



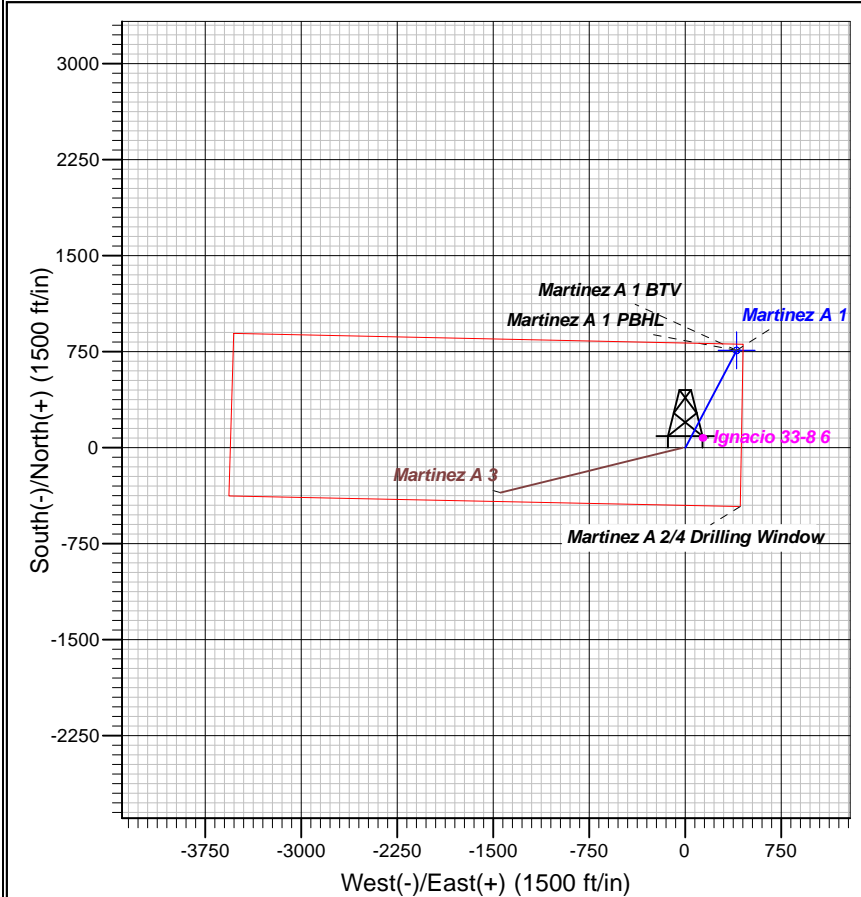
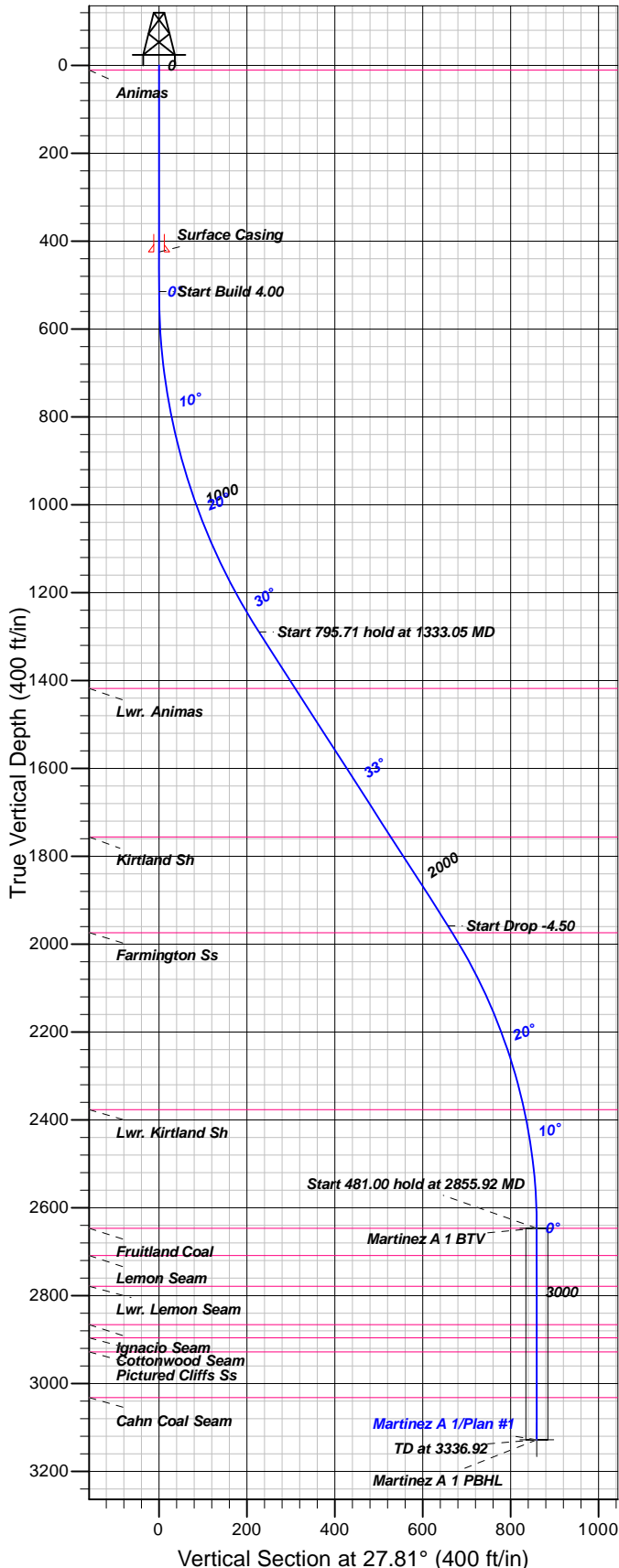
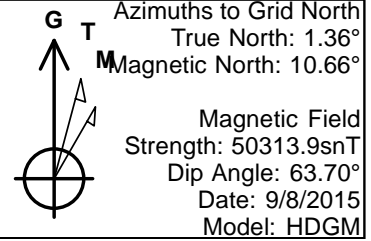
Company: B.P.
Project: La Plata County, CO NAD83
Site: Martinez A Pad
Well: Martinez A 1



