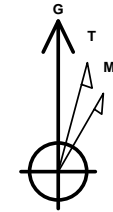




Company: B.P.
Project: Archuleta County, CO NAD83
Site: Carmelita Gallegos A3
Well: Carmelita Gallegos A3
Wellbore: Lateral 2 ST1 (Lwr Lemon)
Design: Plan #1

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
Local North: Grid



Azimuths to Grid North
True North: 1.17°
Magnetic North: 10.39°

Magnetic Field
Strength: 50307.7nT
Dip Angle: 63.64°
Date: 10/17/2016
Model: IGRF2015

WELL DETAILS: Carmelita Gallegos A3

GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1131854.11	2441795.87	37.0130911	-107.4118164

Plan: Plan #1 (Carmelita Gallegos A3/Lateral 2 ST1 (Lwr Lemon))

Created By: Janie Collins Date: 19:44, October 26 2016

DESIGN TARGET DETAILS

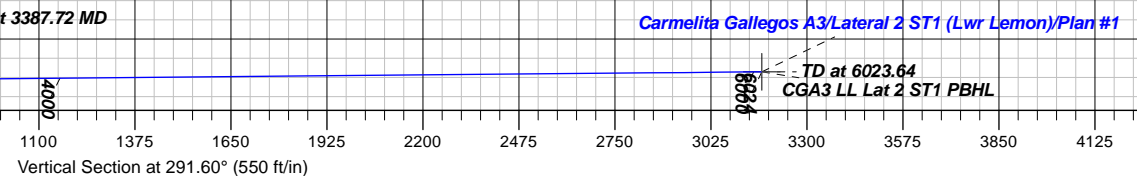
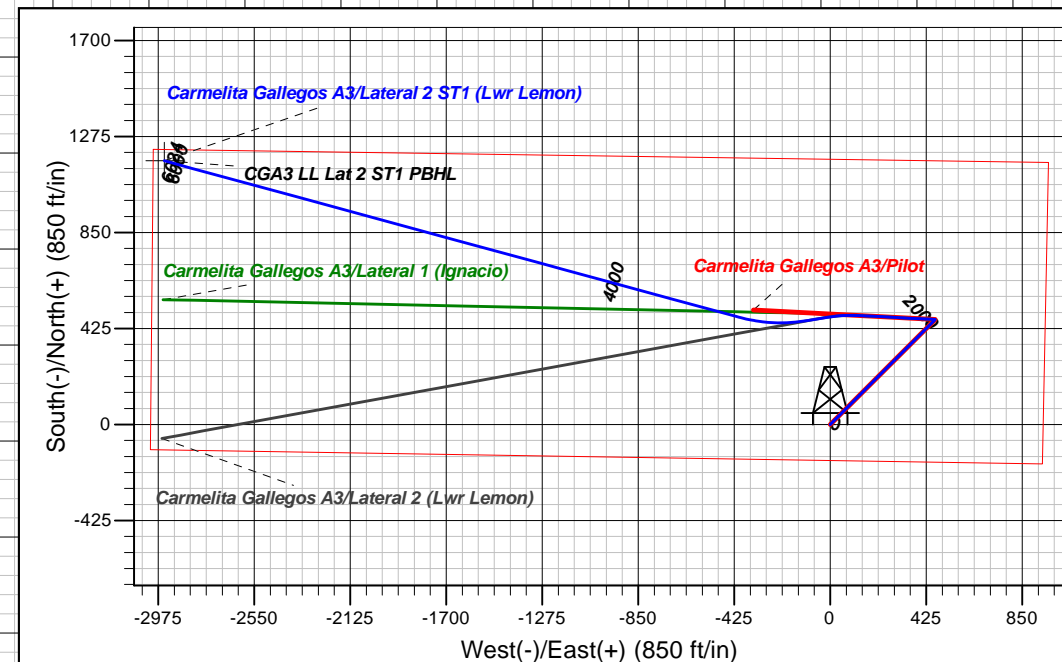
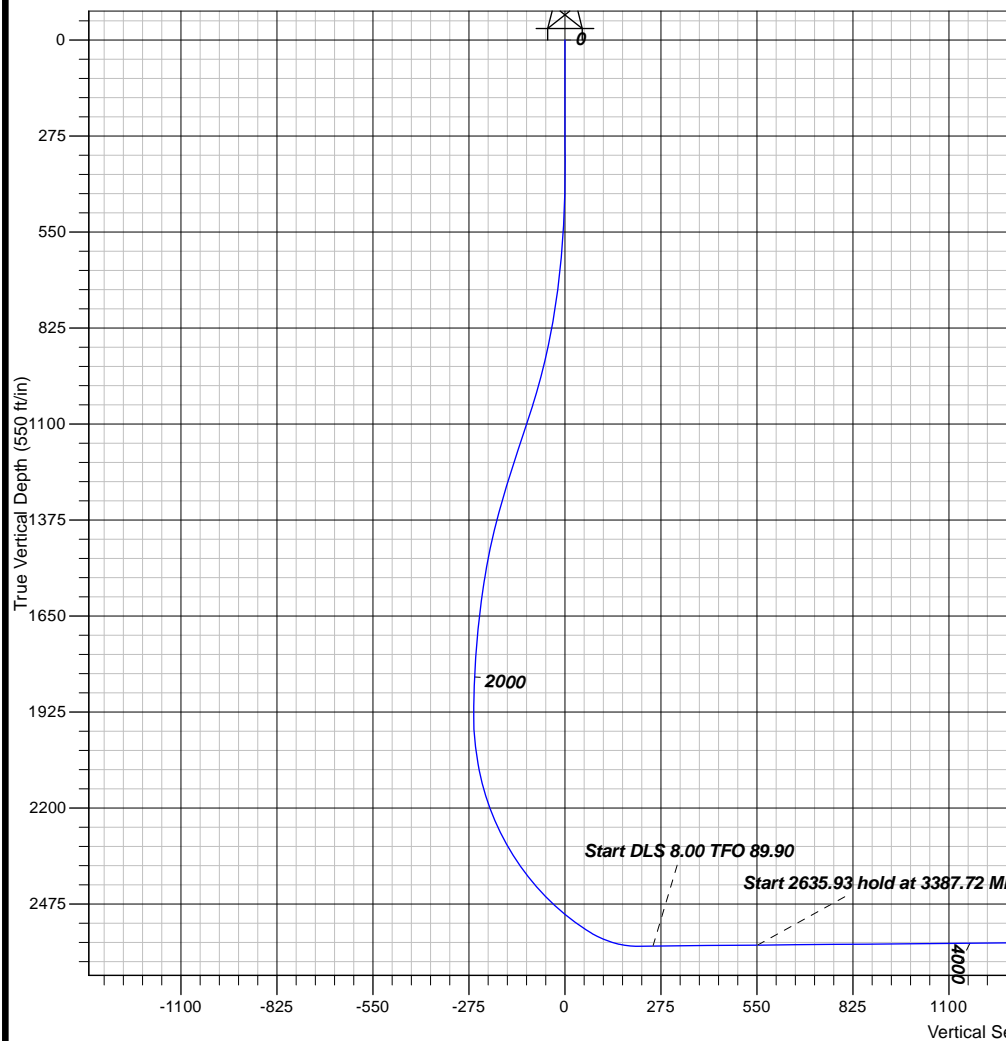
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CGA3 LL Lat 2 ST1 PBHL	2569.00	1167.56	-2948.23	1133021.67	2438847.65	37.0161308	-107.4219933

