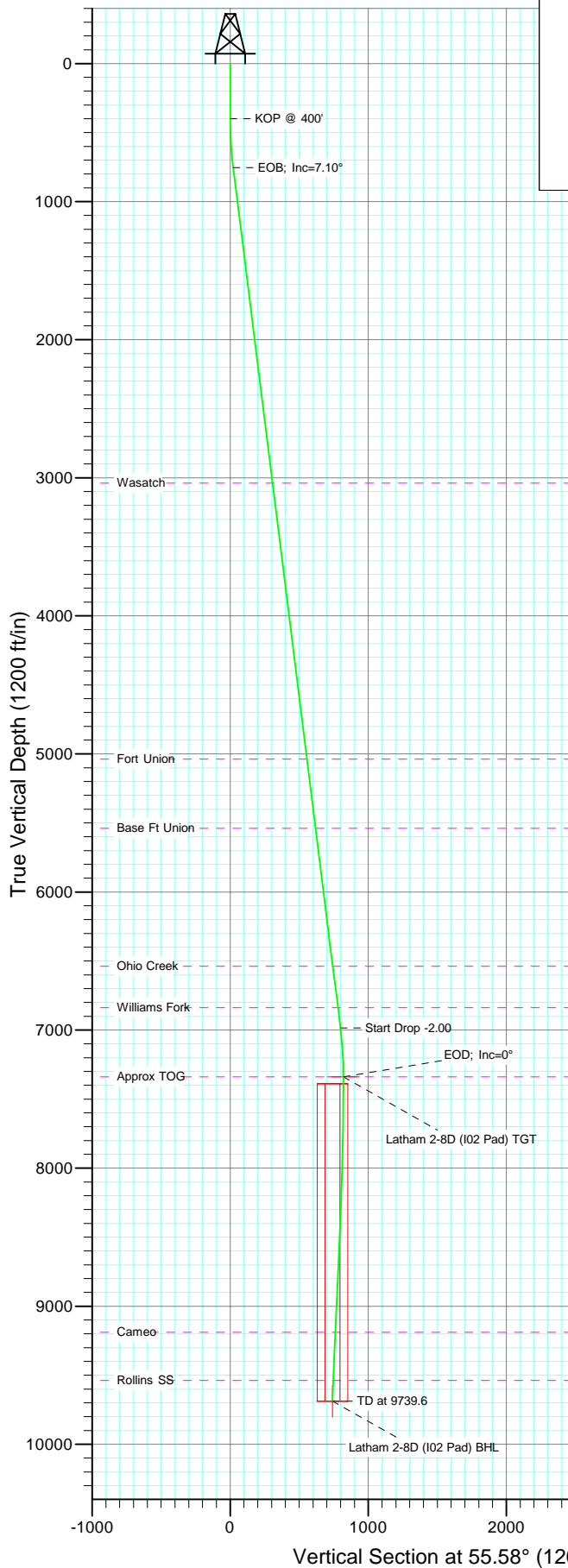
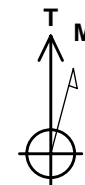
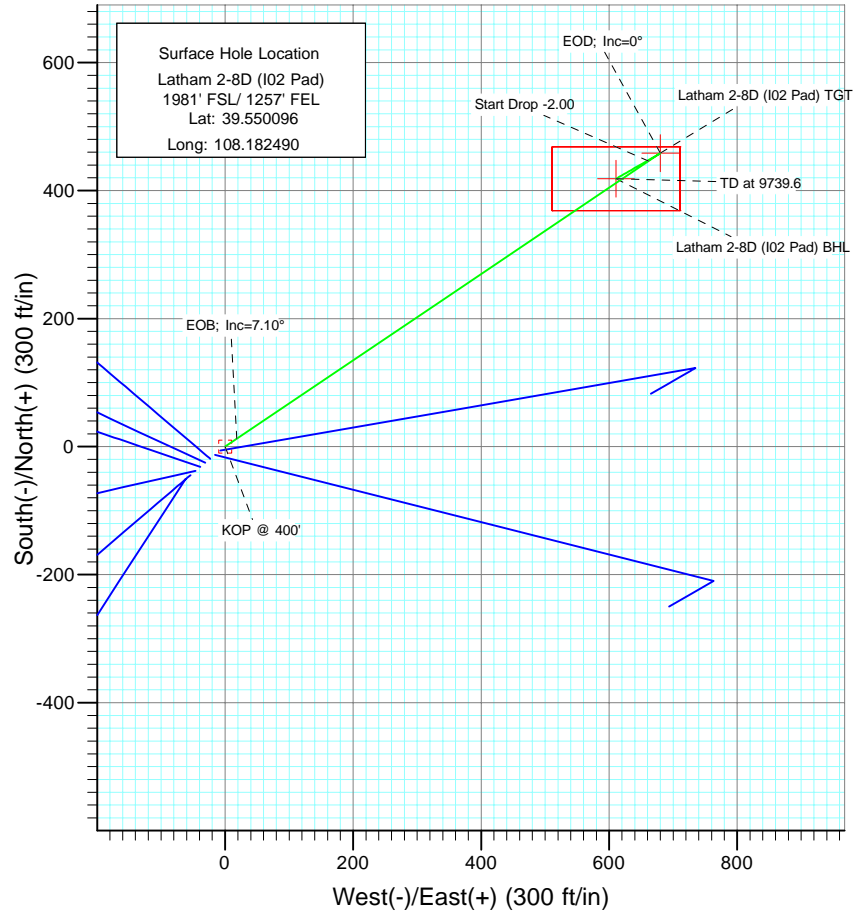




Project: Garfield County
Site: NESE S2-T6S-R97W (I02 697 Pad)
Well: Latham 2-8D (I02 Pad)
Wellbore: DD
Design: Plan #1



SECTION DETAILS										Target
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	755.1	7.10	56.01	754.2	12.3	18.2	2.00	56.01	22.0	
4	7032.9	7.10	56.01	6993.8	446.2	661.9	0.00	0.00	798.2	
5	7388.0	0.00	0.00	7338.0	458.5	680.1	2.00	180.00	820.2	Latham 2-8D (I02 Pad) TGT
6	8375.5	2.47	240.04	8325.2	447.9	661.7	0.25	240.04	799.0	
7	9739.6	2.47	240.04	9688.0	418.5	610.8	0.00	0.00	740.4	Latham 2-8D (I02 Pad) BHL



