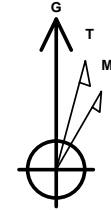




Company: B.P.  
Project: La Plata County, CO NAD83  
Site: Southern Ute Tribal E2 Pad  
Well: Southern Ute Tribal E2  
Wellbore: Lateral 1  
Design: Plan #2

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: 1.29°  
Magnetic North: 10.58°

Magnetic Field  
Strength: 50287.6snT  
Dip Angle: 63.68°  
Date: 11/30/2015  
Model: HDGM

WELL DETAILS: Southern Ute Tribal E2

GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1164754.12	2384252.12	37.1000229	-107.6113830

Plan: Plan #2 (Southern Ute Tribal E2/Lateral 1)

Created By: Janie Collins Date: 14:00, August 09 2016

DESIGN TARGET DETAILS

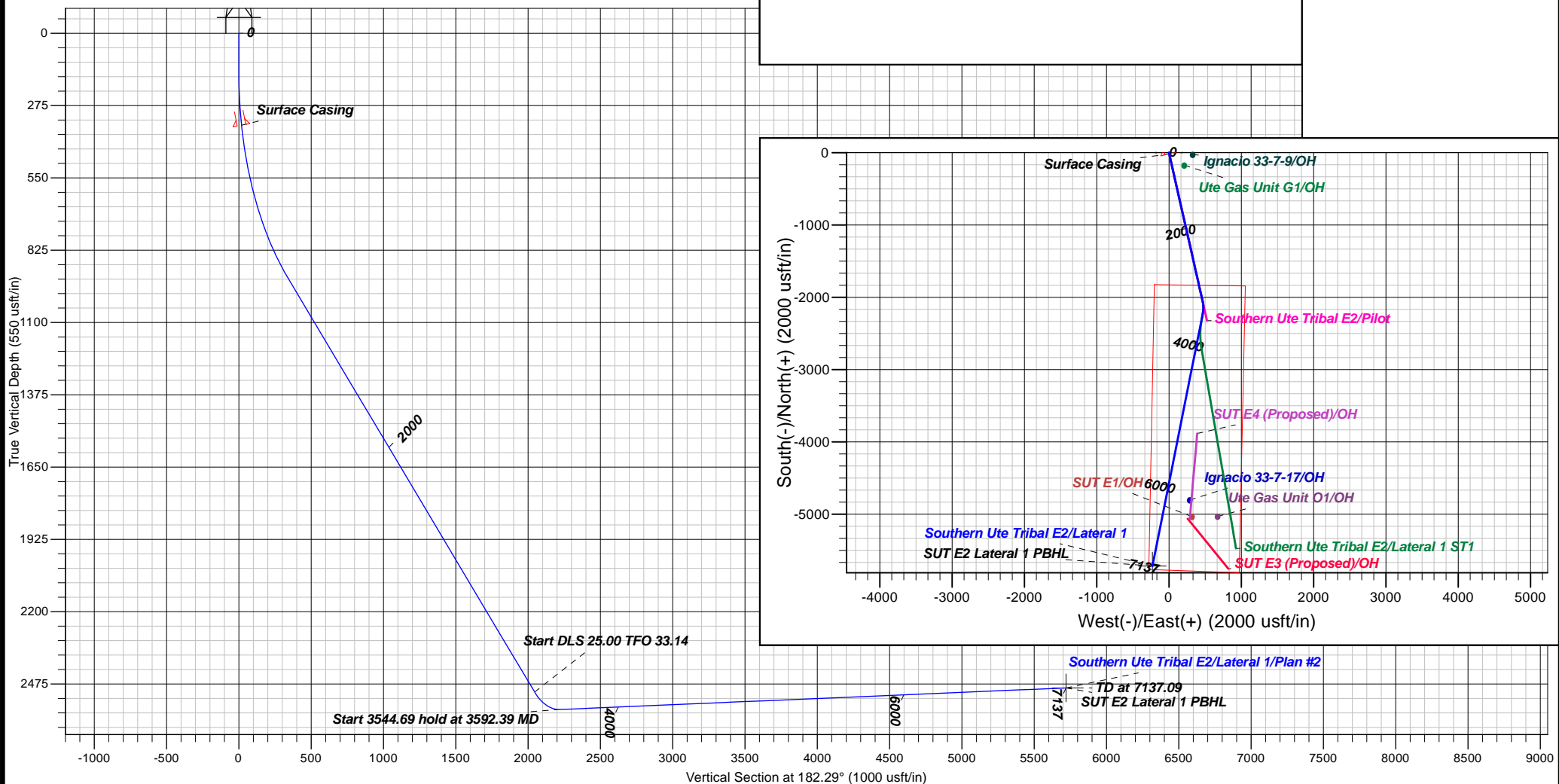
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SUT E2 Lateral 1 PBHL	2490.00	-5716.36	-228.52	1159037.76	2384023.60	37.0843134	-107.6117233

