



Company: B.P.
Project: La Plata County, CO NAD83
Site: Southern Ute Com F2 Pad
Well: Southern Ute Com F2
Wellbore: Lateral 1 ST1
Design: Plan #1

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: 1.30°
Magnetic North: 10.59°

Magnetic Field
Strength: 50280.5snT
Dip Angle: 63.68°
Date: 12/7/2015
Model: HDGM

WELL DETAILS: Southern Ute Com F2

GL 6458' & RKB 11' @ 6469.00usft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1169274.38	2380574.57	37.1122051	-107.6243413

Plan: Plan #1 (Southern Ute Com F2/Lateral 1 ST1)

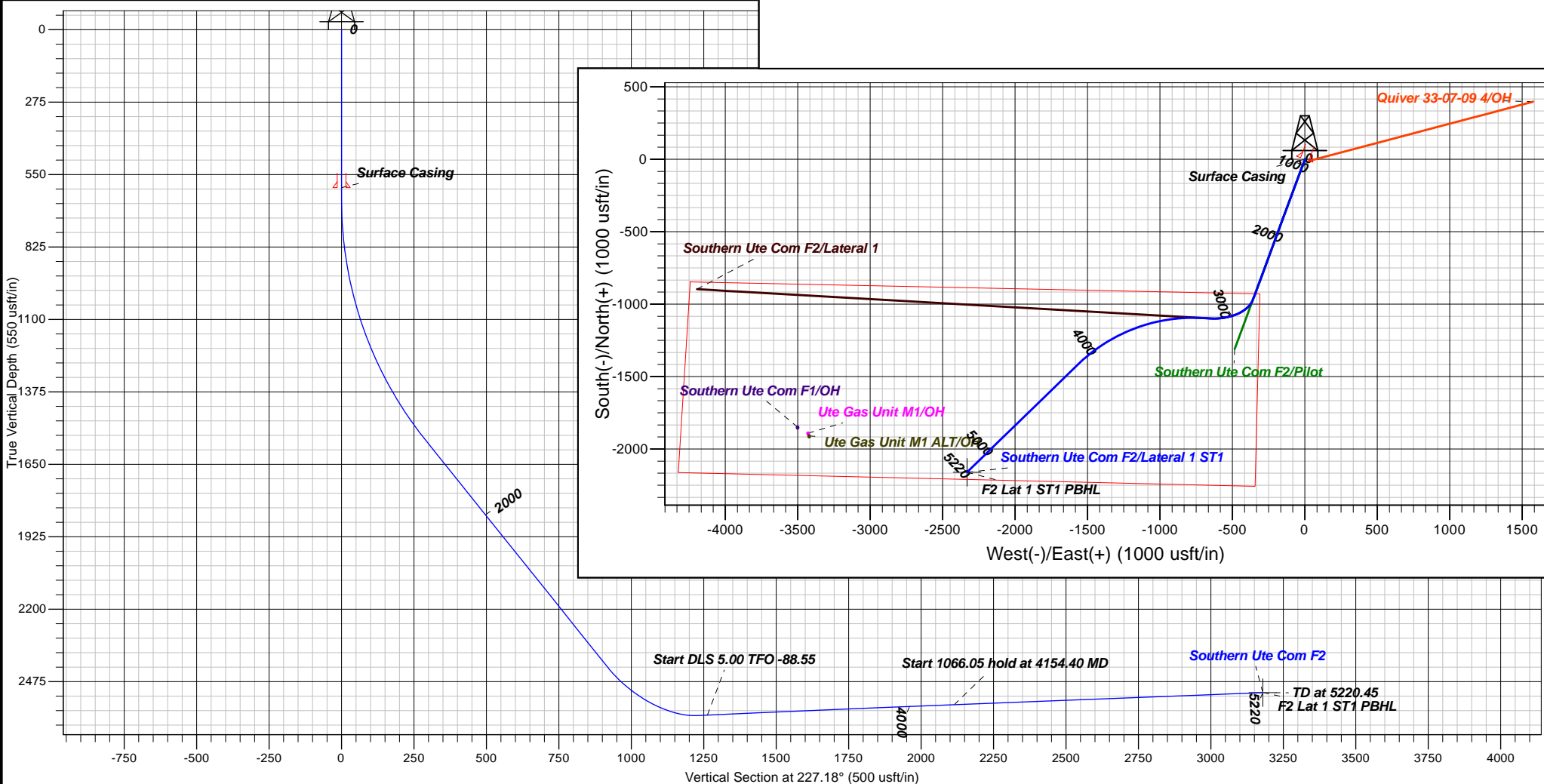
Created By: Janie Collins Date: 12:22, December 07 2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
F2 Lat 1 ST1 PBHL	2517.00	-2160.47	-2331.68	1167113.91	2378242.89	37.1061273	-107.6321660

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
3205.94	92.05	273.27	2602.22	-1096.12	-705.38	0.00	0.00	1262.41		
4154.40	92.45	225.80	2562.65	-1418.00	-1568.05	5.00	-88.55	2113.97		
5220.45	92.45	225.80	2517.00	-2160.47	-2331.68	0.00	0.00	3178.74	F2 Lat 1 ST1 PBHL	





B.P.

