



Company: B.P.
Project: La Plata County, CO NAD83
Site: East Sauls Creek Pad
Well: East Sauls Creek 35 4-1
Wellbore: Lateral 3 (Bayfield)
Design: Plan #3

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 #3 (East Sauls Creek 35 4-1/Lateral 3 (Bayfield))

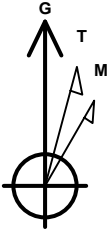
Created By: Janie Collins Date: 10:27, December 20 2016

WELL DETAILS: East Sauls Creek 35 4-1

+N/-S +E/-W GL 7398' & RKB 11' @ 7409.00usft (Aztec 507) 7398.00
0.00 0.00 Northing Easting Latitude Longitude Slot
1220252.87 2415225.83 37.2542834 -107.5093014

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
2548.00	51.21	91.51	2466.12	-7.05	267.41	0.00	0.00	267.50	
2920.53	81.29	108.00	2615.30	-69.56	597.11	9.00	30.53	598.73	
3020.53	81.29	108.00	2630.45	-100.11	691.11	0.00	0.00	693.51	
3346.70	81.29	91.50	2680.18	-154.51	1007.72	5.00	-91.26	1011.43	
6546.70	81.29	91.50	3164.76	-237.31	4169.73	0.00	0.00	4174.52	
6951.92	81.29	71.00	3226.77	-176.72	4563.41	5.00	-91.57	4566.48	
7205.18	81.29	91.50	3265.53	-138.85	4809.46	8.00	91.57	4811.45	
7817.98	81.90	89.40	3355.12	-143.62	5415.61	0.35	-73.82	5417.51	
7852.57	81.90	89.40	3360.00	-143.26	5449.86	0.00	0.00	5451.74	ESC 35 4-1 Lat 3 PBHL