Well Details: Martinez A 1

GL 6648.11' & RKB 11' @ 6659.15ft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1176001.46	2353546.95	37.1289503	-107.7175470	



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
11.00	11.00	Animas
1418.00	1486.03	Lwr. Animas
1756.00	1887.78	Kirtland Sh
1974.00	2146.82	Farmington Ss
2377.00	2583.85	Lwr. Kirtland Sh
2647.00	2855.92	Fruitland Coal
2709.00	2917.92	Lemon Seam
2779.00	2987.92	Lwr. Lemon Seam
2866.00	3074.92	Ignacio Seam
2896.00	3104.92	Cottonwood Seam
2928.00	3136.92	Pictured Cliffs Ss
3032.00	3240.92	Cahn Coal Seam

Plan: Plan #1

16:17, September 08 2015
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

TVD	MD	Name	Size
425.00	425.00	Surface Casing	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	515.00	0.00	0.00	515.00	0.00	0.00	0.00	0.00	0.00	
3	1333.05	32.72	27.81	1289.30	201.07	106.04	4.00	27.81	227.32	
4	2128.76	32.72	27.81	1958.73	581.53	306.70	0.00	0.00	657.45	
5	2855.92	0.00	0.00	2647.00	760.25	400.96	4.50	180.00	859.51	Martinez A 1 BTV
6	3336.92	0.00	0.00	3128.00	760.25	400.96	0.00	0.00	859.51	Martinez A 1 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Martinez A 1 BTV	2647.00	760.25	400.96	1176176.71	2353947.91	37.1310638	-107.7162340	Circle (Radius: 25.00)
- plan hits target center								
Martinez A 1 PBHL	3128.00	760.25	400.96	1176176.71	2353947.91	37.1310638	-107.7162340	Point
- plan hits target center								



B.P.

