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 21' 47.390 N
		Longitude:	107° 32' 17.650 W
		Grid Convergence:	-1.32 °

Well	30-3		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	40° 21' 47.390 N
		Longitude:	107° 32' 17.650 W
		Ground Level:	6,480.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/26/2016	9.67	66.38	52,065

Design	Draft #2a			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	214.86

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
2,463.16	0.00	0.00	2,463.16	0.00	0.00	0.00	0.00	0.00	0.00	
3,463.18	60.00	214.86	3,290.16	-391.77	-272.95	6.00	6.00	-14.51	214.86	
5,609.96	60.00	214.86	4,363.52	-1,917.24	-1,335.73	0.00	0.00	0.00	0.00	PBHL (PC 30-3)

LEAM Drilling Systems LLC

Planning Report - Geographic

Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
SHL (PC 30-3)										
100.00	0.00	0.00	100.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
200.00	0.00	0.00	200.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
300.00	0.00	0.00	300.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
400.00	0.00	0.00	400.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
479.00	0.00	0.00	479.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
T/Morapos										
500.00	0.00	0.00	500.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
600.00	0.00	0.00	600.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
679.00	0.00	0.00	679.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
B/Morapos										
700.00	0.00	0.00	700.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
729.00	0.00	0.00	729.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
Surf Csg										
800.00	0.00	0.00	800.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
900.00	0.00	0.00	900.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,463.16	0.00	0.00	2,463.16	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
2,500.00	2.21	214.86	2,499.99	-0.58	-0.41	1,381,667.98	2,432,071.32	40° 21' 47.385 N	107° 32' 17.655 W	
2,550.00	5.21	214.86	2,549.88	-3.24	-2.26	1,381,665.37	2,432,069.41	40° 21' 47.358 N	107° 32' 17.679 W	
2,600.00	8.21	214.86	2,599.53	-8.03	-5.60	1,381,660.65	2,432,065.96	40° 21' 47.311 N	107° 32' 17.722 W	
2,650.00	11.21	214.86	2,648.81	-14.95	-10.42	1,381,653.85	2,432,060.98	40° 21' 47.243 N	107° 32' 17.784 W	
2,700.00	14.21	214.86	2,697.58	-23.98	-16.70	1,381,644.97	2,432,054.49	40° 21' 47.153 N	107° 32' 17.865 W	
2,750.00	17.21	214.86	2,745.71	-35.08	-24.44	1,381,634.04	2,432,046.50	40° 21' 47.044 N	107° 32' 17.965 W	
2,800.00	20.21	214.86	2,793.06	-48.24	-33.61	1,381,621.10	2,432,037.03	40° 21' 46.914 N	107° 32' 18.084 W	
2,850.00	23.21	214.86	2,839.51	-63.42	-44.18	1,381,606.17	2,432,026.11	40° 21' 46.764 N	107° 32' 18.220 W	
2,900.00	26.21	214.86	2,884.92	-80.56	-56.13	1,381,589.30	2,432,013.77	40° 21' 46.594 N	107° 32' 18.375 W	
2,950.00	29.21	214.86	2,929.18	-99.64	-69.42	1,381,570.54	2,432,000.05	40° 21' 46.406 N	107° 32' 18.546 W	
2,964.75	30.10	214.86	2,942.00	-105.63	-73.59	1,381,564.65	2,431,995.74	40° 21' 46.347 N	107° 32' 18.600 W	
Buck Peak										
3,000.00	32.21	214.86	2,972.17	-120.59	-84.01	1,381,549.93	2,431,984.98	40° 21' 46.199 N	107° 32' 18.735 W	
3,050.00	35.21	214.86	3,013.75	-143.35	-99.87	1,381,527.53	2,431,968.60	40° 21' 45.974 N	107° 32' 18.940 W	
3,100.00	38.21	214.86	3,053.83	-167.87	-116.96	1,381,503.41	2,431,950.95	40° 21' 45.731 N	107° 32' 19.161 W	
3,150.00	41.21	214.86	3,092.29	-194.08	-135.22	1,381,477.63	2,431,932.10	40° 21' 45.472 N	107° 32' 19.396 W	
3,200.00	44.21	214.86	3,129.03	-221.91	-154.60	1,381,450.26	2,431,912.08	40° 21' 45.197 N	107° 32' 19.647 W	
3,250.00	47.21	214.86	3,163.94	-251.27	-175.06	1,381,421.37	2,431,890.95	40° 21' 44.907 N	107° 32' 19.911 W	
3,300.00	50.21	214.86	3,196.93	-282.09	-196.53	1,381,391.05	2,431,868.77	40° 21' 44.603 N	107° 32' 20.189 W	

