



Company: B.P.
Project: La Plata County, CO NAD83
Site: East Sauls Creek Pad
Well: East Sauls Creek 26 2-1
Wellbore: Lateral 1 (Lower Lemon)
Design: Plan #1

PROJECT DETAILS: La Plata County, CO NAD83
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Southern Zone
System Datum: Mean Sea Level
Local North: Grid



Plan: Plan #1 (East Sauls Creek 26 2-1/Lateral 1 (Lower Lemon))

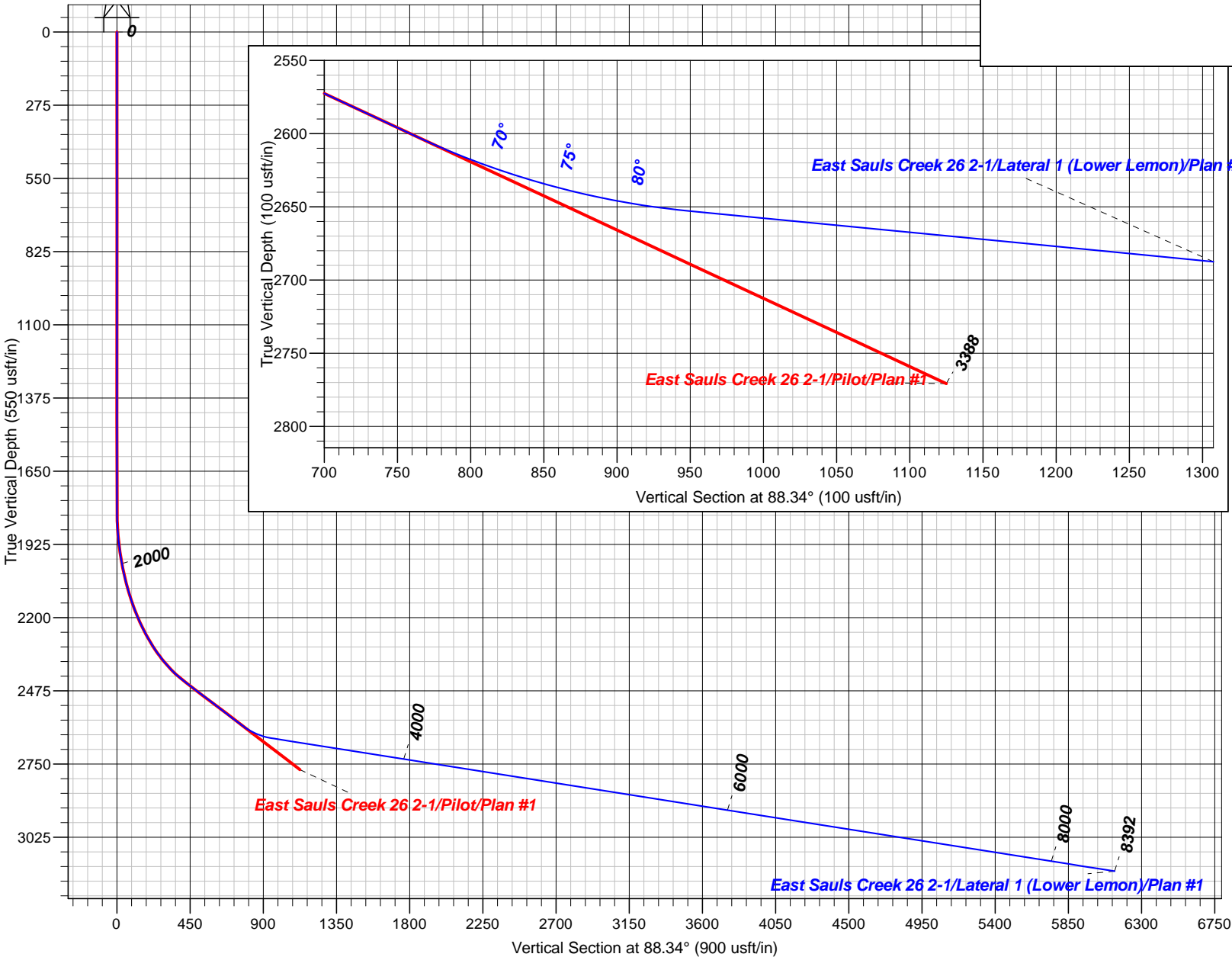
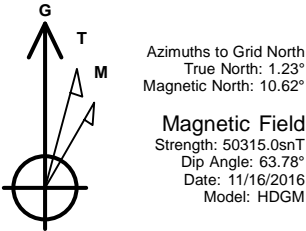
Created By: Janie Collins Date: 11:45, November 29 2016