**La Plata County, CO NAD83
Southern Ute Com F2 Pad
Southern Ute Com F2**

Lateral 1 ST1

Plan: Plan #1

Standard Planning Report

07 December, 2015





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Southern Ute Com F2
Company:	B.P.	TVD Reference:	GL 6458' & RKB 11' @ 6469.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6458' & RKB 11' @ 6469.00usft (Aztec 507)
Site:	Southern Ute Com F2 Pad	North Reference:	Grid
Well:	Southern Ute Com F2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan #1		

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 Com F2 Pad			
Site Position:		Northing:	1,169,274.38 usft	Latitude:	37.1122051
From:	Map	Easting:	2,380,574.57 usft	Longitude:	-107.6243414
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.30 °

Well	Southern Ute Com F2					
Well Position	+N/-S	0.00 usft	Northing:	1,169,274.38 usft	Latitude:	37.1122051
	+E/-W	0.00 usft	Easting:	2,380,574.57 usft	Longitude:	-107.6243414
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,458.00 usft

Wellbore	Lateral 1 ST1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/7/2015	9.28	63.68	50,281

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,205.94
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	227.18

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
3,205.94	92.05	273.27	2,602.22	-1,096.12	-705.38	0.00	0.00	0.00	0.00	
4,154.40	92.45	225.80	2,562.65	-1,418.00	-1,568.05	5.00	0.04	-5.00	-88.55	
5,220.45	92.45	225.80	2,517.00	-2,160.47	-2,331.68	0.00	0.00	0.00	0.00	F2 Lat 1 ST1 PBHL



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Southern Ute Com F2
Company:	B.P.	TVD Reference:	GL 6458' & RKB 11' @ 6469.00usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6458' & RKB 11' @ 6469.00usft (Aztec 507)
Site:	Southern Ute Com F2 Pad	North Reference:	Grid
Well:	Southern Ute Com F2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan #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)
3,205.94	92.05	273.27	2,602.22	-1,096.12	-705.38	1,262.41	0.00	0.00	0.00
3,300.00	92.16	268.56	2,598.75	-1,094.63	-799.34	1,330.31	5.00	0.12	-5.00
3,400.00	92.27	263.56	2,594.89	-1,101.49	-899.00	1,408.08	5.00	0.10	-5.00
3,500.00	92.35	258.55	2,590.86	-1,117.02	-997.67	1,491.01	5.00	0.09	-5.00
3,600.00	92.42	253.55	2,586.69	-1,141.10	-1,094.61	1,578.48	5.00	0.07	-5.00
3,700.00	92.47	248.55	2,582.42	-1,173.53	-1,189.07	1,669.82	5.00	0.05	-5.00
3,800.00	92.50	243.54	2,578.09	-1,214.09	-1,280.34	1,764.33	5.00	0.03	-5.00
3,900.00	92.51	238.54	2,573.71	-1,262.44	-1,367.72	1,861.30	5.00	0.01	-5.00
4,000.00	92.50	233.53	2,569.34	-1,318.24	-1,450.55	1,959.98	5.00	-0.01	-5.00
4,100.00	92.48	228.53	2,564.99	-1,381.06	-1,528.20	2,059.63	5.00	-0.03	-5.00
4,154.40	92.45	225.80	2,562.65	-1,418.00	-1,568.05	2,113.97	5.00	-0.04	-5.00
4,200.00	92.45	225.80	2,560.70	-1,449.76	-1,600.72	2,159.52	0.00	0.00	0.00
4,300.00	92.45	225.80	2,556.41	-1,519.41	-1,672.35	2,259.40	0.00	0.00	0.00
4,400.00	92.45	225.80	2,552.13	-1,589.06	-1,743.98	2,359.28	0.00	0.00	0.00
4,500.00	92.45	225.80	2,547.85	-1,658.70	-1,815.61	2,459.15	0.00	0.00	0.00
4,600.00	92.45	225.80	2,543.57	-1,728.35	-1,887.24	2,559.03	0.00	0.00	0.00
4,700.00	92.45	225.80	2,539.29	-1,797.99	-1,958.87	2,658.91	0.00	0.00	0.00
4,800.00	92.45	225.80	2,535.00	-1,867.64	-2,030.51	2,758.79	0.00	0.00	0.00
4,900.00	92.45	225.80	2,530.72	-1,937.29	-2,102.14	2,858.67	0.00	0.00	0.00
5,000.00	92.45	225.80	2,526.44	-2,006.93	-2,173.77	2,958.55	0.00	0.00	0.00
5,100.00	92.45	225.80	2,522.16	-2,076.58	-2,245.40	3,058.43	0.00	0.00	0.00
5,200.00	92.45	225.80	2,517.88	-2,146.23	-2,317.03	3,158.31	0.00	0.00	0.00
5,220.45	92.45	225.80	2,517.00	-2,160.47	-2,331.68	3,178.74	0.00	0.00	0.00
F2 Lat 1 ST1 PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
F2 Lat 1 ST1 PBHL - plan hits target center - Point	0.00	360.00	2,517.00	-2,160.47	-2,331.68	1,167,113.91	2,378,242.89	37.1061273	-107.6321661

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
600.00	600.00	Surface Casing	9.62	12.25