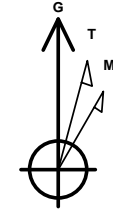




Company: B.P.
Project: La Plata County, CO NAD83
Site: Southern Ute Com F2 Pad
Well: Southern Ute Com F2
Wellbore: Lateral 1
Design: Plan #1

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)

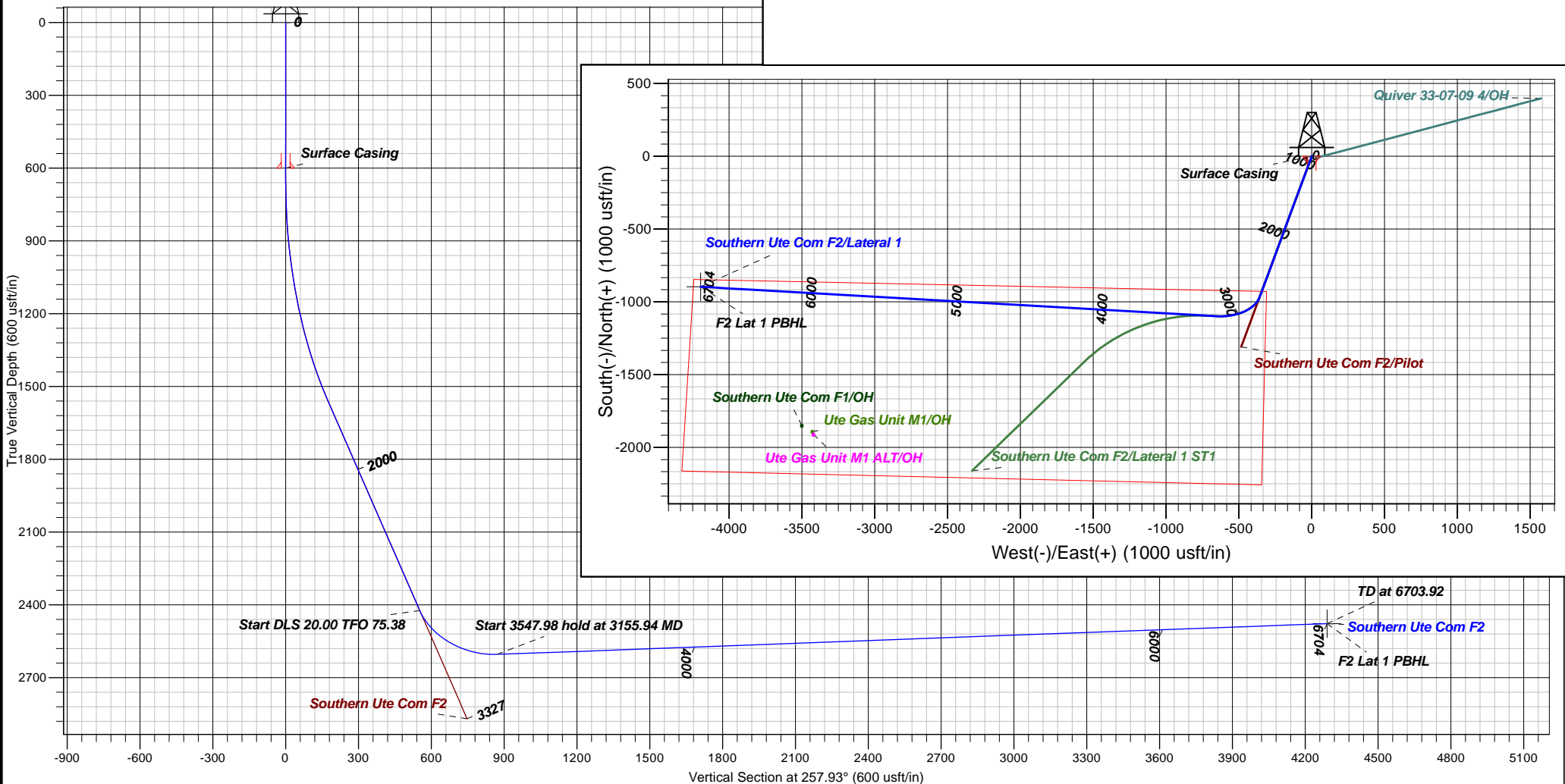
Created By: Janie Collins Date: 12:13, December 07 2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
F2 Lat 1 PBHL	2477.00	-897.02	-4195.44	1168377.36	2376379.13	37.1094793	-107.6386543

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
2751.26	39.26	200.30	2423.51	-967.83	-357.99	0.00	0.00	552.44		
3155.94	92.05	273.27	2604.00	-1098.97	-655.49	20.00	75.38	870.78		
6703.92	92.05	273.27	2477.00	-897.02	-4195.44	0.00	0.00	4290.26	F2 Lat 1 PBHL	





B.P.