Azimuths to True North
Magnetic North: 10.63°

Magnetic Field
Strength: 52428.2snT
Dip Angle: 65.80°
Date: 10/27/2009
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3038.0	3056.6	Wasatch
5038.0	5072.0	Fort Union
5538.0	5575.9	Base Ft Union
6538.0	6583.6	Ohio Creek
6838.0	6886.0	Williams Fork
7338.0	7388.0	Approx TOG
9188.0	9239.1	Cameo
9538.0	9589.4	Rollins SS

DESIGN DETAILS: Plan #1

95XXX; BH
KBE @ 8360.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Latham 2-8D (I02 Pad) BHL	55.58	Slot	0.0	0.0	0.0

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site:	NESE S2-T6S-R97W (I02 697 Pad)	North Reference:	True
Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Project	Garfield County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		NESE S2-T6S-R97W (I02 697 Pad)			
Site Position:		Northing:	1,636,421.05 ft	Latitude:	39.550096
From:	Lat/Long	Easting:	2,243,696.28 ft	Longitude:	-108.182490
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.69 °

Well	Latham 2-8D (I02 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,636,421.05 ft	Latitude:	39.550096
	+E/-W	0.0 ft	Easting:	2,243,696.28 ft	Longitude:	-108.182490
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,345.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	10/27/2009	10.63	65.80	52,428

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	55.58	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
755.1	7.10	56.01	754.2	12.3	18.2	2.00	2.00	0.00	56.01	
7,032.9	7.10	56.01	6,983.8	446.2	661.9	0.00	0.00	0.00	0.00	
7,388.0	0.00	0.00	7,338.0	458.5	680.1	2.00	-2.00	0.00	180.00	Latham 2-8D (I02 Pac
8,375.5	2.47	240.04	8,325.2	447.9	661.7	0.25	0.25	-12.15	240.04	
9,739.6	2.47	240.04	9,688.0	418.5	610.8	0.00	0.00	0.00	0.00	Latham 2-8D (I02 Pac

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site:	NESE S2-T6S-R97W (I02 697 Pad)	North Reference:	True
Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
330.0	0.00	0.00	330.0	0.0	0.0	0.0	0.00	0.00	
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	
390.0	0.00	0.00	390.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
420.0	0.40	56.01	420.0	0.0	0.1	0.1	2.00	2.00	
450.0	1.00	56.01	450.0	0.2	0.4	0.4	2.00	2.00	
480.0	1.60	56.01	480.0	0.6	0.9	1.1	2.00	2.00	
510.0	2.20	56.01	510.0	1.2	1.8	2.1	2.00	2.00	
540.0	2.80	56.01	539.9	1.9	2.8	3.4	2.00	2.00	
570.0	3.40	56.01	569.9	2.8	4.2	5.0	2.00	2.00	
600.0	4.00	56.01	599.8	3.9	5.8	7.0	2.00	2.00	
630.0	4.60	56.01	629.8	5.2	7.7	9.2	2.00	2.00	
660.0	5.20	56.01	659.6	6.6	9.8	11.8	2.00	2.00	
690.0	5.80	56.01	689.5	8.2	12.2	14.7	2.00	2.00	
720.0	6.40	56.01	719.3	10.0	14.8	17.9	2.00	2.00	
750.0	7.00	56.01	749.1	11.9	17.7	21.4	2.00	2.00	
755.1	7.10	56.01	754.2	12.3	18.2	22.0	2.00	2.00	EOB; Inc=7.10°
780.0	7.10	56.01	778.9	14.0	20.8	25.1	0.00	0.00	
810.0	7.10	56.01	808.7	16.1	23.9	28.8	0.00	0.00	
840.0	7.10	56.01	838.4	18.2	26.9	32.5	0.00	0.00	
870.0	7.10	56.01	868.2	20.2	30.0	36.2	0.00	0.00	
900.0	7.10	56.01	898.0	22.3	33.1	39.9	0.00	0.00	
930.0	7.10	56.01	927.7	24.4	36.2	43.6	0.00	0.00	
960.0	7.10	56.01	957.5	26.4	39.2	47.3	0.00	0.00	
990.0	7.10	56.01	987.3	28.5	42.3	51.0	0.00	0.00	
1,020.0	7.10	56.01	1,017.1	30.6	45.4	54.7	0.00	0.00	
1,050.0	7.10	56.01	1,046.8	32.7	48.5	58.4	0.00	0.00	
1,080.0	7.10	56.01	1,076.6	34.7	51.5	62.2	0.00	0.00	
1,110.0	7.10	56.01	1,106.4	36.8	54.6	65.9	0.00	0.00	
1,140.0	7.10	56.01	1,136.1	38.9	57.7	69.6	0.00	0.00	
1,170.0	7.10	56.01	1,165.9	41.0	60.8	73.3	0.00	0.00	
1,200.0	7.10	56.01	1,195.7	43.0	63.8	77.0	0.00	0.00	
1,230.0	7.10	56.01	1,225.4	45.1	66.9	80.7	0.00	0.00	
1,260.0	7.10	56.01	1,255.2	47.2	70.0	84.4	0.00	0.00	
1,290.0	7.10	56.01	1,285.0	49.3	73.1	88.1	0.00	0.00	
1,320.0	7.10	56.01	1,314.8	51.3	76.1	91.8	0.00	0.00	
1,350.0	7.10	56.01	1,344.5	53.4	79.2	95.5	0.00	0.00	
1,380.0	7.10	56.01	1,374.3	55.5	82.3	99.2	0.00	0.00	
1,410.0	7.10	56.01	1,404.1	57.6	85.4	103.0	0.00	0.00	
1,440.0	7.10	56.01	1,433.8	59.6	88.4	106.7	0.00	0.00	
1,470.0	7.10	56.01	1,463.6	61.7	91.5	110.4	0.00	0.00	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site:	NESE S2-T6S-R97W (I02 697 Pad)	North Reference:	True
Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
1,500.0	7.10	56.01	1,493.4	63.8	94.6	114.1	0.00	0.00	
1,530.0	7.10	56.01	1,523.1	65.8	97.7	117.8	0.00	0.00	
1,560.0	7.10	56.01	1,552.9	67.9	100.7	121.5	0.00	0.00	
1,590.0	7.10	56.01	1,582.7	70.0	103.8	125.2	0.00	0.00	
1,620.0	7.10	56.01	1,612.5	72.1	106.9	128.9	0.00	0.00	
1,650.0	7.10	56.01	1,642.2	74.1	110.0	132.6	0.00	0.00	
1,680.0	7.10	56.01	1,672.0	76.2	113.1	136.3	0.00	0.00	
1,710.0	7.10	56.01	1,701.8	78.3	116.1	140.1	0.00	0.00	
1,740.0	7.10	56.01	1,731.5	80.4	119.2	143.8	0.00	0.00	
1,770.0	7.10	56.01	1,761.3	82.4	122.3	147.5	0.00	0.00	
1,800.0	7.10	56.01	1,791.1	84.5	125.4	151.2	0.00	0.00	
1,830.0	7.10	56.01	1,820.8	86.6	128.4	154.9	0.00	0.00	
1,860.0	7.10	56.01	1,850.6	88.7	131.5	158.6	0.00	0.00	
1,890.0	7.10	56.01	1,880.4	90.7	134.6	162.3	0.00	0.00	
1,920.0	7.10	56.01	1,910.2	92.8	137.7	166.0	0.00	0.00	
1,950.0	7.10	56.01	1,939.9	94.9	140.7	169.7	0.00	0.00	
1,980.0	7.10	56.01	1,969.7	97.0	143.8	173.4	0.00	0.00	
2,010.0	7.10	56.01	1,999.5	99.0	146.9	177.1	0.00	0.00	
2,040.0	7.10	56.01	2,029.2	101.1	150.0	180.9	0.00	0.00	
2,070.0	7.10	56.01	2,059.0	103.2	153.0	184.6	0.00	0.00	
2,100.0	7.10	56.01	2,088.8	105.2	156.1	188.3	0.00	0.00	
2,130.0	7.10	56.01	2,118.5	107.3	159.2	192.0	0.00	0.00	
2,160.0	7.10	56.01	2,148.3	109.4	162.3	195.7	0.00	0.00	
2,190.0	7.10	56.01	2,178.1	111.5	165.3	199.4	0.00	0.00	
2,220.0	7.10	56.01	2,207.8	113.5	168.4	203.1	0.00	0.00	
2,250.0	7.10	56.01	2,237.6	115.6	171.5	206.8	0.00	0.00	
2,280.0	7.10	56.01	2,267.4	117.7	174.6	210.5	0.00	0.00	
2,310.0	7.10	56.01	2,297.2	119.8	177.6	214.2	0.00	0.00	
2,340.0	7.10	56.01	2,326.9	121.8	180.7	217.9	0.00	0.00	
2,370.0	7.10	56.01	2,356.7	123.9	183.8	221.7	0.00	0.00	
2,400.0	7.10	56.01	2,386.5	126.0	186.9	225.4	0.00	0.00	
2,430.0	7.10	56.01	2,416.2	128.1	189.9	229.1	0.00	0.00	
2,460.0	7.10	56.01	2,446.0	130.1	193.0	232.8	0.00	0.00	
2,490.0	7.10	56.01	2,475.8	132.2	196.1	236.5	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Latham 2-8D (I02 Pad) E	0.00	0.00	9,688.0	418.5	610.8	1,636,821.36	2,244,319.14	39.551245	-108.180324
- plan misses target center by 7229.8ft at 2490.0ft MD (2475.8 TVD, 132.2 N, 196.1 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Latham 2-8D (I02 Pad) 1	0.00	0.00	7,338.0	458.5	680.1	1,636,859.27	2,244,389.62	39.551355	-108.180078
- plan misses target center by 4897.1ft at 2490.0ft MD (2475.8 TVD, 132.2 N, 196.1 E)									
- Point									