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

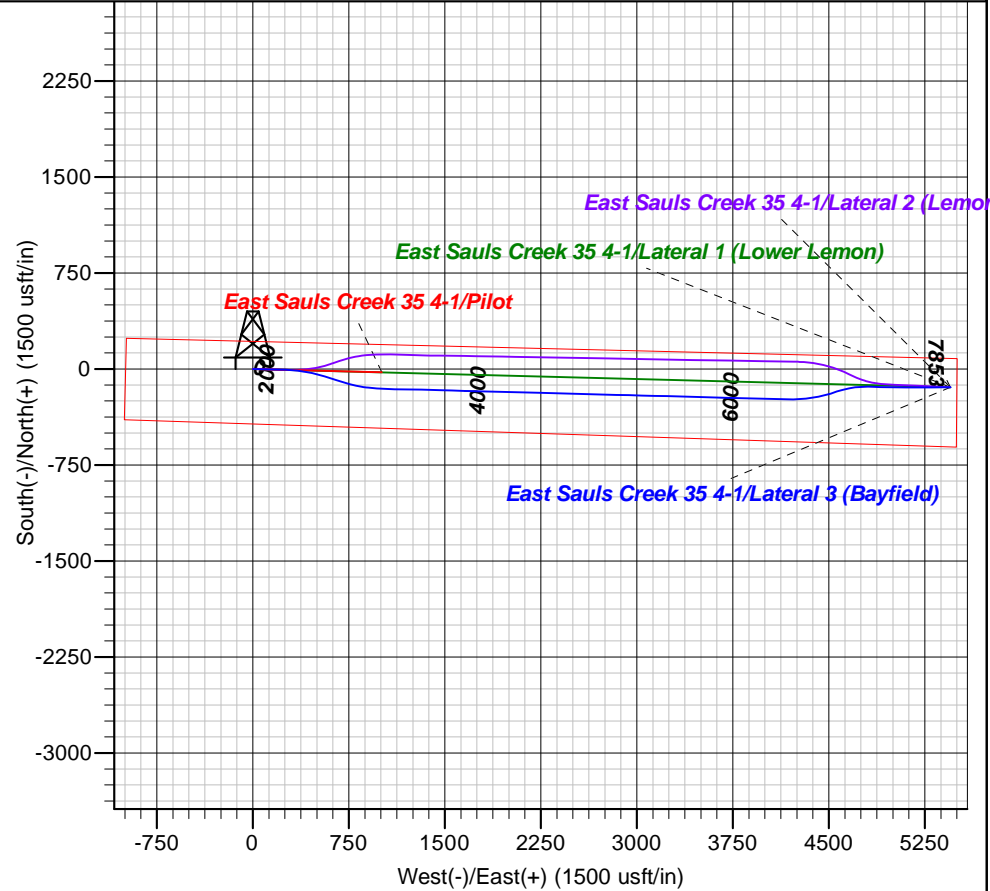
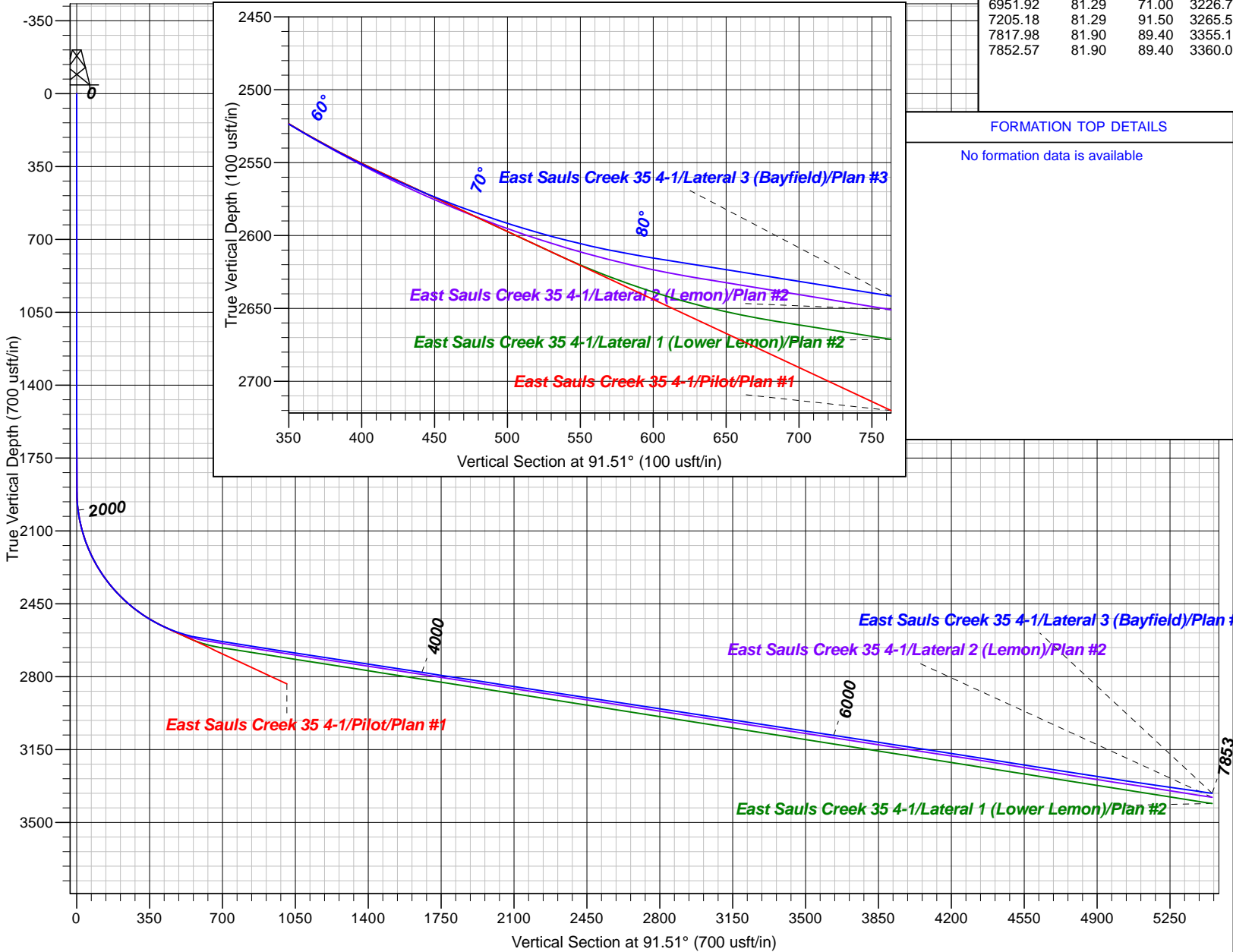
Magnetic Field
Strength: 50304.6snT
Dip Angle: 63.78°
Date: 11/29/2016
Model: HDGM

FORMATION TOP DETAILS

No formation data is available

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ESC 35 4-1 Lat 3 PBHL	3360.00	-143.26	5449.86	1220109.61	2420675.69	37.2542104	-107.4905708





B.P.

