



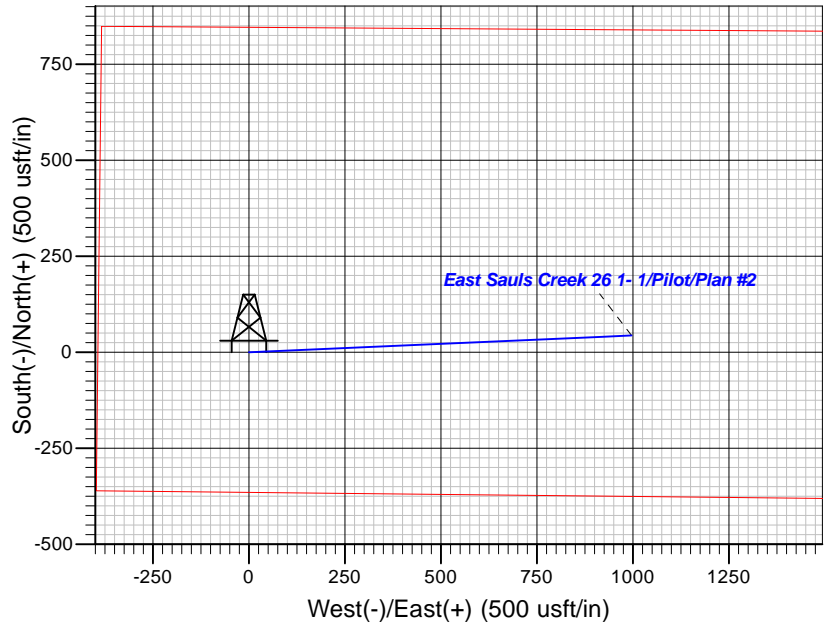
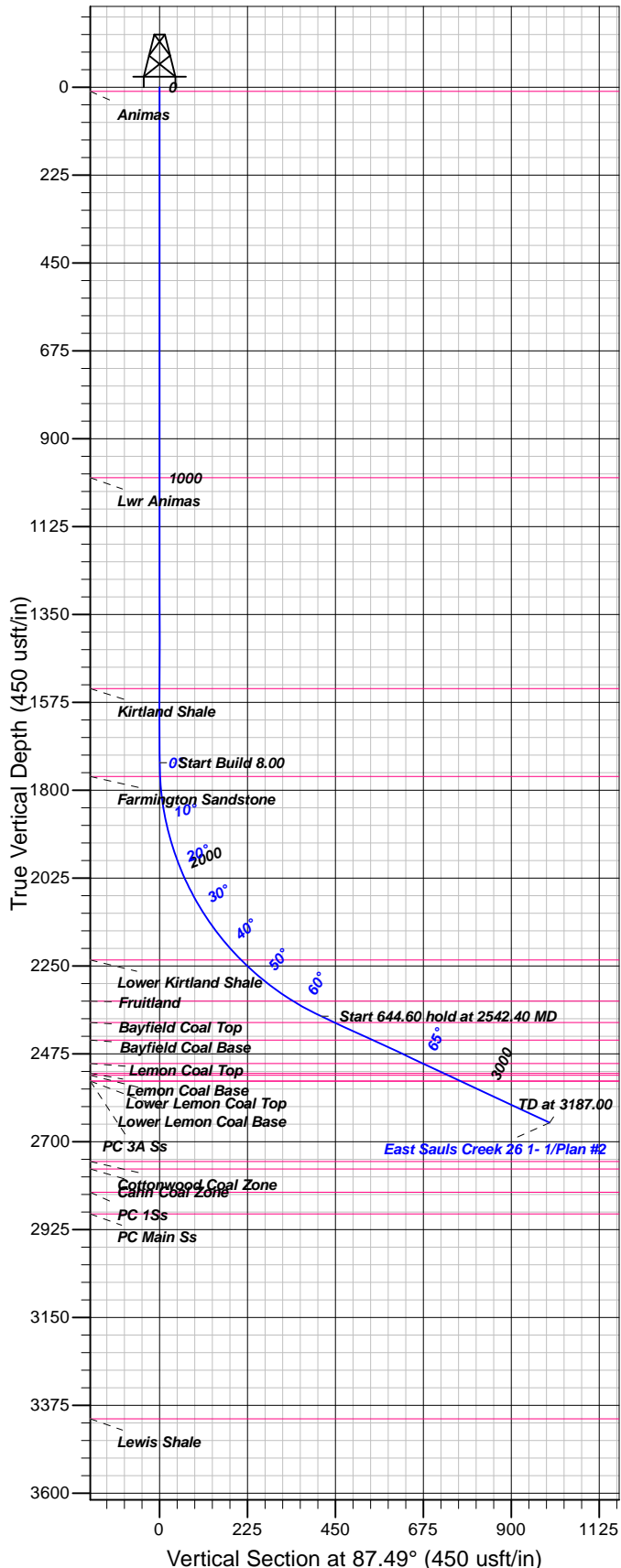
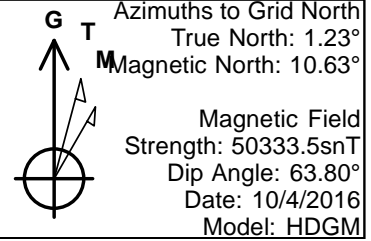
Company: B.P.
Project: La Plata County, CO NAD83
Site: East Sauls Creek Pad
Well: East Sauls Creek 26 1- 1



