



Company: B.P.
Project: La Plata County, CO NAD83
Site: East Sauls Creek Pad
Well: East Sauls Creek 35 3-1
Wellbore: Lateral 2 (Lemon)
Design: Plan #2

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 #2 (East Sauls Creek 35 3-1/Lateral 2 (Lemon))

Created By: Janie Collins Date: 11:20, December 05 2016

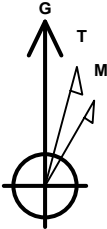
WELL DETAILS: East Sauls Creek 35 3-1

+N/-S +E/-W GL 7326' & RKB 11' @ 7337.00usft (Aztec 507) 7326.00
0.00 0.00 Northing Easting Latitude Longitude Slot
1222360.08 2414796.92 37.2600439 -107.5109306

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
2580.56	65.00	87.83	2413.60	15.87	418.80	0.00	0.00	419.10	
2933.31	82.90	65.00	2511.93	97.55	743.76	8.00	-54.51	746.92	
2983.31	82.90	65.00	2518.11	118.52	788.72	0.00	0.00	792.65	
3360.85	82.90	87.83	2565.40	205.92	1150.41	6.00	91.43	1157.40	
6860.85	82.90	87.83	2998.00	337.43	4621.08	0.00	0.00	4630.56	
7277.08	82.90	113.00	3050.28	263.38	5023.96	6.00	91.58	5030.33	
7582.34	82.81	88.39	3088.82	207.62	5319.23	8.00	-91.75	5323.27	
8167.37	82.81	88.39	3162.00	223.97	5899.43	0.00	0.00	5903.68	

