



Company: B.P.
Project: Archuleta County, CO NAD83
Site: SEC 8-T32N-R5W
Well: Seibel B2
Wellbore: Lateral #1 ST1
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: 10.50°

Magnetic Field
Strength: 50349.9nT
Dip Angle: 63.62°
Date: 4/23/2015
Model: HDGM

WELL DETAILS: Seibel B2

GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1134811.52	2443283.97	37.0212951	-107.4069279

Plan: Plan #1 (Seibel B2/Lateral #1 ST1)

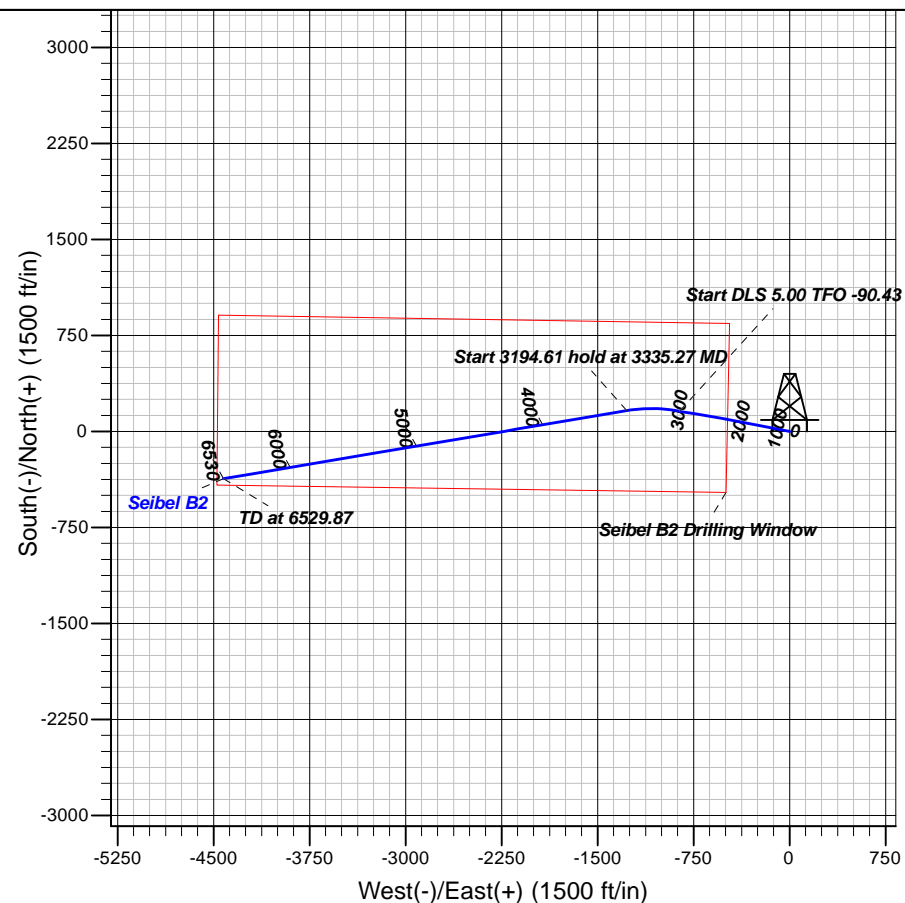
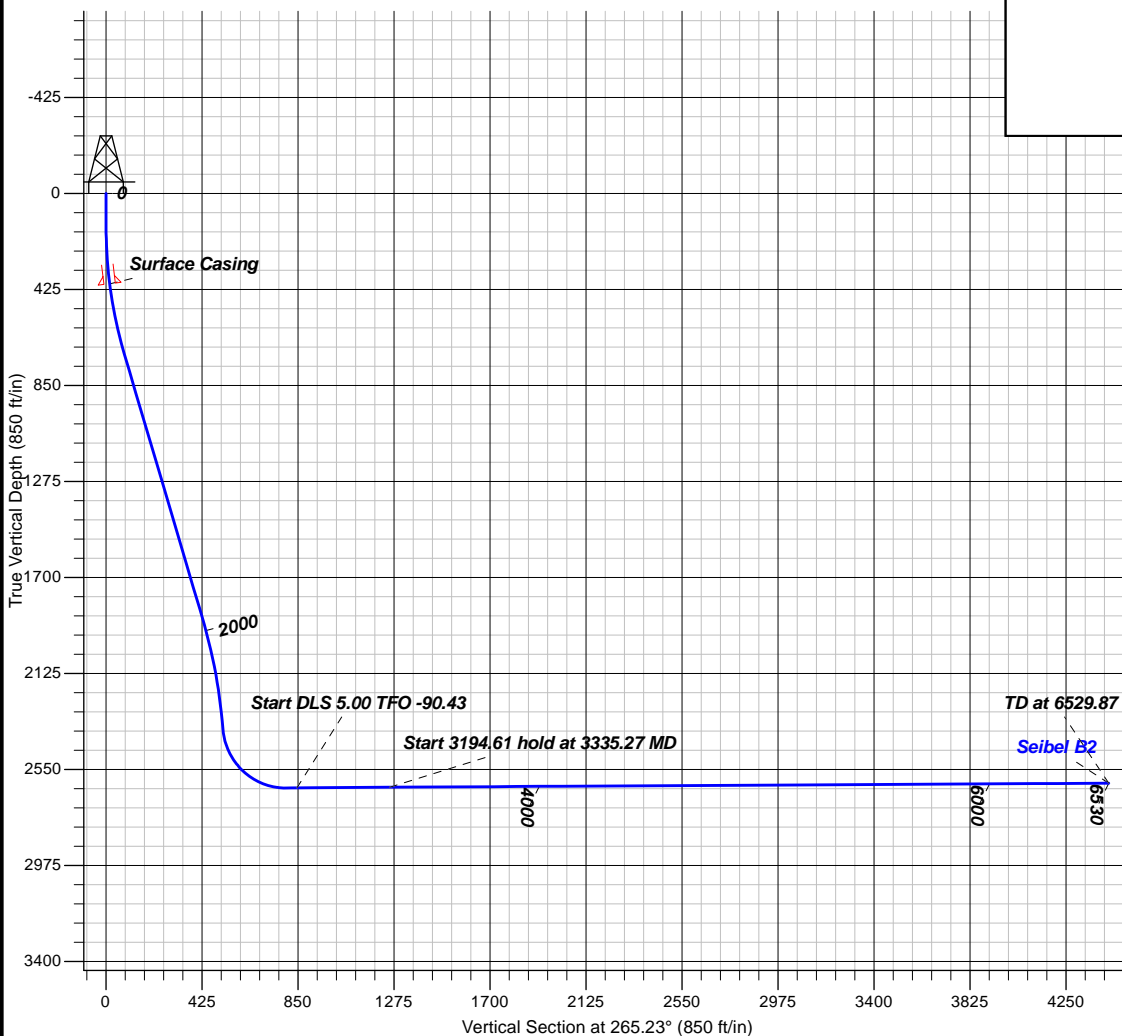
Created By: Janie Collins Date: 18:44, April 23 2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Seibel Lat 1 ST1 PBHL	2611.00	-369.46	-4423.43	1134442.06	2438860.55	37.0200316	-107.4220492

