



Scientific Drilling
Directional Drilling Operations

Samson Resources Company

**La Plata County, C.O.
SEC 28-T33N-R8W
Southern Ute 33-8-28 #5**

Original Hole

Design: As Drilled

Standard Survey Report

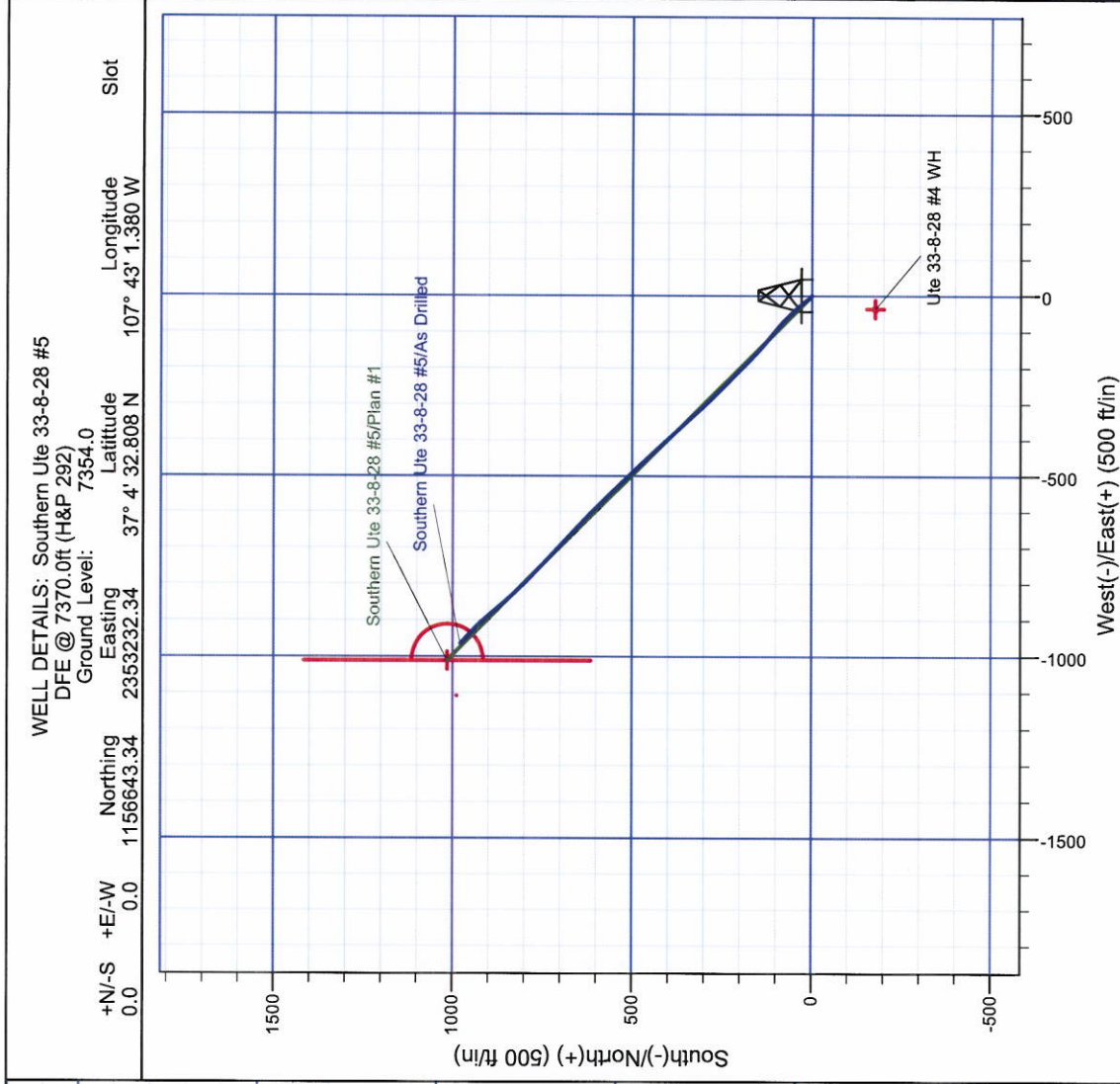
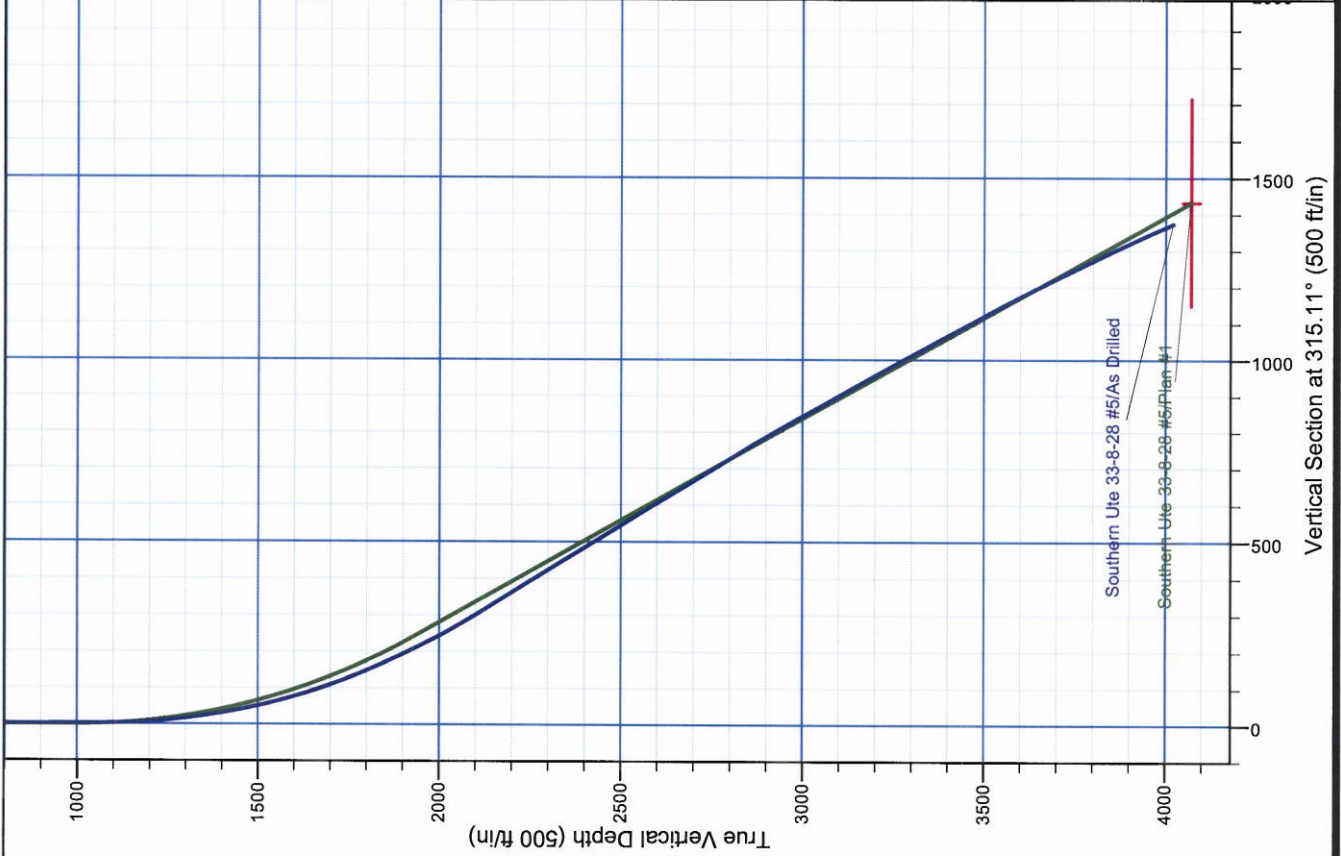
25 June, 2010





