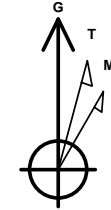




Company: B.P.
Project: Archuleta County, CO NAD83
Site: SEC 8-T32N-R5W
Well: Seibel B2
Wellbore: Lateral #1
Design: Plan #1

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: 10.58°

Magnetic Field
Strength: 50451.5nT
Dip Angle: 63.69°
Date: 4/16/2015
Model: BGM2014

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)

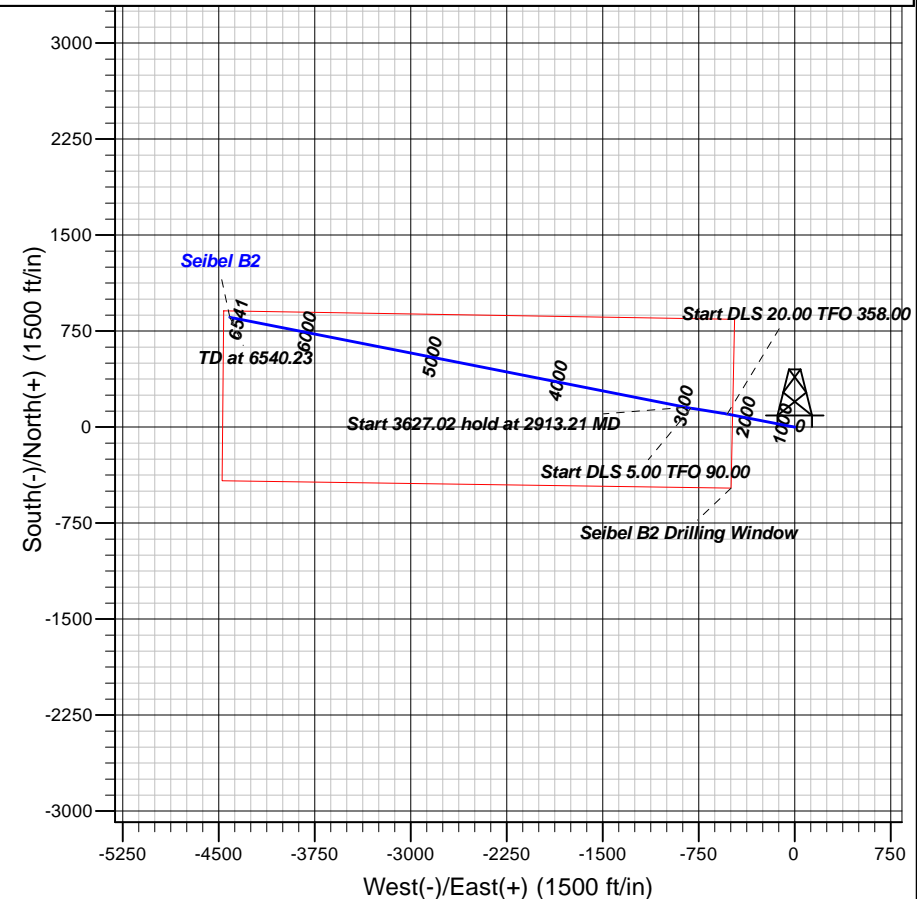
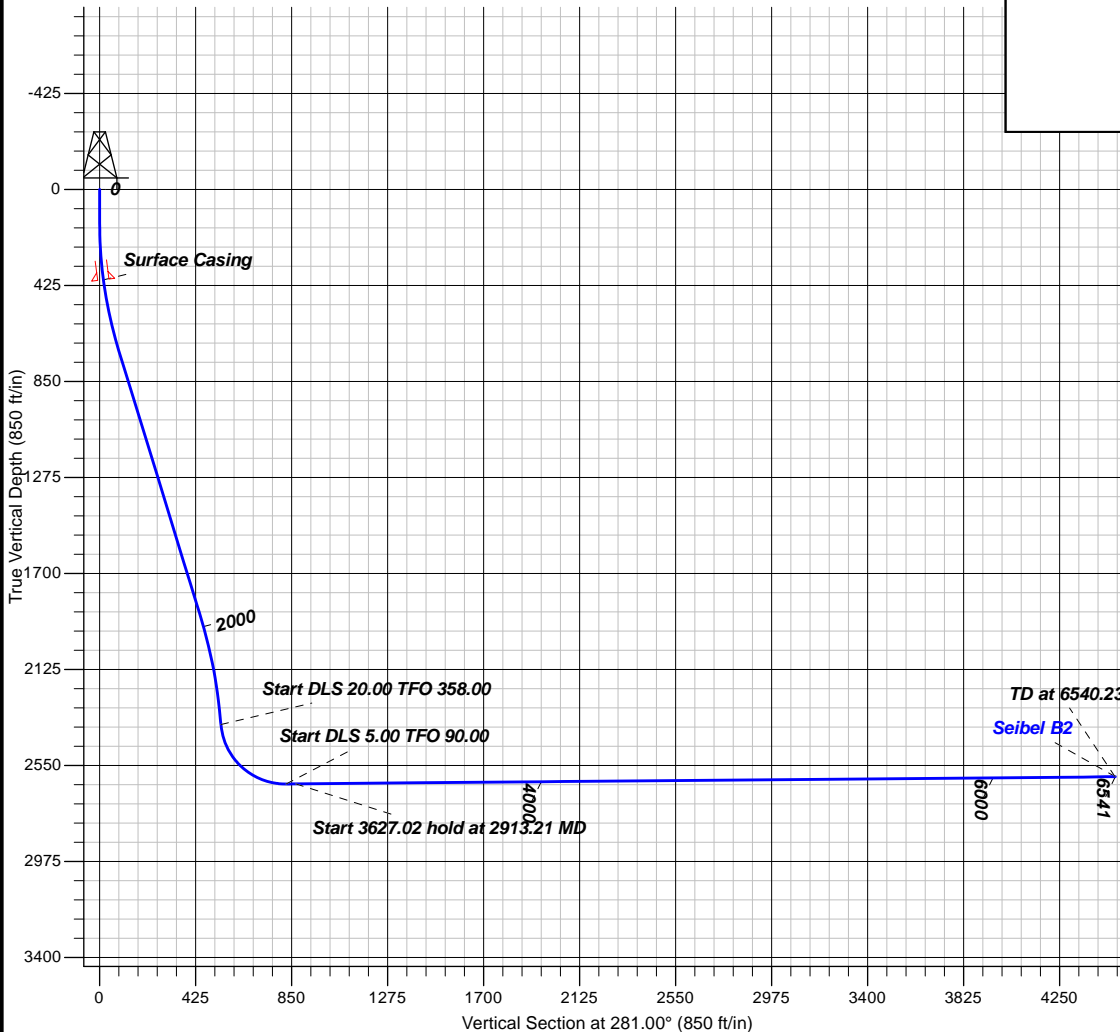
Created By: Janie Collins Date: 18:39, April 23 2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Seibel B2 Lat 1 PBHL	2600.00	857.90	-4412.23	1135669.42	2438871.75	37.0234023	-107.4220974

