



Company: B.P.
Project: La Plata County, CO NAD83
Site: Southern Ute Tribal L Pad
Well: SUT L3
Wellbore: Lateral 1 ST1
Design: Plan #5

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: 1.29°
Magnetic North: 10.61°

Magnetic Field
Strength: 50303.4snT
Dip Angle: 63.67°
Date: 8/5/2015
Model: HDGM

WELL DETAILS: SUT L3

GL 6574.65' & RKB 11' @ 6585.64usft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1157301.95	2386844.06	37.0797221	-107.6019234

Plan: Plan #5 (SUT L3/Lateral 1 ST1)

Created By: Janie Collins Date: 17:22, March 16 2016

DESIGN TARGET DETAILS

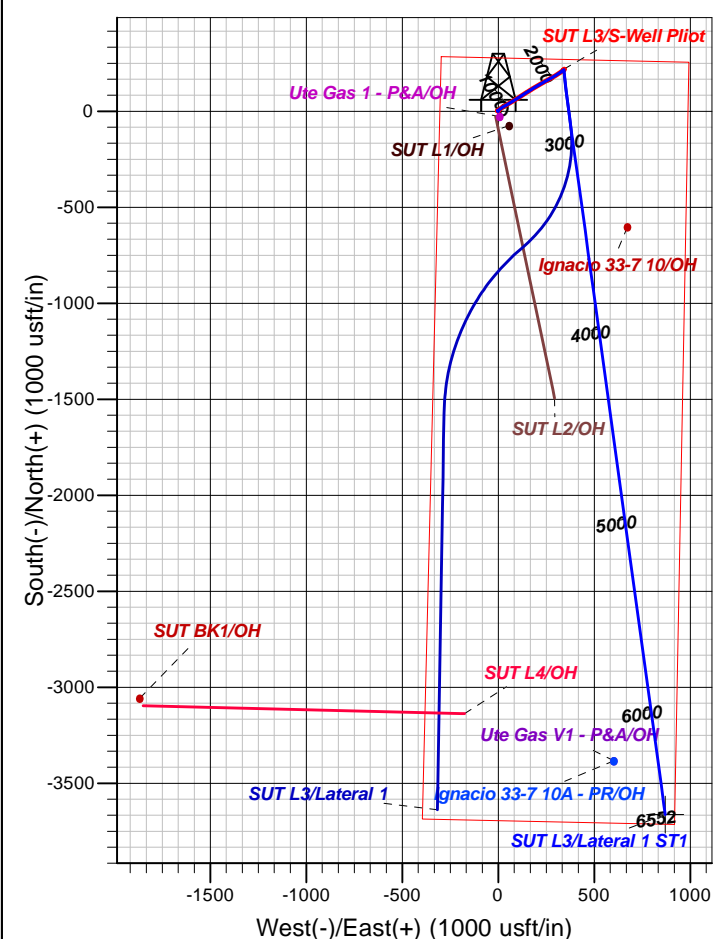
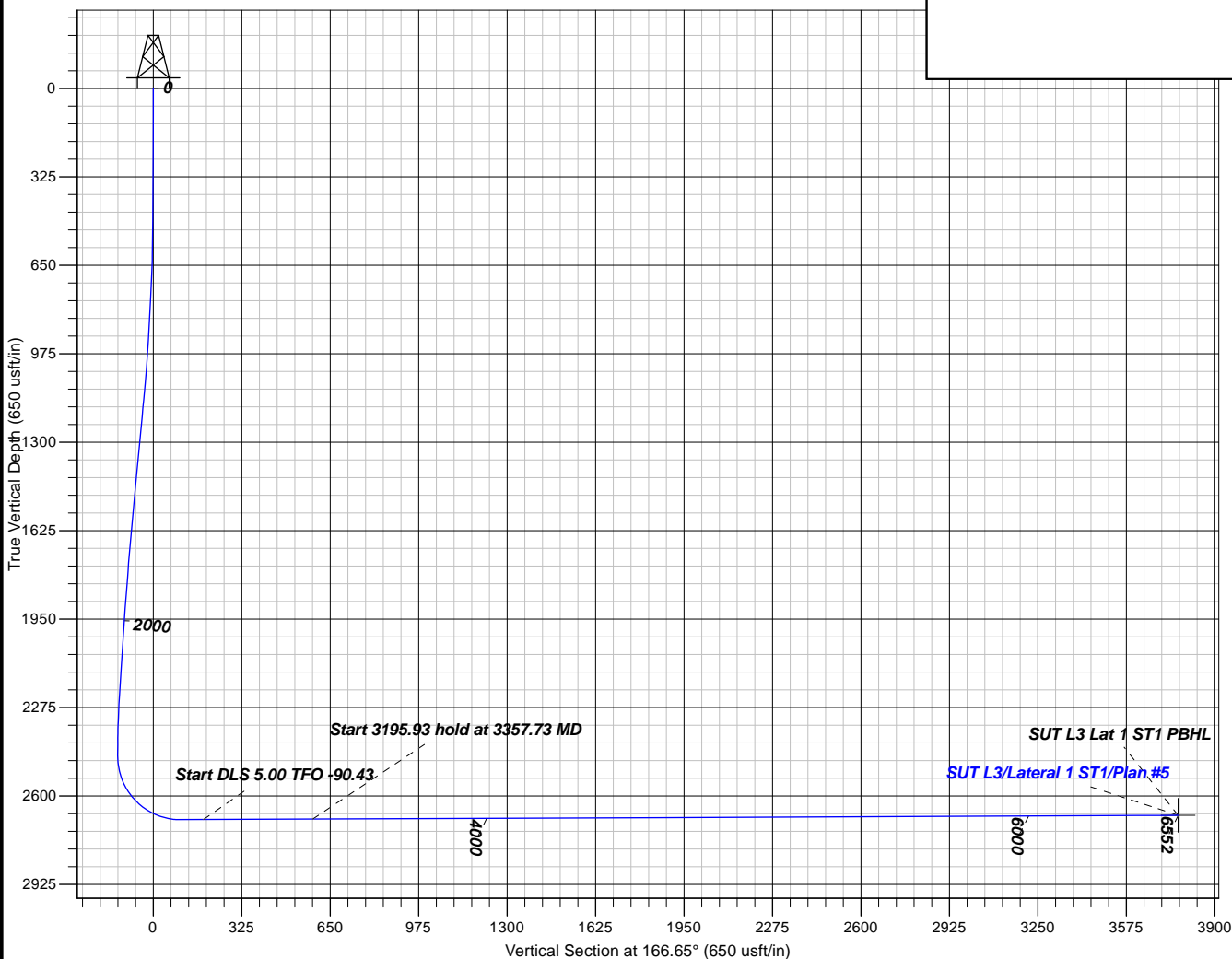
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SUT L3 Lat 1 ST1 PBHL	2671.00	-3663.02	869.29	1153638.93	2387713.35	37.0697183	-107.5986624