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site:	NESE S2-T6S-R97W (I02 697 Pad)	North Reference:	True
Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
2,500.0	7.10	56.01	2,485.7	132.9	197.1	237.7	0.00	0.00	
2,600.0	7.10	56.01	2,584.9	139.8	207.4	250.1	0.00	0.00	
2,700.0	7.10	56.01	2,684.2	146.7	217.6	262.5	0.00	0.00	
2,800.0	7.10	56.01	2,783.4	153.6	227.9	274.8	0.00	0.00	
2,900.0	7.10	56.01	2,882.6	160.5	238.1	287.2	0.00	0.00	
3,000.0	7.10	56.01	2,981.9	167.5	248.4	299.6	0.00	0.00	
3,056.6	7.10	56.01	3,038.0	171.4	254.2	306.6	0.00	0.00	Wasatch
3,100.0	7.10	56.01	3,081.1	174.4	258.6	311.9	0.00	0.00	
3,200.0	7.10	56.01	3,180.3	181.3	268.9	324.3	0.00	0.00	
3,300.0	7.10	56.01	3,279.6	188.2	279.1	336.7	0.00	0.00	
3,400.0	7.10	56.01	3,378.8	195.1	289.4	349.0	0.00	0.00	
3,500.0	7.10	56.01	3,478.0	202.0	299.7	361.4	0.00	0.00	
3,600.0	7.10	56.01	3,577.3	208.9	309.9	373.7	0.00	0.00	
3,700.0	7.10	56.01	3,676.5	215.8	320.2	386.1	0.00	0.00	
3,800.0	7.10	56.01	3,775.7	222.8	330.4	398.5	0.00	0.00	
3,900.0	7.10	56.01	3,875.0	229.7	340.7	410.8	0.00	0.00	
4,000.0	7.10	56.01	3,974.2	236.6	350.9	423.2	0.00	0.00	
4,100.0	7.10	56.01	4,073.4	243.5	361.2	435.6	0.00	0.00	
4,200.0	7.10	56.01	4,172.7	250.4	371.4	447.9	0.00	0.00	
4,300.0	7.10	56.01	4,271.9	257.3	381.7	460.3	0.00	0.00	
4,400.0	7.10	56.01	4,371.1	264.2	391.9	472.7	0.00	0.00	
4,500.0	7.10	56.01	4,470.4	271.1	402.2	485.0	0.00	0.00	
4,600.0	7.10	56.01	4,569.6	278.0	412.4	497.4	0.00	0.00	
4,700.0	7.10	56.01	4,668.8	285.0	422.7	509.8	0.00	0.00	
4,800.0	7.10	56.01	4,768.0	291.9	432.9	522.1	0.00	0.00	
4,900.0	7.10	56.01	4,867.3	298.8	443.2	534.5	0.00	0.00	
5,000.0	7.10	56.01	4,966.5	305.7	453.4	546.9	0.00	0.00	
5,072.0	7.10	56.01	5,038.0	310.7	460.8	555.8	0.00	0.00	Fort Union
5,100.0	7.10	56.01	5,065.7	312.6	463.7	559.2	0.00	0.00	
5,200.0	7.10	56.01	5,165.0	319.5	474.0	571.6	0.00	0.00	
5,300.0	7.10	56.01	5,264.2	326.4	484.2	583.9	0.00	0.00	
5,400.0	7.10	56.01	5,363.4	333.3	494.5	596.3	0.00	0.00	
5,500.0	7.10	56.01	5,462.7	340.3	504.7	608.7	0.00	0.00	
5,575.9	7.10	56.01	5,538.0	345.5	512.5	618.1	0.00	0.00	Base Ft Union
5,600.0	7.10	56.01	5,561.9	347.2	515.0	621.0	0.00	0.00	
5,700.0	7.10	56.01	5,661.1	354.1	525.2	633.4	0.00	0.00	
5,800.0	7.10	56.01	5,760.4	361.0	535.5	645.8	0.00	0.00	
5,900.0	7.10	56.01	5,859.6	367.9	545.7	658.1	0.00	0.00	
6,000.0	7.10	56.01	5,958.8	374.8	556.0	670.5	0.00	0.00	
6,100.0	7.10	56.01	6,058.1	381.7	566.2	682.9	0.00	0.00	
6,200.0	7.10	56.01	6,157.3	388.6	576.5	695.2	0.00	0.00	
6,300.0	7.10	56.01	6,256.5	395.6	586.7	707.6	0.00	0.00	
6,400.0	7.10	56.01	6,355.8	402.5	597.0	720.0	0.00	0.00	
6,500.0	7.10	56.01	6,455.0	409.4	607.2	732.3	0.00	0.00	
6,583.6	7.10	56.01	6,538.0	415.2	615.8	742.7	0.00	0.00	Ohio Creek
6,600.0	7.10	56.01	6,554.2	416.3	617.5	744.7	0.00	0.00	
6,700.0	7.10	56.01	6,653.5	423.2	627.7	757.1	0.00	0.00	
6,800.0	7.10	56.01	6,752.7	430.1	638.0	769.4	0.00	0.00	
6,886.0	7.10	56.01	6,838.0	436.1	646.8	780.0	0.00	0.00	Williams Fork
6,900.0	7.10	56.01	6,851.9	437.0	648.2	781.8	0.00	0.00	
7,000.0	7.10	56.01	6,951.2	443.9	658.5	794.1	0.00	0.00	
7,032.9	7.10	56.01	6,983.8	446.2	661.9	798.2	0.00	0.00	Start Drop -2.00

