



Company: B.P.  
Project: Archuleta County, CO NAD83  
Site: SEC 8-T32N-R5W  
Well: Seibel A 2  
Wellbore: Lateral #1  
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: 10.54°

Magnetic Field  
Strength: 50481.3snT  
Dip Angle: 63.67°  
Date: 4/6/2015  
Model: IGRF2015

**WELL DETAILS: Seibel A 2**

Plan: Plan #1 (Seibel A 2/Lateral #1)

Created By: Janie Collins Date: 11:33, April 07 2015

GL 6158' & RKB 11' @ 6169.00ft

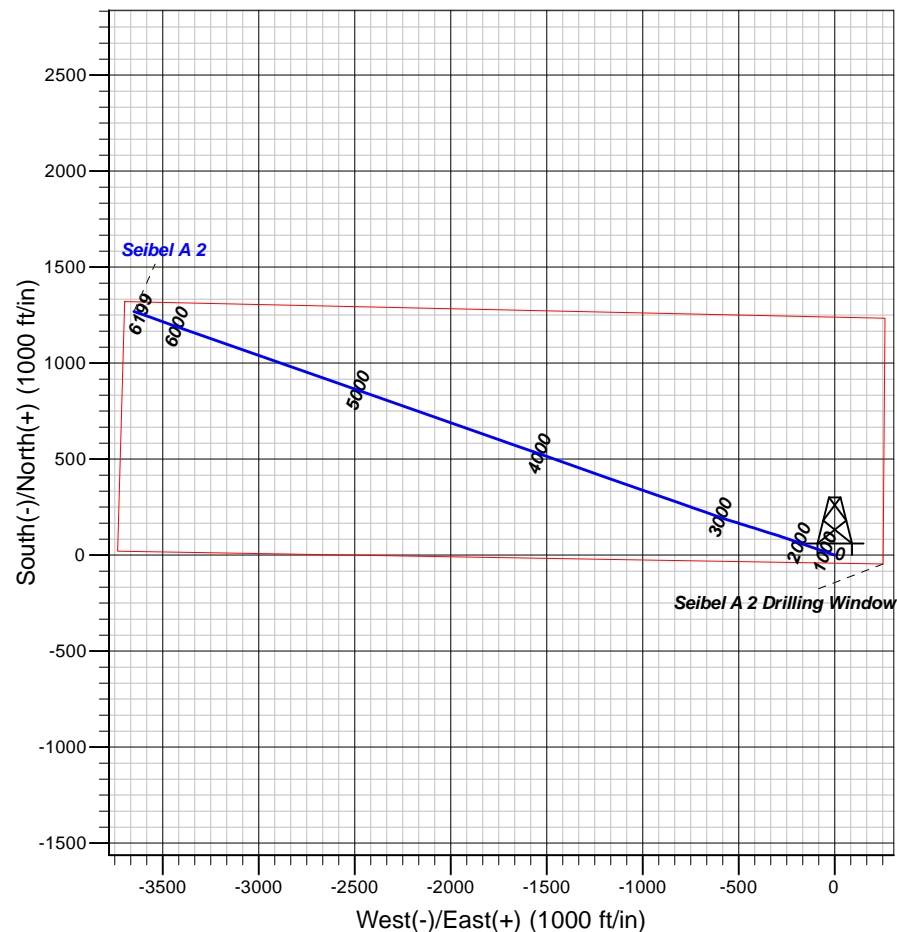
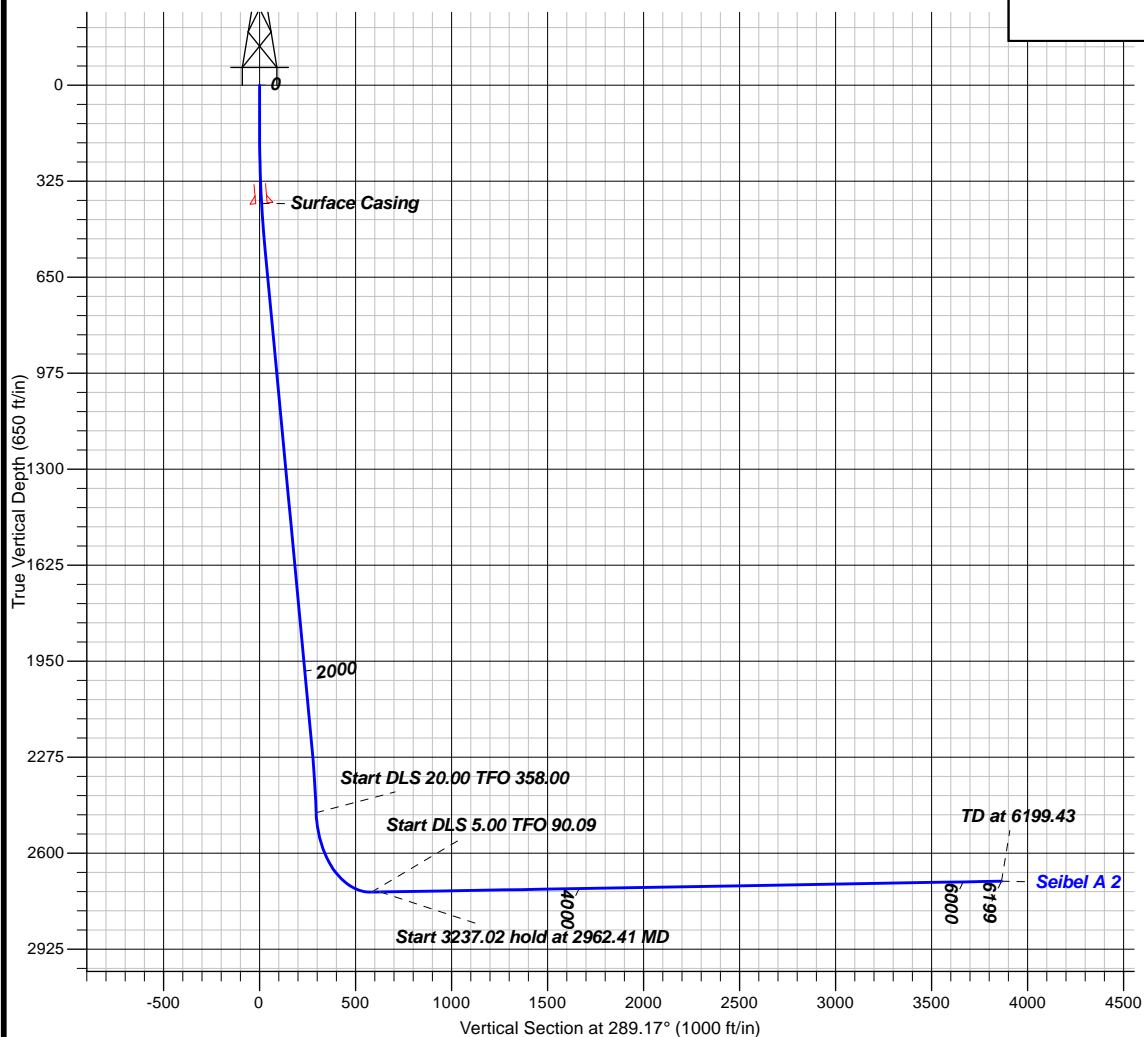
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1137019.42	2442581.73	37.0273181	-107.4094872

