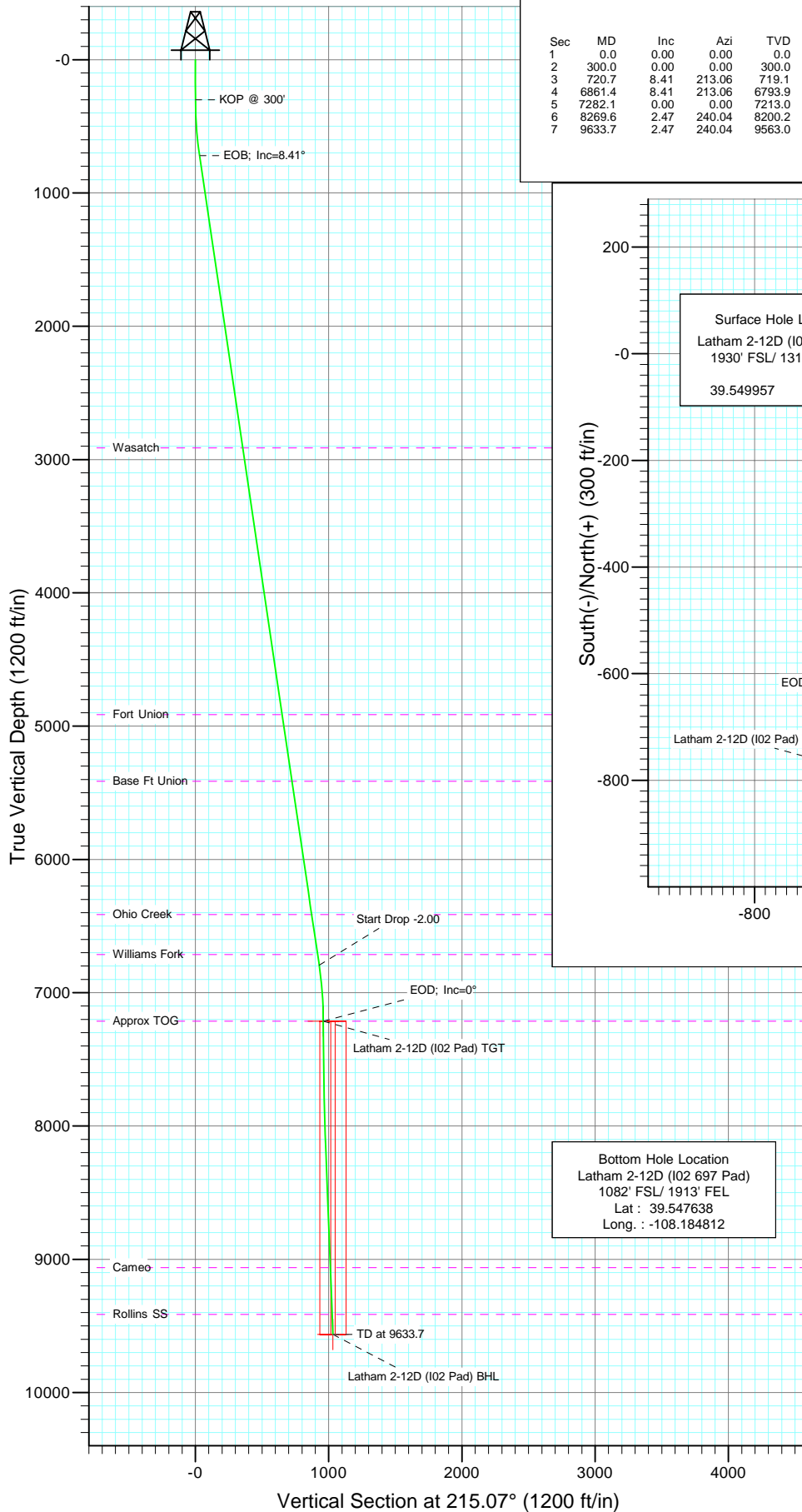
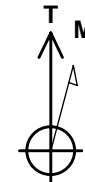
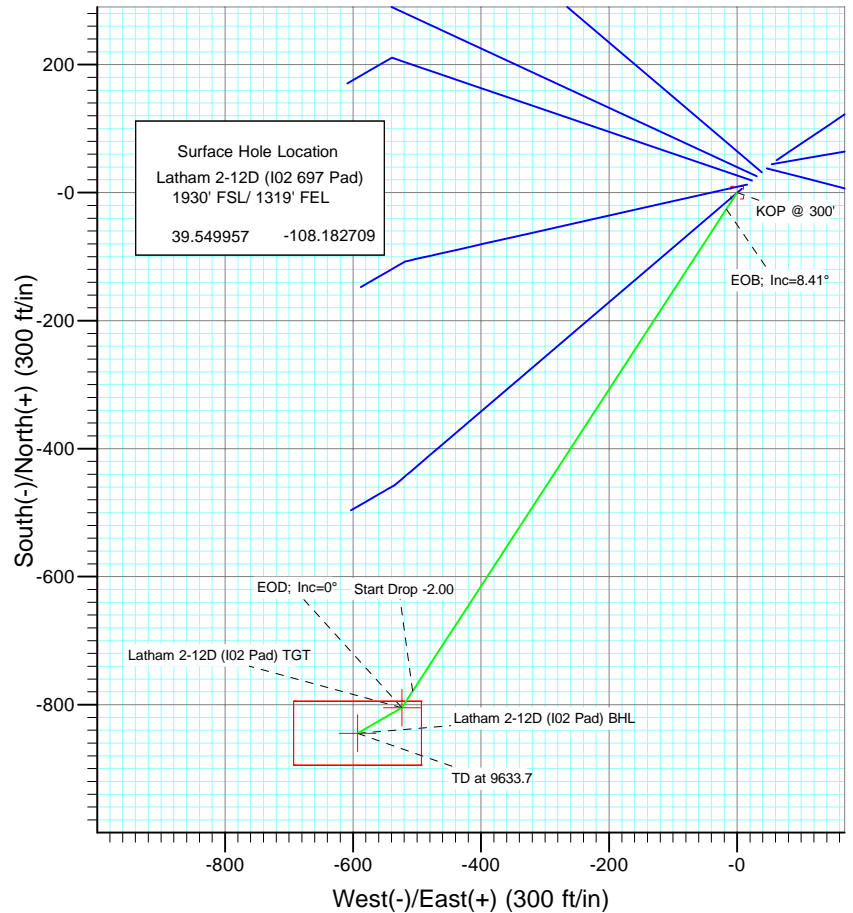




Project: Garfield County
Site: NESE S2-T6S-R97W (I02 697 Pad)
Well: Latham 2-12D (I02 697 Pad)
Wellbore: DD
Design: Plan #1



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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	720.7	8.41	213.06	719.1	-25.8	-16.8	2.00	213.06	30.8	
4	6861.4	8.41	213.06	6793.9	-778.9	-506.9	0.00	0.00	928.7	
5	7282.1	0.00	0.00	7213.0	-804.7	-523.7	2.00	180.00	959.5	Latham 2-12D (I02 Pad) TGT
6	8269.6	2.47	240.04	8200.2	-815.3	-542.1	0.25	240.04	978.8	
7	9633.7	2.47	240.04	9563.0	-844.7	-593.0	0.00	0.00	1032.1	Latham 2-12D (I02 Pad) BHL



Azimuths to True North
Magnetic North: 10.63°

Magnetic Field
Strength: 52428.1snT
Dip Angle: 65.80°
Date: 10/27/2009
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2913.0	2938.4	Wasatch
4913.0	4960.1	Fort Union
5413.0	5465.6	Base Ft Union
6413.0	6476.4	Ohio Creek
6713.0	6779.7	Williams Fork
7213.0	7282.1	Approx TOG
9063.0	9133.2	Cameo
9413.0	9483.5	Rollins SS

DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
Latham 2-12D (I02 Pad) BH	215.07	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 2-12D (I02 697 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 2-12D (I02 697 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 2-12D (I02 697 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,636,372.26 ft	Latitude:	39.549957
	+E/-W	0.0 ft	Easting:	2,243,633.06 ft	Longitude:	-108.182709
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	215.07

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
720.7	8.41	213.06	719.1	-25.8	-16.8	2.00	2.00	0.00	213.06	
6,861.4	8.41	213.06	6,793.9	-778.9	-506.9	0.00	0.00	0.00	0.00	
7,282.1	0.00	0.00	7,213.0	-804.7	-523.7	2.00	-2.00	0.00	180.00	Latham 2-12D (I02 697 Pad)
8,269.6	2.47	240.04	8,200.2	-815.3	-542.1	0.25	0.25	-12.15	240.04	
9,633.7	2.47	240.04	9,563.0	-844.7	-593.0	0.00	0.00	0.00	0.00	Latham 2-12D (I02 697 Pad)

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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	KOP @ 300'
330.0	0.60	213.06	330.0	-0.1	-0.1	0.2	2.00	2.00	
360.0	1.20	213.06	360.0	-0.5	-0.3	0.6	2.00	2.00	
390.0	1.80	213.06	390.0	-1.2	-0.8	1.4	2.00	2.00	
420.0	2.40	213.06	420.0	-2.1	-1.4	2.5	2.00	2.00	
450.0	3.00	213.06	449.9	-3.3	-2.1	3.9	2.00	2.00	
480.0	3.60	213.06	479.9	-4.7	-3.1	5.6	2.00	2.00	
510.0	4.20	213.06	509.8	-6.4	-4.2	7.7	2.00	2.00	
540.0	4.80	213.06	539.7	-8.4	-5.5	10.0	2.00	2.00	
570.0	5.40	213.06	569.6	-10.7	-6.9	12.7	2.00	2.00	
600.0	6.00	213.06	599.5	-13.2	-8.6	15.7	2.00	2.00	
630.0	6.60	213.06	629.3	-15.9	-10.4	19.0	2.00	2.00	
660.0	7.20	213.06	659.1	-18.9	-12.3	22.6	2.00	2.00	
690.0	7.80	213.06	688.8	-22.2	-14.5	26.5	2.00	2.00	
720.0	8.40	213.06	718.5	-25.8	-16.8	30.7	2.00	2.00	
720.7	8.41	213.06	719.1	-25.8	-16.8	30.8	2.00	2.00	EOB; Inc=8.41°
750.0	8.41	213.06	748.2	-29.4	-19.2	35.1	0.00	0.00	
780.0	8.41	213.06	777.9	-33.1	-21.6	39.5	0.00	0.00	
810.0	8.41	213.06	807.5	-36.8	-23.9	43.9	0.00	0.00	
840.0	8.41	213.06	837.2	-40.5	-26.3	48.3	0.00	0.00	
870.0	8.41	213.06	866.9	-44.2	-28.7	52.6	0.00	0.00	
900.0	8.41	213.06	896.6	-47.8	-31.1	57.0	0.00	0.00	
930.0	8.41	213.06	926.2	-51.5	-33.5	61.4	0.00	0.00	
960.0	8.41	213.06	955.9	-55.2	-35.9	65.8	0.00	0.00	
990.0	8.41	213.06	985.6	-58.9	-38.3	70.2	0.00	0.00	
1,020.0	8.41	213.06	1,015.3	-62.5	-40.7	74.6	0.00	0.00	
