



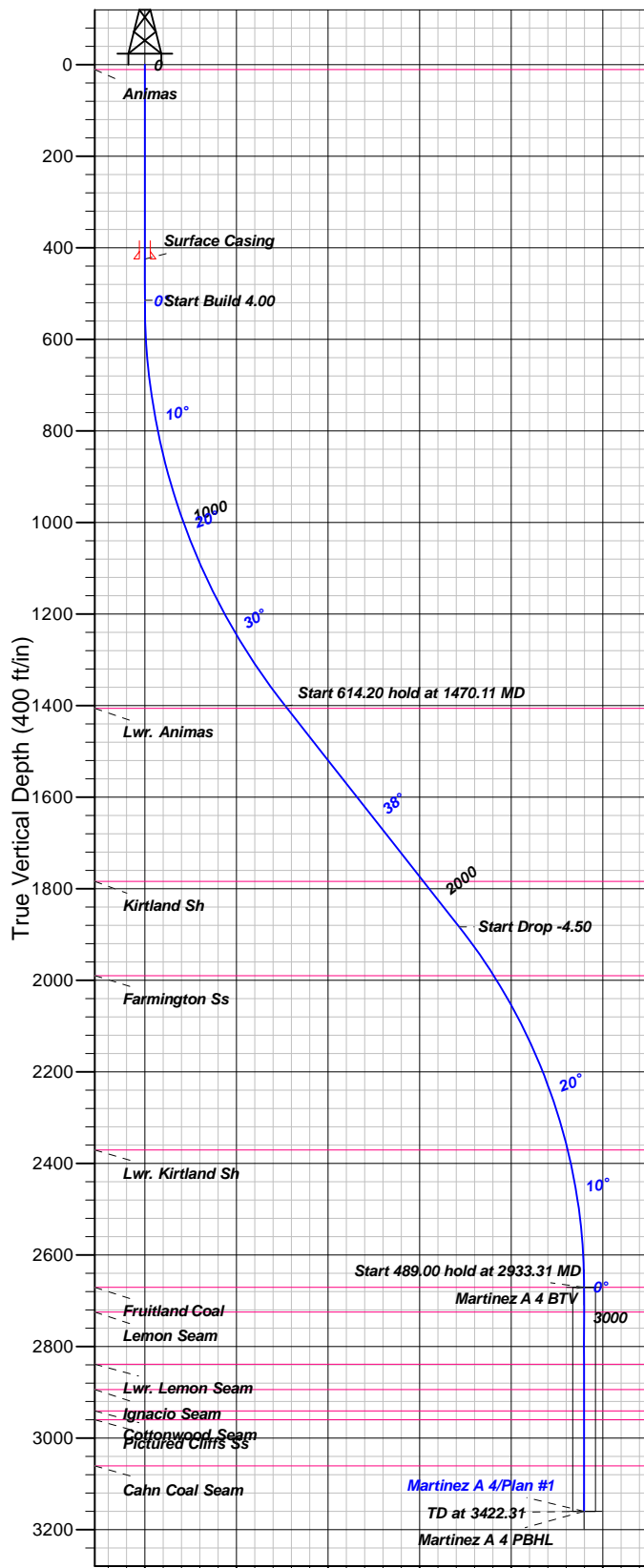
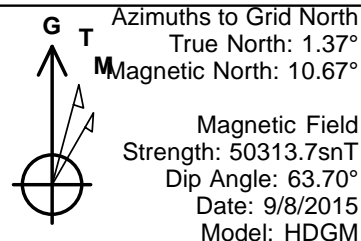
Company: B.P.
Project: La Plata County, CO NAD83
Site: Martinez A Pad
Well: Martinez A 4



