



Scientific Drilling

Samson Resources Company

La Plata County, C.O.

SEC 28-T33N-R8W

Southern Ute 33-8-28 #6A

Original Hole

Design: Original Hole

Standard Survey Report

12 May, 2011

 **Samson**

Company:	Samson Resources Company	Local Co-ordinate Reference:	Well, Southern Ute 33-8-28 #6A
Project:	La Plata County, C.O.	TVD Reference:	AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Site:	SEC 28-T33N-R8W	MD Reference:	AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Well:	Southern Ute 33-8-28 #6A	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Rockies Compass Server

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:	3.50 usft	Slot Radius:	6-1/8 "	Grid Convergence:	-1.37 °

Well	Southern Ute 33-8-28 #6A, FC Slant Well					
Well Position	+N/-S	0.00 usft	Northing:	1,157,882.11 usft	Latitude:	37° 4' 45.012 N
	+E/-W	0.00 usft	Easting:	2,353,060.40 usft	Longitude:	107° 43' 3.864 W
Position Uncertainty		3.50 usft	Wellhead Elevation:	usft	Ground Level:	7,379.99 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2011-01-17	9.95	63.79	51,002

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	46.15	

Survey Program	Date	2011-05-12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
587.00	4,220.00	Survey #1 (Original Hole)	MWD SDI	MWD - Standard ver 1.0.1	

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
587.00	2.76	159.43	586.77	-13.23	4.97	-5.59	0.47	0.47	0.00
First SDI MWD Survey									
618.00	3.08	156.20	617.73	-14.70	5.56	-6.17	1.16	1.03	-10.42
648.00	2.19	158.49	647.70	-15.97	6.10	-6.66	2.99	-2.97	7.63
679.00	1.48	109.36	678.69	-16.65	6.70	-6.71	5.34	-2.29	-158.48
710.00	2.51	62.82	709.67	-16.47	7.68	-5.88	5.93	3.32	-150.13
741.00	4.15	45.50	740.61	-15.38	9.08	-4.10	6.15	5.29	-55.87
771.00	5.17	42.16	770.52	-13.61	10.76	-1.67	3.52	3.40	-11.13
802.00	6.43	40.36	801.36	-11.25	12.82	1.45	4.11	4.06	-5.81
833.00	7.52	39.46	832.13	-8.37	15.24	5.19	3.53	3.52	-2.90

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Site:	SEC 28-T33N-R8W	MD Reference:	AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Well:	Southern Ute 33-8-28 #6A	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Rockies Compass Server