1,050.0	8.41	213.06	1,044.9	-66.2	-43.1	79.0	0.00	0.00	
1,080.0	8.41	213.06	1,074.6	-69.9	-45.5	83.4	0.00	0.00	
1,110.0	8.41	213.06	1,104.3	-73.6	-47.9	87.7	0.00	0.00	
1,140.0	8.41	213.06	1,134.0	-77.3	-50.3	92.1	0.00	0.00	
1,170.0	8.41	213.06	1,163.7	-80.9	-52.7	96.5	0.00	0.00	
1,200.0	8.41	213.06	1,193.3	-84.6	-55.1	100.9	0.00	0.00	
1,230.0	8.41	213.06	1,223.0	-88.3	-57.5	105.3	0.00	0.00	
1,260.0	8.41	213.06	1,252.7	-92.0	-59.9	109.7	0.00	0.00	
1,290.0	8.41	213.06	1,282.4	-95.7	-62.3	114.1	0.00	0.00	
1,320.0	8.41	213.06	1,312.0	-99.3	-64.6	118.4	0.00	0.00	
1,350.0	8.41	213.06	1,341.7	-103.0	-67.0	122.8	0.00	0.00	
1,380.0	8.41	213.06	1,371.4	-106.7	-69.4	127.2	0.00	0.00	
1,410.0	8.41	213.06	1,401.1	-110.4	-71.8	131.6	0.00	0.00	
1,440.0	8.41	213.06	1,430.7	-114.0	-74.2	136.0	0.00	0.00	
1,470.0	8.41	213.06	1,460.4	-117.7	-76.6	140.4	0.00	0.00	
1,500.0	8.41	213.06	1,490.1	-121.4	-79.0	144.8	0.00	0.00	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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
1,530.0	8.41	213.06	1,519.8	-125.1	-81.4	149.1	0.00	0.00	
1,560.0	8.41	213.06	1,549.5	-128.8	-83.8	153.5	0.00	0.00	
1,590.0	8.41	213.06	1,579.1	-132.4	-86.2	157.9	0.00	0.00	
1,620.0	8.41	213.06	1,608.8	-136.1	-88.6	162.3	0.00	0.00	
1,650.0	8.41	213.06	1,638.5	-139.8	-91.0	166.7	0.00	0.00	
1,680.0	8.41	213.06	1,668.2	-143.5	-93.4	171.1	0.00	0.00	
1,710.0	8.41	213.06	1,697.8	-147.2	-95.8	175.5	0.00	0.00	
1,740.0	8.41	213.06	1,727.5	-150.8	-98.2	179.9	0.00	0.00	
1,770.0	8.41	213.06	1,757.2	-154.5	-100.6	184.2	0.00	0.00	
1,800.0	8.41	213.06	1,786.9	-158.2	-103.0	188.6	0.00	0.00	
1,830.0	8.41	213.06	1,816.6	-161.9	-105.3	193.0	0.00	0.00	
1,860.0	8.41	213.06	1,846.2	-165.6	-107.7	197.4	0.00	0.00	
1,890.0	8.41	213.06	1,875.9	-169.2	-110.1	201.8	0.00	0.00	
1,920.0	8.41	213.06	1,905.6	-172.9	-112.5	206.2	0.00	0.00	
1,950.0	8.41	213.06	1,935.3	-176.6	-114.9	210.6	0.00	0.00	
1,980.0	8.41	213.06	1,964.9	-180.3	-117.3	214.9	0.00	0.00	
2,010.0	8.41	213.06	1,994.6	-183.9	-119.7	219.3	0.00	0.00	
2,040.0	8.41	213.06	2,024.3	-187.6	-122.1	223.7	0.00	0.00	
2,070.0	8.41	213.06	2,054.0	-191.3	-124.5	228.1	0.00	0.00	
2,100.0	8.41	213.06	2,083.6	-195.0	-126.9	232.5	0.00	0.00	
2,130.0	8.41	213.06	2,113.3	-198.7	-129.3	236.9	0.00	0.00	
2,160.0	8.41	213.06	2,143.0	-202.3	-131.7	241.3	0.00	0.00	
2,190.0	8.41	213.06	2,172.7	-206.0	-134.1	245.7	0.00	0.00	
2,220.0	8.41	213.06	2,202.4	-209.7	-136.5	250.0	0.00	0.00	
2,250.0	8.41	213.06	2,232.0	-213.4	-138.9	254.4	0.00	0.00	
2,280.0	8.41	213.06	2,261.7	-217.1	-141.3	258.8	0.00	0.00	
2,310.0	8.41	213.06	2,291.4	-220.7	-143.7	263.2	0.00	0.00	
2,340.0	8.41	213.06	2,321.1	-224.4	-146.0	267.6	0.00	0.00	
2,370.0	8.41	213.06	2,350.7	-228.1	-148.4	272.0	0.00	0.00	
2,400.0	8.41	213.06	2,380.4	-231.8	-150.8	276.4	0.00	0.00	
2,430.0	8.41	213.06	2,410.1	-235.4	-153.2	280.7	0.00	0.00	
2,460.0	8.41	213.06	2,439.8	-239.1	-155.6	285.1	0.00	0.00	
2,490.0	8.41	213.06	2,469.5	-242.8	-158.0	289.5	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 2-12D (I02 Pad)	0.00	0.00	9,563.0	-844.7	-593.0	1,635,545.46	2,243,015.34	39.547638	-108.184812
- plan misses target center by 7132.3ft at 2490.0ft MD (2469.5 TVD, -242.8 N, -158.0 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Latham 2-12D (I02 Pad)	0.00	0.00	7,213.0	-804.7	-523.7	1,635,583.37	2,243,085.82	39.547748	-108.184566
- plan misses target center by 4790.7ft at 2490.0ft MD (2469.5 TVD, -242.8 N, -158.0 E)									