**La Plata County, CO NAD83
East Sauls Creek Pad
East Sauls Creek 35 4-1**

Lateral 3 (Bayfield)

Plan: Plan #3

Standard Planning Report

20 December, 2016



www.scientificdrilling.com





Database:	Grand Junction District	Local Co-ordinate Reference:	Well East Sauls Creek 35 4-1
Company:	B.P.	TVD Reference:	GL 7398' & RKB 11' @ 7409.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7398' & RKB 11' @ 7409.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 35 4-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 3 (Bayfield)		
Design:	Plan #3		

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 4-1					
Well Position	+N/-S	-7,553.58 usft	Northing:	1,220,252.87 usft	Latitude:	37.2542833
	+E/-W	513.59 usft	Easting:	2,415,225.83 usft	Longitude:	-107.5093015
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,398.00 usft

Wellbore	Lateral 3 (Bayfield)				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/29/2016	9.37	63.78	50,305

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,548.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	91.51

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
2,548.00	51.21	91.51	2,466.12	-7.05	267.41	0.00	0.00	0.00	0.00	
2,920.53	81.29	108.00	2,615.30	-69.56	597.11	9.00	8.08	4.43	30.53	
3,020.53	81.29	108.00	2,630.45	-100.11	691.11	0.00	0.00	0.00	0.00	
3,346.70	81.29	91.50	2,680.18	-154.51	1,007.72	5.00	0.00	-5.06	-91.26	
6,546.70	81.29	91.50	3,164.76	-237.31	4,169.73	0.00	0.00	0.00	0.00	
6,951.92	81.29	71.00	3,226.77	-176.72	4,563.41	5.00	0.00	-5.06	-91.57	
7,205.18	81.29	91.50	3,265.53	-138.85	4,809.46	8.00	0.00	8.09	91.57	
7,817.98	81.90	89.40	3,355.12	-143.62	5,415.61	0.35	0.10	-0.34	-73.82	
7,852.57	81.90	89.40	3,360.00	-143.26	5,449.86	0.00	0.00	0.00	0.00	ESC 35 4-1 Lat 3 PBt



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Company:	B.P.	TVD Reference:	GL 7398' & RKB 11' @ 7409.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7398' & RKB 11' @ 7409.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 35 4-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 3 (Bayfield)		
Design:	Plan #3		