Scientific Drilling
Directional Drilling Operations

Project: La Plata County, C.O.
Site: SEC 28-T33N-R8W
Well: Southern Ute 33-8-28 #5
Wellbore: Original Hole
Design: As Drilled



WELL DETAILS: Southern Ute 33-8-28 #5

DFE @ 7370.0ft (H&P 292)

Ground Level: 7354.0

Slot

Longitude

Latitude

Easting

Northing

+N/-S +E/-W

0.0 0.0

1156643.34

2353232.34

37° 43' 32.808 N

107° 43' 1.380 W

G T M A
Azimuths to Grid North
True North: 1.36°
Magnetic North: 11.39°
Magnetic Field
Strength: 51058.8snT
Dip Angle: 63.80°
Date: 6/7/2010
Model: IGRF200510

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Southern Ute 33-8-28 #5, Grid North

Vertical (TVD) Reference: DFE @ 7370.0ft (H&P 292)

Section (VS) Reference: Slot - (0.0N, 0.0E)

Measured Depth Reference: DFE @ 7370.0ft (H&P 292)

Calculation Method: Minimum Curvature

Company:	Samson Resources Company	Local Co-ordinate Reference:	Well Southern Ute 33-8-28 #5
Project:	La Plata County, C.O.	TVD Reference:	DFE @ 7370.0ft (H&P 292)
Site:	SEC 28-T33N-R8W	MD Reference:	DFE @ 7370.0ft (H&P 292)
Well:	Southern Ute 33-8-28 #5	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM 5000.1 Single User Db