WELL DETAILS: East Sauls Creek 26 2-1

SECTION DETAILS

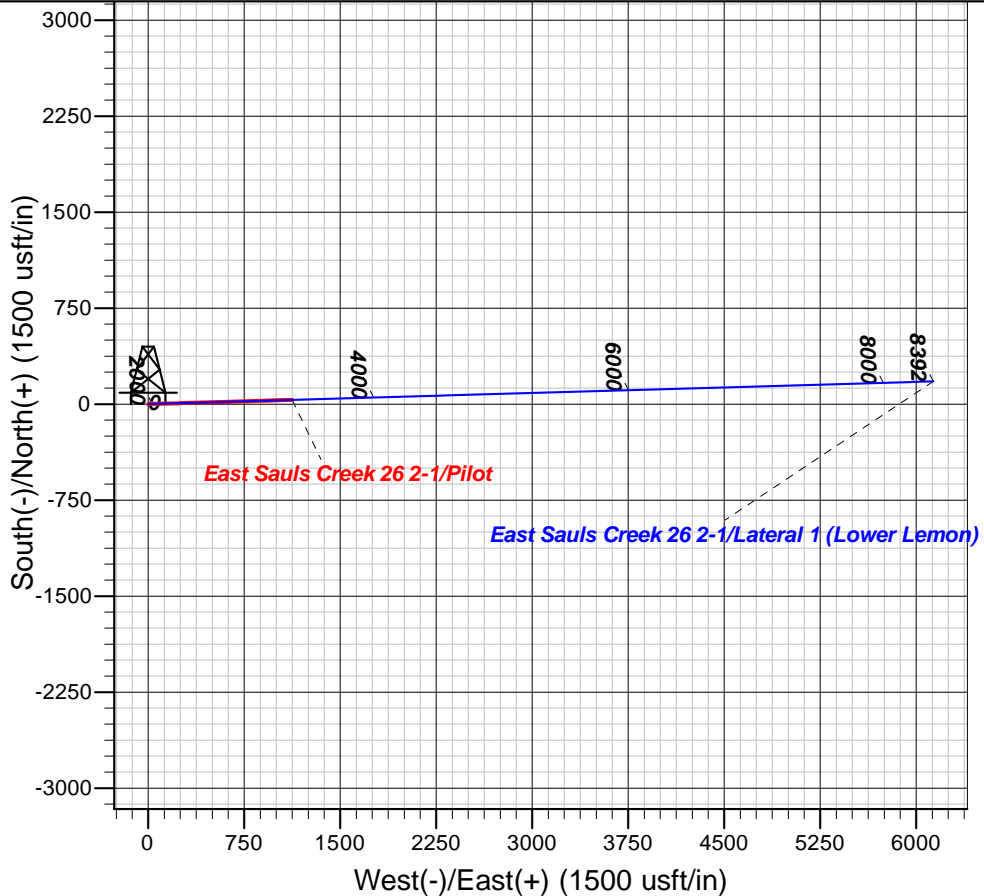
+N/-S +E/-W GL 7466' & RKB 11' @ 7477.00usft (Aztec 507) 7466.00
0.00 0.00 Northing Easting Latitude Longitude Slot
1225165.69 2414617.17 37.2677368 -107.5117557

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
2987.88	65.00	88.34	2601.96	22.10	762.47	0.00	0.00	762.79	
3182.80	84.49	88.35	2653.00	27.51	949.54	10.00	0.02	949.94	
8391.75	84.49	88.35	3153.00	177.25	6132.28	0.00	0.00	6134.84	ESC 26 2-1 Lat 1 PBHL



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ESC 26 2-1 Lat 1 PBHL	3153.00	177.25	6132.28	1225342.94	2420749.45	37.2685843	-107.4907005





B.P.