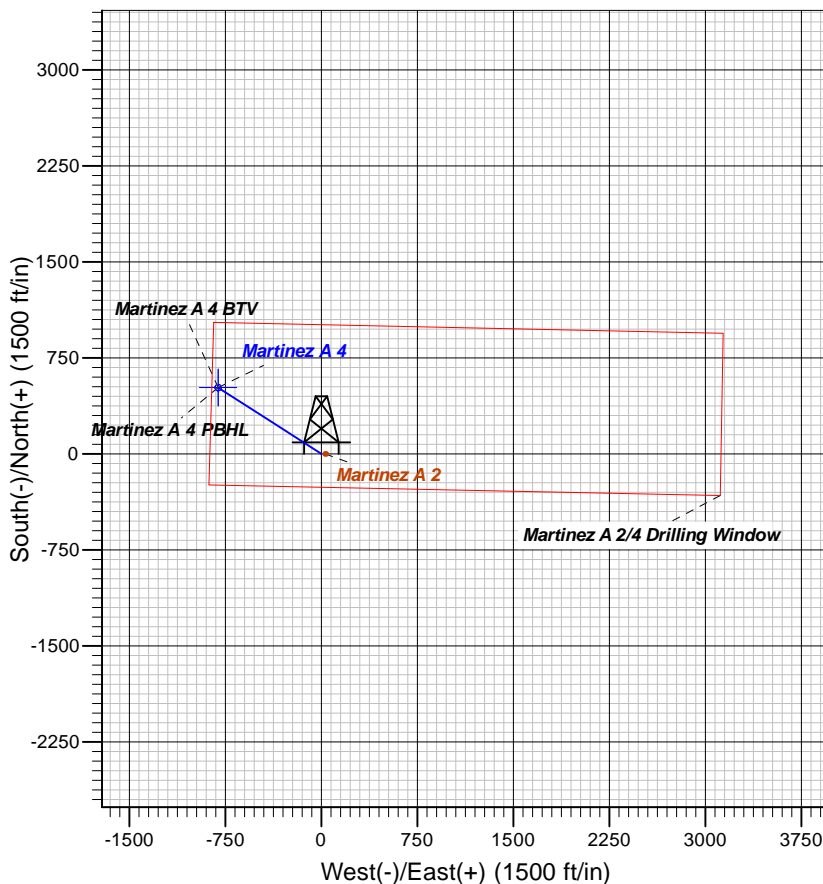
Well Details: Martinez A 4

GL 6674.22' & RKB 11' @ 6685.22ft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1175867.33	2350860.92	37.1284066	-107.7267465	



Vertical Section at 302.68° (400 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
11.00	11.00	Animas
1406.00	1476.61	Lwr. Animas
1784.00	1957.64	Kirtland Sh
1990.00	2214.77	Farmington Ss
2371.00	2630.46	Lwr. Kirtland Sh
2671.00	2933.31	Fruitland Coal
2725.00	2987.31	Lemon Seam
2839.00	3101.31	Lwr. Lemon Seam
2894.00	3156.31	Ignacio Seam
2941.00	3203.31	Cottonwood Seam
2960.00	3222.31	Pictured Cliffs Ss
3061.00	3323.31	Cahn Coal Seam

Plan: Plan #1

15:39, 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	VFace	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	1470.11	38.20	302.68	1400.89	165.66	-258.24	4.00	302.68	306.81	
4	2084.32	38.20	302.68	1883.54	370.77	-577.97	0.00	0.00	686.67	
5	2933.31	0.00	0.00	2671.00	518.03	-807.51	4.50	180.00	959.39	Martinez A 4 BTM
6	3422.31	0.00	0.00	3160.00	518.03	-807.51	0.00	0.00	959.39	Martinez A 4 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Martinez A 4 BTM	2671.00	518.03	-807.51	1176385.362350053.41		37.1297760	-107.7295579	Circle (Radius: 25.00)
- plan hits target center								
Martinez A 4 PBHL	3160.00	518.03	-807.51	1176385.362350053.41		37.1297760	-107.7295579	Point
- plan hits target center								



B.P.