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	Target	Annotation
2920.20	90.50	281.16	2631.57	157.26	-860.79	0.00	0.00	844.71		
3335.27	90.32	260.41	2628.58	162.90	-1273.54	5.00	-90.43	1255.56		
6529.87	90.32	260.41	2611.00	-369.46	-4423.43	0.00	0.00	4438.83	Seibel Lat 1 ST1 PBHL	





B.P.

**Archuleta County, CO NAD83
SEC 8-T32N-R5W
Seibel B2**

Lateral #1 ST1

Plan: Plan #1

Standard Planning Report

23 April, 2015





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Seibel B2
Company:	B.P.	TVD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Site:	SEC 8-T32N-R5W	North Reference:	Grid
Well:	Seibel B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral #1 ST1		
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	SEC 8-T32N-R5W			
Site Position:		Northing:	1,137,019.43 usft	Latitude: 37.0273181
From:	Lat/Long	Easting:	2,442,581.73 usft	Longitude: -107.4094873
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.17 °

Well	Seibel B2			
Well Position	+N/-S	-2,207.91 ft	Northing:	1,134,811.52 usft
	+E/-W	702.24 ft	Easting:	2,443,283.97 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	6,143.00 ft

Wellbore	Lateral #1 ST1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/23/2015	9.33	63.62	50,350

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,920.20
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	265.23

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
2,920.20	90.50	281.16	2,631.57	157.26	-860.79	0.00	0.00	0.00	0.00	
3,335.27	90.32	260.41	2,628.58	162.90	-1,273.54	5.00	-0.04	-5.00	-90.43	
6,529.87	90.32	260.41	2,611.00	-369.46	-4,423.43	0.00	0.00	0.00	0.00	Seibel Lat 1 ST1 PBH