- Point									

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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	8.41	213.06	2,479.3	-244.0	-158.8	291.0	0.00	0.00	
2,600.0	8.41	213.06	2,578.3	-256.3	-166.8	305.6	0.00	0.00	
2,700.0	8.41	213.06	2,677.2	-268.6	-174.8	320.2	0.00	0.00	
2,800.0	8.41	213.06	2,776.1	-280.8	-182.8	334.8	0.00	0.00	
2,900.0	8.41	213.06	2,875.0	-293.1	-190.7	349.5	0.00	0.00	
2,938.4	8.41	213.06	2,913.0	-297.8	-193.8	355.1	0.00	0.00	Wasatch
3,000.0	8.41	213.06	2,974.0	-305.3	-198.7	364.1	0.00	0.00	
3,100.0	8.41	213.06	3,072.9	-317.6	-206.7	378.7	0.00	0.00	
3,200.0	8.41	213.06	3,171.8	-329.9	-214.7	393.3	0.00	0.00	
3,300.0	8.41	213.06	3,270.7	-342.1	-222.7	408.0	0.00	0.00	
3,400.0	8.41	213.06	3,369.7	-354.4	-230.6	422.6	0.00	0.00	
3,500.0	8.41	213.06	3,468.6	-366.7	-238.6	437.2	0.00	0.00	
3,600.0	8.41	213.06	3,567.5	-378.9	-246.6	451.8	0.00	0.00	
3,700.0	8.41	213.06	3,666.4	-391.2	-254.6	466.4	0.00	0.00	
3,800.0	8.41	213.06	3,765.4	-403.4	-262.6	481.1	0.00	0.00	
3,900.0	8.41	213.06	3,864.3	-415.7	-270.5	495.7	0.00	0.00	
4,000.0	8.41	213.06	3,963.2	-428.0	-278.5	510.3	0.00	0.00	
4,100.0	8.41	213.06	4,062.1	-440.2	-286.5	524.9	0.00	0.00	
4,200.0	8.41	213.06	4,161.0	-452.5	-294.5	539.6	0.00	0.00	
4,300.0	8.41	213.06	4,260.0	-464.8	-302.5	554.2	0.00	0.00	
4,400.0	8.41	213.06	4,358.9	-477.0	-310.4	568.8	0.00	0.00	
4,500.0	8.41	213.06	4,457.8	-489.3	-318.4	583.4	0.00	0.00	
4,600.0	8.41	213.06	4,556.7	-501.5	-326.4	598.0	0.00	0.00	
4,700.0	8.41	213.06	4,655.7	-513.8	-334.4	612.7	0.00	0.00	
4,800.0	8.41	213.06	4,754.6	-526.1	-342.4	627.3	0.00	0.00	
4,900.0	8.41	213.06	4,853.5	-538.3	-350.4	641.9	0.00	0.00	
4,960.1	8.41	213.06	4,913.0	-545.7	-355.1	650.7	0.00	0.00	Fort Union
5,000.0	8.41	213.06	4,952.4	-550.6	-358.3	656.5	0.00	0.00	
5,100.0	8.41	213.06	5,051.4	-562.9	-366.3	671.1	0.00	0.00	
5,200.0	8.41	213.06	5,150.3	-575.1	-374.3	685.8	0.00	0.00	
5,300.0	8.41	213.06	5,249.2	-587.4	-382.3	700.4	0.00	0.00	
5,400.0	8.41	213.06	5,348.1	-599.6	-390.3	715.0	0.00	0.00	
5,465.6	8.41	213.06	5,413.0	-607.7	-395.5	724.6	0.00	0.00	Base Ft Union
5,500.0	8.41	213.06	5,447.1	-611.9	-398.2	729.6	0.00	0.00	
5,600.0	8.41	213.06	5,546.0	-624.2	-406.2	744.3	0.00	0.00	
5,700.0	8.41	213.06	5,644.9	-636.4	-414.2	758.9	0.00	0.00	
5,800.0	8.41	213.06	5,743.8	-648.7	-422.2	773.5	0.00	0.00	
5,900.0	8.41	213.06	5,842.8	-661.0	-430.2	788.1	0.00	0.00	
6,000.0	8.41	213.06	5,941.7	-673.2	-438.1	802.7	0.00	0.00	
6,100.0	8.41	213.06	6,040.6	-685.5	-446.1	817.4	0.00	0.00	
6,200.0	8.41	213.06	6,139.5	-697.8	-454.1	832.0	0.00	0.00	
6,300.0	8.41	213.06	6,238.5	-710.0	-462.1	846.6	0.00	0.00	
6,400.0	8.41	213.06	6,337.4	-722.3	-470.1	861.2	0.00	0.00	
6,476.4	8.41	213.06	6,413.0	-731.7	-476.2	872.4	0.00	0.00	Ohio Creek
6,500.0	8.41	213.06	6,436.3	-734.5	-478.0	875.9	0.00	0.00	
6,600.0	8.41	213.06	6,535.2	-746.8	-486.0	890.5	0.00	0.00	
6,700.0	8.41	213.06	6,634.1	-759.1	-494.0	905.1	0.00	0.00	
6,779.7	8.41	213.06	6,713.0	-768.8	-500.4	916.8	0.00	0.00	Williams Fork
6,800.0	8.41	213.06	6,733.1	-771.3	-502.0	919.7	0.00	0.00	
6,861.4	8.41	213.06	6,793.9	-778.9	-506.9	928.7	0.00	0.00	Start Drop -2.00
6,900.0	7.64	213.06	6,832.0	-783.4	-509.8	934.1	2.00	-2.00	
7,000.0	5.64	213.06	6,931.4	-793.1	-516.1	945.6	2.00	-2.00	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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	3.64	213.06	7,031.0	-799.9	-520.5	953.7	2.00	-2.00	