ESC 35 3-1 Lat 2 (Lemon) PBHL



Azimuths to Grid North
True North: 1.23°
Magnetic North: 10.60°

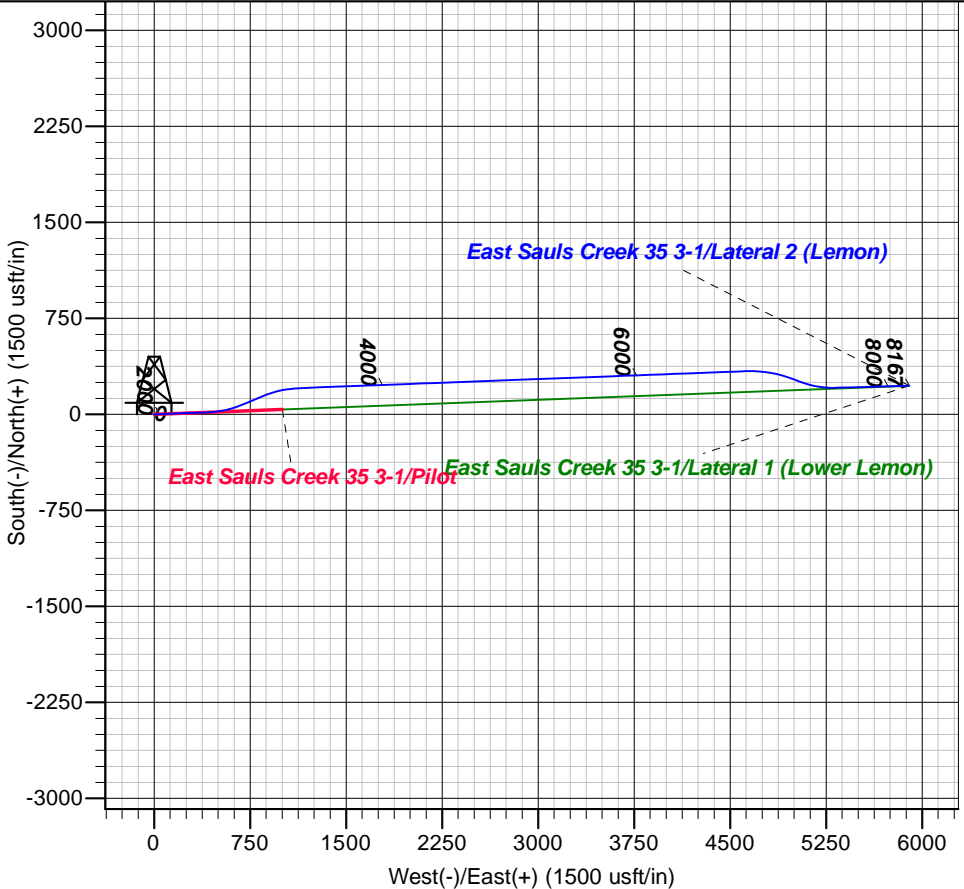
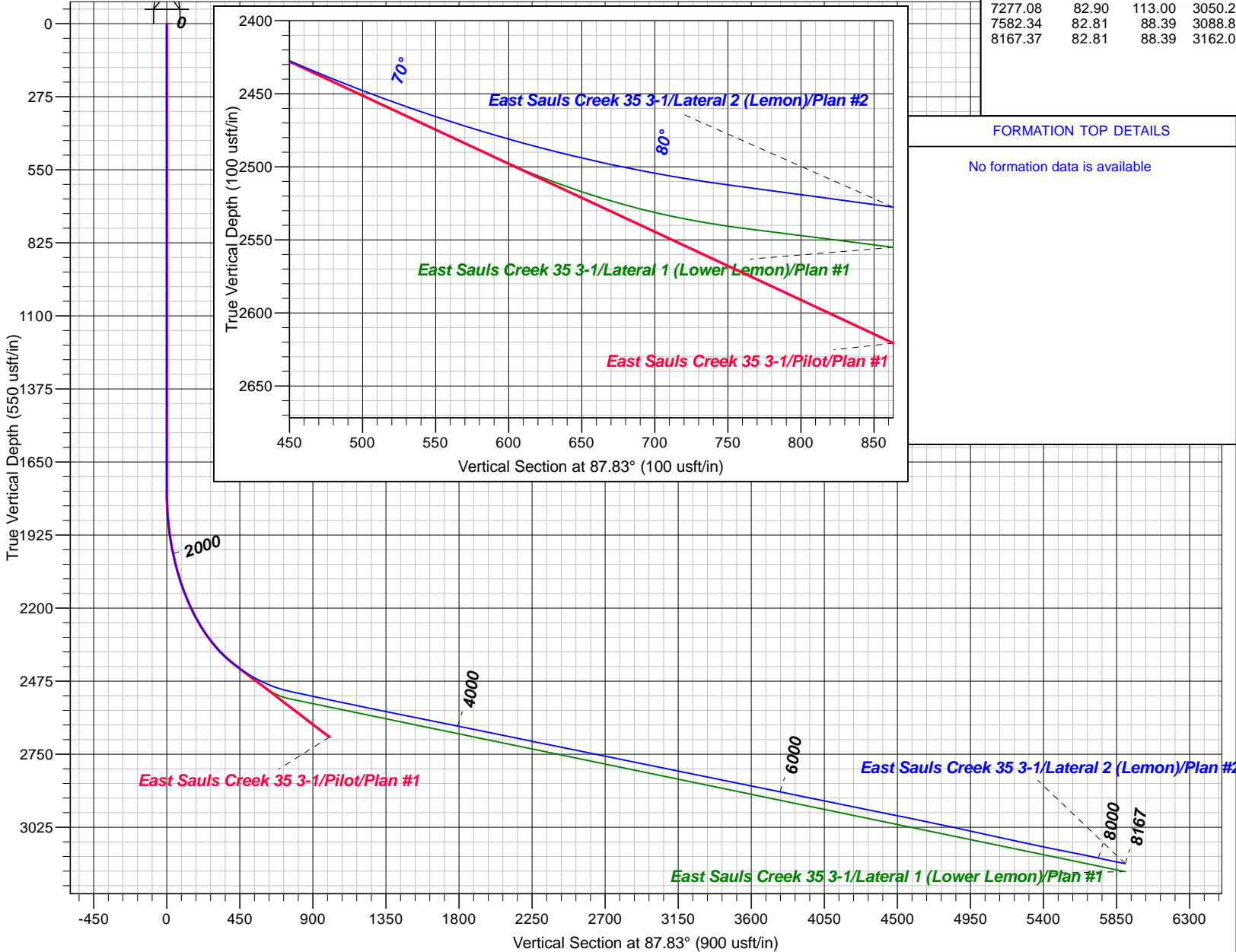
Magnetic Field
Strength: 50312.1snT
Dip Angle: 63.78°
Date: 11/15/2016
Model: HDGM

FORMATION TOP DETAILS

No formation data is available

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ESC 35 3-1 Lat 2 (Lemon) PBHL	3162.00	223.97	5899.43	1222584.05	2420696.35	37.2610059	-107.4906810





B.P.

**La Plata County, CO NAD83
East Sauls Creek Pad
East Sauls Creek 35 3-1**

Lateral 2 (Lemon)

Plan: Plan #2

Standard Planning Report

05 December, 2016





Database:	Grand Junction District	Local Co-ordinate Reference:	Well East Sauls Creek 35 3-1
Company:	B.P.	TVD Reference:	GL 7326' & RKB 11' @ 7337.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7326' & RKB 11' @ 7337.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 35 3-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2 (Lemon)		
Design:	Plan #2		

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 35 3-1					
Well Position	+N/-S	-5,446.37 usft	Northing:	1,222,360.08 usft	Latitude:	37.2600439
	+E/-W	84.68 usft	Easting:	2,414,796.92 usft	Longitude:	-107.5109306
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,326.00 usft