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)
2,548.00	51.21	91.51	2,466.12	-7.05	267.41	267.50	0.00	0.00	0.00
2,600.00	55.28	94.40	2,497.24	-9.22	309.00	309.13	9.00	7.82	5.56
2,700.00	63.26	99.24	2,548.32	-19.57	394.22	394.60	9.00	7.98	4.84
2,800.00	71.39	103.44	2,586.86	-37.79	484.57	485.39	9.00	8.13	4.20
2,900.00	79.60	107.25	2,611.90	-63.43	577.81	579.28	9.00	8.21	3.81
2,920.53	81.29	108.00	2,615.30	-69.56	597.11	598.73	9.00	8.24	3.66
3,000.00	81.29	108.00	2,627.34	-93.84	671.82	674.05	0.00	0.00	0.00
3,020.53	81.29	108.00	2,630.45	-100.11	691.11	693.51	0.00	0.00	0.00
3,100.00	81.22	103.98	2,642.53	-121.74	766.61	769.54	5.00	-0.08	-5.06
3,200.00	81.20	98.92	2,657.82	-141.36	863.43	866.85	5.00	-0.02	-5.06
3,300.00	81.25	93.86	2,673.09	-152.35	961.62	965.29	5.00	0.04	-5.06
3,346.70	81.29	91.50	2,680.18	-154.51	1,007.72	1,011.43	5.00	0.09	-5.06
3,400.00	81.29	91.50	2,688.25	-155.89	1,060.39	1,064.12	0.00	0.00	0.00
3,500.00	81.29	91.50	2,703.39	-158.48	1,159.20	1,162.96	0.00	0.00	0.00
3,600.00	81.29	91.50	2,718.53	-161.07	1,258.01	1,261.81	0.00	0.00	0.00
3,700.00	81.29	91.50	2,733.68	-163.65	1,356.83	1,360.66	0.00	0.00	0.00
3,800.00	81.29	91.50	2,748.82	-166.24	1,455.64	1,459.50	0.00	0.00	0.00
3,900.00	81.29	91.50	2,763.96	-168.83	1,554.45	1,558.35	0.00	0.00	0.00
4,000.00	81.29	91.50	2,779.11	-171.42	1,653.26	1,657.20	0.00	0.00	0.00
4,100.00	81.29	91.50	2,794.25	-174.00	1,752.08	1,756.04	0.00	0.00	0.00
4,200.00	81.29	91.50	2,809.39	-176.59	1,850.89	1,854.89	0.00	0.00	0.00
4,300.00	81.29	91.50	2,824.54	-179.18	1,949.70	1,953.74	0.00	0.00	0.00
4,400.00	81.29	91.50	2,839.68	-181.77	2,048.52	2,052.59	0.00	0.00	0.00
4,500.00	81.29	91.50	2,854.82	-184.35	2,147.33	2,151.43	0.00	0.00	0.00
4,600.00	81.29	91.50	2,869.97	-186.94	2,246.14	2,250.28	0.00	0.00	0.00
4,700.00	81.29	91.50	2,885.11	-189.53	2,344.95	2,349.13	0.00	0.00	0.00
4,800.00	81.29	91.50	2,900.25	-192.12	2,443.77	2,447.97	0.00	0.00	0.00
4,900.00	81.29	91.50	2,915.40	-194.70	2,542.58	2,546.82	0.00	0.00	0.00
5,000.00	81.29	91.50	2,930.54	-197.29	2,641.39	2,645.67	0.00	0.00	0.00
5,100.00	81.29	91.50	2,945.68	-199.88	2,740.21	2,744.51	0.00	0.00	0.00
5,200.00	81.29	91.50	2,960.83	-202.47	2,839.02	2,843.36	0.00	0.00	0.00
5,300.00	81.29	91.50	2,975.97	-205.05	2,937.83	2,942.21	0.00	0.00	0.00
5,400.00	81.29	91.50	2,991.11	-207.64	3,036.64	3,041.05	0.00	0.00	0.00
5,500.00	81.29	91.50	3,006.26	-210.23	3,135.46	3,139.90	0.00	0.00	0.00
5,600.00	81.29	91.50	3,021.40	-212.82	3,234.27	3,238.75	0.00	0.00	0.00
5,700.00	81.29	91.50	3,036.54	-215.40	3,333.08	3,337.59	0.00	0.00	0.00
5,800.00	81.29	91.50	3,051.69	-217.99	3,431.90	3,436.44	0.00	0.00	0.00
5,900.00	81.29	91.50	3,066.83	-220.58	3,530.71	3,535.29	0.00	0.00	0.00
6,000.00	81.29	91.50	3,081.97	-223.17	3,629.52	3,634.13	0.00	0.00	0.00
6,100.00	81.29	91.50	3,097.12	-225.75	3,728.33	3,732.98	0.00	0.00	0.00
6,200.00	81.29	91.50	3,112.26	-228.34	3,827.15	3,831.83	0.00	0.00	0.00
6,300.00	81.29	91.50	3,127.40	-230.93	3,925.96	3,930.67	0.00	0.00	0.00
6,400.00	81.29	91.50	3,142.55	-233.52	4,024.77	4,029.52	0.00	0.00	0.00
6,500.00	81.29	91.50	3,157.69	-236.10	4,123.59	4,128.37	0.00	0.00	0.00
6,546.70	81.29	91.50	3,164.76	-237.31	4,169.73	4,174.52	0.00	0.00	0.00
6,600.00	81.23	88.80	3,172.87	-237.45	4,222.41	4,227.19	5.00	-0.12	-5.06
6,700.00	81.16	83.75	3,188.19	-231.03	4,320.99	4,325.57	5.00	-0.07	-5.06
6,800.00	81.16	78.68	3,203.56	-215.95	4,418.61	4,422.75	5.00	0.00	-5.06
6,900.00	81.23	73.63	3,218.88	-192.31	4,514.52	4,518.02	5.00	0.07	-5.06
6,951.92	81.29	71.00	3,226.77	-176.72	4,563.41	4,566.48	5.00	0.12	-5.06
7,000.00	81.20	74.89	3,234.09	-162.78	4,608.83	4,611.52	8.00	-0.18	8.09
7,100.00	81.15	82.99	3,249.45	-143.84	4,705.73	4,707.88	8.00	-0.05	8.10



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Wellbore:	Lateral 3 (Bayfield)		
Design:	Plan #3		

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)
7,200.00	81.28	91.08	3,264.75	-138.73	4,804.34	4,806.32	8.00	0.12	8.09
7,205.18	81.29	91.50	3,265.53	-138.85	4,809.46	4,811.45	8.00	0.21	8.09
7,300.00	81.38	91.18	3,279.81	-141.04	4,903.17	4,905.18	0.35	0.10	-0.34
7,400.00	81.48	90.83	3,294.71	-142.77	5,002.04	5,004.06	0.35	0.10	-0.34
7,500.00	81.58	90.49	3,309.44	-143.91	5,100.94	5,102.96	0.35	0.10	-0.34
7,600.00	81.68	90.15	3,323.99	-144.46	5,199.87	5,201.87	0.35	0.10	-0.34
7,700.00	81.78	89.81	3,338.38	-144.42	5,298.83	5,300.80	0.35	0.10	-0.34
7,800.00	81.88	89.46	3,352.59	-143.79	5,397.82	5,399.73	0.35	0.10	-0.34
7,817.98	81.90	89.40	3,355.12	-143.62	5,415.61	5,417.52	0.35	0.10	-0.34
7,852.57	81.90	89.40	3,360.00	-143.26	5,449.86	5,451.74	0.00	0.00	0.00
ESC 35 4-1 Lat 3 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 4-1 Lat 3 PBHL - plan hits target center - Point	0.00	360.00	3,360.00	-143.26	5,449.86	1,220,109.61	2,420,675.69	37.2542104	-107.4905708