LEAM Drilling Systems LLC

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Database:	EDM 5000.1 Multi_User Db	Local Co-ordinate Reference:	Well 30-3
Company:	GRMR Oil & Gas, LLC	TVD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,350.00	53.21	214.86	3,227.91	-314.29	-218.96	1,381,359.38	2,431,845.61	40° 21' 44.285 N	107° 32' 20.478 W	
3,400.00	56.21	214.86	3,256.79	-347.77	-242.29	1,381,326.44	2,431,821.52	40° 21' 43.954 N	107° 32' 20.780 W	
3,413.10	57.00	214.86	3,264.00	-356.75	-248.54	1,381,317.61	2,431,815.06	40° 21' 43.865 N	107° 32' 20.860 W	
Niobrara/Tow Creek Bench										
3,450.00	59.21	214.86	3,283.50	-382.45	-266.45	1,381,292.33	2,431,796.57	40° 21' 43.611 N	107° 32' 21.092 W	
3,463.16	60.00	214.86	3,290.15	-391.76	-272.94	1,381,283.17	2,431,789.87	40° 21' 43.519 N	107° 32' 21.176 W	
ICP										
3,463.18	60.00	214.86	3,290.16	-391.77	-272.95	1,381,283.16	2,431,789.86	40° 21' 43.519 N	107° 32' 21.176 W	
3,500.00	60.00	214.86	3,308.57	-417.94	-291.18	1,381,257.41	2,431,771.03	40° 21' 43.260 N	107° 32' 21.411 W	
3,600.00	60.00	214.86	3,358.57	-489.00	-340.68	1,381,187.51	2,431,719.91	40° 21' 42.558 N	107° 32' 22.051 W	
3,700.00	60.00	214.86	3,408.57	-560.06	-390.19	1,381,117.61	2,431,668.78	40° 21' 41.856 N	107° 32' 22.690 W	
3,800.00	60.00	214.86	3,458.57	-631.12	-439.69	1,381,047.71	2,431,617.65	40° 21' 41.154 N	107° 32' 23.330 W	
3,900.00	60.00	214.86	3,508.57	-702.17	-489.20	1,380,977.81	2,431,566.53	40° 21' 40.451 N	107° 32' 23.969 W	
3,932.87	60.00	214.86	3,525.00	-725.53	-505.47	1,380,954.83	2,431,549.72	40° 21' 40.221 N	107° 32' 24.180 W	
Wolf Mtn Bench										
4,000.00	60.00	214.86	3,558.57	-773.23	-538.71	1,380,907.91	2,431,515.40	40° 21' 39.749 N	107° 32' 24.609 W	
4,100.00	60.00	214.86	3,608.56	-844.29	-588.21	1,380,838.00	2,431,464.28	40° 21' 39.047 N	107° 32' 25.248 W	
4,200.00	60.00	214.86	3,658.56	-915.35	-637.72	1,380,768.10	2,431,413.15	40° 21' 38.345 N	107° 32' 25.888 W	
4,260.88	60.00	214.86	3,689.00	-958.61	-667.85	1,380,725.55	2,431,382.03	40° 21' 37.917 N	107° 32' 26.277 W	
B/Wolf Mtn Bench										
4,300.00	60.00	214.86	3,708.56	-986.41	-687.22	1,380,698.20	2,431,362.02	40° 21' 37.642 N	107° 32' 26.527 W	
4,400.00	60.00	214.86	3,758.56	-1,057.47	-736.73	1,380,628.30	2,431,310.90	40° 21' 36.940 N	107° 32' 27.167 W	
4,500.00	60.00	214.86	3,808.56	-1,128.52	-786.24	1,380,558.40	2,431,259.77	40° 21' 36.238 N	107° 32' 27.806 W	