7,200.0	1.64	213.06	7,130.9	-803.7	-523.1	958.3	2.00	-2.00	
7,282.1	0.00	0.00	7,213.0	-804.7	-523.7	959.5	2.00	-2.00	EOD; Inc=0° - Approx TOG - Latham 2-12D (I02)
7,300.0	0.04	240.04	7,230.9	-804.7	-523.7	959.5	0.25	0.25	
7,400.0	0.29	240.04	7,330.9	-804.9	-524.0	959.8	0.25	0.25	
7,500.0	0.54	240.04	7,430.9	-805.2	-524.6	960.5	0.25	0.25	
7,600.0	0.79	240.04	7,530.9	-805.8	-525.6	961.5	0.25	0.25	
7,700.0	1.04	240.04	7,630.9	-806.6	-527.0	963.0	0.25	0.25	
7,800.0	1.29	240.04	7,730.9	-807.6	-528.8	964.8	0.25	0.25	
7,900.0	1.54	240.04	7,830.8	-808.9	-530.9	967.1	0.25	0.25	
8,000.0	1.79	240.04	7,930.8	-810.3	-533.4	969.7	0.25	0.25	
8,100.0	2.04	240.04	8,030.7	-812.0	-536.3	972.7	0.25	0.25	
8,200.0	2.29	240.04	8,130.7	-813.9	-539.6	976.2	0.25	0.25	
8,269.6	2.47	240.04	8,200.2	-815.3	-542.1	978.8	0.25	0.25	
8,300.0	2.47	240.04	8,230.6	-816.0	-543.3	980.0	0.00	0.00	
8,400.0	2.47	240.04	8,330.5	-818.1	-547.0	983.9	0.00	0.00	
8,500.0	2.47	240.04	8,430.4	-820.3	-550.7	987.8	0.00	0.00	
8,600.0	2.47	240.04	8,530.3	-822.4	-554.5	991.7	0.00	0.00	
8,700.0	2.47	240.04	8,630.2	-824.6	-558.2	995.6	0.00	0.00	
8,800.0	2.47	240.04	8,730.1	-826.7	-561.9	999.5	0.00	0.00	
8,900.0	2.47	240.04	8,830.0	-828.9	-565.7	1,003.4	0.00	0.00	
9,000.0	2.47	240.04	8,929.9	-831.0	-569.4	1,007.3	0.00	0.00	
9,100.0	2.47	240.04	9,029.8	-833.2	-573.1	1,011.2	0.00	0.00	
9,133.2	2.47	240.04	9,063.0	-833.9	-574.4	1,012.5	0.00	0.00	Cameo
9,200.0	2.47	240.04	9,129.7	-835.3	-576.8	1,015.1	0.00	0.00	
9,300.0	2.47	240.04	9,229.6	-837.5	-580.6	1,019.0	0.00	0.00	
9,400.0	2.47	240.04	9,329.5	-839.6	-584.3	1,022.9	0.00	0.00	
9,483.5	2.47	240.04	9,413.0	-841.4	-587.4	1,026.2	0.00	0.00	Rollins SS
9,500.0	2.47	240.04	9,429.5	-841.8	-588.0	1,026.8	0.00	0.00	
9,600.0	2.47	240.04	9,529.4	-843.9	-591.8	1,030.8	0.00	0.00	
9,633.7	2.47	240.04	9,563.0	-844.7	-593.0	1,032.1	0.00	0.00	Latham 2-12D (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 2-12D (I02 Pad)	0.00	0.00	9,563.0	-844.7	-593.0	1,635,545.46	2,243,015.34	39.547638	-108.184812
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									
Latham 2-12D (I02 Pad)	0.00	0.00	7,213.0	-804.7	-523.7	1,635,583.37	2,243,085.82	39.547748	-108.184566
- plan hits target center									
- Point									

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,938.4	2,913.0	Wasatch		0.00		
4,960.1	4,913.0	Fort Union		0.00		
5,465.6	5,413.0	Base Ft Union		0.00		
6,476.4	6,413.0	Ohio Creek		0.00		
6,779.7	6,713.0	Williams Fork		0.00		
7,282.1	7,213.0	Approx TOG		0.00		
9,133.2	9,063.0	Cameo		0.00		
9,483.5	9,413.0	Rollins SS		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.0	300.0	0.0	0.0	KOP @ 300'	
720.7	719.1	-25.8	-16.8	EOB; Inc=8.41°	
6,861.4	6,793.9	-778.9	-506.9	Start Drop -2.00	
7,282.1	7,213.0	-804.7	-523.7	EOD; Inc=0°	
9,633.7	9,563.0	-815.3	-542.1	TD at 9633.7	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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	9,633.7	Plan #1 (DD)	MWD	Geolink MWD

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NESE S2-T6S-R97W (I02 697 Pad)						
Latham 2-13D (I02 697 Pad) - DD - Plan #1	300.0	300.0	9.8	8.8	9.865	CC, ES
Latham 2-13D (I02 697 Pad) - DD - Plan #1	400.0	400.0	11.5	10.1	8.550	SF
Latham 2-14D (I02 697 Pad) - DD - Plan #1	300.0	300.0	20.1	19.1	20.181	CC, ES
Latham 2-14D (I02 697 Pad) - DD - Plan #1	500.0	499.8	26.8	25.1	15.852	SF
