

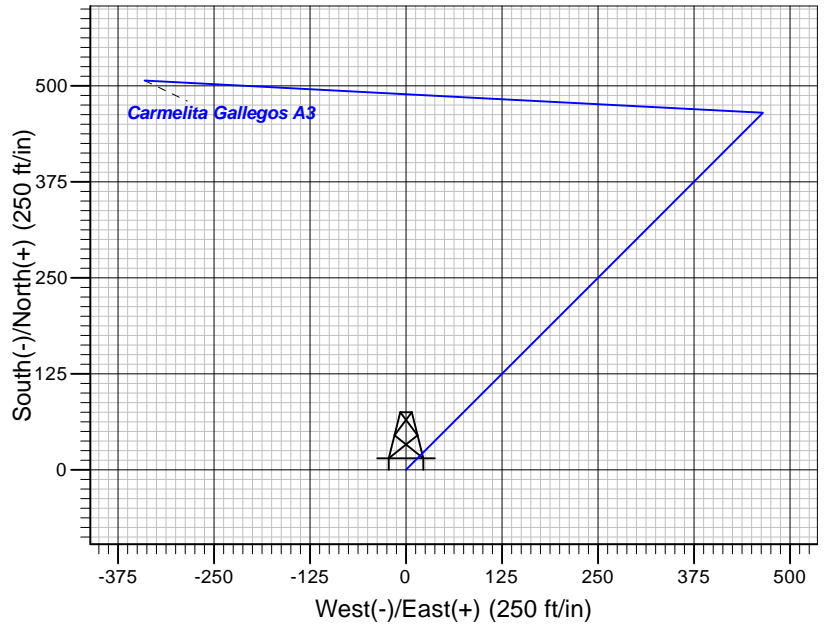
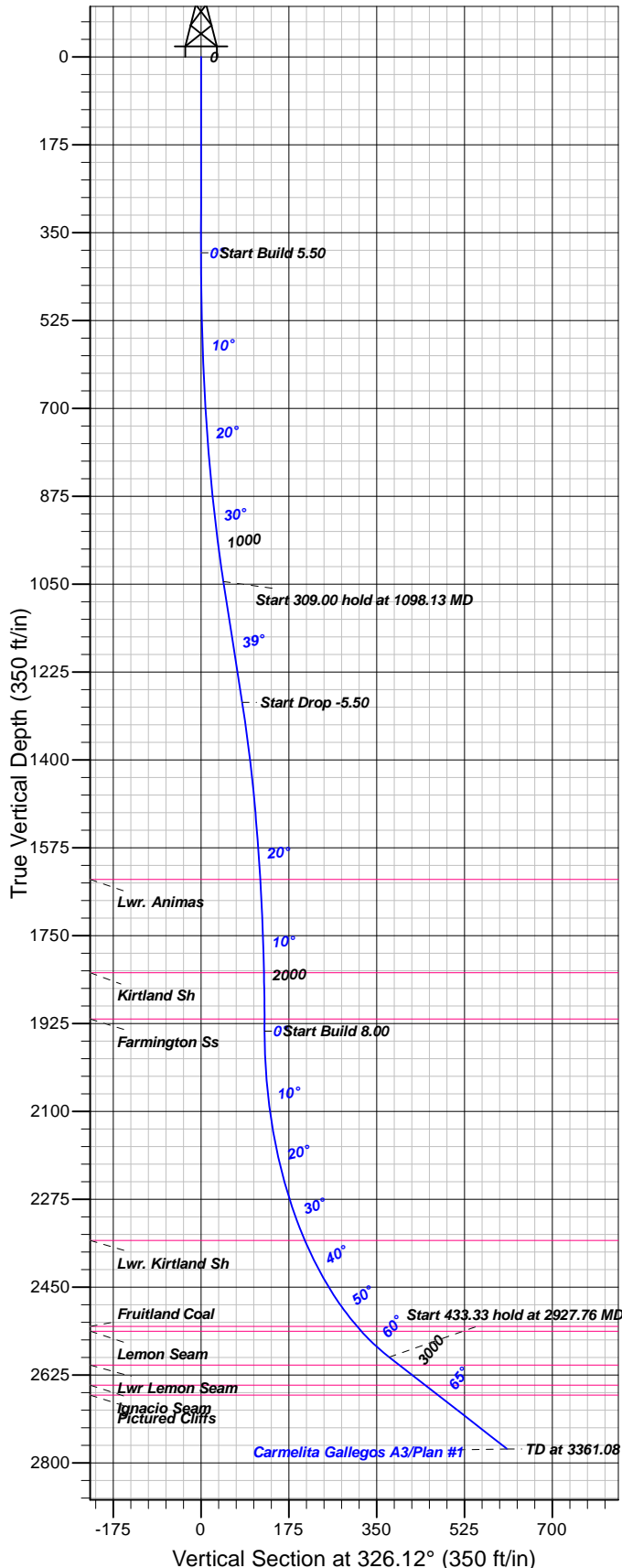
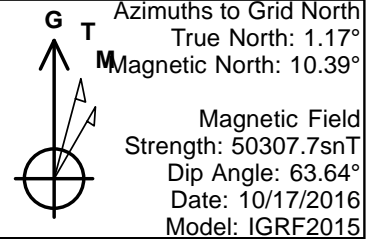