Wellbore	Lateral 2 (Lemon)				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/15/2016	9.37	63.78	50,312

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	2,580.56
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	87.83	

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
2,580.56	65.00	87.83	2,413.60	15.87	418.80	0.00	0.00	0.00	0.00	
2,933.31	82.90	65.00	2,511.93	97.55	743.76	8.00	5.07	-6.47	-54.51	
2,983.31	82.90	65.00	2,518.11	118.52	788.72	0.00	0.00	0.00	0.00	
3,360.85	82.90	87.83	2,565.40	205.92	1,150.41	6.00	0.00	6.05	91.43	
6,860.85	82.90	87.83	2,998.00	337.43	4,621.08	0.00	0.00	0.00	0.00	
7,277.08	82.90	113.00	3,050.28	263.38	5,023.96	6.00	0.00	6.05	91.58	
7,582.34	82.81	88.39	3,088.82	207.62	5,319.23	8.00	-0.03	-8.06	-91.75	
8,167.37	82.81	88.39	3,162.00	223.97	5,899.43	0.00	0.00	0.00	0.00	ESC 35 3-1 Lat 2 (Lei



Database:	Grand Junction District	Local Co-ordinate Reference:	Well East Sauls Creek 35 3-1
Company:	B.P.	TVD Reference:	GL 7326' & RKB 11' @ 7337.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7326' & RKB 11' @ 7337.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 35 3-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2 (Lemon)		
Design:	Plan #2		

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)
2,580.56	65.00	87.83	2,413.60	15.87	418.80	419.10	0.00	0.00	0.00
2,600.00	65.91	86.44	2,421.67	16.75	436.46	436.78	8.00	4.68	-7.14
2,700.00	70.77	79.60	2,458.61	28.13	528.60	529.29	8.00	4.86	-6.84
2,800.00	75.86	73.16	2,487.34	50.73	621.59	623.07	8.00	5.10	-6.44
2,900.00	81.12	67.01	2,507.30	84.13	713.62	716.30	8.00	5.26	-6.15
2,933.31	82.90	65.00	2,511.93	97.55	743.76	746.92	8.00	5.33	-6.02
2,983.31	82.90	65.00	2,518.11	118.52	788.72	792.65	0.00	0.00	0.00
3,000.00	82.88	66.01	2,520.18	125.38	803.80	807.97	6.00	-0.14	6.04
3,100.00	82.78	72.06	2,532.68	160.87	896.40	901.86	6.00	-0.10	6.05
3,200.00	82.76	78.10	2,545.27	186.40	992.21	998.57	6.00	-0.02	6.05
3,300.00	82.82	84.15	2,557.83	201.70	1,090.19	1,097.06	6.00	0.06	6.05
3,360.85	82.90	87.83	2,565.40	205.92	1,150.41	1,157.40	6.00	0.13	6.05
3,400.00	82.90	87.83	2,570.24	207.39	1,189.23	1,196.24	0.00	0.00	0.00
3,500.00	82.90	87.83	2,582.60	211.15	1,288.39	1,295.48	0.00	0.00	0.00
3,600.00	82.90	87.83	2,594.96	214.90	1,387.55	1,394.71	0.00	0.00	0.00
3,700.00	82.90	87.83	2,607.32	218.66	1,486.72	1,493.94	0.00	0.00	0.00
3,800.00	82.90	87.83	2,619.68	222.42	1,585.88	1,593.17	0.00	0.00	0.00
3,900.00	82.90	87.83	2,632.04	226.18	1,685.04	1,692.41	0.00	0.00	0.00
4,000.00	82.90	87.83	2,644.40	229.93	1,784.20	1,791.64	0.00	0.00	0.00
4,100.00	82.90	87.83	2,656.76	233.69	1,883.36	1,890.87	0.00	0.00	0.00
4,200.00	82.90	87.83	2,669.12	237.45	1,982.53	1,990.11	0.00	0.00	0.00
4,300.00	82.90	87.83	2,681.48	241.20	2,081.69	2,089.34	0.00	0.00	0.00
4,400.00	82.90	87.83	2,693.84	244.96	2,180.85	2,188.57	0.00	0.00	0.00
4,500.00	82.90	87.83	2,706.20	248.72	2,280.01	2,287.81	0.00	0.00	0.00
4,600.00	82.90	87.83	2,718.56	252.48	2,379.17	2,387.04	0.00	0.00	0.00
4,700.00	82.90	87.83	2,730.92	256.23	2,478.34	2,486.27	0.00	0.00	0.00
4,800.00	82.90	87.83	2,743.28	259.99	2,577.50	2,585.51	0.00	0.00	0.00
4,900.00	82.90	87.83	2,755.64	263.75	2,676.66	2,684.74	0.00	0.00	0.00
5,000.00	82.90	87.83	2,768.00	267.51	2,775.82	2,783.97	0.00	0.00	0.00
5,100.00	82.90	87.83	2,780.36	271.26	2,874.99	2,883.21	0.00	0.00	0.00
5,200.00	82.90	87.83	2,792.72	275.02	2,974.15	2,982.44	0.00	0.00	0.00
5,300.00	82.90	87.83	2,805.08	278.78	3,073.31	3,081.67	0.00	0.00	0.00
5,400.00	82.90	87.83	2,817.44	282.54	3,172.47	3,180.91	0.00	0.00	0.00
5,500.00	82.90	87.83	2,829.80	286.29	3,271.63	3,280.14	0.00	0.00	0.00
5,600.00	82.90	87.83	2,842.16	290.05	3,370.80	3,379.37	0.00	0.00	0.00
5,700.00	82.90	87.83	2,854.52	293.81	3,469.96	3,478.61	0.00	0.00	0.00
5,800.00	82.90	87.83	2,866.88	297.57	3,569.12	3,577.84	0.00	0.00	0.00
5,900.00	82.90	87.83	2,879.24	301.32	3,668.28	3,677.07	0.00	0.00	0.00
6,000.00	82.90	87.83	2,891.60	305.08	3,767.44	3,776.31	0.00	0.00	0.00
6,100.00	82.90	87.83	2,903.96	308.84	3,866.61	3,875.54	0.00	0.00	0.00
6,200.00	82.90	87.83	2,916.32	312.60	3,965.77	3,974.77	0.00	0.00	0.00
6,300.00	82.90	87.83	2,928.68	316.35	4,064.93	4,074.00	0.00	0.00	0.00
6,400.00	82.90	87.83	2,941.04	320.11	4,164.09	4,173.24	0.00	0.00	0.00
6,500.00	82.90	87.83	2,953.40	323.87	4,263.25	4,272.47	0.00	0.00	0.00
6,600.00	82.90	87.83	2,965.76	327.63	4,362.42	4,371.70	0.00	0.00	0.00
6,700.00	82.90	87.83	2,978.12	331.38	4,461.58	4,470.94	0.00	0.00	0.00
6,800.00	82.90	87.83	2,990.48	335.14	4,560.74	4,570.17	0.00	0.00	0.00
6,860.85	82.90	87.83	2,998.00	337.43	4,621.08	4,630.56	0.00	0.00	0.00
6,900.00	82.84	90.20	3,002.86	338.10	4,659.92	4,669.39	6.00	-0.15	6.04
7,000.00	82.75	96.24	3,015.42	332.53	4,758.92	4,768.11	6.00	-0.10	6.05
7,100.00	82.73	102.29	3,028.07	316.56	4,856.78	4,865.29	6.00	-0.02	6.05
7,200.00	82.80	108.34	3,040.68	290.37	4,952.41	4,959.87	6.00	0.06	6.05



