



Company: B.P.
Project: La Plata County, CO NAD83
Site: Secord Pad
Well: Secord 17U-34-06 2
Wellbore: Lateral 1
Design: Plan #2

PROJECT DETAILS: La Plata 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: 1.24°
Magnetic North: 10.46°

Magnetic Field
Strength: 50120.3snT
Dip Angle: 63.67°
Date: 1/3/2018
Model: HDGM

WELL DETAILS: Secord 17U-34-06 2

GL 7221' & RKB 11' @ 7232.00usft (Aztec 507)
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 1196144.95 2409098.88 37.1877253 -107.5285486

Plan: Plan #2 (Secord 17U-34-06 2/Lateral 1)

Created By: Janie Collins Date: 10:00, March 22 2018

DESIGN TARGET DETAILS

Name TVD +N/-S +E/-W Northing Easting
Secord 2 Lat 1 BHL 2997.00 3057.94 -390.79 1199202.89 2408708.09

SECTION DETAILS

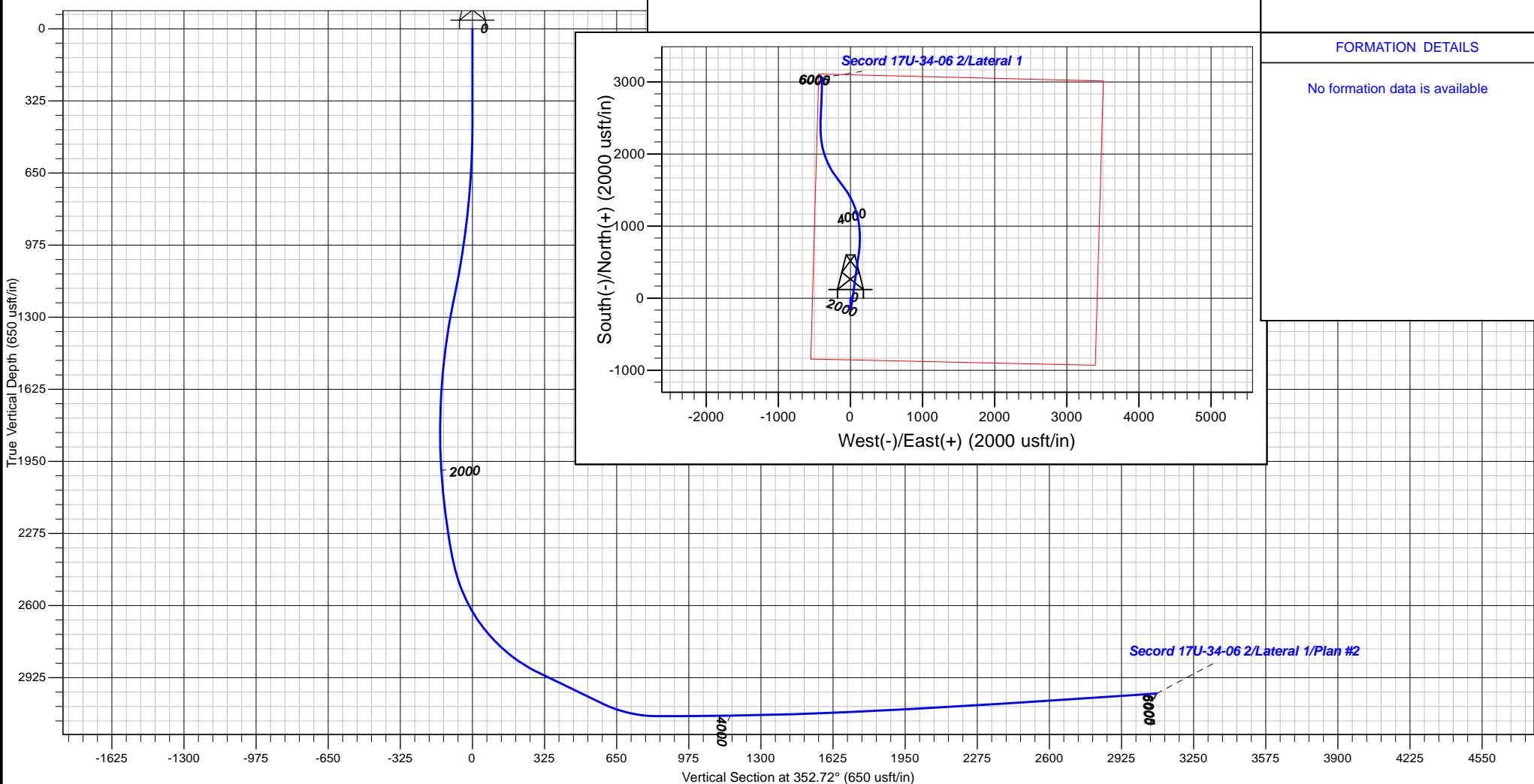
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
3411.20	65.00	8.00	3042.74	606.96	114.78	0.00	0.00	587.52	
3672.82	90.00	0.00	3099.00	859.58	131.57	10.00	-18.39	835.97	
4433.71	92.00	322.00	3085.21	1565.78	-111.51	5.00	-86.75	1567.29	
4533.71	92.00	322.00	3081.72	1644.53	-173.04	0.00	0.00	1653.20	
5334.84	93.70	2.07	3040.20	2390.07	-414.97	5.00	86.63	2423.40	
6004.54	93.70	2.07	2997.00	3057.94	-390.79	0.00	0.00	3082.81	Secord 2 Lat 1 BHL

CASING DETAILS

No casing data is available

FORMATION DETAILS

No formation data is available





B.P.