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
3068.19	90.52	259.67	2595.55	461.66	-88.38	0.00	0.00	252.16	
3387.72	90.51	285.23	2592.62	475.19	-404.97	8.00	89.90	551.48	
6023.64	90.51	285.23	2569.00	1167.56	-2948.23	0.00	0.00	3171.00	CGA3 LL Lat 2 ST1 PBHL

FORMATION TOP DETAILS

No formation data is available





B.P.

Archuleta County, CO NAD83

Carmelita Gallegos A3

Carmelita Gallegos A3

Lateral 2 ST1 (Lwr Lemon)

Plan: Plan #1

Standard Planning Report

26 October, 2016





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Carmelita Gallegos A3
Company:	B.P.	TVD Reference:	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
Site:	Carmelita Gallegos A3	North Reference:	Grid
Well:	Carmelita Gallegos A3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2 ST1 (Lwr Lemon)		
Design:	Plan #1		

Project	Archuleta 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		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

Wellbore	Lateral 2 ST1 (Lwr Lemon)				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/17/2016	9.21	63.64	50,308

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,068.19
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	291.60

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
3,068.19	90.52	259.67	2,595.55	461.66	-88.38	0.00	0.00	0.00	0.00	
3,387.72	90.51	285.23	2,592.62	475.19	-404.97	8.00	0.00	8.00	89.90	
6,023.64	90.51	285.23	2,569.00	1,167.56	-2,948.23	0.00	0.00	0.00	0.00	CGA3 LL Lat 2 ST1 P