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
2440.88	4.64	281.00	2368.69	102.53	-527.22	0.00	0.00	537.10		
2870.20	90.50	279.01	2632.00	148.37	-811.59	20.00	358.00	824.99		
2913.21	90.50	281.16	2631.63	155.91	-853.93	5.00	90.00	867.99		
6540.23	90.50	281.16	2600.00	857.90	-4412.23	0.00	0.00	4494.86	Seibel B2 Lat 1 PBHL	





B.P.

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

Lateral #1

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		
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				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	4/16/2015	9.41	63.69	50,452

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,440.88
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	281.00

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
2,440.88	4.64	281.00	2,368.69	102.53	-527.22	0.00	0.00	0.00	0.00	
2,870.20	90.50	279.01	2,632.00	148.37	-811.59	20.00	20.00	-0.46	358.00	
2,913.21	90.50	281.16	2,631.63	155.91	-853.93	5.00	0.00	5.00	90.00	
6,540.23	90.50	281.16	2,600.00	857.90	-4,412.23	0.00	0.00	0.00	0.00	Seibel B2 Lat 1 PBHL



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		
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	0.65	1.50	1.50	0.00
300.00	4.50	281.00	299.85	1.12	-5.78	5.89	3.00	3.00	0.00
400.00	7.50	281.00	399.29	3.12	-16.04	16.34	3.00	3.00	0.00
400.72	7.52	281.00	400.00	3.14	-16.13	16.43	3.00	3.00	0.00
Surface Casing									
500.00	10.50	281.00	498.04	6.10	-31.39	31.98	3.00	3.00	0.00
600.00	13.50	281.00	595.85	10.07	-51.80	52.77	3.00	3.00	0.00
700.00	16.50	281.00	692.43	15.01	-77.20	78.65	3.00	3.00	0.00
800.00	17.07	281.00	788.05	20.60	-105.93	107.91	0.57	0.57	0.00
900.00	17.07	281.00	883.64	26.20	-134.75	137.27	0.00	0.00	0.00
1,000.00	17.07	281.00	979.24	31.81	-163.56	166.63	0.00	0.00	0.00
1,100.00	17.07	281.00	1,074.83	37.41	-192.38	195.99	0.00	0.00	0.00
1,200.00	17.07	281.00	1,170.43	43.02	-221.20	225.34	0.00	0.00	0.00
1,300.00	17.07	281.00	1,266.02	48.62	-250.02	254.70	0.00	0.00	0.00
1,400.00	17.07	281.00	1,361.61	54.22	-278.83	284.06	0.00	0.00	0.00
1,500.00	17.07	281.00	1,457.21	59.83	-307.65	313.41	0.00	0.00	0.00
1,600.00	17.07	281.00	1,552.80	65.43	-336.47	342.77	0.00	0.00	0.00
1,700.00	17.07	281.00	1,648.39	71.03	-365.29	372.13	0.00	0.00	0.00
1,800.00	17.07	281.00	1,743.99	76.64	-394.10	401.49	0.00	0.00	0.00
1,900.00	17.07	281.00	1,839.58	82.24	-422.92	430.84	0.00	0.00	0.00
2,000.00	15.66	281.00	1,935.37	87.72	-451.08	459.53	1.41	-1.41	0.00
2,100.00	13.16	281.00	2,032.22	92.47	-475.51	484.42	2.50	-2.50	0.00
2,200.00	10.66	281.00	2,130.06	96.41	-495.77	505.05	2.50	-2.50	0.00
2,300.00	8.16	281.00	2,228.71	99.53	-511.81	521.40	2.50	-2.50	0.00
2,400.00	5.66	281.00	2,327.97	101.83	-523.62	533.43	2.50	-2.50	0.00
2,440.88	4.64	281.00	2,368.69	102.53	-527.22	537.10	2.50	-2.50	0.00
2,500.00	16.46	279.56	2,426.70	104.38	-537.87	547.90	20.00	20.00	-2.45
2,600.00	36.46	279.23	2,515.78	111.57	-581.61	592.21	20.00	20.00	-0.33
2,700.00	56.46	279.12	2,584.31	123.06	-652.81	664.30	20.00	20.00	-0.11
2,800.00	76.46	279.05	2,624.05	137.46	-742.88	755.46	20.00	20.00	-0.07
2,870.20	90.50	279.01	2,632.00	148.37	-811.59	824.99	20.00	20.00	-0.06
2,900.00	90.50	280.50	2,631.74	153.42	-840.96	854.78	5.00	0.00	5.00
2,913.21	90.50	281.16	2,631.63	155.91	-853.93	867.99	5.00	0.00	5.00
3,000.00	90.50	281.16	2,630.87	172.70	-939.08	954.78	0.00	0.00	0.00
3,100.00	90.50	281.16	2,630.00	192.06	-1,037.18	1,054.77	0.00	0.00	0.00
3,200.00	90.50	281.16	2,629.13	211.41	-1,135.29	1,154.77	0.00	0.00	0.00
3,300.00	90.50	281.16	2,628.26	230.77	-1,233.39	1,254.76	0.00	0.00	0.00
3,400.00	90.50	281.16	2,627.38	250.12	-1,331.50	1,354.76	0.00	0.00	0.00
3,500.00	90.50	281.16	2,626.51	269.48	-1,429.60	1,454.75	0.00	0.00	0.00
3,600.00	90.50	281.16	2,625.64	288.83	-1,527.71	1,554.75	0.00	0.00	0.00
3,700.00	90.50	281.16	2,624.77	308.18	-1,625.81	1,654.75	0.00	0.00	0.00
3,800.00	90.50	281.16	2,623.90	327.54	-1,723.92	1,754.74	0.00	0.00	0.00
3,900.00	90.50	281.16	2,623.02	346.89	-1,822.02	1,854.74	0.00	0.00	0.00
4,000.00	90.50	281.16	2,622.15	366.25	-1,920.13	1,954.73	0.00	0.00	0.00
4,100.00	90.50	281.16	2,621.28	385.60	-2,018.23	2,054.73	0.00	0.00	0.00
4,200.00	90.50	281.16	2,620.41	404.96	-2,116.34	2,154.73	0.00	0.00	0.00
4,300.00	90.50	281.16	2,619.54	424.31	-2,214.44	2,254.72	0.00	0.00	0.00
4,400.00	90.50	281.16	2,618.66	443.67	-2,312.55	2,354.72	0.00	0.00	0.00
4,500.00	90.50	281.16	2,617.79	463.02	-2,410.66	2,454.71	0.00	0.00	0.00
4,600.00	90.50	281.16	2,616.92	482.38	-2,508.76	2,554.71	0.00	0.00	0.00
4,700.00	90.50	281.16	2,616.05	501.73	-2,606.87	2,654.70	0.00	0.00	0.00
4,800.00	90.50	281.16	2,615.18	521.08	-2,704.97	2,754.70	0.00	0.00	0.00