La Plata County, CO NAD83

Martinez A Pad

Martinez A 1

OH

Plan: Plan #1

Standard Planning Report

08 September, 2015





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Martinez A 1
Company:	B.P.	TVD Reference:	GL 6648.11' & RKB 11' @ 6659.15ft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6648.11' & RKB 11' @ 6659.15ft (Aztec 507)
Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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	Martinez A Pad			
Site Position:		Northing:	1,175,867.47 usft	Latitude: 37.1284089
From: Map		Easting:	2,350,890.92 usft	Longitude: -107.7266437
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.37 °

Well	Martinez A 1			
Well Position	+N/-S	133.99 ft	Northing:	1,176,001.46 usft
	+E/-W	2,656.04 ft	Easting:	2,353,546.95 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level: 6,648.15 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/8/2015	9.30	63.70	50,314

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	27.81

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
515.00	0.00	0.00	515.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,333.05	32.72	27.81	1,289.30	201.07	106.04	4.00	4.00	0.00	27.81	
2,128.76	32.72	27.81	1,958.73	581.53	306.70	0.00	0.00	0.00	0.00	
2,855.92	0.00	0.00	2,647.00	760.25	400.96	4.50	-4.50	0.00	180.00	Martinez A 1 BTV
3,336.92	0.00	0.00	3,128.00	760.25	400.96	0.00	0.00	0.00	0.00	Martinez A 1 PBHL



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Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)	Turn Rate (°/100ft)
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
425.00	0.00	0.00	425.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
515.00	0.00	0.00	515.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	3.40	27.81	599.95	2.23	1.18	2.52	4.00	4.00	0.00
700.00	7.40	27.81	699.49	10.55	5.57	11.93	4.00	4.00	0.00
800.00	11.40	27.81	798.12	25.00	13.18	28.26	4.00	4.00	0.00
900.00	15.40	27.81	895.38	45.49	23.99	51.43	4.00	4.00	0.00
1,000.00	19.40	27.81	990.79	71.94	37.94	81.33	4.00	4.00	0.00
1,100.00	23.40	27.81	1,083.87	104.20	54.96	117.81	4.00	4.00	0.00
1,200.00	27.40	27.81	1,174.19	142.14	74.96	160.69	4.00	4.00	0.00
1,300.00	31.40	27.81	1,261.29	185.55	97.86	209.77	4.00	4.00	0.00
1,333.05	32.72	27.81	1,289.30	201.07	106.04	227.32	4.00	4.00	0.00
1,400.00	32.72	27.81	1,345.63	233.08	122.93	263.51	0.00	0.00	0.00
1,486.03	32.72	27.81	1,418.00	274.21	144.62	310.01	0.00	0.00	0.00
Lwr. Animas									
1,500.00	32.72	27.81	1,429.76	280.89	148.14	317.56	0.00	0.00	0.00
1,600.00	32.72	27.81	1,513.89	328.71	173.36	371.62	0.00	0.00	0.00
1,700.00	32.72	27.81	1,598.02	376.52	198.58	425.68	0.00	0.00	0.00
1,800.00	32.72	27.81	1,682.15	424.33	223.80	479.73	0.00	0.00	0.00
1,887.78	32.72	27.81	1,756.00	466.31	245.93	527.19	0.00	0.00	0.00
Kirtland Sh									
1,900.00	32.72	27.81	1,766.28	472.15	249.01	533.79	0.00	0.00	0.00
2,000.00	32.72	27.81	1,850.41	519.96	274.23	587.85	0.00	0.00	0.00
2,100.00	32.72	27.81	1,934.54	567.78	299.45	641.90	0.00	0.00	0.00
2,128.76	32.72	27.81	1,958.73	581.53	306.70	657.45	0.00	0.00	0.00
2,146.82	31.91	27.81	1,974.00	590.07	311.21	667.10	4.50	-4.50	0.00
Farmington Ss									
2,200.00	29.52	27.81	2,019.72	614.09	323.87	694.26	4.50	-4.50	0.00
2,300.00	25.02	27.81	2,108.58	654.60	345.24	740.06	4.50	-4.50	0.00
2,400.00	20.52	27.81	2,200.77	688.82	363.29	778.75	4.50	-4.50	0.00
2,500.01	16.02	27.81	2,295.71	716.54	377.91	810.09	4.50	-4.50	0.00
2,583.85	12.24	27.81	2,377.00	734.64	387.45	830.55	4.50	-4.50	0.00
Lwr. Kirtland Sh									
2,600.01	11.52	27.81	2,392.81	737.58	389.00	833.88	4.50	-4.50	0.00
2,700.01	7.02	27.81	2,491.48	751.82	396.51	849.97	4.50	-4.50	0.00
2,800.01	2.52	27.81	2,591.11	759.17	400.39	858.28	4.50	-4.50	0.00
2,855.92	0.00	0.00	2,647.00	760.25	400.96	859.51	4.50	-4.50	0.00
Fruitland Coal - Martinez A 1 BTV									
2,900.01	0.00	0.00	2,691.09	760.25	400.96	859.51	0.00	0.00	0.00
2,917.92	0.00	0.00	2,709.00	760.25	400.96	859.51	0.00	0.00	0.00
Lemon Seam									
2,987.92	0.00	0.00	2,779.00	760.25	400.96	859.51	0.00	0.00	0.00
Lwr. Lemon Seam									