Company: B.P.  
Project: Archuleta County, CO NAD83  
Site: Carmelita Gallegos A3  
Well: Carmelita Gallegos A3



### Well Details: Carmelita Gallegos A3

GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)  
+N/-S 0.00 +E/-W 0.00 Northing 1131854.11 Easting 2441795.87 Latitude 37.0130911 Longitude -107.4118164 Slot



#### FORMATION TOP DETAILS

TVDPth	MDPath	Formation
1637.85	1808.70	Lwr. Animas
1823.85	1998.87	Kirtland Sh
1915.85	2091.11	Farmington Ss
2356.85	2560.18	Lwr. Kirtland Sh
2527.85	2804.81	Fruitland Coal
2537.85	2822.64	Lemon Seam
2604.85	2965.04	Lwr. Lemon Seam
2644.85	3059.69	Ignacio Seam
2664.85	3107.01	Pictured Cliffs

#### Plan: Plan #1

20:02, October 26 2016  
Created By: Janie Collins

PROJECT DETAILS: Archuleta 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	390.00	0.00	0.00	390.00	0.00	0.00	0.00	0.00	0.00	
3	1098.13	38.95	45.00	1044.84	163.73	163.73	5.50	45.00	44.66	
4	1407.13	38.95	45.00	1285.16	301.08	301.08	0.00	0.00	82.12	
5	2115.26	0.00	0.00	1940.00	464.81	464.81	5.50	180.00	126.78	
6	2927.76	65.00	272.99	2589.10	486.38	51.85	8.00	272.99	374.89	
7	3361.08	65.00	272.99	2772.23	506.87	-340.34	0.00	0.00	610.53	

#### DESIGN TARGET DETAILS

No target data is available.



**B.P.**

**Archuleta County, CO NAD83**

**Carmelita Gallegos A3**

**Carmelita Gallegos A3**

**Pilot**

**Plan: Plan #1**

## **Standard Planning Report**

**26 October, 2016**





<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Carmelita Gallegos A3
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
<b>Project:</b>	Archuleta County, CO NAD83	<b>MD Reference:</b>	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
<b>Site:</b>	Carmelita Gallegos A3	<b>North Reference:</b>	Grid
<b>Well:</b>	Carmelita Gallegos A3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot		
<b>Design:</b>	Plan #1		

<b>Project</b>	Archuleta County, CO NAD83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Southern Zone		

Site		Carmelita Gallegos A3			
Site Position:		Northing:	1,131,854.11 usft	Latitude:	37.0130910
From:	Map	Easting:	2,441,795.87 usft	Longitude:	-107.4118165
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.17 °