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		
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)
4,900.00	90.50	281.16	2,614.30	540.44	-2,803.08	2,854.70	0.00	0.00	0.00
5,000.00	90.50	281.16	2,613.43	559.79	-2,901.18	2,954.69	0.00	0.00	0.00
5,100.00	90.50	281.16	2,612.56	579.15	-2,999.29	3,054.69	0.00	0.00	0.00
5,200.00	90.50	281.16	2,611.69	598.50	-3,097.39	3,154.68	0.00	0.00	0.00
5,300.00	90.50	281.16	2,610.82	617.86	-3,195.50	3,254.68	0.00	0.00	0.00
5,400.00	90.50	281.16	2,609.94	637.21	-3,293.60	3,354.68	0.00	0.00	0.00
5,500.00	90.50	281.16	2,609.07	656.57	-3,391.71	3,454.67	0.00	0.00	0.00
5,600.00	90.50	281.16	2,608.20	675.92	-3,489.81	3,554.67	0.00	0.00	0.00
5,700.00	90.50	281.16	2,607.33	695.27	-3,587.92	3,654.66	0.00	0.00	0.00
5,800.00	90.50	281.16	2,606.46	714.63	-3,686.02	3,754.66	0.00	0.00	0.00
5,900.00	90.50	281.16	2,605.58	733.98	-3,784.13	3,854.65	0.00	0.00	0.00
6,000.00	90.50	281.16	2,604.71	753.34	-3,882.23	3,954.65	0.00	0.00	0.00
6,100.00	90.50	281.16	2,603.84	772.69	-3,980.34	4,054.65	0.00	0.00	0.00
6,200.00	90.50	281.16	2,602.97	792.05	-4,078.44	4,154.64	0.00	0.00	0.00
6,300.00	90.50	281.16	2,602.09	811.40	-4,176.55	4,254.64	0.00	0.00	0.00
6,400.00	90.50	281.16	2,601.22	830.76	-4,274.65	4,354.63	0.00	0.00	0.00
6,500.00	90.50	281.16	2,600.35	850.11	-4,372.76	4,454.63	0.00	0.00	0.00
6,540.23	90.50	281.16	2,600.00	857.90	-4,412.23	4,494.86	0.00	0.00	0.00
Seibel B2 Lat 1 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 B2 Lat 1 PBHL	0.00	360.00	2,600.00	857.90	-4,412.23	1,135,669.42	2,438,871.76	37.0234023	-107.4220974
- 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	