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Project:	La Plata County, CO NAD83	MD Reference:	GL 7326' & RKB 11' @ 7337.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 35 3-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2 (Lemon)		
Design:	Plan #2		

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)
7,277.08	82.90	113.00	3,050.28	263.38	5,023.96	5,030.33	6.00	0.14	6.05
7,300.00	82.85	111.15	3,053.12	254.83	5,045.03	5,051.06	8.00	-0.23	-8.06
7,400.00	82.71	103.09	3,065.72	225.65	5,139.75	5,144.62	8.00	-0.14	-8.06
7,500.00	82.71	95.03	3,078.43	210.05	5,237.63	5,241.82	8.00	0.00	-8.07
7,582.34	82.81	88.39	3,088.82	207.62	5,319.23	5,323.27	8.00	0.13	-8.06
7,600.00	82.81	88.39	3,091.03	208.11	5,336.74	5,340.79	0.00	0.00	0.00
7,700.00	82.81	88.39	3,103.54	210.91	5,435.92	5,440.00	0.00	0.00	0.00
7,800.00	82.81	88.39	3,116.05	213.70	5,535.09	5,539.21	0.00	0.00	0.00
7,900.00	82.81	88.39	3,128.56	216.50	5,634.27	5,638.42	0.00	0.00	0.00
8,000.00	82.81	88.39	3,141.06	219.29	5,733.44	5,737.63	0.00	0.00	0.00
8,100.00	82.81	88.39	3,153.57	222.09	5,832.62	5,836.84	0.00	0.00	0.00
8,167.37	82.81	88.39	3,162.00	223.97	5,899.43	5,903.68	0.00	0.00	0.00
ESC 35 3-1 Lat 2 (Lemon) PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
ESC 35 3-1 Lat 2 (Lemo) - plan hits target center - Point	0.00	0.00	3,162.00	223.97	5,899.43	1,222,584.05	2,420,696.35	37.2610059	-107.4906810