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Seibel A 2 PBHL	2695.00	1268.91	-3650.00	1138288.33	2438931.74	37.0305967	-107.4220765

**SECTION DETAILS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	Target	Annotation
2482.75	3.43	289.17	2462.66	96.83	-278.53	0.00	0.00	294.88		
2918.87	90.65	287.17	2732.00	182.77	-554.68	20.00	358.00	583.94		
2962.41	90.65	289.35	2731.51	196.41	-596.03	5.00	90.09	627.47		
6199.43	90.65	289.35	2695.00	1268.91	-3650.00	0.00	0.00	3864.27	Seibel A 2 PBHL	





**B.P.**

**Archuleta County, CO NAD83  
SEC 8-T32N-R5W  
Seibel A 2**

**Lateral #1**

**Plan: Plan #1**

## **Standard Planning Report**

**07 April, 2015**





<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Seibel A 2
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6158' & RKB 11' @ 6169.00ft
<b>Project:</b>	Archuleta County, CO NAD83	<b>MD Reference:</b>	GL 6158' & RKB 11' @ 6169.00ft
<b>Site:</b>	SEC 8-T32N-R5W	<b>North Reference:</b>	Grid
<b>Well:</b>	Seibel A 2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<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		

<b>Site</b>	SEC 8-T32N-R5W			
<b>Site Position:</b>		<b>Northing:</b>	1,137,019.43 usft	<b>Latitude:</b> 37.0273181
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,442,581.73 usft	<b>Longitude:</b> -107.4094873
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.17 °

<b>Well</b>	Seibel A 2			
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,137,019.42 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,442,581.73 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	6,158.00 ft

<b>Wellbore</b>	Lateral #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	4/6/2015	9.37	63.67	50,481

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	2,482.75
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	289.17

<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
2,482.75	3.43	289.17	2,462.66	96.83	-278.53	0.00	0.00	0.00	0.00	
2,918.87	90.65	287.17	2,732.00	182.77	-554.68	20.00	20.00	-0.46	358.00	
2,962.41	90.65	289.35	2,731.51	196.41	-596.03	5.00	-0.01	5.00	90.09	
6,199.43	90.65	289.35	2,695.00	1,268.91	-3,650.00	0.00	0.00	0.00	0.00	Seibel A 2 PBHL