**La Plata County, CO NAD83
East Sauls Creek Pad
East Sauls Creek 26 2-1**

Lateral 1 (Lower Lemon)

Plan: Plan #1

Standard Planning Report

28 November, 2016





Database:	Grand Junction District	Local Co-ordinate Reference:	Well East Sauls Creek 26 2-1
Company:	B.P.	TVD Reference:	GL 7466' & RKB 11' @ 7477.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7466' & RKB 11' @ 7477.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 26 2-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 (Lower Lemon)		
Design:	Plan #1		

Project	La Plata County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		

Site		East Sauls Creek Pad			
Site Position:		Northing:	1,227,806.45 usft	Latitude:	37.2749933
From:	Map	Easting:	2,414,712.24 usft	Longitude:	-107.5116245
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.23 °

Well	East Sauls Creek 26 2-1					
Well Position	+N/-S	-2,640.76 usft	Northing:	1,225,165.69 usft	Latitude:	37.2677368
	+E/-W	-95.07 usft	Easting:	2,414,617.17 usft	Longitude:	-107.5117557
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,466.00 usft

Wellbore	Lateral 1 (Lower Lemon)				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/16/2016	9.38	63.78	50,315

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	2,987.88
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	88.34	

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
2,987.88	65.00	88.34	2,601.96	22.10	762.47	0.00	0.00	0.00	0.00	
3,182.80	84.49	88.35	2,653.00	27.51	949.54	10.00	10.00	0.00	0.02	
8,391.75	84.49	88.35	3,153.00	177.25	6,132.28	0.00	0.00	0.00	0.00	ESC 26 2-1 Lat 1 PBt



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Company:	B.P.	TVD Reference:	GL 7466' & RKB 11' @ 7477.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7466' & RKB 11' @ 7477.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 26 2-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 (Lower Lemon)		
Design:	Plan #1		