La Plata County, CO NAD83

Martinez A Pad

Martinez A 4

OH

Plan: Plan #1

Standard Planning Report

08 September, 2015





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Martinez A 4
Company:	B.P.	TVD Reference:	GL 6674.22' & RKB 11' @ 6685.22ft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6674.22' & RKB 11' @ 6685.22ft (Aztec 507)
Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 4	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 4			
Well Position	+N/-S	-0.14 ft	Northing:	1,175,867.33 usft
	+E/-W	-30.00 ft	Easting:	2,350,860.92 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	6,674.22 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	302.68

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	
1,470.11	38.20	302.68	1,400.89	165.66	-258.24	4.00	4.00	0.00	302.68	
2,084.32	38.20	302.68	1,883.54	370.77	-577.97	0.00	0.00	0.00	0.00	
2,933.31	0.00	0.00	2,671.00	518.03	-807.51	4.50	-4.50	0.00	180.00	Martinez A 4 BTV
3,422.31	0.00	0.00	3,160.00	518.03	-807.51	0.00	0.00	0.00	0.00	Martinez A 4 PBHL



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Martinez A 4
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Project:	La Plata County, CO NAD83	MD Reference:	GL 6674.22' & RKB 11' @ 6685.22ft (Aztec 507)
Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 4	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	302.68	599.95	1.36	-2.12	2.52	4.00	4.00	0.00
700.00	7.40	302.68	699.49	6.44	-10.04	11.93	4.00	4.00	0.00
800.00	11.40	302.68	798.12	15.26	-23.79	28.26	4.00	4.00	0.00
900.00	15.40	302.68	895.38	27.77	-43.29	51.43	4.00	4.00	0.00
1,000.00	19.40	302.68	990.79	43.91	-68.45	81.33	4.00	4.00	0.00
1,100.00	23.40	302.68	1,083.87	63.61	-99.16	117.81	4.00	4.00	0.00
1,200.00	27.40	302.68	1,174.19	86.77	-135.25	160.69	4.00	4.00	0.00
1,300.00	31.40	302.68	1,261.29	113.27	-176.57	209.77	4.00	4.00	0.00
1,400.00	35.40	302.68	1,344.76	142.99	-222.89	264.81	4.00	4.00	0.00
1,470.11	38.20	302.68	1,400.89	165.66	-258.24	306.81	4.00	4.00	0.00
1,476.61	38.20	302.68	1,406.00	167.83	-261.62	310.83	0.00	0.00	0.00
Lwr. Animas									
1,500.00	38.20	302.68	1,424.38	175.64	-273.80	325.29	0.00	0.00	0.00
1,600.00	38.20	302.68	1,502.96	209.04	-325.85	387.14	0.00	0.00	0.00
1,700.00	38.20	302.68	1,581.54	242.43	-377.91	448.99	0.00	0.00	0.00
1,800.00	38.20	302.68	1,660.12	275.83	-429.97	510.83	0.00	0.00	0.00
1,900.00	38.20	302.68	1,738.71	309.22	-482.02	572.68	0.00	0.00	0.00
1,957.64	38.20	302.68	1,784.00	328.47	-512.03	608.33	0.00	0.00	0.00
Kirtland Sh									
2,000.00	38.20	302.68	1,817.29	342.62	-534.08	634.53	0.00	0.00	0.00
2,084.32	38.20	302.68	1,883.54	370.77	-577.97	686.67	0.00	0.00	0.00
2,100.00	37.50	302.68	1,895.93	375.97	-586.07	696.30	4.50	-4.50	0.00
2,200.00	33.00	302.68	1,977.57	407.13	-634.63	754.00	4.50	-4.50	0.00
2,214.77	32.33	302.68	1,990.00	411.43	-641.34	761.97	4.50	-4.50	0.00
Farmington Ss									
2,300.00	28.50	302.68	2,063.49	434.73	-677.66	805.11	4.50	-4.50	0.00
2,400.00	24.00	302.68	2,153.16	458.60	-714.87	849.33	4.50	-4.50	0.00
2,500.01	19.50	302.68	2,246.02	478.60	-746.05	886.37	4.50	-4.50	0.00
2,600.01	15.00	302.68	2,341.49	494.61	-771.00	916.02	4.50	-4.50	0.00
2,630.46	13.63	302.68	2,371.00	498.67	-777.34	923.54	4.50	-4.50	0.00
Lwr. Kirtland Sh									
2,700.01	10.50	302.68	2,439.00	506.52	-789.57	938.08	4.50	-4.50	0.00
2,800.01	6.00	302.68	2,537.94	514.27	-801.64	952.42	4.50	-4.50	0.00
2,900.01	1.50	302.68	2,637.70	517.80	-807.15	958.96	4.50	-4.50	0.00
2,933.31	0.00	0.00	2,671.00	518.03	-807.51	959.39	4.50	-4.50	0.00
Fruitland Coal - Martinez A 4 BTV									
2,987.31	0.00	0.00	2,725.00	518.03	-807.51	959.39	0.00	0.00	0.00
Lemon Seam									
3,000.01	0.00	0.00	2,737.70	518.03	-807.51	959.39	0.00	0.00	0.00
3,100.01	0.00	0.00	2,837.70	518.03	-807.51	959.39	0.00	0.00	0.00