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
2499.00	1.83	72.43	2448.95	215.75	341.69	0.00	0.00	-131.02	
2515.00	3.23	189.71	2464.94	215.38	341.86	27.38	139.04	-130.63	
2520.87	4.23	187.71	2470.80	215.01	341.80	17.18	-8.41	-130.27	
2871.18	90.25	172.19	2687.11	-16.76	369.24	24.60	-15.55	101.56	
6551.60	90.25	172.19	2671.00	-3663.02	869.29	0.00	0.00	3764.76	SUT L3 Lat 1 ST1 PBHL

FORMATION TOP DETAILS

No formation data is available





B.P.

La Plata County, CO NAD83
Southern Ute Tribal L Pad
SUT L3

Lateral 1 ST1

Plan: Plan #5

Standard Planning Report

16 March, 2016





Database:	Grand Junction District	Local Co-ordinate Reference:	Well SUT L3
Company:	B.P.	TVD Reference:	GL 6574.65' & RKB 11' @ 6585.64usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6574.65' & RKB 11' @ 6585.64usft (Aztec 507)
Site:	Southern Ute Tribal L Pad	North Reference:	Grid
Well:	SUT L3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan #5		

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		Southern Ute Tribal L Pad			
Site Position:		Northing:	1,157,275.72 usft	Latitude:	37.0796492
From:	Map	Easting:	2,386,829.51 usft	Longitude:	-107.6019713
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.29 °

Well	SUT L3					
Well Position	+N/-S	26.23 usft	Northing:	1,157,301.95 usft	Latitude:	37.0797221
	+E/-W	14.55 usft	Easting:	2,386,844.06 usft	Longitude:	-107.6019234
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,574.64 usft

Wellbore	Lateral 1 ST1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/5/2015	9.32	63.67	50,303

Design	Plan #5				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	2,499.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	166.65	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
2,499.00	1.83	72.43	2,448.95	215.75	341.69	0.00	0.00	0.00	0.00	
2,515.00	3.23	189.71	2,464.94	215.38	341.86	27.38	8.75	733.00	139.04	
2,520.87	4.23	187.71	2,470.80	215.01	341.80	17.18	17.04	-34.07	-8.41	
2,871.18	90.25	172.19	2,687.11	-16.76	369.24	24.60	24.56	-4.43	-15.55	
6,551.60	90.25	172.19	2,671.00	-3,663.02	869.29	0.00	0.00	0.00	0.00	SUT L3 Lat 1 ST1 PB



Database:	Grand Junction District	Local Co-ordinate Reference:	Well SUT L3
Company:	B.P.	TVD Reference:	GL 6574.65' & RKB 11' @ 6585.64usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6574.65' & RKB 11' @ 6585.64usft (Aztec 507)
Site:	Southern Ute Tribal L Pad	North Reference:	Grid
Well:	SUT L3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan #5		