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Seibel B2
Company:	B.P.	TVD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Site:	SEC 8-T32N-R5W	North Reference:	Grid
Well:	Seibel B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral #1 ST1		
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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	1.50	281.00	199.99	0.12	-0.64	0.63	1.50	1.50	0.00
300.00	4.50	281.00	299.85	1.12	-5.78	5.67	3.00	3.00	0.00
400.00	7.50	281.00	399.29	3.12	-16.04	15.72	3.00	3.00	0.00
400.72	7.52	281.00	400.00	3.14	-16.13	15.81	3.00	3.00	0.00
Surface Casing									
500.00	10.50	281.00	498.04	6.10	-31.39	30.78	3.00	3.00	0.00
600.00	13.50	281.00	595.85	10.07	-51.80	50.78	3.00	3.00	0.00
700.00	16.50	281.00	692.43	15.01	-77.20	75.68	3.00	3.00	0.00
800.00	17.07	281.00	788.05	20.60	-105.93	103.85	0.57	0.57	0.00
900.00	17.07	281.00	883.64	26.20	-134.75	132.10	0.00	0.00	0.00
1,000.00	17.07	281.00	979.24	31.81	-163.56	160.35	0.00	0.00	0.00
1,100.00	17.07	281.00	1,074.83	37.41	-192.38	188.60	0.00	0.00	0.00
1,200.00	17.07	281.00	1,170.43	43.02	-221.20	216.85	0.00	0.00	0.00
1,300.00	17.07	281.00	1,266.02	48.62	-250.02	245.10	0.00	0.00	0.00
1,400.00	17.07	281.00	1,361.61	54.22	-278.83	273.35	0.00	0.00	0.00
1,500.00	17.07	281.00	1,457.21	59.83	-307.65	301.60	0.00	0.00	0.00
1,600.00	17.07	281.00	1,552.80	65.43	-336.47	329.86	0.00	0.00	0.00
1,700.00	17.07	281.00	1,648.39	71.03	-365.29	358.11	0.00	0.00	0.00
1,800.00	17.07	281.00	1,743.99	76.64	-394.10	386.36	0.00	0.00	0.00
1,900.00	17.07	281.00	1,839.58	82.24	-422.92	414.61	0.00	0.00	0.00
2,000.00	15.66	281.00	1,935.37	87.72	-451.08	442.22	1.41	-1.41	0.00
2,100.00	13.16	281.00	2,032.22	92.47	-475.51	466.16	2.50	-2.50	0.00
2,200.00	10.66	281.00	2,130.06	96.41	-495.77	486.02	2.50	-2.50	0.00
2,300.00	8.16	281.00	2,228.71	99.53	-511.81	501.75	2.50	-2.50	0.00
2,400.00	5.66	281.00	2,327.97	101.83	-523.62	513.33	2.50	-2.50	0.00
2,500.00	16.46	279.56	2,426.70	104.38	-537.87	527.31	10.80	10.80	-1.45
2,600.00	36.46	279.23	2,515.78	111.57	-581.61	570.31	20.00	20.00	-0.33
2,700.00	56.46	279.12	2,584.31	123.06	-652.81	640.30	20.00	20.00	-0.11
2,800.00	76.46	279.05	2,624.05	137.46	-742.88	728.86	20.00	20.00	-0.07
2,900.00	90.50	280.50	2,631.74	153.42	-840.96	825.27	14.11	14.04	1.45
2,920.20	90.50	281.16	2,631.57	157.26	-860.79	844.71	3.27	0.00	3.27
3,000.00	90.47	277.17	2,630.89	169.97	-939.55	922.14	5.00	-0.04	-5.00
3,100.00	90.43	272.17	2,630.11	178.10	-1,039.18	1,020.75	5.00	-0.04	-5.00
3,200.00	90.38	267.17	2,629.41	177.53	-1,139.15	1,120.42	5.00	-0.05	-5.00
3,300.00	90.33	262.17	2,628.78	168.24	-1,238.68	1,220.38	5.00	-0.05	-5.00
3,335.27	90.32	260.41	2,628.58	162.90	-1,273.54	1,255.56	5.00	-0.05	-5.00
3,400.00	90.32	260.41	2,628.23	152.11	-1,337.37	1,320.07	0.00	0.00	0.00
3,500.00	90.32	260.41	2,627.68	135.45	-1,435.97	1,419.71	0.00	0.00	0.00
3,600.00	90.32	260.41	2,627.13	118.79	-1,534.57	1,519.36	0.00	0.00	0.00
3,700.00	90.32	260.41	2,626.58	102.12	-1,633.17	1,619.00	0.00	0.00	0.00
3,800.00	90.32	260.41	2,626.03	85.46	-1,731.77	1,718.65	0.00	0.00	0.00
3,900.00	90.32	260.41	2,625.47	68.79	-1,830.37	1,818.29	0.00	0.00	0.00
4,000.00	90.32	260.41	2,624.92	52.13	-1,928.97	1,917.94	0.00	0.00	0.00
4,100.00	90.32	260.41	2,624.37	35.46	-2,027.57	2,017.58	0.00	0.00	0.00
4,200.00	90.32	260.41	2,623.82	18.80	-2,126.17	2,117.23	0.00	0.00	0.00
4,300.00	90.32	260.41	2,623.27	2.13	-2,224.77	2,216.87	0.00	0.00	0.00
4,400.00	90.32	260.41	2,622.72	-14.53	-2,323.37	2,316.52	0.00	0.00	0.00
4,500.00	90.32	260.41	2,622.17	-31.19	-2,421.97	2,416.16	0.00	0.00	0.00
4,600.00	90.32	260.41	2,621.62	-47.86	-2,520.57	2,515.81	0.00	0.00	0.00
4,700.00	90.32	260.41	2,621.07	-64.52	-2,619.17	2,615.45	0.00	0.00	0.00
4,800.00	90.32	260.41	2,620.52	-81.19	-2,717.77	2,715.10	0.00	0.00	0.00
4,900.00	90.32	260.41	2,619.97	-97.85	-2,816.37	2,814.74	0.00	0.00	0.00