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site:	NESE S2-T6S-R97W (I02 697 Pad)	North Reference:	True
Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
7,100.0	5.76	56.01	7,050.5	450.4	668.1	805.7	2.00	-2.00	
7,200.0	3.76	56.01	7,150.1	455.1	675.0	814.0	2.00	-2.00	
7,300.0	1.76	56.01	7,250.0	457.7	679.0	818.8	2.00	-2.00	
7,388.0	0.00	0.00	7,338.0	458.5	680.1	820.2	2.00	-2.00	EOD; Inc=0° - Approx TOG - Latham 2-8D (I02
7,400.0	0.03	240.04	7,350.0	458.5	680.1	820.2	0.25	0.25	
7,500.0	0.28	240.04	7,450.0	458.4	679.9	819.9	0.25	0.25	
7,600.0	0.53	240.04	7,550.0	458.0	679.3	819.2	0.25	0.25	
7,700.0	0.78	240.04	7,650.0	457.4	678.3	818.1	0.25	0.25	
7,800.0	1.03	240.04	7,750.0	456.7	676.9	816.5	0.25	0.25	
7,900.0	1.28	240.04	7,850.0	455.6	675.1	814.5	0.25	0.25	
8,000.0	1.53	240.04	7,949.9	454.4	673.0	812.0	0.25	0.25	
8,100.0	1.78	240.04	8,049.9	453.0	670.5	809.2	0.25	0.25	
8,200.0	2.03	240.04	8,149.8	451.3	667.6	805.9	0.25	0.25	
8,300.0	2.28	240.04	8,249.8	449.4	664.4	802.1	0.25	0.25	
8,375.5	2.47	240.04	8,325.2	447.9	661.7	799.0	0.25	0.25	
8,400.0	2.47	240.04	8,349.7	447.3	660.8	797.9	0.00	0.00	
8,500.0	2.47	240.04	8,449.6	445.2	657.0	793.6	0.00	0.00	
8,600.0	2.47	240.04	8,549.5	443.0	653.3	789.3	0.00	0.00	
8,700.0	2.47	240.04	8,649.4	440.9	649.6	785.1	0.00	0.00	
8,800.0	2.47	240.04	8,749.3	438.7	645.8	780.8	0.00	0.00	
8,900.0	2.47	240.04	8,849.2	436.6	642.1	776.5	0.00	0.00	
9,000.0	2.47	240.04	8,949.1	434.4	638.4	772.2	0.00	0.00	
9,100.0	2.47	240.04	9,049.0	432.3	634.6	767.9	0.00	0.00	
9,200.0	2.47	240.04	9,148.9	430.1	630.9	763.6	0.00	0.00	
9,239.1	2.47	240.04	9,188.0	429.3	629.4	761.9	0.00	0.00	Cameo
9,300.0	2.47	240.04	9,248.8	428.0	627.2	759.3	0.00	0.00	
9,400.0	2.47	240.04	9,348.7	425.8	623.4	755.0	0.00	0.00	
9,500.0	2.47	240.04	9,448.7	423.7	619.7	750.7	0.00	0.00	
9,589.4	2.47	240.04	9,538.0	421.8	616.4	746.9	0.00	0.00	Rollins SS
9,600.0	2.47	240.04	9,548.6	421.5	616.0	746.4	0.00	0.00	
9,700.0	2.47	240.04	9,648.5	419.4	612.2	742.1	0.00	0.00	
9,739.6	2.47	240.04	9,688.0	418.5	610.8	740.4	0.00	0.00	Latham 2-8D (I02 Pad) BHL