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

Lateral 1

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		
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				
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:	2,751.26
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	257.93	

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
2,751.26	39.26	200.30	2,423.51	-967.83	-357.99	0.00	0.00	0.00	0.00	
3,155.94	92.05	273.27	2,604.01	-1,098.97	-655.49	20.00	13.05	18.03	75.38	
6,703.92	92.05	273.27	2,477.00	-897.02	-4,195.44	0.00	0.00	0.00	0.00	F2 Lat 1 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		
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)
2,751.26	39.26	200.30	2,423.51	-967.83	-357.99	552.44	0.00	0.00	0.00
2,800.00	42.60	214.31	2,460.41	-995.98	-372.68	572.68	20.00	6.86	28.74
2,900.00	53.63	236.90	2,527.55	-1,046.44	-426.02	635.40	20.00	11.03	22.60
3,000.00	67.77	253.22	2,576.61	-1,082.15	-504.86	719.96	20.00	14.14	16.32
3,100.00	83.22	266.39	2,601.69	-1,098.81	-599.69	816.18	20.00	15.45	13.17
3,155.94	92.05	273.27	2,604.01	-1,098.97	-655.49	870.78	20.00	15.79	12.29
3,200.00	92.05	273.27	2,602.43	-1,096.46	-699.45	913.25	0.00	0.00	0.00
3,300.00	92.05	273.27	2,598.85	-1,090.77	-799.23	1,009.62	0.00	0.00	0.00
3,400.00	92.05	273.27	2,595.27	-1,085.08	-899.00	1,106.00	0.00	0.00	0.00
3,500.00	92.05	273.27	2,591.69	-1,079.38	-998.78	1,202.38	0.00	0.00	0.00
3,600.00	92.05	273.27	2,588.11	-1,073.69	-1,098.55	1,298.76	0.00	0.00	0.00
3,700.00	92.05	273.27	2,584.53	-1,068.00	-1,198.32	1,395.14	0.00	0.00	0.00
3,800.00	92.05	273.27	2,580.95	-1,062.31	-1,298.10	1,491.52	0.00	0.00	0.00
3,900.00	92.05	273.27	2,577.37	-1,056.62	-1,397.87	1,587.89	0.00	0.00	0.00
4,000.00	92.05	273.27	2,573.79	-1,050.92	-1,497.64	1,684.27	0.00	0.00	0.00
4,100.00	92.05	273.27	2,570.21	-1,045.23	-1,597.42	1,780.65	0.00	0.00	0.00
4,200.00	92.05	273.27	2,566.63	-1,039.54	-1,697.19	1,877.03	0.00	0.00	0.00
4,300.00	92.05	273.27	2,563.05	-1,033.85	-1,796.97	1,973.41	0.00	0.00	0.00
4,400.00	92.05	273.27	2,559.47	-1,028.16	-1,896.74	2,069.79	0.00	0.00	0.00
4,500.00	92.05	273.27	2,555.89	-1,022.47	-1,996.51	2,166.17	0.00	0.00	0.00
4,600.00	92.05	273.27	2,552.31	-1,016.77	-2,096.29	2,262.54	0.00	0.00	0.00
4,700.00	92.05	273.27	2,548.73	-1,011.08	-2,196.06	2,358.92	0.00	0.00	0.00
4,800.00	92.05	273.27	2,545.15	-1,005.39	-2,295.83	2,455.30	0.00	0.00	0.00
4,900.00	92.05	273.27	2,541.57	-999.70	-2,395.61	2,551.68	0.00	0.00	0.00
5,000.00	92.05	273.27	2,537.99	-994.01	-2,495.38	2,648.06	0.00	0.00	0.00
5,100.00	92.05	273.27	2,534.41	-988.31	-2,595.15	2,744.44	0.00	0.00	0.00
5,200.00	92.05	273.27	2,530.83	-982.62	-2,694.93	2,840.81	0.00	0.00	0.00
5,300.00	92.05	273.27	2,527.26	-976.93	-2,794.70	2,937.19	0.00	0.00	0.00
5,400.00	92.05	273.27	2,523.68	-971.24	-2,894.48	3,033.57	0.00	0.00	0.00
5,500.00	92.05	273.27	2,520.10	-965.55	-2,994.25	3,129.95	0.00	0.00	0.00
5,600.00	92.05	273.27	2,516.52	-959.85	-3,094.02	3,226.33	0.00	0.00	0.00
5,700.00	92.05	273.27	2,512.94	-954.16	-3,193.80	3,322.71	0.00	0.00	0.00
5,800.00	92.05	273.27	2,509.36	-948.47	-3,293.57	3,419.08	0.00	0.00	0.00
5,900.00	92.05	273.27	2,505.78	-942.78	-3,393.34	3,515.46	0.00	0.00	0.00
6,000.00	92.05	273.27	2,502.20	-937.09	-3,493.12	3,611.84	0.00	0.00	0.00
6,100.00	92.05	273.27	2,498.62	-931.39	-3,592.89	3,708.22	0.00	0.00	0.00
6,200.00	92.05	273.27	2,495.04	-925.70	-3,692.67	3,804.60	0.00	0.00	0.00
6,300.00	92.05	273.27	2,491.46	-920.01	-3,792.44	3,900.98	0.00	0.00	0.00
6,400.00	92.05	273.27	2,487.88	-914.32	-3,892.21	3,997.35	0.00	0.00	0.00
6,500.00	92.05	273.27	2,484.30	-908.63	-3,991.99	4,093.73	0.00	0.00	0.00
6,600.00	92.05	273.27	2,480.72	-902.93	-4,091.76	4,190.11	0.00	0.00	0.00
6,700.00	92.05	273.27	2,477.14	-897.24	-4,191.53	4,286.49	0.00	0.00	0.00
6,703.92	92.05	273.27	2,477.00	-897.02	-4,195.44	4,290.26	0.00	0.00	0.00
F2 Lat 1 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		
Design:	Plan #1		

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									
F2 Lat 1 PBHL	0.00	0.00	2,477.00	-897.02	-4,195.44	1,168,377.36	2,376,379.13	37.1094793	-107.6386543
- plan hits target center									
- Point									

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