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)
864.00	8.12	42.12	862.84	-5.18	17.99	9.39	2.26	1.94	8.58
895.00	9.22	42.79	893.48	-1.73	21.15	14.05	3.56	3.55	2.16
927.00	10.21	46.51	925.02	2.10	24.95	19.45	3.66	3.09	11.63
958.00	11.18	48.50	955.49	5.99	29.19	25.20	3.35	3.13	6.42
989.00	11.84	44.31	985.86	10.25	33.67	31.38	3.43	2.13	-13.52
1,020.00	11.73	42.38	1,016.21	14.86	38.01	37.70	1.32	-0.35	-6.23
1,051.00	11.94	42.59	1,046.55	19.55	42.31	44.05	0.69	0.68	0.68
1,082.00	12.29	42.53	1,076.86	24.34	46.71	50.54	1.13	1.13	-0.19
1,113.00	12.91	41.05	1,107.11	29.38	51.21	57.28	2.25	2.00	-4.77
1,145.00	12.16	41.68	1,138.35	34.59	55.80	64.21	2.38	-2.34	1.97
1,176.00	12.55	40.29	1,168.63	39.60	60.15	70.81	1.58	1.26	-4.48
1,207.00	12.44	40.94	1,198.90	44.69	64.51	77.49	0.58	-0.35	2.10
1,239.00	12.61	40.80	1,230.14	49.94	69.06	84.40	0.54	0.53	-0.44
1,271.00	12.75	40.33	1,261.35	55.28	73.62	91.39	0.54	0.44	-1.47
1,302.00	12.39	39.25	1,291.61	60.46	77.94	98.09	1.39	-1.16	-3.48
1,334.00	11.92	40.34	1,322.89	65.64	82.25	104.79	1.63	-1.47	3.41
1,365.00	11.78	39.42	1,353.23	70.52	86.33	111.12	0.76	-0.45	-2.97
1,396.00	11.60	38.56	1,383.59	75.40	90.29	117.35	0.81	-0.58	-2.77
1,427.00	11.64	38.64	1,413.96	80.28	94.18	123.54	0.14	0.13	0.26
1,459.00	12.10	43.23	1,445.27	85.25	98.50	130.09	3.28	1.44	14.34
1,490.00	12.03	46.34	1,475.59	89.85	103.06	136.56	2.11	-0.23	10.03
1,522.00	12.04	46.44	1,506.88	94.45	107.89	143.24	0.07	0.03	0.31
1,554.00	12.75	46.86	1,538.14	99.16	112.88	150.10	2.24	2.22	1.31
1,585.00	13.56	46.51	1,568.32	104.00	118.02	157.16	2.63	2.61	-1.13
1,616.00	13.03	46.27	1,598.49	108.92	123.18	164.29	1.72	-1.71	-0.77
1,647.00	13.10	45.33	1,628.69	113.81	128.20	171.30	0.72	0.23	-3.03
1,678.00	13.15	45.53	1,658.88	118.75	133.22	178.33	0.22	0.16	0.65
1,709.00	12.73	44.92	1,689.09	123.63	138.15	185.28	1.42	-1.35	-1.97
1,741.00	12.74	44.37	1,720.31	128.65	143.10	192.33	0.38	0.03	-1.72
1,772.00	12.82	44.49	1,750.54	133.55	147.90	199.18	0.27	0.26	0.39
1,804.00	12.87	44.19	1,781.74	138.64	152.88	206.29	0.26	0.16	-0.94
1,835.00	12.80	44.15	1,811.96	143.58	157.67	213.17	0.23	-0.23	-0.13
1,867.00	12.46	43.92	1,843.19	148.61	162.54	220.17	1.07	-1.06	-0.72
1,898.00	12.30	42.57	1,873.47	153.45	167.09	226.80	1.07	-0.52	-4.35
1,930.00	11.96	42.84	1,904.75	158.39	171.65	233.52	1.08	-1.06	0.84
1,961.00	11.60	46.08	1,935.10	162.91	176.08	239.84	2.43	-1.16	10.45
1,992.00	11.42	47.73	1,965.48	167.13	180.60	246.02	1.21	-0.58	5.32
2,023.00	11.69	48.17	1,995.85	171.29	185.21	252.23	0.92	0.87	1.42
2,055.00	11.78	49.06	2,027.18	175.59	190.09	258.73	0.63	0.28	2.78
2,087.00	11.41	48.79	2,058.53	179.82	194.94	265.16	1.17	-1.16	-0.84
2,118.00	11.03	49.39	2,088.93	183.77	199.50	271.18	1.28	-1.23	1.94
2,149.00	11.43	49.80	2,119.34	187.68	204.09	277.21	1.32	1.29	1.32
2,180.00	12.12	51.25	2,149.69	191.70	208.98	283.51	2.42	2.23	4.68

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Well:	Southern Ute 33-8-28 #6A	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Rockies Compass Server