Project	La Plata County, C.O.		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		Using geodetic scale factor

Site		SEC 28-T33N-R8W			
Site Position:		Northing:	1,155,788.73 usft	Latitude:	37° 4' 23.700 N
From:	Lat/Long	Easting:	2,350,422.03 usft	Longitude:	107° 43' 35.796 W
Position Uncertainty:	3.5 ft	Slot Radius:	6-1/8 "	Grid Convergence:	-1.37 °

Well	Southern Ute 33-8-28 #5, FC Slant Well					
Well Position	+N/-S	0.0 ft	Northing:	1,156,643.33 usft	Latitude:	37° 4' 32.808 N
	+E/-W	0.0 ft	Easting:	2,353,232.35 usft	Longitude:	107° 43' 1.380 W
Position Uncertainty		3.5 ft	Wellhead Elevation:	ft	Ground Level:	7,354.0 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/7/2010	10.03	63.80	51,059

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	315.11	

Survey Program	Date 6/25/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
1,012.0	4,359.0	SDI MWD (Original Hole)	MWD SDI	MWD - Standard ver 1.0.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1,012.0	0.28	336.18	1,012.0	2.3	-1.0	2.3	0.03	0.03	0.00
1,076.0	0.80	275.02	1,076.0	2.4	-1.5	2.8	1.11	0.81	-95.56
1,139.0	1.94	293.92	1,139.0	2.9	-2.9	4.1	1.92	1.81	30.00
1,203.0	3.87	317.94	1,202.9	5.0	-5.4	7.3	3.50	3.02	37.53
1,267.0	6.05	325.13	1,266.6	9.3	-8.7	12.8	3.54	3.41	11.23
1,331.0	8.34	323.04	1,330.1	15.8	-13.5	20.7	3.60	3.58	-3.27
1,394.0	9.36	320.04	1,392.4	23.4	-19.5	30.3	1.78	1.62	-4.76
1,458.0	11.32	321.86	1,455.3	32.3	-26.7	41.7	3.10	3.06	2.84
1,522.0	13.58	317.74	1,517.8	42.8	-35.6	55.5	3.79	3.53	-6.44