Well Details: East Sauls Creek 26 1- 1

GL 7340' & RKB 11' @ 7351.00usft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1227800.12	2414731.21	37.2749771	-107.5115588	



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
11.00	11.00	Animas
1000.00	1000.00	Lwr Animas
1540.00	1540.00	Kirtland Shale
1765.00	1765.01	Farmington Sandstone
2235.00	2290.52	Lower Kirtland Shale
2340.00	2460.08	Fruitland
2395.00	2580.27	Bayfield Coal Top
2440.00	2686.75	Bayfield Coal Base
2500.00	2828.72	Lemon Coal Top
2525.00	2887.88	Lemon Coal Base
2530.00	2899.71	Lower Lemon Coal Top
2545.00	2935.20	Lower Lemon Coal Base
2545.00	2935.20	PC 3A Ss

Plan: Plan #2

15:25, December 05 2016
Created By: Janie Collins

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

CASING DETAILS

No casing data is available

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1729.90	0.00	0.00	1729.90	0.00	0.00	0.00	0.00	0.00	
3	2542.40	65.00	87.49	2379.00	18.11	413.12	8.00	87.49	413.52	
4	3187.00	65.00	87.49	2651.41	43.69	996.77	0.00	0.00	997.73	

DESIGN TARGET DETAILS

No target data is available.



B.P.

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

Pilot

Plan: Plan #2

Standard Planning Report

05 December, 2016



www.scientificdrilling.com





Database:	Grand Junction District	Local Co-ordinate Reference:	Well East Sauls Creek 26 1- 1
Company:	B.P.	TVD Reference:	GL 7340' & RKB 11' @ 7351.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 7340' & RKB 11' @ 7351.00usft (Aztec 507)
Site:	East Sauls Creek Pad	North Reference:	Grid
Well:	East Sauls Creek 26 1- 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
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 26 1- 1					
Well Position	+N/-S	-6.33 usft	Northing:	1,227,800.12 usft	Latitude:	37.2749770
	+E/-W	18.97 usft	Easting:	2,414,731.21 usft	Longitude:	-107.5115588
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,340.00 usft

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/4/2016	9.40	63.80	50,334

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	87.49

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,729.90	0.00	0.00	1,729.90	0.00	0.00	0.00	0.00	0.00	0.00	
2,542.40	65.00	87.49	2,379.00	18.11	413.12	8.00	8.00	0.00	87.49	
3,187.00	65.00	87.49	2,651.41	43.69	996.77	0.00	0.00	0.00	0.00	