Well	Carmelita Gallegos A3					
Well Position	+N/-S	0.00 ft	Northing:	1,131,854.11 usft	Latitude:	37.0130910
	+E/-W	0.00 ft	Easting:	2,441,795.87 usft	Longitude:	-107.4118165
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	6,143.85 ft

<b>Wellbore</b>	Pilot				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	10/17/2016	9.21	63.64	50,308

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	326.12

<b>Plan Sections</b>										
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	
390.00	0.00	0.00	390.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,098.13	38.95	45.00	1,044.84	163.73	163.73	5.50	5.50	0.00	45.00	
1,407.13	38.95	45.00	1,285.16	301.08	301.08	0.00	0.00	0.00	0.00	
2,115.26	0.00	0.00	1,940.00	464.81	464.81	5.50	-5.50	0.00	180.00	
2,927.76	65.00	272.99	2,589.10	486.38	51.85	8.00	8.00	0.00	272.99	
3,361.08	65.00	272.99	2,772.23	506.87	-340.34	0.00	0.00	0.00	0.00	



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Carmelita Gallegos A3
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
<b>Project:</b>	Archuleta County, CO NAD83	<b>MD Reference:</b>	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
<b>Site:</b>	Carmelita Gallegos A3	<b>North Reference:</b>	Grid
<b>Well:</b>	Carmelita Gallegos A3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot		
<b>Design:</b>	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	
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	
390.00	0.00	0.00	390.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.55	45.00	400.00	0.03	0.03	0.01	5.50	5.50	0.00	
500.00	6.05	45.00	499.80	4.10	4.10	1.12	5.50	5.50	0.00	
600.00	11.55	45.00	598.58	14.92	14.92	4.07	5.50	5.50	0.00	
700.00	17.05	45.00	695.45	32.38	32.38	8.83	5.50	5.50	0.00	
800.00	22.55	45.00	789.50	56.32	56.32	15.36	5.50	5.50	0.00	
900.00	28.05	45.00	879.87	86.53	86.53	23.60	5.50	5.50	0.00	
1,000.00	33.55	45.00	965.74	122.72	122.72	33.47	5.50	5.50	0.00	
1,098.13	38.95	45.00	1,044.84	163.73	163.73	44.66	5.50	5.50	0.00	
1,100.00	38.95	45.00	1,046.30	164.56	164.56	44.89	0.00	0.00	0.00	
1,200.00	38.95	45.00	1,124.07	209.01	209.01	57.01	0.00	0.00	0.00	
1,300.00	38.95	45.00	1,201.84	253.46	253.46	69.13	0.00	0.00	0.00	
1,400.00	38.95	45.00	1,279.62	297.91	297.91	81.26	0.00	0.00	0.00	
1,407.13	38.95	45.00	1,285.16	301.08	301.08	82.12	0.00	0.00	0.00	
1,500.00	33.84	45.00	1,359.89	340.03	340.03	92.74	5.50	-5.50	0.00	
1,600.00	28.34	45.00	1,445.50	376.53	376.53	102.70	5.50	-5.50	0.00	
1,700.00	22.84	45.00	1,535.66	407.06	407.06	111.03	5.50	-5.50	0.00	
1,800.00	17.34	45.00	1,629.54	431.34	431.34	117.65	5.50	-5.50	0.00	
1,808.70	16.86	45.00	1,637.85	433.15	433.15	118.14	5.50	-5.50	0.00	
<b>Lwr. Animas</b>										
1,900.00	11.84	45.00	1,726.27	449.14	449.14	122.50	5.50	-5.50	0.00	
1,998.87	6.40	45.00	1,823.85	460.22	460.22	125.52	5.50	-5.50	0.00	
<b>Kirtland Sh</b>										
2,000.00	6.34	45.00	1,824.98	460.31	460.31	125.55	5.48	-5.48	0.00	
2,091.11	1.33	45.00	1,915.85	464.61	464.61	126.72	5.50	-5.50	0.00	
<b>Farmington Ss</b>										
2,100.00	0.84	45.00	1,924.75	464.73	464.73	126.76	5.50	-5.50	0.00	
2,115.26	0.00	0.00	1,940.00	464.81	464.81	126.78	5.50	-5.50	0.00	
2,200.00	6.78	272.99	2,024.55	465.07	459.81	129.78	8.00	8.00	0.00	
2,300.00	14.78	272.99	2,122.70	466.05	441.15	141.00	8.00	8.00	0.00	
2,400.00	22.78	272.99	2,217.30	467.72	409.02	160.30	8.00	8.00	0.00	
2,500.01	30.78	272.99	2,306.51	470.07	364.06	187.31	8.00	8.00	0.00	
2,560.18	35.59	272.99	2,356.85	471.79	331.18	207.06	8.00	8.00	0.00	
<b>Lwr. Kirtland Sh</b>										
2,600.01	38.78	272.99	2,388.58	473.05	307.15	221.51	8.00	8.00	0.00	
2,700.01	46.78	272.99	2,461.91	476.59	239.37	262.22	8.00	8.00	0.00	
2,800.01	54.78	272.99	2,525.09	480.62	162.07	308.67	8.00	8.00	0.00	
2,804.81	55.16	272.99	2,527.85	480.83	158.14	311.03	8.01	8.01	0.00	
<b>Fruitland Coal</b>										
2,822.64	56.59	272.99	2,537.85	481.60	143.40	319.88	8.00	8.00	0.00	
<b>Lemon Seam</b>										
2,900.01	62.78	272.99	2,576.88	485.08	76.74	359.94	8.00	8.00	0.00	
2,927.76	65.00	272.99	2,589.10	486.38	51.85	374.89	8.00	8.00	0.00	
2,965.04	65.00	272.99	2,604.85	488.14	18.11	395.16	0.00	0.00	0.00	
<b>Lwr Lemon Seam</b>										
3,000.01	65.00	272.99	2,619.63	489.80	-13.54	414.18	0.00	0.00	0.00	
3,059.69	65.00	272.99	2,644.85	492.62	-67.55	446.63	0.00	0.00	0.00	