Latham 2-15D (I02 697 Pad) - DD - Plan #1	300.0	300.0	29.9	28.9	30.045	CC, ES
Latham 2-15D (I02 697 Pad) - DD - Plan #1	500.0	499.8	36.6	34.9	21.636	SF
Latham 2-16D (I02 697 Pad) - DD - Plan #1	300.0	300.0	50.0	49.0	50.226	CC, ES
Latham 2-16D (I02 697 Pad) - DD - Plan #1	600.0	599.1	65.3	63.2	31.167	SF
Latham 2-17D (I02 697 Pad) - DD - Plan #1	353.0	353.8	38.8	37.6	32.515	CC, ES
Latham 2-17D (I02 697 Pad) - DD - Plan #1	600.0	599.6	52.3	50.1	23.719	SF
Latham 2-6D (I02 697 Pad) - DD - Plan #1	300.0	300.0	59.8	58.8	60.090	CC, ES
Latham 2-6D (I02 697 Pad) - DD - Plan #1	600.0	596.4	78.8	76.8	38.510	SF
Latham 2-7D (I02 697 Pad) - DD - Plan #1	300.0	300.0	70.0	69.0	70.406	CC, ES
Latham 2-7D (I02 697 Pad) - DD - Plan #1	600.0	597.0	86.6	84.5	42.510	SF
Latham 2-8D (I02 Pad) - DD - Plan #1	300.0	300.0	79.9	78.9	80.274	CC, ES
Latham 2-8D (I02 Pad) - DD - Plan #1	600.0	592.8	101.6	99.6	50.078	SF

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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				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	50.88	6.2	7.6	9.8					
100.0	100.0	100.0	100.0	0.1	0.1	50.88	6.2	7.6	9.8	9.5	0.30	33.076		
200.0	200.0	200.0	200.0	0.3	0.3	50.88	6.2	7.6	9.8	9.2	0.65	15.197		
300.0	300.0	300.0	300.0	0.5	0.5	50.88	6.2	7.6	9.8	8.8	0.99	9.865 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-164.83	6.2	7.6	11.5	10.1	1.34	8.550 SF		
500.0	499.8	500.4	500.4	0.9	0.8	-170.28	5.1	6.3	14.9	13.2	1.69	8.780		
600.0	599.5	600.9	600.7	1.1	1.0	-176.84	1.6	2.3	18.4	16.3	2.04	9.001		
700.0	698.7	701.4	700.9	1.3	1.3	176.16	-4.1	-4.4	22.2	19.8	2.39	9.277		
800.0	797.6	801.4	800.2	1.6	1.5	170.15	-11.1	-12.7	26.7	23.9	2.76	9.660		
900.0	896.6	901.3	899.5	1.9	1.7	165.93	-18.2	-21.0	31.5	28.3	3.15	9.978		
1,000.0	995.5	1,001.1	998.8	2.2	2.0	162.83	-25.3	-29.2	36.4	32.8	3.56	10.220		
1,100.0	1,094.4	1,101.0	1,098.1	2.5	2.2	160.47	-32.3	-37.5	41.3	37.4	3.97	10.404		
1,200.0	1,193.3	1,200.8	1,197.3	2.8	2.5	158.62	-39.4	-45.8	46.4	42.0	4.40	10.545		
1,300.0	1,292.3	1,300.7	1,296.6	3.1	2.7	157.13	-46.4	-54.0	51.4	46.6	4.83	10.654		
1,400.0	1,391.2	1,400.6	1,395.9	3.4	3.0	155.91	-53.5	-62.3	56.5	51.3	5.26	10.741		
1,500.0	1,490.1	1,500.4	1,495.1	3.7	3.2	154.90	-60.6	-70.6	61.6	55.9	5.70	10.811		
1,600.0	1,589.0	1,600.3	1,594.4	4.0	3.5	154.04	-67.6	-78.8	66.8	60.6	6.14	10.867		
1,700.0	1,688.0	1,700.2	1,693.7	4.3	3.7	153.30	-74.7	-87.1	71.9	65.3	6.59	10.914		
1,800.0	1,786.9	1,800.0	1,792.9	4.6	4.0	152.66	-81.7	-95.4	77.1	70.0	7.04	10.953		
1,900.0	1,885.8	1,899.9	1,892.2	4.9	4.2	152.10	-88.8	-103.6	82.2	74.7	7.49	10.986		
2,000.0	1,984.7	1,999.8	1,991.5	5.2	4.5	151.61	-95.9	-111.9	87.4	79.5	7.94	11.014		
2,100.0	2,083.6	2,099.6	2,090.8	5.6	4.7	151.17	-102.9	-120.2	92.6	84.2	8.39	11.038		
2,200.0	2,182.6	2,199.5	2,190.0	5.9	5.0	150.78	-110.0	-128.4	97.8	88.9	8.84	11.059		
2,300.0	2,281.5	2,299.3	2,289.3	6.2	5.2	150.42	-117.0	-136.7	102.9	93.7	9.29	11.077		
2,400.0	2,380.4	2,399.2	2,388.6	6.5	5.5	150.11	-124.1	-145.0	108.1	98.4	9.75	11.093		
2,500.0	2,479.3	2,499.1	2,487.8	6.8	5.8	149.82	-131.2	-153.3	113.3	103.1	10.20	11.108		
2,600.0	2,578.3	2,598.9	2,587.1	7.1	6.0	149.55	-138.2	-161.5	118.5	107.9	10.66	11.120		
2,700.0	2,677.2	2,698.8	2,686.4	7.4	6.3	149.31	-145.3	-169.8	123.7	112.6	11.11	11.132		
2,800.0	2,776.1	2,798.7	2,785.6	7.7	6.5	149.09	-152.3	-178.1	128.9	117.4	11.57	11.142		
2,900.0	2,875.0	2,898.5	2,884.9	8.0	6.8	148.88	-159.4	-186.3	134.1	122.1	12.03	11.151		