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)	
2,212.00	13.22	50.73	2,180.91	196.12	214.43	290.51	3.46	3.44	-1.63	
2,243.00	13.50	50.46	2,211.07	200.67	219.97	297.65	0.93	0.90	-0.87	
2,274.00	12.96	49.68	2,241.25	205.22	225.41	304.73	1.83	-1.74	-2.52	
2,305.00	12.98	49.63	2,271.45	209.73	230.71	311.67	0.07	0.06	-0.16	
2,337.00	13.23	49.58	2,302.62	214.43	236.24	318.91	0.78	0.78	-0.16	
2,368.00	12.83	49.39	2,332.82	218.97	241.55	325.89	1.30	-1.29	-0.61	
2,399.00	12.91	48.09	2,363.04	223.52	246.74	332.79	0.97	0.26	-4.19	
2,430.00	12.93	45.52	2,393.26	228.27	251.79	339.72	1.85	0.06	-8.29	
2,462.00	12.85	43.24	2,424.45	233.37	256.78	346.85	1.61	-0.25	-7.13	
2,494.00	12.62	42.32	2,455.67	238.54	261.57	353.89	0.96	-0.72	-2.88	
2,525.01	12.27	41.75	2,485.95	243.51	266.05	360.56	1.20	-1.13	-1.84	
2,556.00	12.46	41.43	2,516.23	248.47	270.46	367.18	0.65	0.61	-1.03	
2,588.00	12.38	42.41	2,547.48	253.59	275.05	374.04	0.70	-0.25	3.06	
2,620.00	12.07	41.63	2,578.75	258.63	279.59	380.80	1.10	-0.97	-2.44	
2,651.00	11.83	43.06	2,609.08	263.37	283.91	387.20	1.23	-0.77	4.61	
2,683.00	11.94	42.01	2,640.40	268.23	288.37	393.78	0.76	0.34	-3.28	
2,714.00	12.00	41.89	2,670.72	273.01	292.67	400.19	0.21	0.19	-0.39	
2,746.00	12.83	41.86	2,701.97	278.13	297.26	407.05	2.59	2.59	-0.09	
2,777.00	13.14	42.57	2,732.18	283.29	301.94	414.00	1.12	1.00	2.29	
2,809.00	13.27	41.51	2,763.33	288.72	306.83	421.29	0.86	0.41	-3.31	
2,840.00	12.93	41.02	2,793.53	294.00	311.47	428.29	1.15	-1.10	-1.58	
2,871.00	12.95	41.20	2,823.74	299.23	316.03	435.21	0.15	0.06	0.58	
2,903.00	12.01	43.65	2,854.98	304.34	320.69	442.10	3.37	-2.94	7.66	
2,934.00	11.59	44.76	2,885.33	308.88	325.11	448.44	1.54	-1.35	3.58	
2,966.00	11.19	43.60	2,916.70	313.41	329.52	454.76	1.44	-1.25	-3.63	
2,998.00	10.75	44.75	2,948.11	317.78	333.76	460.84	1.54	-1.38	3.59	
3,029.00	10.67	46.61	2,978.57	321.81	337.88	466.60	1.14	-0.26	6.00	
3,061.00	11.00	46.25	3,010.00	325.95	342.24	472.62	1.05	1.03	-1.13	
3,092.00	11.27	45.91	3,040.42	330.10	346.55	478.60	0.90	0.87	-1.10	
3,123.00	11.95	44.75	3,070.78	334.49	350.98	484.84	2.32	2.19	-3.74	
3,155.00	12.07	46.95	3,102.08	339.13	355.76	491.50	1.48	0.38	6.88	
3,186.00	11.73	45.82	3,132.42	343.54	360.39	497.89	1.33	-1.10	-3.65	
3,217.00	11.31	47.01	3,162.79	347.81	364.87	504.08	1.56	-1.35	3.84	
3,249.00	11.06	45.63	3,194.19	352.09	369.36	510.29	1.14	-0.78	-4.31	
3,281.00	11.49	46.47	3,225.57	356.43	373.87	516.54	1.44	1.34	2.63	
3,312.00	11.80	45.05	3,255.93	360.80	378.35	522.80	1.36	1.00	-4.58	
3,343.00	11.83	44.44	3,286.27	365.31	382.82	529.15	0.41	0.10	-1.97	
3,374.00	11.50	44.20	3,316.63	369.79	387.20	535.41	1.08	-1.06	-0.77	
3,406.00	11.45	43.47	3,347.99	374.38	391.61	541.77	0.48	-0.16	-2.28	
3,438.00	11.02	43.00	3,379.38	378.93	395.88	548.00	1.37	-1.34	-1.47	
3,469.00	10.38	42.69	3,409.84	383.15	399.79	553.74	2.07	-2.06	-1.00	
3,500.00	10.13	42.07	3,440.34	387.22	403.51	559.25	0.88	-0.81	-2.00	
3,532.00	10.19	42.45	3,471.84	391.40	407.31	564.88	0.28	0.19	1.19	

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Site:	SEC 28-T33N-R8W	MD Reference:	AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Well:	Southern Ute 33-8-28 #6A	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Rockies Compass Server