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Seibel A 2
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6158' & RKB 11' @ 6169.00ft
<b>Project:</b>	Archuleta County, CO NAD83	<b>MD Reference:</b>	GL 6158' & RKB 11' @ 6169.00ft
<b>Site:</b>	SEC 8-T32N-R5W	<b>North Reference:</b>	Grid
<b>Well:</b>	Seibel A 2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<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)
2,482.75	3.43	289.17	2,462.66	96.83	-278.53	294.88	0.00	0.00	0.00
2,500.00	6.88	288.17	2,479.84	97.33	-280.00	296.43	20.00	19.99	-5.83
2,600.00	26.88	287.41	2,575.05	106.04	-307.53	325.30	20.00	20.00	-0.76
2,700.00	46.88	287.29	2,654.63	123.83	-364.53	384.98	20.00	20.00	-0.12
2,800.00	66.88	287.23	2,709.00	148.55	-444.10	468.26	20.00	20.00	-0.06
2,900.00	86.88	287.18	2,731.59	177.20	-536.66	565.09	20.00	20.00	-0.04
2,918.87	90.65	287.17	2,732.00	182.77	-554.68	583.94	20.00	20.00	-0.04
2,962.41	90.65	289.35	2,731.51	196.41	-596.03	627.47	5.00	-0.01	5.00
3,000.00	90.65	289.35	2,731.08	208.87	-631.49	665.06	0.00	0.00	0.00
3,100.00	90.65	289.35	2,729.95	242.00	-725.84	765.05	0.00	0.00	0.00
3,200.00	90.65	289.35	2,728.83	275.13	-820.18	865.05	0.00	0.00	0.00
3,300.00	90.65	289.35	2,727.70	308.27	-914.53	965.04	0.00	0.00	0.00
3,400.00	90.65	289.35	2,726.57	341.40	-1,008.87	1,065.03	0.00	0.00	0.00
3,500.00	90.65	289.35	2,725.44	374.53	-1,103.22	1,165.03	0.00	0.00	0.00
3,600.00	90.65	289.35	2,724.32	407.66	-1,197.56	1,265.02	0.00	0.00	0.00
3,700.00	90.65	289.35	2,723.19	440.79	-1,291.91	1,365.01	0.00	0.00	0.00
3,800.00	90.65	289.35	2,722.06	473.93	-1,386.25	1,465.01	0.00	0.00	0.00
3,900.00	90.65	289.35	2,720.93	507.06	-1,480.60	1,565.00	0.00	0.00	0.00
4,000.00	90.65	289.35	2,719.80	540.19	-1,574.94	1,664.99	0.00	0.00	0.00
4,100.00	90.65	289.35	2,718.68	573.32	-1,669.29	1,764.99	0.00	0.00	0.00
4,200.00	90.65	289.35	2,717.55	606.46	-1,763.63	1,864.98	0.00	0.00	0.00
4,300.00	90.65	289.35	2,716.42	639.59	-1,857.98	1,964.97	0.00	0.00	0.00
4,400.00	90.65	289.35	2,715.29	672.72	-1,952.32	2,064.96	0.00	0.00	0.00
4,500.00	90.65	289.35	2,714.17	705.85	-2,046.67	2,164.96	0.00	0.00	0.00
4,600.00	90.65	289.35	2,713.04	738.98	-2,141.01	2,264.95	0.00	0.00	0.00
4,700.00	90.65	289.35	2,711.91	772.12	-2,235.36	2,364.94	0.00	0.00	0.00
4,800.00	90.65	289.35	2,710.78	805.25	-2,329.70	2,464.94	0.00	0.00	0.00
4,900.00	90.65	289.35	2,709.65	838.38	-2,424.05	2,564.93	0.00	0.00	0.00
5,000.00	90.65	289.35	2,708.53	871.51	-2,518.39	2,664.92	0.00	0.00	0.00
5,100.00	90.65	289.35	2,707.40	904.65	-2,612.74	2,764.92	0.00	0.00	0.00
5,200.00	90.65	289.35	2,706.27	937.78	-2,707.08	2,864.91	0.00	0.00	0.00
5,300.00	90.65	289.35	2,705.14	970.91	-2,801.43	2,964.90	0.00	0.00	0.00
5,400.00	90.65	289.35	2,704.02	1,004.04	-2,895.77	3,064.90	0.00	0.00	0.00
5,500.00	90.65	289.35	2,702.89	1,037.17	-2,990.12	3,164.89	0.00	0.00	0.00
5,600.00	90.65	289.35	2,701.76	1,070.31	-3,084.46	3,264.88	0.00	0.00	0.00
5,700.00	90.65	289.35	2,700.63	1,103.44	-3,178.81	3,364.88	0.00	0.00	0.00
5,800.00	90.65	289.35	2,699.50	1,136.57	-3,273.15	3,464.87	0.00	0.00	0.00
5,900.00	90.65	289.35	2,698.38	1,169.70	-3,367.50	3,564.86	0.00	0.00	0.00
6,000.00	90.65	289.35	2,697.25	1,202.84	-3,461.84	3,664.85	0.00	0.00	0.00
6,100.00	90.65	289.35	2,696.12	1,235.97	-3,556.19	3,764.85	0.00	0.00	0.00
6,199.43	90.65	289.35	2,695.00	1,268.91	-3,650.00	3,864.27	0.00	0.00	0.00
Seibel A 2 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									
Seibel A 2 PBHL	0.00	0.00	2,695.00	1,268.91	-3,650.00	1,138,288.33	2,438,931.75	37.0305967	-107.4220765
- plan hits target center									
- Point									



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Casing Points						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
	400.32	400.00	Surface Casing	8.625	12.250	