3,000.0	2,974.0	2,998.4	2,984.2	8.3	7.0	148.69	-166.5	-194.6	139.3	126.8	12.49	11.159		
3,100.0	3,072.9	3,098.3	3,083.5	8.6	7.3	148.52	-173.5	-202.9	144.5	131.6	12.94	11.167		
3,200.0	3,171.8	3,198.1	3,182.7	8.9	7.6	148.35	-180.6	-211.1	149.7	136.3	13.40	11.174		
3,300.0	3,270.7	3,298.0	3,282.0	9.3	7.8	148.20	-187.6	-219.4	154.9	141.1	13.86	11.180		
3,400.0	3,369.7	3,397.8	3,381.3	9.6	8.1	148.06	-194.7	-227.7	160.2	145.8	14.32	11.186		
3,500.0	3,468.6	3,497.7	3,480.5	9.9	8.3	147.92	-201.7	-235.9	165.4	150.6	14.78	11.191		
3,600.0	3,567.5	3,597.6	3,579.8	10.2	8.6	147.80	-208.8	-244.2	170.6	155.3	15.23	11.196		
3,700.0	3,666.4	3,697.4	3,679.1	10.5	8.8	147.68	-215.9	-252.5	175.8	160.1	15.69	11.201		
3,800.0	3,765.4	3,797.3	3,778.3	10.8	9.1	147.57	-222.9	-260.7	181.0	164.8	16.15	11.205		
3,900.0	3,864.3	3,897.2	3,877.6	11.1	9.4	147.46	-230.0	-269.0	186.2	169.6	16.61	11.209		
4,000.0	3,963.2	3,997.0	3,976.9	11.4	9.6	147.36	-237.0	-277.3	191.4	174.3	17.07	11.213		
4,100.0	4,062.1	4,096.9	4,076.2	11.7	9.9	147.27	-244.1	-285.5	196.6	179.1	17.53	11.216		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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 2-14D (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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	50.58	12.7	15.5	20.1					
100.0	100.0	100.0	100.0	0.1	0.1	50.58	12.7	15.5	20.1	19.8	0.30	67.664		
200.0	200.0	200.0	200.0	0.3	0.3	50.58	12.7	15.5	20.1	19.4	0.65	31.089		
300.0	300.0	300.0	300.0	0.5	0.5	50.58	12.7	15.5	20.1	19.1	0.99	20.181 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-163.85	12.7	15.5	21.7	20.4	1.34	16.185		
500.0	499.8	499.8	499.8	0.9	0.8	-166.94	12.7	15.5	26.8	25.1	1.69	15.852 SF		
600.0	599.5	600.4	600.4	1.1	1.0	-171.82	12.4	13.8	33.9	31.9	2.04	16.642		
700.0	698.7	701.0	700.9	1.3	1.2	-178.46	11.2	8.6	42.0	39.7	2.39	17.604		
800.0	797.6	800.9	800.4	1.6	1.4	174.87	9.4	0.7	51.0	48.2	2.75	18.512		
900.0	896.6	900.4	899.5	1.9	1.6	170.05	7.6	-7.5	60.3	57.2	3.14	19.225		
1,000.0	995.5	999.8	998.6	2.2	1.8	166.53	5.7	-15.6	70.0	66.4	3.54	19.793		
1,100.0	1,094.4	1,099.3	1,097.7	2.5	2.0	163.88	3.9	-23.8	79.8	75.9	3.94	20.242		
1,200.0	1,193.3	1,198.8	1,196.8	2.8	2.3	161.80	2.1	-31.9	89.8	85.4	4.36	20.598		
1,300.0	1,292.3	1,298.2	1,295.9	3.1	2.5	160.15	0.2	-40.1	99.9	95.1	4.78	20.884		
1,400.0	1,391.2	1,397.7	1,395.0	3.4	2.7	158.80	-1.6	-48.3	110.0	104.8	5.21	21.118		
1,500.0	1,490.1	1,497.1	1,494.2	3.7	2.9	157.68	-3.5	-56.4	120.2	114.5	5.64	21.311		
1,600.0	1,589.0	1,596.6	1,593.3	4.0	3.1	156.73	-5.3	-64.6	130.4	124.3	6.07	21.472		
1,700.0	1,688.0	1,696.0	1,692.4	4.3	3.4	155.92	-7.1	-72.7	140.6	134.1	6.51	21.609		
1,800.0	1,786.9	1,795.5	1,791.5	4.6	3.6	155.22	-9.0	-80.9	150.9	144.0	6.95	21.726		
1,900.0	1,885.8	1,894.9	1,890.6	4.9	3.8	154.61	-10.8	-89.1	161.2	153.8	7.39	21.827		
2,000.0	1,984.7	1,994.4	1,989.7	5.2	4.0	154.07	-12.6	-97.2	171.5	163.7	7.83	21.915		
2,100.0	2,083.6	2,093.8	2,088.8	5.6	4.3	153.60	-14.5	-105.4	181.9	173.6	8.27	21.992		
2,200.0	2,182.6	2,193.3	2,187.9	5.9	4.5	153.17	-16.3	-113.6	192.2	183.5	8.71	22.060		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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	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	50.68	18.9	23.1	29.9					
100.0	100.0	100.0	100.0	0.1	0.1	50.68	18.9	23.1	29.9	29.6	0.30	100.740		
200.0	200.0	200.0	200.0	0.3	0.3	50.68	18.9	23.1	29.9	29.2	0.65	46.286		