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)	
3,563.00	10.28	42.20	3,502.35	395.47	411.02	570.38	0.32	0.29	-0.81	
3,595.00	9.69	43.23	3,533.86	399.55	414.78	575.92	1.93	-1.84	3.22	
3,626.00	9.40	48.80	3,564.44	403.12	418.47	581.05	3.12	-0.94	17.97	
3,657.00	9.99	54.32	3,594.99	406.35	422.56	586.24	3.55	1.90	17.81	
3,689.00	9.79	55.36	3,626.52	409.52	427.05	591.67	0.84	-0.63	3.25	
3,720.00	9.19	54.23	3,657.09	412.46	431.23	596.73	2.03	-1.94	-3.65	
3,751.00	9.33	52.21	3,687.69	415.45	435.22	601.68	1.14	0.45	-6.52	
3,783.00	10.22	51.16	3,719.22	418.82	439.48	607.08	2.84	2.78	-3.28	
3,814.00	10.53	49.67	3,749.72	422.38	443.79	612.65	1.32	1.00	-4.81	
3,846.00	10.51	48.18	3,781.18	426.22	448.19	618.49	0.85	-0.06	-4.66	
3,877.00	10.13	46.58	3,811.68	429.98	452.28	624.04	1.54	-1.23	-5.16	
3,909.00	9.37	44.50	3,843.22	433.77	456.15	629.46	2.62	-2.38	-6.50	
3,941.00	9.23	43.29	3,874.80	437.49	459.73	634.62	0.75	-0.44	-3.78	
3,972.00	9.20	43.36	3,905.40	441.11	463.14	639.58	0.10	-0.10	0.23	
4,004.00	9.08	42.31	3,936.99	444.83	466.59	644.66	0.64	-0.38	-3.28	
4,036.00	8.73	42.08	3,968.60	448.50	469.92	649.60	1.10	-1.09	-0.72	
4,068.00	8.32	42.32	4,000.25	452.02	473.11	654.33	1.29	-1.28	0.75	
4,100.00	8.07	42.38	4,031.92	455.39	476.18	658.88	0.78	-0.78	0.19	
4,131.00	8.13	42.03	4,062.61	458.62	479.12	663.24	0.25	0.19	-1.13	
4,162.00	8.12	40.28	4,093.30	461.92	482.00	667.60	0.80	-0.03	-5.65	
Last SDI MWD Survey										
4,220.00	8.12	40.28	4,150.72	468.17	487.29	675.75	0.00	0.00	0.00	
Projection to TD										