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Well:	East Sauls Creek 26 1- 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00	
Animas										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lwr Animas										
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,540.00	0.00	0.00	1,540.00	0.00	0.00	0.00	0.00	0.00	0.00	
Kirtland Shale										
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,729.90	0.00	0.00	1,729.90	0.00	0.00	0.00	0.00	0.00	0.00	
1,765.01	2.81	87.49	1,765.00	0.04	0.86	0.86	8.00	8.00	0.00	
Farmington Sandstone										
1,800.00	5.61	87.49	1,799.89	0.15	3.42	3.43	8.00	8.00	0.00	
1,900.00	13.61	87.49	1,898.41	0.88	20.09	20.10	8.00	8.00	0.00	
2,000.00	21.61	87.49	1,993.64	2.20	50.28	50.33	8.00	8.00	0.00	
2,100.00	29.61	87.49	2,083.75	4.10	93.43	93.52	8.00	8.00	0.00	
2,200.00	37.61	87.49	2,166.96	6.52	148.68	148.82	8.00	8.00	0.00	
2,290.52	44.85	87.49	2,235.00	9.13	208.24	208.44	8.00	8.00	0.00	
Lower Kirtland Shale										
2,300.00	45.61	87.49	2,241.67	9.42	214.97	215.17	8.00	8.00	0.00	
2,400.00	53.61	87.49	2,306.42	12.76	290.99	291.27	8.00	8.00	0.00	
2,460.08	58.41	87.49	2,340.00	14.94	340.75	341.08	8.00	8.00	0.00	
Fruitland										
2,500.00	61.61	87.49	2,359.95	16.45	375.28	375.64	8.00	8.00	0.00	
2,542.40	65.00	87.49	2,379.00	18.11	413.12	413.52	8.00	8.00	0.00	
2,580.27	65.00	87.49	2,395.00	19.61	447.41	447.84	0.00	0.00	0.00	
Bayfield Coal Zone: Top										
2,600.00	65.00	87.49	2,403.34	20.40	465.28	465.72	0.00	0.00	0.00	
2,686.75	65.00	87.49	2,440.00	23.84	543.82	544.34	0.00	0.00	0.00	
Bayfield Coal Zone: Base										
2,700.00	65.00	87.49	2,445.60	24.36	555.82	556.35	0.00	0.00	0.00	
2,800.00	65.00	87.49	2,487.86	28.33	646.36	646.98	0.00	0.00	0.00	
2,828.72	65.00	87.49	2,500.00	29.47	672.37	673.01	0.00	0.00	0.00	
Lemon Coal Zone: Top										
2,887.88	65.00	87.49	2,525.00	31.82	725.93	726.63	0.00	0.00	0.00	
Lemon Coal Zone: Base										
2,899.71	65.00	87.49	2,530.00	32.29	736.64	737.35	0.00	0.00	0.00	



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Well:	East Sauls Creek 26 1- 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
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)
Lower Lemon Coal Zone: Top									
2,900.00	65.00	87.49	2,530.12	32.30	736.91	737.61	0.00	0.00	0.00
2,935.20	65.00	87.49	2,545.00	33.70	768.78	769.52	0.00	0.00	0.00
Lower Lemon Coal Zone: Base - Pictured Cliffs "Tongue 3A Ss"									
3,000.00	65.00	87.49	2,572.39	36.27	827.45	828.25	0.00	0.00	0.00
3,100.00	65.00	87.49	2,614.65	40.24	917.99	918.88	0.00	0.00	0.00
3,187.00	65.00	87.49	2,651.41	43.69	996.77	997.73	0.00	0.00	0.00

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
11.00	11.00	Animas		0.00	360.00
1,000.00	1,000.00	Lwr Animas		0.00	360.00
1,540.00	1,540.00	Kirtland Shale		0.00	360.00
1,765.01	1,765.00	Farmington Sandstone		0.00	360.00
2,290.52	2,235.00	Lower Kirtland Shale		0.00	360.00
2,460.08	2,340.00	Fruitland		0.00	360.00
2,580.27	2,395.00	Bayfield Coal Zone: Top		0.00	360.00
2,686.75	2,440.00	Bayfield Coal Zone: Base		0.00	360.00
2,828.72	2,500.00	Lemon Coal Zone: Top		0.00	360.00
2,887.88	2,525.00	Lemon Coal Zone: Base		0.00	360.00
2,899.71	2,530.00	Lower Lemon Coal Zone: Top		0.00	360.00
2,935.20	2,545.00	Lower Lemon Coal Zone: Base		0.00	360.00
2,935.20	2,545.00	Pictured Cliffs "Tongue 3A Ss"		0.00	360.00