300.0	300.0	300.0	300.0	0.5	0.5	50.68	18.9	23.1	29.9	28.9	0.99	30.045 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-163.33	18.9	23.1	31.6	30.2	1.34	23.487		
500.0	499.8	499.8	499.8	0.9	0.8	-165.65	18.9	23.1	36.6	34.9	1.69	21.636 SF		
600.0	599.5	600.1	600.1	1.1	1.0	-170.42	19.5	21.5	44.4	42.3	2.04	21.751		
700.0	698.7	700.0	699.8	1.3	1.2	-177.59	21.2	16.5	54.7	52.3	2.39	22.869		
800.0	797.6	799.1	798.6	1.6	1.4	175.00	23.9	8.6	67.4	64.6	2.77	24.355		
900.0	896.6	898.0	897.1	1.9	1.6	169.55	26.8	0.1	80.9	77.7	3.16	25.575		
1,000.0	995.5	996.8	995.5	2.2	1.8	165.67	29.7	-8.4	94.9	91.3	3.57	26.563		
1,100.0	1,094.4	1,095.7	1,093.9	2.5	2.1	162.80	32.6	-16.9	109.2	105.2	3.99	27.358		
1,200.0	1,193.3	1,194.5	1,192.4	2.8	2.3	160.59	35.5	-25.4	123.7	119.3	4.42	28.003		
1,300.0	1,292.3	1,293.4	1,290.8	3.1	2.5	158.85	38.4	-33.9	138.4	133.5	4.85	28.531		
1,400.0	1,391.2	1,392.2	1,389.2	3.4	2.7	157.45	41.3	-42.4	153.2	147.9	5.29	28.971		
1,500.0	1,490.1	1,491.0	1,487.6	3.7	3.0	156.29	44.2	-50.9	168.0	162.3	5.73	29.341		
1,600.0	1,589.0	1,589.9	1,586.1	4.0	3.2	155.32	47.1	-59.4	182.9	176.7	6.17	29.656		
1,700.0	1,688.0	1,688.7	1,684.5	4.3	3.4	154.50	50.0	-67.9	197.8	191.2	6.61	29.928		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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	50.64	31.7	38.6	50.0					
100.0	100.0	100.0	100.0	0.1	0.1	50.64	31.7	38.6	50.0	49.7	0.30	168.404		
200.0	200.0	200.0	200.0	0.3	0.3	50.64	31.7	38.6	50.0	49.3	0.65	77.375		
300.0	300.0	300.0	300.0	0.5	0.5	50.64	31.7	38.6	50.0	49.0	0.99	50.226 CC, ES		
400.0	400.0	400.2	400.2	0.7	0.7	-164.93	32.8	37.3	51.4	50.0	1.35	38.141		
500.0	499.8	500.1	499.9	0.9	0.9	-171.61	36.2	33.3	56.1	54.4	1.71	32.793		
600.0	599.5	599.1	598.5	1.1	1.1	179.67	41.8	26.8	65.3	63.2	2.10	31.167 SF		
700.0	698.7	697.4	696.3	1.3	1.3	171.73	48.9	18.4	79.8	77.3	2.49	32.002		
800.0	797.6	795.5	793.7	1.6	1.6	166.53	56.1	9.9	97.6	94.7	2.90	33.622		
900.0	896.6	893.6	891.2	1.9	1.8	162.97	63.3	1.4	116.0	112.6	3.32	34.925		
1,000.0	995.5	991.7	988.6	2.2	2.1	160.39	70.5	-7.0	134.7	130.9	3.75	35.960		
1,100.0	1,094.4	1,089.7	1,086.1	2.5	2.3	158.44	77.8	-15.5	153.6	149.4	4.18	36.791		
1,200.0	1,193.3	1,187.8	1,183.5	2.8	2.6	156.92	85.0	-24.0	172.7	168.1	4.61	37.468		
1,300.0	1,292.3	1,285.9	1,280.9	3.1	2.8	155.70	92.2	-32.4	191.8	186.8	5.04	38.025		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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 2-17D (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	50.33	25.5	30.7	39.9					
100.0	100.0	100.0	100.0	0.1	0.1	50.33	25.5	30.7	39.9	39.6	0.30	134.586		
200.0	200.0	200.0	200.0	0.3	0.3	50.33	25.5	30.7	39.9	39.3	0.65	61.837		
300.0	300.0	300.6	300.5	0.5	0.5	48.00	26.2	29.1	39.2	38.2	1.00	39.229		
353.0	353.0	353.8	353.7	0.6	0.6	-168.46	27.2	27.0	38.8	37.6	1.19	32.515 CC, ES		
400.0	400.0	400.9	400.7	0.7	0.7	-172.83	28.5	24.4	39.2	37.8	1.37	28.643		
500.0	499.8	500.6	500.1	0.9	0.9	175.00	32.1	16.4	43.0	41.3	1.77	24.341		
600.0	599.5	599.6	598.3	1.1	1.2	162.41	37.2	5.5	52.3	50.1	2.20	23.719 SF		
700.0	698.7	697.3	694.9	1.3	1.5	152.36	43.6	-8.3	67.4	64.8	2.68	25.145		
800.0	797.6	793.9	789.6	1.6	1.9	145.05	51.3	-24.9	87.2	84.0	3.21	27.211		
900.0	896.6	889.2	882.5	1.9	2.3	139.08	60.2	-44.1	109.7	105.9	3.77	29.134		
1,000.0	995.5	983.1	973.3	2.2	2.7	134.07	70.2	-65.7	134.9	130.5	4.35	31.024		
1,100.0	1,094.4	1,075.4	1,061.8	2.5	3.2	129.83	81.3	-89.7	162.8	157.8	4.94	32.942		