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
3399.37	48.27	167.22	2506.05	-2065.90	468.69	0.00	0.00	2045.53	
3592.39	91.33	191.29	2572.00	-2241.25	465.54	25.00	33.14	2220.86	
7137.09	91.33	191.29	2490.00	-5716.36	-228.52	0.00	0.00	5720.93	SUT E2 Lateral 1 PBHL

FORMATION TOP DETAILS

No formation data is available





**B.P.**

La Plata County, CO NAD83  
Southern Ute Tribal E2 Pad  
Southern Ute Tribal E2

Lateral 1

Plan: Plan #2

## **Standard Planning Report**

09 August, 2016





<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Southern Ute Tribal E2
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)
<b>Site:</b>	Southern Ute Tribal E2 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Southern Ute Tribal E2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1		
<b>Design:</b>	Plan #2		

<b>Project</b>	La Plata County, CO NAD83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Southern Zone		

Site		Southern Ute Tribal E2 Pad			
Site Position:		Northing:	1,164,754.12 usft	Latitude:	37.1000229
From:	Map	Easting:	2,384,252.12 usft	Longitude:	-107.6113830
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.30 °

Well	Southern Ute Tribal E2					
Well Position	+N/-S	0.00 usft	Northing:	1,164,754.12 usft	Latitude:	37.1000229
	+E/-W	0.00 usft	Easting:	2,384,252.12 usft	Longitude:	-107.6113830
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,443.00 usft

<b>Wellbore</b>	Lateral 1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	11/30/2015	9.28	63.68	50,288

<b>Design</b>	Plan #2				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN		<b>Tie On Depth:</b>	3,399.37
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	182.29	

<b>Plan Sections</b>										
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
3,399.37	48.27	167.22	2,506.05	-2,065.90	468.69	0.00	0.00	0.00	0.00	
3,592.39	91.33	191.29	2,572.00	-2,241.25	465.54	25.00	22.30	12.47	33.14	
7,137.09	91.33	191.29	2,490.00	-5,716.36	-228.52	0.00	0.00	0.00	0.00	SUT E2 Lateral 1 PBt



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Southern Ute Tribal E2
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)
<b>Site:</b>	Southern Ute Tribal E2 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Southern Ute Tribal E2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1		
<b>Design:</b>	Plan #2		