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<b>Project:</b>	Archuleta County, CO NAD83	<b>MD Reference:</b>	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
<b>Site:</b>	Carmelita Gallegos A3	<b>North Reference:</b>	Grid
<b>Well:</b>	Carmelita Gallegos A3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot		
<b>Design:</b>	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)
<b>Ignacio Seam</b>									
3,100.01	65.00	272.99	2,661.89	494.52	-104.04	468.56	0.00	0.00	0.00
3,107.01	65.00	272.99	2,664.85	494.85	-110.38	472.36	0.00	0.00	0.00
<b>Pictured Cliffs</b>									
3,200.01	65.00	272.99	2,704.15	499.25	-194.55	522.93	0.00	0.00	0.00
3,300.01	65.00	272.99	2,746.41	503.98	-285.06	577.31	0.00	0.00	0.00
3,361.08	65.00	272.99	2,772.23	506.87	-340.34	610.53	0.00	0.00	0.00

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,808.70	1,637.85	Lwr. Animas		0.00	360.00
1,998.87	1,823.85	Kirtland Sh		0.00	360.00
2,091.11	1,915.85	Farmington Ss		0.00	360.00
2,560.18	2,356.85	Lwr. Kirtland Sh		0.00	360.00
2,804.81	2,527.85	Fruitland Coal		0.00	360.00
2,822.64	2,537.85	Lemon Seam		0.00	360.00
2,965.04	2,604.85	Lwr Lemon Seam		0.00	360.00
3,059.69	2,644.85	Ignacio Seam		0.00	360.00
3,107.01	2,664.85	Pictured Cliffs		0.00	360.00