1,200.0	1,193.3	1,167.8	1,149.5	2.8	3.7	126.20	93.5	-115.9	193.3	187.7	5.53	34.941		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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							
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	50.68	37.9	46.2	59.8					
100.0	100.0	100.0	100.0	0.1	0.1	50.68	37.9	46.2	59.8	59.5	0.30	201.479		
200.0	200.0	200.0	200.0	0.3	0.3	50.68	37.9	46.2	59.8	59.1	0.65	92.571		
300.0	300.0	300.0	300.0	0.5	0.5	50.68	37.9	46.2	59.8	58.8	0.99	60.090 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-162.86	37.9	46.2	61.4	60.1	1.34	45.730		
500.0	499.8	498.5	498.5	0.9	0.8	-162.95	37.5	47.9	67.5	65.8	1.69	39.884		
600.0	599.5	596.4	596.2	1.1	1.0	-161.73	36.2	52.8	78.8	76.8	2.05	38.510 SF		
700.0	698.7	693.1	692.6	1.3	1.2	-159.85	34.2	60.8	95.5	93.1	2.42	39.519		
800.0	797.6	789.6	788.4	1.6	1.5	-157.87	31.5	71.6	116.4	113.6	2.81	41.444		
900.0	896.6	887.2	885.3	1.9	1.7	-156.33	28.6	83.1	137.9	134.6	3.22	42.875		
1,000.0	995.5	984.8	982.2	2.2	2.0	-155.21	25.7	94.6	159.4	155.7	3.63	43.928		
1,100.0	1,094.4	1,082.4	1,079.1	2.5	2.2	-154.35	22.7	106.0	180.9	176.9	4.04	44.729		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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						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	50.62	44.4	54.1	70.0					
100.0	100.0	100.0	100.0	0.1	0.1	50.62	44.4	54.1	70.0	69.7	0.30	236.068		
200.0	200.0	200.0	200.0	0.3	0.3	50.62	44.4	54.1	70.0	69.4	0.65	108.464		
300.0	300.0	300.0	300.0	0.5	0.5	50.62	44.4	54.1	70.0	69.0	0.99	70.406 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-162.85	44.4	54.1	71.7	70.4	1.34	53.368		
500.0	499.8	499.8	499.8	0.9	0.8	-163.97	44.4	54.1	76.7	75.0	1.69	45.344		
600.0	599.5	597.0	597.0	1.1	1.0	-164.91	44.7	55.8	86.6	84.5	2.04	42.510 SF		
700.0	698.7	693.0	692.9	1.3	1.2	-165.10	45.6	60.5	102.6	100.2	2.38	43.075		
800.0	797.6	787.6	787.1	1.6	1.4	-164.74	46.9	68.4	123.6	120.9	2.74	45.195		
900.0	896.6	883.2	882.1	1.9	1.6	-163.94	48.7	78.9	147.1	144.0	3.10	47.457		
1,000.0	995.5	980.3	978.6	2.2	1.8	-163.29	50.6	89.9	170.9	167.4	3.47	49.229		
1,100.0	1,094.4	1,077.4	1,075.0	2.5	2.1	-162.80	52.6	100.9	194.6	190.8	3.84	50.629		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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 2-8D (I02 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	50.65	50.6	61.8	79.9					
100.0	100.0	100.0	100.0	0.1	0.1	50.65	50.6	61.8	79.9	79.6	0.30	269.152		
200.0	200.0	200.0	200.0	0.3	0.3	50.65	50.6	61.8	79.9	79.2	0.65	123.665		
300.0	300.0	300.0	300.0	0.5	0.5	50.65	50.6	61.8	79.9	78.9	0.99	80.274 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-162.77	50.6	61.8	81.5	80.2	1.34	60.674		
500.0	499.8	496.9	496.9	0.9	0.8	-163.60	51.6	63.1	88.2	86.5	1.69	52.291		
600.0	599.5	592.8	592.7	1.1	1.0	-164.56	54.3	67.1	101.6	99.6	2.03	50.078 SF		
700.0	698.7	687.2	686.7	1.3	1.2	-165.43	58.7	73.7	121.6	119.2	2.37	51.348		
800.0	797.6	780.8	779.7	1.6	1.4	-166.14	64.7	82.6	146.8	144.1	2.71	54.205		
900.0	896.6	877.3	875.5	1.9	1.7	-166.63	71.4	92.5	173.0	170.0	3.06	56.584		
1,000.0	995.5	973.8	971.2	2.2	1.9	-167.00	78.0	102.4	199.2	195.8	3.41	58.477		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Latham 2-12D (I02 697 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 2-12D (I02 697 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 2-12D (I02 697 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.69°