La Plata County, CO NAD83

Secord Pad

Secord 17U-34-06 2

Lateral 1

Plan: Plan #2

Standard Survey Report

22 March, 2018





Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well Secord 17U-34-06 2
Project:	La Plata County, CO NAD83	TVD Reference:	GL 7221' & RKB 11' @ 7232.00usft (Aztec 507)
Site:	Secord Pad	MD Reference:	GL 7221' & RKB 11' @ 7232.00usft (Aztec 507)
Well:	Secord 17U-34-06 2	North Reference:	Grid
Wellbore:	Lateral 1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Grand Junction District

Project	La Plata 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	Secord Pad			
Site Position:		Northing:	1,196,144.95 usft	Latitude: 37.1877252
From: Map		Easting:	2,409,098.88 usft	Longitude: -107.5285486
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.24 °

Well	Secord 17U-34-06 2			
Well Position	+N/-S	0.00 usft	Northing:	1,196,144.95 usft
	+E/-W	0.00 usft	Easting:	2,409,098.88 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	7,221.00 usft

Wellbore	Lateral 1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/3/2018	9.22	63.67	50,120

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,411.20
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	352.72

Survey Tool Program	Date	3/22/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	3,411.20	Plan #2 (Pilot)	SDI MWD	SDI MWD - Standard ver 1.0.1
3,411.20	6,004.18	Plan #2 (Lateral 1)	SDI MWD	SDI MWD - Standard ver 1.0.1

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,411.20	65.00	8.00	3,042.74	606.96	114.78	587.52	0.00	0.00	0.00	
3,500.00	73.46	5.09	3,074.21	689.37	124.17	668.07	10.00	9.52	-3.28	
3,600.00	83.02	2.09	3,094.57	786.96	130.25	764.10	10.00	9.57	-2.99	
3,672.82	90.00	0.00	3,099.00	859.58	131.57	835.97	10.00	9.58	-2.88	
3,700.00	90.08	358.64	3,098.98	886.76	131.25	862.97	5.00	0.28	-4.99	
3,800.00	90.36	353.65	3,098.60	986.50	124.54	962.76	5.00	0.28	-4.99	
3,900.00	90.64	348.66	3,097.73	1,085.28	109.16	1,062.68	5.00	0.28	-4.99	
4,000.00	90.91	343.67	3,096.37	1,182.33	85.26	1,161.99	5.00	0.27	-4.99	
4,100.00	91.18	338.67	3,094.54	1,276.94	53.00	1,259.92	5.00	0.27	-4.99	
4,200.00	91.44	333.68	3,092.25	1,368.36	12.62	1,355.72	5.00	0.26	-4.99	



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Site:	Secord Pad	MD Reference:	GL 7221' & RKB 11' @ 7232.00usft (Aztec 507)
Well:	Secord 17U-34-06 2	North Reference:	Grid
Wellbore:	Lateral 1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Grand Junction District

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.00	91.69	328.68	3,089.52	1,455.91	-35.55	1,448.68	5.00	0.25	-5.00
4,400.00	91.92	323.68	3,086.37	1,538.93	-91.16	1,538.07	5.00	0.24	-5.00
4,433.71	92.00	322.00	3,085.21	1,565.78	-111.51	1,567.29	5.00	0.23	-5.00
4,500.00	92.00	322.00	3,082.90	1,617.98	-152.29	1,624.24	0.00	0.00	0.00
4,533.71	92.00	322.00	3,081.72	1,644.53	-173.04	1,653.20	0.00	0.00	0.00
4,600.00	92.19	325.31	3,079.30	1,697.88	-212.29	1,711.10	5.00	0.29	5.00
4,700.00	92.47	330.31	3,075.23	1,782.41	-265.50	1,801.69	5.00	0.27	5.00
4,800.00	92.72	335.31	3,070.70	1,871.24	-311.14	1,895.59	5.00	0.26	5.00
4,900.00	92.96	340.31	3,065.75	1,963.69	-348.85	1,992.07	5.00	0.24	5.00
5,000.00	93.17	345.31	3,060.40	2,059.05	-378.36	2,090.41	5.00	0.21	5.00
5,100.00	93.36	350.31	3,054.70	2,156.61	-399.43	2,189.85	5.00	0.19	5.00
5,200.00	93.52	355.32	3,048.70	2,255.62	-411.91	2,289.63	5.00	0.16	5.01
5,300.00	93.66	0.33	3,042.43	2,355.32	-415.70	2,389.01	5.00	0.14	5.01
5,334.84	93.70	2.07	3,040.20	2,390.07	-414.97	2,423.40	5.00	0.12	5.01
5,400.00	93.70	2.07	3,036.00	2,455.06	-412.62	2,487.56	0.00	0.00	0.00
5,500.00	93.70	2.07	3,029.55	2,554.78	-409.01	2,586.02	0.00	0.00	0.00
5,600.00	93.70	2.07	3,023.09	2,654.51	-405.40	2,684.48	0.00	0.00	0.00
5,700.00	93.70	2.07	3,016.64	2,754.24	-401.79	2,782.95	0.00	0.00	0.00
5,800.00	93.70	2.07	3,010.19	2,853.96	-398.17	2,881.41	0.00	0.00	0.00
5,900.00	93.70	2.07	3,003.74	2,953.69	-394.56	2,979.88	0.00	0.00	0.00
6,000.00	93.70	2.07	2,997.29	3,053.41	-390.95	3,078.34	0.00	0.00	0.00
6,004.54	93.70	2.07	2,997.00	3,057.94	-390.79	3,082.81	0.00	0.00	0.00
Secord 2 Lat 1 BHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Secord 2 Lat 1 BHL	0.00	0.00	2,997.00	3,057.94	-390.79	1,199,202.89	2,408,708.09	37.1960982	-107.5301179
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____