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Latham 2-8D (I02 Pad) E	0.00	0.00	9,688.0	418.5	610.8	1,636,821.36	2,244,319.14	39.551245	-108.180324
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									
Latham 2-8D (I02 Pad) 1	0.00	0.00	7,338.0	458.5	680.1	1,636,859.27	2,244,389.62	39.551355	-108.180078
- plan hits target center									
- Point									

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site:	NESE S2-T6S-R97W (I02 697 Pad)	North Reference:	True
Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,056.6	3,038.0	Wasatch		0.00		
5,072.0	5,038.0	Fort Union		0.00		
5,575.9	5,538.0	Base Ft Union		0.00		
6,583.6	6,538.0	Ohio Creek		0.00		
6,886.0	6,838.0	Williams Fork		0.00		
7,388.0	7,338.0	Approx TOG		0.00		
9,239.1	9,188.0	Cameo		0.00		
9,589.4	9,538.0	Rollins SS		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
400.0	400.0	0.0	0.0	KOP @ 400'	
755.1	754.2	12.3	18.2	EOB; Inc=7.10°	
7,032.9	6,983.8	446.2	661.9	Start Drop -2.00	
7,388.0	7,338.0	458.5	680.1	EOD; Inc=0°	
9,739.6	9,688.0	447.9	661.7	TD at 9739.6	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 200.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	10/29/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,739.6	Plan #1 (DD)	MWD	Geolink MWD	

Summary						
Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
NESE S2-T6S-R97W (I02 697 Pad)						
Latham 2-12D (I02 697 Pad) - DD - Plan #1	300.0	300.0	79.9	78.9	80.274	CC, ES
Latham 2-12D (I02 697 Pad) - DD - Plan #1	600.0	590.4	101.4	99.4	50.030	SF
Latham 2-13D (I02 697 Pad) - DD - Plan #1	400.0	400.0	70.0	68.7	52.121	CC, ES
Latham 2-13D (I02 697 Pad) - DD - Plan #1	600.0	594.3	83.8	81.7	41.285	SF
Latham 2-14D (I02 697 Pad) - DD - Plan #1	400.0	400.0	59.8	58.4	44.484	CC, ES
Latham 2-14D (I02 697 Pad) - DD - Plan #1	600.0	597.8	68.3	66.2	33.537	SF
Latham 2-15D (I02 697 Pad) - DD - Plan #1	400.0	400.0	50.0	48.6	37.182	CC, ES
Latham 2-15D (I02 697 Pad) - DD - Plan #1	600.0	598.7	57.9	55.8	28.389	SF
Latham 2-16D (I02 697 Pad) - DD - Plan #1	300.0	300.0	29.9	28.9	30.048	CC, ES
Latham 2-16D (I02 697 Pad) - DD - Plan #1	500.0	499.3	33.6	31.9	19.683	SF
Latham 2-17D (I02 697 Pad) - DD - Plan #1	200.0	200.0	39.9	39.3	61.830	CC, ES
Latham 2-17D (I02 697 Pad) - DD - Plan #1	500.0	497.0	50.5	48.8	29.237	SF
Latham 2-6D (I02 697 Pad) - DD - Plan #1	400.0	400.0	20.1	18.7	14.941	CC, ES
Latham 2-6D (I02 697 Pad) - DD - Plan #1	600.0	600.7	23.4	21.4	11.386	SF
Latham 2-7D (I02 697 Pad) - DD - Plan #1	400.0	400.0	9.8	8.5	7.304	CC, ES
Latham 2-7D (I02 697 Pad) - DD - Plan #1	500.0	500.0	11.6	9.9	6.828	SF