Company: Samson Resources Company
Project: La Plata County, C.O.
Site: SEC 28-T33N-R8W
Well: Southern Ute 33-8-28 #5
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference: Well Southern Ute 33-8-28 #5
TVD Reference: DFE @ 7370.0ft (H&P 292)
MD Reference: DFE @ 7370.0ft (H&P 292)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,586.0	15.56	316.93	1,579.8	54.6	-46.6	71.6	3.11	3.09	-1.27
1,650.0	17.34	315.19	1,641.2	67.7	-59.1	89.7	2.89	2.78	-2.72
1,714.0	19.61	312.52	1,701.9	81.7	-73.8	110.0	3.78	3.55	-4.17
1,777.0	21.91	310.28	1,760.8	96.5	-90.5	132.2	3.86	3.65	-3.56
1,841.0	23.82	308.70	1,819.7	112.3	-109.7	157.0	3.13	2.98	-2.47
1,905.0	25.15	310.52	1,878.0	129.2	-130.2	183.4	2.39	2.08	2.84
1,967.0	26.24	312.33	1,933.8	147.0	-150.3	210.2	2.17	1.76	2.92
2,031.0	27.79	313.89	1,990.9	166.8	-171.5	239.3	2.66	2.42	2.44
2,095.0	29.61	314.54	2,047.0	188.3	-193.6	270.0	2.89	2.84	1.02
2,159.0	31.41	314.70	2,102.1	211.1	-216.7	302.5	2.82	2.81	0.25
2,223.0	31.66	314.63	2,156.7	234.6	-240.5	336.0	0.39	0.39	-0.11
2,285.0	31.69	314.75	2,209.4	257.5	-263.6	368.5	0.11	0.05	0.19
2,349.0	31.41	315.49	2,264.0	281.3	-287.3	402.0	0.75	-0.44	1.16
2,412.0	31.24	317.98	2,317.8	305.1	-309.7	434.7	2.07	-0.27	3.95
2,476.0	30.90	317.68	2,372.6	329.6	-331.9	467.7	0.58	-0.53	-0.47
2,540.0	30.99	317.37	2,427.5	353.9	-354.1	500.6	0.29	0.14	-0.48
2,604.0	31.35	317.83	2,482.3	378.3	-376.4	533.7	0.67	0.56	0.72
2,668.0	31.98	316.32	2,536.7	402.9	-399.3	567.3	1.58	0.98	-2.36
2,731.0	31.19	317.62	2,590.4	427.0	-421.8	600.2	1.66	-1.25	2.06
2,795.0	30.10	316.31	2,645.5	450.9	-444.1	632.8	2.00	-1.70	-2.05
2,859.0	30.87	317.86	2,700.6	474.7	-466.2	665.3	1.72	1.20	2.42
2,923.0	31.92	316.22	2,755.3	499.0	-488.9	698.6	2.11	1.64	-2.56
2,986.0	31.74	315.86	2,808.8	523.0	-512.0	731.8	0.42	-0.29	-0.57
3,049.0	30.92	315.68	2,862.6	546.4	-534.8	764.6	1.31	-1.30	-0.29
3,113.0	29.74	315.33	2,917.8	569.5	-557.5	796.9	1.86	-1.84	-0.55
3,177.0	29.45	315.03	2,973.5	591.9	-579.8	828.5	0.51	-0.45	-0.47
3,240.0	29.25	314.06	3,028.4	613.6	-601.8	859.4	0.82	-0.32	-1.54
3,304.0	29.78	313.23	3,084.1	635.3	-624.6	890.9	1.05	0.83	-1.30
3,368.0	29.94	313.76	3,139.6	657.3	-647.7	922.8	0.48	0.25	0.83
3,432.0	28.96	312.57	3,195.3	678.8	-670.6	954.2	1.78	-1.53	-1.86
3,496.0	28.42	312.98	3,251.5	699.7	-693.2	984.9	0.90	-0.84	0.64
3,559.0	29.41	313.69	3,306.6	720.6	-715.4	1,015.4	1.66	1.57	1.13
3,623.0	28.67	312.71	3,362.6	741.8	-738.0	1,046.4	1.37	-1.16	-1.53
3,686.0	27.90	313.51	3,418.0	762.2	-759.8	1,076.2	1.36	-1.22	1.27
3,750.0	28.09	315.02	3,474.6	783.2	-781.3	1,106.3	1.15	0.30	2.36
3,814.0	28.52	315.92	3,530.9	804.8	-802.6	1,136.6	0.95	0.67	1.41
3,878.0	28.15	316.97	3,587.2	826.8	-823.5	1,167.0	0.97	-0.58	1.64
3,941.0	26.35	317.65	3,643.2	848.0	-843.1	1,195.8	2.90	-2.86	1.08
4,005.0	25.81	320.57	3,700.7	869.3	-861.5	1,223.9	2.18	-0.84	4.56
4,069.0	25.78	320.11	3,758.4	890.7	-879.3	1,251.6	0.32	-0.05	-0.72
4,133.0	26.21	318.80	3,815.9	912.1	-897.5	1,279.6	1.12	0.67	-2.05
4,197.0	25.35	315.48	3,873.5	932.5	-916.4	1,307.4	2.63	-1.34	-5.19
4,260.0	24.86	313.97	3,930.6	951.3	-935.4	1,334.1	1.28	-0.78	-2.40
4,305.0	24.15	313.85	3,971.5	964.2	-948.9	1,352.8	1.58	-1.58	-0.27

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Well:	Southern Ute 33-8-28 #5	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,359.0	23.30	313.71	4,020.9	979.2	-964.5	1,374.5	1.58	-1.57	-0.26

Design Targets
Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
Ute 33-8-28 #4 WH	0.00	0.00	0.0	-177.2	-36.1	1,156,466.17	2,353,196.25	37° 4' 31.048 N	107° 43' 1.773 W
- actual wellpath misses target center by 180.8ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Circle (radius 5.0)									
S.U. 33-8-28 #5 BHL	0.00	360.00	4,070.0	1,015.0	-1,011.0	1,157,658.37	2,352,221.32	37° 4' 42.603 N	107° 43' 14.150 W
- actual wellpath misses target center by 76.4ft at 4359.0ft MD (4020.9 TVD, 979.2 N, -964.5 E)									
- Circle (radius 100.0)									
S.U. 33-8-28 #5 West	0.00	360.00	4,070.0	1,015.0	-1,011.0	1,157,658.37	2,352,221.32	37° 4' 42.603 N	107° 43' 14.150 W
- actual wellpath misses target center by 76.4ft at 4359.0ft MD (4020.9 TVD, 979.2 N, -964.5 E)									
- Polygon									
Point 1			4,070.0	400.0	0.0	1,158,058.38	2,352,221.31		
Point 2			4,070.0	-400.0	0.0	1,157,258.36	2,352,221.31		

Checked By: _____	Approved By: _____	Date: _____
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