## 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)
3,399.37	48.27	167.22	2,506.05	-2,065.90	468.69	2,045.53	0.00	0.00	0.00
3,400.00	48.40	167.33	2,506.47	-2,066.36	468.80	2,045.98	25.00	20.94	18.27
3,500.00	70.32	181.51	2,557.31	-2,151.25	475.87	2,130.53	25.00	21.91	14.17
3,592.39	91.33	191.29	2,572.00	-2,241.25	465.54	2,220.86	25.00	22.74	10.60
3,600.00	91.33	191.29	2,571.82	-2,248.71	464.05	2,228.37	0.00	0.00	0.00
3,700.00	91.33	191.29	2,569.51	-2,346.74	444.47	2,327.11	0.00	0.00	0.00
3,800.00	91.33	191.29	2,567.20	-2,444.78	424.89	2,425.86	0.00	0.00	0.00
3,900.00	91.33	191.29	2,564.88	-2,542.82	405.31	2,524.60	0.00	0.00	0.00
4,000.00	91.33	191.29	2,562.57	-2,640.85	385.73	2,623.34	0.00	0.00	0.00
4,100.00	91.33	191.29	2,560.26	-2,738.89	366.15	2,722.08	0.00	0.00	0.00
4,200.00	91.33	191.29	2,557.94	-2,836.93	346.57	2,820.82	0.00	0.00	0.00
4,300.00	91.33	191.29	2,555.63	-2,934.96	326.99	2,919.56	0.00	0.00	0.00
4,400.00	91.33	191.29	2,553.32	-3,033.00	307.41	3,018.30	0.00	0.00	0.00
4,500.00	91.33	191.29	2,551.00	-3,131.04	287.83	3,117.04	0.00	0.00	0.00
4,600.00	91.33	191.29	2,548.69	-3,229.08	268.25	3,215.78	0.00	0.00	0.00
4,700.00	91.33	191.29	2,546.38	-3,327.11	248.67	3,314.52	0.00	0.00	0.00
4,800.00	91.33	191.29	2,544.06	-3,425.15	229.09	3,413.26	0.00	0.00	0.00
4,900.00	91.33	191.29	2,541.75	-3,523.19	209.51	3,512.01	0.00	0.00	0.00
5,000.00	91.33	191.29	2,539.44	-3,621.22	189.93	3,610.75	0.00	0.00	0.00
5,100.00	91.33	191.29	2,537.12	-3,719.26	170.35	3,709.49	0.00	0.00	0.00
5,200.00	91.33	191.29	2,534.81	-3,817.30	150.77	3,808.23	0.00	0.00	0.00
5,300.00	91.33	191.29	2,532.50	-3,915.33	131.19	3,906.97	0.00	0.00	0.00
5,400.00	91.33	191.29	2,530.18	-4,013.37	111.61	4,005.71	0.00	0.00	0.00
5,500.00	91.33	191.29	2,527.87	-4,111.41	92.03	4,104.45	0.00	0.00	0.00
5,600.00	91.33	191.29	2,525.56	-4,209.45	72.45	4,203.19	0.00	0.00	0.00
5,700.00	91.33	191.29	2,523.24	-4,307.48	52.87	4,301.93	0.00	0.00	0.00
5,800.00	91.33	191.29	2,520.93	-4,405.52	33.29	4,400.67	0.00	0.00	0.00
5,900.00	91.33	191.29	2,518.62	-4,503.56	13.71	4,499.42	0.00	0.00	0.00
6,000.00	91.33	191.29	2,516.30	-4,601.59	-5.87	4,598.16	0.00	0.00	0.00
6,100.00	91.33	191.29	2,513.99	-4,699.63	-25.46	4,696.90	0.00	0.00	0.00
6,200.00	91.33	191.29	2,511.68	-4,797.67	-45.04	4,795.64	0.00	0.00	0.00
6,300.00	91.33	191.29	2,509.36	-4,895.70	-64.62	4,894.38	0.00	0.00	0.00
6,400.00	91.33	191.29	2,507.05	-4,993.74	-84.20	4,993.12	0.00	0.00	0.00
6,500.00	91.33	191.29	2,504.74	-5,091.78	-103.78	5,091.86	0.00	0.00	0.00
6,600.00	91.33	191.29	2,502.42	-5,189.82	-123.36	5,190.60	0.00	0.00	0.00
6,700.00	91.33	191.29	2,500.11	-5,287.85	-142.94	5,289.34	0.00	0.00	0.00
6,800.00	91.33	191.29	2,497.80	-5,385.89	-162.52	5,388.08	0.00	0.00	0.00
6,900.00	91.33	191.29	2,495.48	-5,483.93	-182.10	5,486.82	0.00	0.00	0.00
7,000.00	91.33	191.29	2,493.17	-5,581.96	-201.68	5,585.57	0.00	0.00	0.00
7,100.00	91.33	191.29	2,490.86	-5,680.00	-221.26	5,684.31	0.00	0.00	0.00
7,137.09	91.33	191.29	2,490.00	-5,716.36	-228.52	5,720.93	0.00	0.00	0.00
SUT E2 Lateral 1 PBHL									



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Southern Ute Tribal E2
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6443' & RKB 11' @ 6454.00usft (Aztec 507)
<b>Site:</b>	Southern Ute Tribal E2 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Southern Ute Tribal E2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1		
<b>Design:</b>	Plan #2		

## 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 E2 Lateral 1 PBHL	0.00	360.00	2,490.00	-5,716.36	-228.52	1,159,037.76	2,384,023.60	37.0843134	-107.6117233
- plan hits target center									
- Point									

## Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
351.25	350.00	Surface Casing	9.62	12.25