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S2-T6S-R97W (I02 697 Pad) - Latham 2-12D (I02 697 Pad) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-129.35	-50.6	-61.8	79.9				
100.0	100.0	100.0	100.0	0.1	0.1	-129.35	-50.6	-61.8	79.9	79.6	0.30	269.152	
200.0	200.0	200.0	200.0	0.3	0.3	-129.35	-50.6	-61.8	79.9	79.2	0.65	123.665	
300.0	300.0	300.0	300.0	0.5	0.5	-129.35	-50.6	-61.8	79.9	78.9	0.99	80.274	CC, ES
400.0	400.0	397.4	397.4	0.7	0.7	-129.70	-52.0	-62.7	81.5	80.1	1.34	60.790	
500.0	500.0	494.4	494.2	0.8	0.9	173.43	-56.2	-65.4	88.1	86.4	1.68	52.307	
600.0	599.8	590.4	589.9	1.0	1.1	172.41	-63.0	-69.8	101.4	99.4	2.03	50.030	SF
700.0	699.5	684.9	683.7	1.3	1.3	171.45	-72.3	-75.8	121.3	118.9	2.37	51.270	
800.0	798.7	780.0	777.9	1.5	1.6	170.70	-83.8	-83.3	146.7	144.0	2.71	54.203	
900.0	898.0	876.5	873.4	1.7	1.8	170.21	-95.6	-91.0	172.9	169.9	3.06	56.592	
1,000.0	997.2	973.0	968.8	2.0	2.1	169.84	-107.4	-98.7	199.1	195.7	3.40	58.486	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S2-T6S-R97W (I02 697 Pad) - Latham 2-13D (I02 697 Pad) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-129.38	-44.4	-54.1	70.0				
100.0	100.0	100.0	100.0	0.1	0.1	-129.38	-44.4	-54.1	70.0	69.7	0.30	236.077	
200.0	200.0	200.0	200.0	0.3	0.3	-129.38	-44.4	-54.1	70.0	69.4	0.65	108.468	
300.0	300.0	300.0	300.0	0.5	0.5	-129.38	-44.4	-54.1	70.0	69.1	0.99	70.409	
400.0	400.0	400.0	400.0	0.7	0.7	-129.38	-44.4	-54.1	70.0	68.7	1.34	52.121 CC, ES	
500.0	500.0	497.5	497.5	0.8	0.8	174.70	-45.5	-55.4	73.5	71.8	1.69	43.534	
600.0	599.8	594.3	594.2	1.0	1.0	174.93	-48.7	-59.2	83.8	81.7	2.03	41.285 SF	
700.0	699.5	689.8	689.3	1.3	1.2	175.21	-54.0	-65.3	100.8	98.5	2.37	42.626	
800.0	798.7	786.4	785.3	1.5	1.4	175.49	-60.7	-73.2	123.3	120.6	2.70	45.592	
900.0	898.0	883.7	882.1	1.7	1.7	175.72	-67.6	-81.3	146.3	143.3	3.05	48.027	
1,000.0	997.2	981.0	978.8	2.0	1.9	175.89	-74.5	-89.3	169.4	166.0	3.39	49.972	
1,100.0	1,096.4	1,078.3	1,075.5	2.3	2.2	176.01	-81.4	-97.4	192.4	188.7	3.73	51.559	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis				Distance				Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis				
0.0	0.0	0.0	0.0	0.0	0.0	-129.33	-37.9	-46.2	59.8						
100.0	100.0	100.0	100.0	0.1	0.1	-129.33	-37.9	-46.2	59.8	59.5	0.30	201.488			
200.0	200.0	200.0	200.0	0.3	0.3	-129.33	-37.9	-46.2	59.8	59.1	0.65	92.576			
300.0	300.0	300.0	300.0	0.5	0.5	-129.33	-37.9	-46.2	59.8	58.8	0.99	60.093			
400.0	400.0	400.0	400.0	0.7	0.7	-129.33	-37.9	-46.2	59.8	58.4	1.34	44.484 CC, ES			
500.0	500.0	500.0	500.0	0.8	0.8	174.81	-37.9	-46.2	61.5	59.8	1.69	36.353			
600.0	599.8	597.8	597.7	1.0	1.0	175.81	-38.3	-47.9	68.3	66.2	2.04	33.537 SF			
700.0	699.5	694.5	694.4	1.3	1.2	177.75	-39.3	-52.7	81.6	79.2	2.38	34.336			
800.0	798.7	791.3	790.9	1.5	1.4	179.80	-41.0	-60.3	100.7	98.0	2.72	37.070			
900.0	898.0	889.2	888.4	1.7	1.6	-178.72	-42.9	-68.3	120.9	117.8	3.07	39.440			
1,000.0	997.2	987.1	986.0	2.0	1.8	-177.66	-44.7	-76.3	141.1	137.7	3.41	41.341			
1,100.0	1,096.4	1,085.1	1,083.6	2.3	2.0	-176.87	-46.5	-84.4	161.3	157.5	3.76	42.898			
1,200.0	1,195.7	1,183.0	1,181.1	2.5	2.2	-176.25	-48.3	-92.4	181.6	177.4	4.11	44.195			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S2-T6S-R97W (I02 697 Pad) - Latham 2-15D (I02 697 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-129.37	-31.7	-38.6	50.0					
100.0	100.0	100.0	100.0	0.1	0.1	-129.37	-31.7	-38.6	50.0	49.7	0.30	168.413		
200.0	200.0	200.0	200.0	0.3	0.3	-129.37	-31.7	-38.6	50.0	49.3	0.65	77.379		
300.0	300.0	300.0	300.0	0.5	0.5	-129.37	-31.7	-38.6	50.0	49.0	0.99	50.228		
400.0	400.0	400.0	400.0	0.7	0.7	-129.37	-31.7	-38.6	50.0	48.6	1.34	37.182 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	174.80	-31.7	-38.6	51.7	50.0	1.69	30.554		
600.0	599.8	598.7	598.7	1.0	1.0	176.69	-31.1	-40.2	57.9	55.8	2.04	28.389 SF		
700.0	699.5	696.7	696.5	1.3	1.2	-179.42	-29.5	-45.0	69.6	67.2	2.39	29.162		
800.0	798.7	794.0	793.5	1.5	1.4	-175.18	-26.9	-52.7	86.7	84.0	2.74	31.644		
900.0	898.0	892.1	891.2	1.7	1.6	-172.06	-24.0	-61.2	105.2	102.1	3.10	33.893		
1,000.0	997.2	990.2	988.9	2.0	1.8	-169.88	-21.1	-69.6	123.9	120.5	3.47	35.701		
1,100.0	1,096.4	1,088.4	1,086.7	2.3	2.0	-168.27	-18.3	-78.0	142.8	138.9	3.84	37.175		
1,200.0	1,195.7	1,186.5	1,184.4	2.5	2.3	-167.04	-15.4	-86.5	161.7	157.5	4.21	38.395		