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)
2,987.88	65.00	88.34	2,601.96	22.10	762.47	762.79	0.00	0.00	0.00
3,000.00	66.21	88.34	2,606.97	22.42	773.51	773.83	10.00	10.00	0.00
3,100.00	76.21	88.34	2,639.14	25.15	868.02	868.38	10.00	10.00	0.00
3,182.80	84.49	88.35	2,653.00	27.51	949.54	949.94	10.00	10.00	0.00
3,200.00	84.49	88.35	2,654.65	28.00	966.65	967.06	0.00	0.00	0.00
3,300.00	84.49	88.35	2,664.25	30.88	1,066.15	1,066.60	0.00	0.00	0.00
3,400.00	84.49	88.35	2,673.85	33.75	1,165.65	1,166.14	0.00	0.00	0.00
3,500.00	84.49	88.35	2,683.45	36.63	1,265.14	1,265.67	0.00	0.00	0.00
3,600.00	84.49	88.35	2,693.05	39.50	1,364.64	1,365.21	0.00	0.00	0.00
3,700.00	84.49	88.35	2,702.65	42.38	1,464.14	1,464.75	0.00	0.00	0.00
3,800.00	84.49	88.35	2,712.24	45.25	1,563.63	1,564.29	0.00	0.00	0.00
3,900.00	84.49	88.35	2,721.84	48.13	1,663.13	1,663.83	0.00	0.00	0.00
4,000.00	84.49	88.35	2,731.44	51.00	1,762.63	1,763.37	0.00	0.00	0.00
4,100.00	84.49	88.35	2,741.04	53.88	1,862.12	1,862.90	0.00	0.00	0.00
4,200.00	84.49	88.35	2,750.64	56.75	1,961.62	1,962.44	0.00	0.00	0.00
4,300.00	84.49	88.35	2,760.24	59.63	2,061.12	2,061.98	0.00	0.00	0.00
4,400.00	84.49	88.35	2,769.84	62.50	2,160.62	2,161.52	0.00	0.00	0.00
4,500.00	84.49	88.35	2,779.44	65.37	2,260.11	2,261.06	0.00	0.00	0.00
4,600.00	84.49	88.35	2,789.04	68.25	2,359.61	2,360.60	0.00	0.00	0.00
4,700.00	84.49	88.35	2,798.63	71.12	2,459.11	2,460.13	0.00	0.00	0.00
4,800.00	84.49	88.35	2,808.23	74.00	2,558.60	2,559.67	0.00	0.00	0.00
4,900.00	84.49	88.35	2,817.83	76.87	2,658.10	2,659.21	0.00	0.00	0.00
5,000.00	84.49	88.35	2,827.43	79.75	2,757.60	2,758.75	0.00	0.00	0.00
5,100.00	84.49	88.35	2,837.03	82.62	2,857.09	2,858.29	0.00	0.00	0.00
5,200.00	84.49	88.35	2,846.63	85.50	2,956.59	2,957.82	0.00	0.00	0.00
5,300.00	84.49	88.35	2,856.23	88.37	3,056.09	3,057.36	0.00	0.00	0.00
5,400.00	84.49	88.35	2,865.83	91.25	3,155.58	3,156.90	0.00	0.00	0.00
5,500.00	84.49	88.35	2,875.42	94.12	3,255.08	3,256.44	0.00	0.00	0.00
5,600.00	84.49	88.35	2,885.02	97.00	3,354.58	3,355.98	0.00	0.00	0.00
5,700.00	84.49	88.35	2,894.62	99.87	3,454.07	3,455.52	0.00	0.00	0.00
5,800.00	84.49	88.35	2,904.22	102.75	3,553.57	3,555.05	0.00	0.00	0.00
5,900.00	84.49	88.35	2,913.82	105.62	3,653.07	3,654.59	0.00	0.00	0.00
6,000.00	84.49	88.35	2,923.42	108.49	3,752.56	3,754.13	0.00	0.00	0.00
6,100.00	84.49	88.35	2,933.02	111.37	3,852.06	3,853.67	0.00	0.00	0.00
6,200.00	84.49	88.35	2,942.62	114.24	3,951.56	3,953.21	0.00	0.00	0.00
6,300.00	84.49	88.35	2,952.22	117.12	4,051.05	4,052.75	0.00	0.00	0.00
6,400.00	84.49	88.35	2,961.81	119.99	4,150.55	4,152.28	0.00	0.00	0.00
6,500.00	84.49	88.35	2,971.41	122.87	4,250.05	4,251.82	0.00	0.00	0.00
6,600.00	84.49	88.35	2,981.01	125.74	4,349.54	4,351.36	0.00	0.00	0.00
6,700.00	84.49	88.35	2,990.61	128.62	4,449.04	4,450.90	0.00	0.00	0.00
6,800.00	84.49	88.35	3,000.21	131.49	4,548.54	4,550.44	0.00	0.00	0.00
6,900.00	84.49	88.35	3,009.81	134.37	4,648.03	4,649.98	0.00	0.00	0.00
7,000.00	84.49	88.35	3,019.41	137.24	4,747.53	4,749.51	0.00	0.00	0.00
7,100.00	84.49	88.35	3,029.01	140.12	4,847.03	4,849.05	0.00	0.00	0.00
7,200.00	84.49	88.35	3,038.61	142.99	4,946.52	4,948.59	0.00	0.00	0.00
7,300.00	84.49	88.35	3,048.20	145.87	5,046.02	5,048.13	0.00	0.00	0.00
7,400.00	84.49	88.35	3,057.80	148.74	5,145.52	5,147.67	0.00	0.00	0.00
7,500.00	84.49	88.35	3,067.40	151.61	5,245.01	5,247.20	0.00	0.00	0.00
7,600.00	84.49	88.35	3,077.00	154.49	5,344.51	5,346.74	0.00	0.00	0.00
7,700.00	84.49	88.35	3,086.60	157.36	5,444.01	5,446.28	0.00	0.00	0.00
7,800.00	84.49	88.35	3,096.20	160.24	5,543.50	5,545.82	0.00	0.00	0.00
7,900.00	84.49	88.35	3,105.80	163.11	5,643.00	5,645.36	0.00	0.00	0.00



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Project:	La Plata County, CO NAD83	MD Reference:	GL 7466' & RKB 11' @ 7477.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 26 2-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 (Lower Lemon)		
Design:	Plan #1		

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)
8,000.00	84.49	88.35	3,115.40	165.99	5,742.50	5,744.90	0.00	0.00	0.00
8,100.00	84.49	88.35	3,124.99	168.86	5,841.99	5,844.43	0.00	0.00	0.00
8,200.00	84.49	88.35	3,134.59	171.74	5,941.49	5,943.97	0.00	0.00	0.00
8,300.00	84.49	88.35	3,144.19	174.61	6,040.99	6,043.51	0.00	0.00	0.00
8,391.75	84.49	88.35	3,153.00	177.25	6,132.28	6,134.84	0.00	0.00	0.00
ESC 26 2-1 Lat 1 PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
ESC 26 2-1 Lat 1 PBHL	0.00	0.00	3,153.00	177.25	6,132.28	1,225,342.94	2,420,749.45	37.2685842	-107.4907006
- plan hits target center									
- Point									