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)
2,499.00	1.83	72.43	2,448.95	215.75	341.69	-131.02	0.00	0.00	0.00
2,500.00	1.63	78.74	2,449.95	215.76	341.72	-131.02	27.38	-19.69	631.13
2,515.00	3.23	189.71	2,464.94	215.38	341.86	-130.63	27.38	10.65	739.79
2,520.87	4.23	187.71	2,470.80	215.01	341.80	-130.27	17.18	17.04	-34.07
2,600.00	23.57	174.80	2,547.26	196.18	342.85	-111.71	24.60	24.44	-16.32
2,700.00	48.15	173.21	2,627.68	138.39	349.17	-54.03	24.60	24.58	-1.58
2,800.00	72.75	172.55	2,676.63	52.74	359.93	31.79	24.60	24.59	-0.66
2,871.18	90.25	172.19	2,687.11	-16.76	369.24	101.56	24.60	24.60	-0.50
2,900.00	90.25	172.19	2,686.98	-45.31	373.16	130.25	0.00	0.00	0.00
2,953.93	90.25	172.19	2,686.75	-98.75	380.49	183.93	0.00	0.00	0.00
Start DLS 5.00 TFO -90.43									
3,000.00	90.25	172.19	2,686.54	-144.38	386.75	229.78	0.00	0.00	0.00
3,100.00	90.25	172.19	2,686.11	-243.46	400.33	329.31	0.00	0.00	0.00
3,200.00	90.25	172.19	2,685.67	-342.53	413.92	428.85	0.00	0.00	0.00
3,300.00	90.25	172.19	2,685.23	-441.60	427.51	528.38	0.00	0.00	0.00
3,357.73	90.25	172.19	2,684.98	-498.79	435.35	585.83	0.00	0.00	0.00
Start 3195.93 hold at 3357.73 MD									
3,400.00	90.25	172.19	2,684.79	-540.67	441.09	627.91	0.00	0.00	0.00
3,500.00	90.25	172.19	2,684.36	-639.74	454.68	727.44	0.00	0.00	0.00
3,600.00	90.25	172.19	2,683.92	-738.81	468.27	826.97	0.00	0.00	0.00
3,700.00	90.25	172.19	2,683.48	-837.89	481.85	926.50	0.00	0.00	0.00
3,800.00	90.25	172.19	2,683.04	-936.96	495.44	1,026.04	0.00	0.00	0.00
3,900.00	90.25	172.19	2,682.61	-1,036.03	509.03	1,125.57	0.00	0.00	0.00
4,000.00	90.25	172.19	2,682.17	-1,135.10	522.61	1,225.10	0.00	0.00	0.00
4,100.00	90.25	172.19	2,681.73	-1,234.17	536.20	1,324.63	0.00	0.00	0.00
4,200.00	90.25	172.19	2,681.29	-1,333.24	549.79	1,424.16	0.00	0.00	0.00
4,300.00	90.25	172.19	2,680.85	-1,432.32	563.37	1,523.69	0.00	0.00	0.00
4,400.00	90.25	172.19	2,680.42	-1,531.39	576.96	1,623.23	0.00	0.00	0.00
4,500.00	90.25	172.19	2,679.98	-1,630.46	590.55	1,722.76	0.00	0.00	0.00
4,600.00	90.25	172.19	2,679.54	-1,729.53	604.13	1,822.29	0.00	0.00	0.00
4,700.00	90.25	172.19	2,679.10	-1,828.60	617.72	1,921.82	0.00	0.00	0.00
4,800.00	90.25	172.19	2,678.67	-1,927.68	631.31	2,021.35	0.00	0.00	0.00
4,900.00	90.25	172.19	2,678.23	-2,026.75	644.89	2,120.89	0.00	0.00	0.00
5,000.00	90.25	172.19	2,677.79	-2,125.82	658.48	2,220.42	0.00	0.00	0.00
5,100.00	90.25	172.19	2,677.35	-2,224.89	672.07	2,319.95	0.00	0.00	0.00
5,200.00	90.25	172.19	2,676.92	-2,323.96	685.65	2,419.48	0.00	0.00	0.00
5,300.00	90.25	172.19	2,676.48	-2,423.03	699.24	2,519.01	0.00	0.00	0.00
5,400.00	90.25	172.19	2,676.04	-2,522.11	712.83	2,618.54	0.00	0.00	0.00
5,500.00	90.25	172.19	2,675.60	-2,621.18	726.41	2,718.08	0.00	0.00	0.00
5,600.00	90.25	172.19	2,675.16	-2,720.25	740.00	2,817.61	0.00	0.00	0.00
5,700.00	90.25	172.19	2,674.73	-2,819.32	753.59	2,917.14	0.00	0.00	0.00
5,800.00	90.25	172.19	2,674.29	-2,918.39	767.17	3,016.67	0.00	0.00	0.00
5,900.00	90.25	172.19	2,673.85	-3,017.46	780.76	3,116.20	0.00	0.00	0.00
6,000.00	90.25	172.19	2,673.41	-3,116.54	794.35	3,215.73	0.00	0.00	0.00
6,100.00	90.25	172.19	2,672.98	-3,215.61	807.93	3,315.27	0.00	0.00	0.00
6,200.00	90.25	172.19	2,672.54	-3,314.68	821.52	3,414.80	0.00	0.00	0.00
6,300.00	90.25	172.19	2,672.10	-3,413.75	835.11	3,514.33	0.00	0.00	0.00
6,400.00	90.25	172.19	2,671.66	-3,512.82	848.69	3,613.86	0.00	0.00	0.00
6,500.00	90.25	172.19	2,671.23	-3,611.89	862.28	3,713.39	0.00	0.00	0.00
6,551.60	90.25	172.19	2,671.00	-3,663.02	869.29	3,764.76	0.00	0.00	0.00
SUT L3 Lat 1 ST1 PBHL									



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Site:	Southern Ute Tribal L Pad	North Reference:	Grid
Well:	SUT L3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan #5		

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
SUT L3 Lat 1 ST1 PBHL	0.00	360.00	2,671.00	-3,663.02	869.29	1,153,638.93	2,387,713.35	37.0697183	-107.5986624
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,953.93	2,683.34	-100.59	380.81	Start DLS 5.00 TFO -90.43
3,357.73	2,681.96	-500.64	435.66	Start 3195.93 hold at 3357.73 MD
6,553.65				TD at 6553.66