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Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Site:	SEC 8-T32N-R5W	North Reference:	Grid
Well:	Seibel B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral #1 ST1		
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)	
5,000.00	90.32	260.41	2,619.42	-114.52	-2,914.97	2,914.39	0.00	0.00	0.00	
5,100.00	90.32	260.41	2,618.87	-131.18	-3,013.57	3,014.03	0.00	0.00	0.00	
5,200.00	90.32	260.41	2,618.32	-147.85	-3,112.17	3,113.68	0.00	0.00	0.00	
5,300.00	90.32	260.41	2,617.77	-164.51	-3,210.77	3,213.32	0.00	0.00	0.00	
5,400.00	90.32	260.41	2,617.22	-181.18	-3,309.37	3,312.97	0.00	0.00	0.00	
5,500.00	90.32	260.41	2,616.67	-197.84	-3,407.97	3,412.61	0.00	0.00	0.00	
5,600.00	90.32	260.41	2,616.12	-214.50	-3,506.57	3,512.26	0.00	0.00	0.00	
5,700.00	90.32	260.41	2,615.57	-231.17	-3,605.17	3,611.90	0.00	0.00	0.00	
5,800.00	90.32	260.41	2,615.02	-247.83	-3,703.77	3,711.55	0.00	0.00	0.00	
5,900.00	90.32	260.41	2,614.47	-264.50	-3,802.37	3,811.19	0.00	0.00	0.00	
6,000.00	90.32	260.41	2,613.92	-281.16	-3,900.97	3,910.84	0.00	0.00	0.00	
6,100.00	90.32	260.41	2,613.37	-297.83	-3,999.57	4,010.48	0.00	0.00	0.00	
6,200.00	90.32	260.41	2,612.82	-314.49	-4,098.17	4,110.13	0.00	0.00	0.00	
6,300.00	90.32	260.41	2,612.27	-331.16	-4,196.77	4,209.77	0.00	0.00	0.00	
6,400.00	90.32	260.41	2,611.71	-347.82	-4,295.37	4,309.42	0.00	0.00	0.00	
6,500.00	90.32	260.41	2,611.16	-364.48	-4,393.97	4,409.06	0.00	0.00	0.00	
6,529.87	90.32	260.41	2,611.00	-369.46	-4,423.43	4,438.83	0.00	0.00	0.00	
Seibel Lat 1 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									
Seibel Lat 1 ST1 PBHL	0.00	360.00	2,611.00	-369.46	-4,423.43	1,134,442.06	2,438,860.55	37.0200316	-107.4220493
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
400.72	400.00	Surface Casing	8.625	12.250	