Checked By: _____	Approved By: _____	Date: _____
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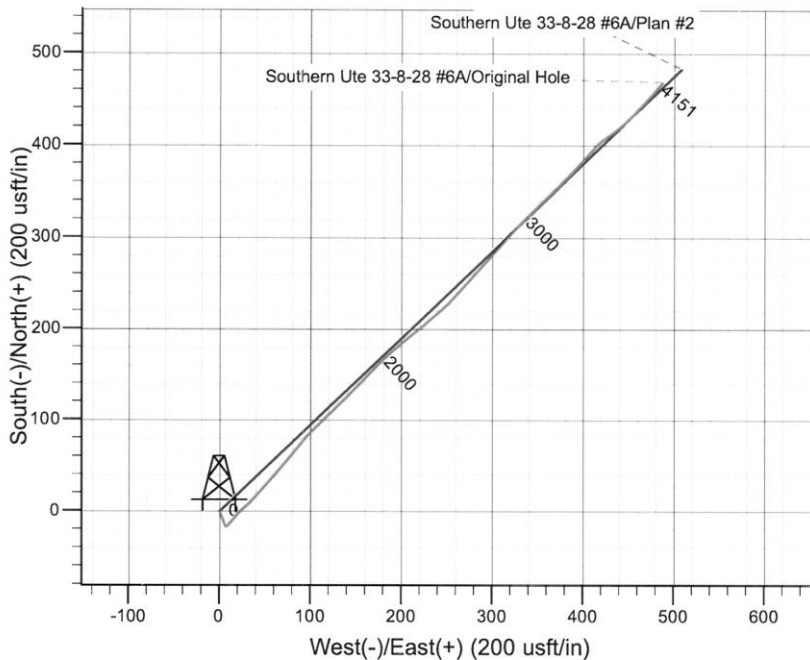
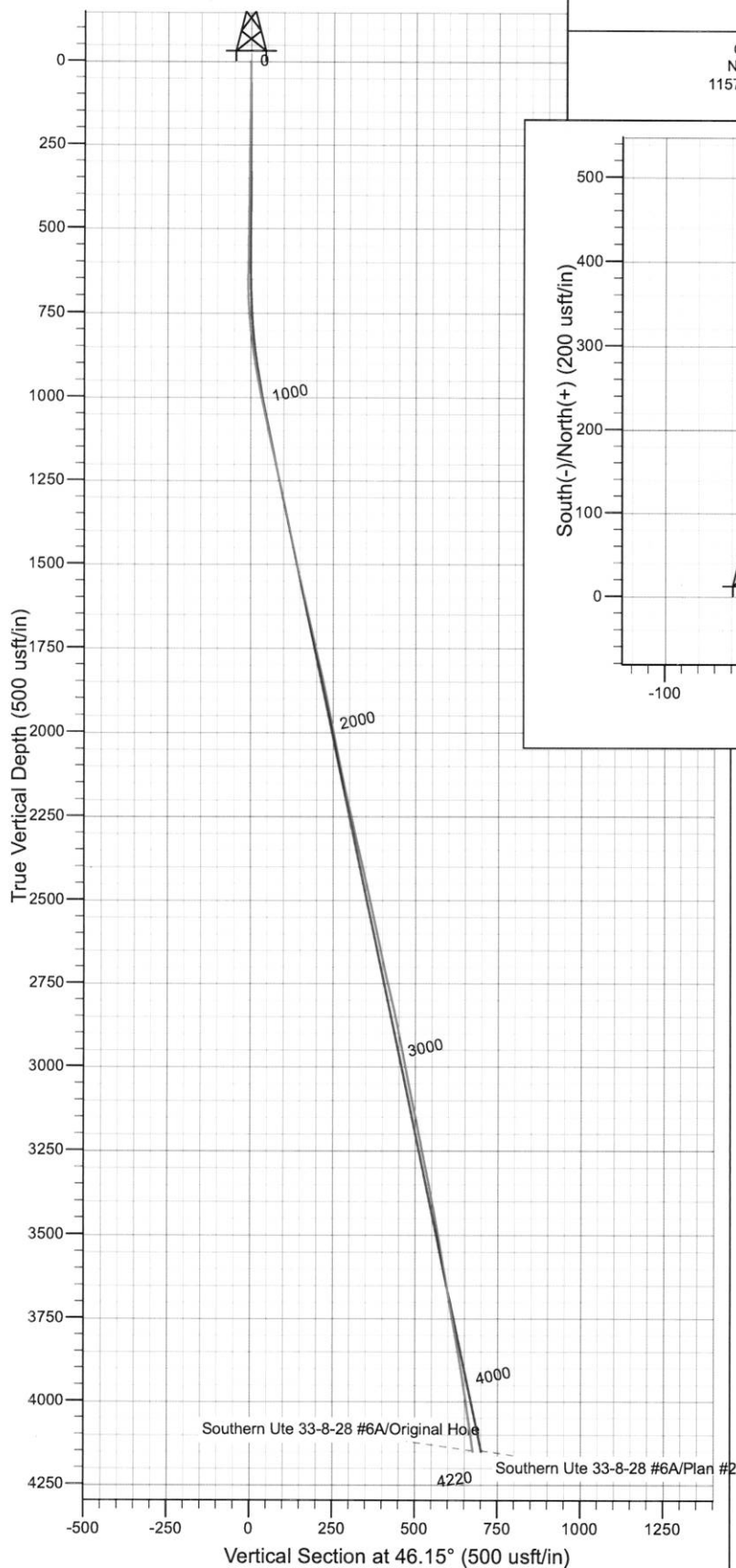
Scientific Drilling

Project: La Plata County, C.O.
Site: SEC 28-T33N-R8W
Well: Southern Ute 33-8-28 #6A
Wellbore: Original Hole
Design: Original Hole



WELL DETAILS: Southern Ute 33-8-28 #6A

Ground Level: AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Northing 1157882.12 Easting 2353060.40 Latitude 37° 4' 45.012 N Longitude 107° 43' 3.864 W



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Southern Ute 33-8-28 #6A, Grid North
Vertical (TVD) Reference: AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: AWS 507 @ 7391.99usft (12' KB + 7380' GL)
Calculation Method: Minimum Curvature
Local North: Grid
Location:

PROJECT DETAILS: La Plata County, C.O.

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Southern Zone

Design: Original Hole (Southern Ute 33-8-28 #6A/Original Hole)

Created By: Julie Cruise Date: 2011-05-12