1,300.0	1,294.9	1,284.7	1,282.1	2.8	2.5	-166.06	-12.5	-94.9	180.6	176.1	4.58	39.418		
1,400.0	1,394.1	1,382.8	1,379.9	3.1	2.7	-165.28	-9.6	-103.4	199.7	194.7	4.96	40.287		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S2-T6S-R97W (I02 697 Pad) - Latham 2-16D (I02 697 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-129.33	-18.9	-23.1	29.9					
100.0	100.0	100.0	100.0	0.1	0.1	-129.33	-18.9	-23.1	29.9	29.6	0.30	100.749		
200.0	200.0	200.0	200.0	0.3	0.3	-129.33	-18.9	-23.1	29.9	29.2	0.65	46.290		
300.0	300.0	300.0	300.0	0.5	0.5	-129.33	-18.9	-23.1	29.9	28.9	0.99	30.048	CC, ES	
400.0	400.0	399.8	399.8	0.7	0.7	-126.09	-17.8	-24.4	30.3	28.9	1.35	22.492		
500.0	500.0	499.3	499.1	0.8	0.9	-173.35	-14.5	-28.4	33.6	31.9	1.71	19.683	SF	
600.0	599.8	598.0	597.5	1.0	1.1	-163.38	-8.9	-34.9	42.7	40.7	2.08	20.530		
700.0	699.5	696.5	695.3	1.3	1.3	-156.32	-1.8	-43.3	57.5	55.0	2.46	23.343		
800.0	798.7	794.8	793.0	1.5	1.6	-153.17	5.5	-51.8	75.5	72.7	2.85	26.475		
900.0	898.0	893.0	890.6	1.7	1.8	-151.45	12.7	-60.3	94.2	90.9	3.25	28.941		
1,000.0	997.2	991.2	988.2	2.0	2.1	-150.30	19.9	-68.8	112.8	109.2	3.66	30.840		
1,100.0	1,096.4	1,089.4	1,085.7	2.3	2.3	-149.48	27.1	-77.2	131.6	127.5	4.07	32.339		
1,200.0	1,195.7	1,187.6	1,183.3	2.5	2.6	-148.86	34.3	-85.7	150.3	145.8	4.48	33.548		
1,300.0	1,294.9	1,285.9	1,280.9	2.8	2.8	-148.38	41.5	-94.2	169.1	164.2	4.89	34.543		
1,400.0	1,394.1	1,384.1	1,378.5	3.1	3.1	-147.99	48.7	-102.7	187.9	182.5	5.31	35.374		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-129.03	-25.1	-31.0	39.9						
100.0	100.0	100.0	100.0	0.1	0.1	-129.03	-25.1	-31.0	39.9	39.6	0.30	134.571			
200.0	200.0	200.0	200.0	0.3	0.3	-129.03	-25.1	-31.0	39.9	39.3	0.65	61.830	CC, ES		
300.0	300.0	299.4	299.3	0.5	0.5	-126.85	-24.4	-32.6	40.7	39.7	1.00	40.859			
400.0	400.0	398.5	398.3	0.7	0.7	-120.85	-22.3	-37.3	43.4	42.1	1.36	31.881			
500.0	500.0	497.0	496.5	0.8	0.9	-168.92	-18.7	-45.0	50.5	48.8	1.73	29.237	SF		
600.0	599.8	594.4	593.1	1.0	1.2	-161.87	-13.7	-55.6	64.2	62.1	2.10	30.554			
700.0	699.5	690.2	687.8	1.3	1.5	-156.83	-7.5	-69.0	84.4	81.9	2.48	34.021			
800.0	798.7	783.9	779.9	1.5	1.8	-153.53	-0.2	-84.8	110.4	107.5	2.87	38.434			
900.0	898.0	876.0	869.7	1.7	2.2	-151.01	8.3	-103.0	139.7	136.4	3.28	42.638			
1,000.0	997.2	966.2	957.1	2.0	2.6	-148.89	17.7	-123.4	171.9	168.2	3.69	46.607			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S2-T6S-R97W (I02 697 Pad) - Latham 2-6D (I02 697 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-129.43	-12.8	-15.5	20.1					
100.0	100.0	100.0	100.0	0.1	0.1	-129.43	-12.8	-15.5	20.1	19.8	0.30	67.673		
200.0	200.0	200.0	200.0	0.3	0.3	-129.43	-12.8	-15.5	20.1	19.4	0.65	31.093		
300.0	300.0	300.0	300.0	0.5	0.5	-129.43	-12.8	-15.5	20.1	19.1	0.99	20.183		
400.0	400.0	400.0	400.0	0.7	0.7	-129.43	-12.8	-15.5	20.1	18.7	1.34	14.941 CC, ES		
500.0	500.0	500.4	500.4	0.8	0.8	171.11	-13.2	-13.8	20.8	19.1	1.69	12.282		
600.0	599.8	600.7	600.5	1.0	1.0	162.23	-14.5	-8.7	23.4	21.4	2.06	11.386 SF		
700.0	699.5	700.7	700.1	1.3	1.3	151.46	-16.6	-0.2	28.6	26.2	2.45	11.682		
800.0	798.7	800.3	799.1	1.5	1.5	142.38	-19.5	11.1	36.8	33.9	2.90	12.706		
900.0	898.0	899.8	897.9	1.7	1.7	136.68	-22.5	22.8	45.9	42.5	3.37	13.634		
1,000.0	997.2	999.3	996.6	2.0	2.0	132.89	-25.4	34.5	55.3	51.5	3.85	14.357		
1,100.0	1,096.4	1,098.8	1,095.4	2.3	2.2	130.20	-28.4	46.2	64.9	60.6	4.35	14.925		
1,200.0	1,195.7	1,198.3	1,194.1	2.5	2.5	128.22	-31.3	57.9	74.6	69.8	4.85	15.378		
1,300.0	1,294.9	1,297.8	1,292.9	2.8	2.8	126.69	-34.3	69.6	84.4	79.0	5.36	15.746		
1,400.0	1,394.1	1,397.3	1,391.7	3.1	3.0	125.47	-37.3	81.3	94.2	88.3	5.87	16.051		
1,500.0	1,493.4	1,496.8	1,490.4	3.3	3.3	124.49	-40.2	93.0	104.0	97.7	6.38	16.306		
1,600.0	1,592.6	1,596.3	1,589.2	3.6	3.6	123.68	-43.2	104.7	113.9	107.0	6.89	16.522		
1,700.0	1,691.8	1,695.8	1,688.0	3.9	3.8	122.99	-46.1	116.4	123.8	116.4	7.41	16.708		
1,800.0	1,791.1	1,795.3	1,786.7	4.2	4.1	122.41	-49.1	128.1	133.7	125.8	7.93	16.869		
1,900.0	1,890.3	1,894.8	1,885.5	4.4	4.4	121.91	-52.1	139.8	143.6	135.2	8.44	17.010		
2,000.0	1,989.5	1,994.3	1,984.3	4.7	4.7	121.47	-55.0	151.5	153.6	144.6	8.96	17.135		
2,100.0	2,088.8	2,093.8	2,083.0	5.0	4.9	121.09	-58.0	163.2	163.5	154.0	9.48	17.246		
2,200.0	2,188.0	2,193.3	2,181.8	5.3	5.2	120.75	-60.9	174.9	173.4	163.4	10.00	17.344		
2,300.0	2,287.2	2,292.8	2,280.6	5.5	5.5	120.45	-63.9	186.6	183.4	172.9	10.52	17.433		