4,600.00	60.00	214.86	3,858.56	-1,199.58	-835.74	1,380,488.49	2,431,208.65	40° 21' 35.536 N	107° 32' 28.446 W	
4,700.00	60.00	214.86	3,908.56	-1,270.64	-885.25	1,380,418.59	2,431,157.52	40° 21' 34.834 N	107° 32' 29.085 W	
4,800.00	60.00	214.86	3,958.55	-1,341.70	-934.75	1,380,348.69	2,431,106.39	40° 21' 34.131 N	107° 32' 29.725 W	
4,900.00	60.00	214.86	4,008.55	-1,412.76	-984.26	1,380,278.79	2,431,055.27	40° 21' 33.429 N	107° 32' 30.364 W	
5,000.00	60.00	214.86	4,058.55	-1,483.82	-1,033.76	1,380,208.89	2,431,004.14	40° 21' 32.727 N	107° 32' 31.004 W	
5,100.00	60.00	214.86	4,108.55	-1,554.88	-1,083.27	1,380,138.98	2,430,953.02	40° 21' 32.025 N	107° 32' 31.643 W	
5,200.00	60.00	214.86	4,158.55	-1,625.93	-1,132.78	1,380,069.08	2,430,901.89	40° 21' 31.322 N	107° 32' 32.283 W	
5,300.00	60.00	214.86	4,208.55	-1,696.99	-1,182.28	1,379,999.18	2,430,850.76	40° 21' 30.620 N	107° 32' 32.922 W	
5,392.91	60.00	214.86	4,255.00	-1,763.01	-1,228.28	1,379,934.24	2,430,803.26	40° 21' 29.968 N	107° 32' 33.516 W	
Carlile										
5,400.00	60.00	214.86	4,258.55	-1,768.05	-1,231.79	1,379,929.28	2,430,799.64	40° 21' 29.918 N	107° 32' 33.562 W	
5,500.00	60.00	214.86	4,308.54	-1,839.11	-1,281.29	1,379,859.38	2,430,748.51	40° 21' 29.216 N	107° 32' 34.201 W	
5,609.96	60.00	214.86	4,363.52	-1,917.24	-1,335.73	1,379,782.52	2,430,692.30	40° 21' 28.444 N	107° 32' 34.904 W	
PBHL (PC 30-3)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL (PC 30-3) - hit/miss target center - Shape - Point	0.00	0.00	0.00	0.00	0.00	1,381,668.55	2,432,071.74	40° 21' 47.390 N	107° 32' 17.650 W	
PBHL (PC 30-3) - plan hits target center - Point	0.00	0.00	4,363.52	-1,917.24	-1,335.73	1,379,782.52	2,430,692.30	40° 21' 28.444 N	107° 32' 34.904 W	

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Project:	Moffat County, CO	MD Reference:	GE 6480' + KB 19' @ 6499.00usft (Prelim Planning)
Site:	Peter McCue	North Reference:	True
Well:	30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Draft #2a		

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
729.00	729.00	Surf Csg		
3,463.16	3,290.15	ICP		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
479.00	479.00	T/Morapos		0.00	214.77
679.00	679.00	B/Morapos		0.00	214.77
2,964.75	2,942.00	Buck Peak		0.00	214.77
3,413.10	3,264.00	Niobrara/Tow Creek Bench		0.00	214.77
3,932.87	3,525.00	Wolf Mtn Bench		0.00	214.77
4,260.88	3,689.00	B/Wolf Mtn Bench		0.00	214.77
5,392.91	4,255.00	Carlile		0.00	214.77