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Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)	Turn Rate (°/100ft)	
3,000.01	0.00	0.00	2,791.09	760.25	400.96	859.51	0.00	0.00	0.00	
3,074.92	0.00	0.00	2,866.00	760.25	400.96	859.51	0.00	0.00	0.00	
Ignacio Seam										
3,100.01	0.00	0.00	2,891.09	760.25	400.96	859.51	0.00	0.00	0.00	
3,104.92	0.00	0.00	2,896.00	760.25	400.96	859.51	0.00	0.00	0.00	
Cottonwood Seam										
3,136.92	0.00	0.00	2,928.00	760.25	400.96	859.51	0.00	0.00	0.00	
Pictured Cliffs Ss										
3,200.01	0.00	0.00	2,991.09	760.25	400.96	859.51	0.00	0.00	0.00	
3,240.92	0.00	0.00	3,032.00	760.25	400.96	859.51	0.00	0.00	0.00	
Cahn Coal Seam										
3,300.01	0.00	0.00	3,091.09	760.25	400.96	859.51	0.00	0.00	0.00	
3,336.92	0.00	0.00	3,128.00	760.25	400.96	859.51	0.00	0.00	0.00	
Martinez A 1 PBHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Martinez A 1 BTV	0.00	0.00	2,647.00	760.25	400.96	1,176,761.71	2,353,947.91	37.1310638	-107.7162340
- plan hits target center									
- Circle (radius 25.00)									
Martinez A 1 PBHL	0.00	0.00	3,128.00	760.25	400.96	1,176,761.71	2,353,947.91	37.1310638	-107.7162340
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)
425.00	425.00	Surface Casing			



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Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
11.00	26.07	Animas		0.00	360.00	
1,486.03	1,433.07	Lwr. Animas		0.00	360.00	
1,887.78	1,771.07	Kirtland Sh		0.00	360.00	
2,146.82	1,989.07	Farmington Ss		0.00	360.00	
2,583.85	2,392.07	Lwr. Kirtland Sh		0.00	360.00	
2,855.92	2,662.07	Fruitland Coal		0.00	360.00	
2,917.92	2,724.07	Lemon Seam		0.00	360.00	
2,987.92	2,794.07	Lwr. Lemon Seam		0.00	360.00	
3,074.92	2,881.07	Ignacio Seam		0.00	360.00	
3,104.92	2,911.07	Cottonwood Seam		0.00	360.00	
3,136.92	2,943.07	Pictured Cliffs Ss		0.00	360.00	
3,240.92	3,047.07	Cahn Coal Seam		0.00	360.00	