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Carmelita Gallegos A3
Company:	B.P.	TVD Reference:	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143.85' & RKB 11' @ 6154.85ft (Aztec 507)
Site:	Carmelita Gallegos A3	North Reference:	Grid
Well:	Carmelita Gallegos A3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2 ST1 (Lwr Lemon)		
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)
3,068.19	90.52	259.67	2,595.55	461.66	-88.38	252.16	0.00	0.00	0.00
3,100.01	90.53	262.21	2,595.26	456.65	-119.80	279.52	8.00	0.01	8.00
3,200.01	90.53	270.21	2,594.34	450.04	-219.50	369.78	8.00	0.01	8.00
3,300.01	90.53	278.21	2,593.41	457.38	-319.14	465.13	8.00	0.00	8.00
3,387.72	90.51	285.23	2,592.62	475.19	-404.97	551.48	8.00	-0.01	8.00
3,400.01	90.51	285.23	2,592.51	478.42	-416.82	563.69	0.00	0.00	0.00
3,500.01	90.51	285.23	2,591.61	504.68	-513.31	663.07	0.00	0.00	0.00
3,600.01	90.51	285.23	2,590.71	530.95	-609.79	762.45	0.00	0.00	0.00
3,700.01	90.51	285.23	2,589.82	557.22	-706.28	861.83	0.00	0.00	0.00
3,800.01	90.51	285.23	2,588.92	583.48	-802.76	961.20	0.00	0.00	0.00
3,900.01	90.51	285.23	2,588.03	609.75	-899.25	1,060.58	0.00	0.00	0.00
4,000.01	90.51	285.23	2,587.13	636.02	-995.73	1,159.96	0.00	0.00	0.00
4,100.01	90.51	285.23	2,586.23	662.28	-1,092.22	1,259.34	0.00	0.00	0.00
4,200.01	90.51	285.23	2,585.34	688.55	-1,188.70	1,358.72	0.00	0.00	0.00
4,300.01	90.51	285.23	2,584.44	714.82	-1,285.19	1,458.09	0.00	0.00	0.00
4,400.01	90.51	285.23	2,583.55	741.08	-1,381.67	1,557.47	0.00	0.00	0.00
4,500.01	90.51	285.23	2,582.65	767.35	-1,478.15	1,656.85	0.00	0.00	0.00
4,600.01	90.51	285.23	2,581.75	793.62	-1,574.64	1,756.23	0.00	0.00	0.00
4,700.01	90.51	285.23	2,580.86	819.89	-1,671.12	1,855.60	0.00	0.00	0.00
4,800.01	90.51	285.23	2,579.96	846.15	-1,767.61	1,954.98	0.00	0.00	0.00
4,900.01	90.51	285.23	2,579.07	872.42	-1,864.09	2,054.36	0.00	0.00	0.00
5,000.01	90.51	285.23	2,578.17	898.69	-1,960.58	2,153.74	0.00	0.00	0.00
5,100.01	90.51	285.23	2,577.28	924.95	-2,057.06	2,253.11	0.00	0.00	0.00
5,200.01	90.51	285.23	2,576.38	951.22	-2,153.55	2,352.49	0.00	0.00	0.00
5,300.01	90.51	285.23	2,575.48	977.49	-2,250.03	2,451.87	0.00	0.00	0.00
5,400.01	90.51	285.23	2,574.59	1,003.75	-2,346.52	2,551.25	0.00	0.00	0.00
5,500.01	90.51	285.23	2,573.69	1,030.02	-2,443.00	2,650.63	0.00	0.00	0.00
5,600.01	90.51	285.23	2,572.80	1,056.29	-2,539.49	2,750.00	0.00	0.00	0.00
5,700.01	90.51	285.23	2,571.90	1,082.55	-2,635.97	2,849.38	0.00	0.00	0.00
5,800.01	90.51	285.23	2,571.00	1,108.82	-2,732.46	2,948.76	0.00	0.00	0.00
5,900.01	90.51	285.23	2,570.11	1,135.09	-2,828.94	3,048.14	0.00	0.00	0.00
6,000.01	90.51	285.23	2,569.21	1,161.35	-2,925.42	3,147.51	0.00	0.00	0.00
6,023.64	90.51	285.23	2,569.00	1,167.56	-2,948.23	3,171.00	0.00	0.00	0.00
CGA3 LL Lat 2 ST1 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									
CGA3 LL Lat 2 ST1 PBH-	0.00	0.00	2,569.00	1,167.56	-2,948.23	1,133,021.67	2,438,847.65	37.0161308	-107.4219934
- plan hits target center									
- Point									