2,400.0	2,386.5	2,392.3	2,379.3	5.8	5.7	120.17	-66.9	198.3	193.3	182.3	11.04	17.514		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S2-T6S-R97W (I02 697 Pad) - Latham 2-7D (I02 697 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-129.14	-6.2	-7.6	9.8					
100.0	100.0	100.0	100.0	0.1	0.1	-129.14	-6.2	-7.6	9.8	9.5	0.30	33.085		
200.0	200.0	200.0	200.0	0.3	0.3	-129.14	-6.2	-7.6	9.8	9.2	0.65	15.201		
300.0	300.0	300.0	300.0	0.5	0.5	-129.14	-6.2	-7.6	9.8	8.8	0.99	9.867		
400.0	400.0	400.0	400.0	0.7	0.7	-129.14	-6.2	-7.6	9.8	8.5	1.34	7.304 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	175.62	-6.2	-7.6	11.6	9.9	1.69	6.828 SF		
600.0	599.8	600.3	600.3	1.0	1.0	173.97	-5.9	-5.9	15.2	13.2	2.04	7.471		
700.0	699.5	700.7	700.6	1.3	1.2	168.85	-5.0	-0.7	19.5	17.1	2.39	8.130		
800.0	798.7	801.2	800.6	1.5	1.4	162.23	-3.5	8.0	24.1	21.3	2.77	8.709		
900.0	898.0	901.2	900.0	1.7	1.6	154.30	-1.5	19.2	27.7	24.5	3.18	8.697		
1,000.0	997.2	1,001.1	999.2	2.0	1.9	148.06	0.4	30.5	31.6	28.0	3.63	8.698		
1,100.0	1,096.4	1,101.0	1,098.5	2.3	2.1	143.23	2.4	41.8	35.8	31.7	4.11	8.717		
1,200.0	1,195.7	1,200.9	1,197.7	2.5	2.4	139.44	4.4	53.2	40.2	35.6	4.60	8.744		
1,300.0	1,294.9	1,300.7	1,296.9	2.8	2.6	136.40	6.3	64.5	44.7	39.6	5.10	8.774		
1,400.0	1,394.1	1,400.6	1,396.1	3.1	2.9	133.93	8.3	75.8	49.4	43.8	5.61	8.804		
1,500.0	1,493.4	1,500.5	1,495.3	3.3	3.1	131.89	10.3	87.1	54.1	48.0	6.12	8.833		
1,600.0	1,592.6	1,600.3	1,594.5	3.6	3.4	130.18	12.2	98.5	58.8	52.2	6.64	8.861		
1,700.0	1,691.8	1,700.2	1,693.7	3.9	3.7	128.72	14.2	109.8	63.7	56.5	7.16	8.888		
1,800.0	1,791.1	1,800.1	1,792.9	4.2	3.9	127.47	16.2	121.1	68.5	60.8	7.69	8.913		
1,900.0	1,890.3	1,900.0	1,892.1	4.4	4.2	126.39	18.1	132.4	73.4	65.2	8.21	8.937		
2,000.0	1,989.5	1,999.8	1,991.3	4.7	4.4	125.44	20.1	143.8	78.3	69.6	8.74	8.959		
2,100.0	2,088.8	2,099.7	2,090.5	5.0	4.7	124.60	22.1	155.1	83.2	74.0	9.27	8.980		
2,200.0	2,188.0	2,199.6	2,189.7	5.3	5.0	123.86	24.0	166.4	88.2	78.4	9.80	8.999		
2,300.0	2,287.2	2,299.4	2,289.0	5.5	5.2	123.20	26.0	177.8	93.1	82.8	10.33	9.017		
2,400.0	2,386.5	2,399.3	2,388.2	5.8	5.5	122.60	28.0	189.1	98.1	87.2	10.86	9.034		
2,500.0	2,485.7	2,499.2	2,487.4	6.1	5.8	122.06	29.9	200.4	103.0	91.7	11.39	9.050		
2,600.0	2,584.9	2,599.1	2,586.6	6.4	6.0	121.57	31.9	211.7	108.0	96.1	11.92	9.065		
2,700.0	2,684.2	2,698.9	2,685.8	6.6	6.3	121.12	33.9	223.1	113.0	100.6	12.45	9.079		
2,800.0	2,783.4	2,798.8	2,785.0	6.9	6.6	120.71	35.8	234.4	118.0	105.0	12.98	9.092		
2,900.0	2,882.6	2,898.7	2,884.2	7.2	6.8	120.34	37.8	245.7	123.0	109.5	13.51	9.105		
3,000.0	2,981.9	2,998.6	2,983.4	7.5	7.1	119.99	39.8	257.0	128.0	114.0	14.04	9.116		
3,100.0	3,081.1	3,098.4	3,082.6	7.7	7.4	119.67	41.7	268.4	133.0	118.4	14.57	9.128		
3,200.0	3,180.3	3,198.3	3,181.8	8.0	7.6	119.37	43.7	279.7	138.0	122.9	15.10	9.138		
3,300.0	3,279.6	3,298.2	3,281.0	8.3	7.9	119.10	45.7	291.0	143.0	127.4	15.64	9.148		
3,400.0	3,378.8	3,398.0	3,380.2	8.6	8.2	118.84	47.6	302.4	148.1	131.9	16.17	9.157		
3,500.0	3,478.0	3,497.9	3,479.4	8.9	8.4	118.60	49.6	313.7	153.1	136.4	16.70	9.166		
3,600.0	3,577.3	3,597.8	3,578.7	9.1	8.7	118.37	51.6	325.0	158.1	140.9	17.23	9.175		
3,700.0	3,676.5	3,697.7	3,677.9	9.4	8.9	118.16	53.5	336.3	163.1	145.4	17.76	9.183		
3,800.0	3,775.7	3,797.5	3,777.1	9.7	9.2	117.96	55.5	347.7	168.2	149.9	18.30	9.190		
3,900.0	3,875.0	3,897.4	3,876.3	10.0	9.5	117.78	57.5	359.0	173.2	154.4	18.83	9.198		
4,000.0	3,974.2	3,997.3	3,975.5	10.2	9.7	117.60	59.4	370.3	178.2	158.9	19.36	9.204		
4,100.0	4,073.4	4,097.1	4,074.7	10.5	10.0	117.43	61.4	381.6	183.3	163.4	19.89	9.211		
4,200.0	4,172.7	4,197.0	4,173.9	10.8	10.3	117.28	63.4	393.0	188.3	167.9	20.43	9.217		
4,300.0	4,271.9	4,296.9	4,273.1	11.1	10.5	117.13	65.3	404.3	193.3	172.4	20.96	9.223		
4,400.0	4,371.1	4,396.8	4,372.3	11.4	10.8	116.98	67.3	415.6	198.4	176.9	21.49	9.229		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-8D (I02 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8360.0ft (Original Well Elev)
Reference Site:	NESE S2-T6S-R97W (I02 697 Pad)	MD Reference:	KBE @ 8360.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Latham 2-8D (I02 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 8360.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Latham 2-8D (I02 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.69°