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Site:	Martinez A Pad	North Reference:	Grid
Well:	Martinez A 4	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)
3,101.31	0.00	0.00	2,839.00	518.03	-807.51	959.39	0.00	0.00	0.00
Lwr. Lemon Seam									
3,156.31	0.00	0.00	2,894.00	518.03	-807.51	959.39	0.00	0.00	0.00
Ignacio Seam									
3,200.01	0.00	0.00	2,937.70	518.03	-807.51	959.39	0.00	0.00	0.00
3,203.31	0.00	0.00	2,941.00	518.03	-807.51	959.39	0.00	0.00	0.00
Cottonwood Seam									
3,222.31	0.00	0.00	2,960.00	518.03	-807.51	959.39	0.00	0.00	0.00
Pictured Cliffs Ss									
3,300.01	0.00	0.00	3,037.70	518.03	-807.51	959.39	0.00	0.00	0.00
3,323.31	0.00	0.00	3,061.00	518.03	-807.51	959.39	0.00	0.00	0.00
Cahn Coal Seam									
3,400.01	0.00	0.00	3,137.70	518.03	-807.51	959.39	0.00	0.00	0.00
3,422.31	0.00	0.00	3,160.00	518.03	-807.51	959.39	0.00	0.00	0.00
Martinez A 4 PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Martinez A 4 BTV - plan hits target center - Circle (radius 25.00)	0.00	0.00	2,671.00	518.03	-807.51	1,176,385.36	2,350,053.41	37.1297760	-107.7295579
Martinez A 4 PBHL - plan hits target center - Point	0.00	0.00	3,160.00	518.03	-807.51	1,176,385.36	2,350,053.41	37.1297760	-107.7295579

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 4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
11.00	11.00	Animas		0.00	360.00	
1,476.61	1,406.00	Lwr. Animas		0.00	360.00	
1,957.64	1,784.00	Kirtland Sh		0.00	360.00	
2,214.77	1,990.00	Farmington Ss		0.00	360.00	
2,630.46	2,371.00	Lwr. Kirtland Sh		0.00	360.00	
2,933.31	2,671.00	Fruitland Coal		0.00	360.00	
2,987.31	2,725.00	Lemon Seam		0.00	360.00	
3,101.31	2,839.00	Lwr. Lemon Seam		0.00	360.00	
3,156.31	2,894.00	Ignacio Seam		0.00	360.00	
3,203.31	2,941.00	Cottonwood Seam		0.00	360.00	
3,222.31	2,960.00	Pictured Cliffs Ss		0.00	360.00	
3,323.31	3,061.00	Cahn Coal Seam		0.00	360.00	