

Gunnison Energy Corp.

Delta County, CO (NAD27)

Sec. 23-T12S-R94W

SPU Cockroft 1294 23-41DH1R

SPU Cockroft 1294 23-41DH1R ST2

Survey: Sperry MWD Original Hole Surveys

Sperry Drilling Services Standard Report

27 December, 2012

Well Coordinates: 433,343.57 N, 1,329,864.79 E (38° 59' 57.62" N, 107° 51' 29.68" W)

Ground Level: 8,536.00 ft

Local Coordinate Origin: Centered on Well SPU Cockroft 1294 23-41DH1R

Viewing Datum: KB-24' @ 8560.00ft (DHS 20)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

HALLIBURTON

Survey Report for SPU Cockroft 1294 23-41DH1R - Sperry MWD Original Hole Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tie-On to Surface @ 0.00 ft.							
266.00	1.02	302.94	265.99	1.29	-1.99	-2.36	0.38
First Sperry MWD Survey @ 266.00 ft.							
328.00	1.47	291.08	327.97	1.87	-3.19	-3.68	0.83
391.00	1.45	277.80	390.95	2.27	-4.74	-5.16	0.54
452.00	1.59	282.47	451.93	2.56	-6.33	-6.61	0.31
546.00	2.67	282.00	545.86	3.30	-9.74	-9.80	1.15
639.00	1.90	305.81	638.79	4.65	-13.11	-13.31	1.30
701.00	0.99	305.16	700.77	5.56	-14.38	-14.87	1.47
762.00	2.30	273.03	761.74	5.93	-16.04	-16.42	2.55
823.00	1.93	272.09	822.70	6.03	-18.28	-18.29	0.61
884.00	1.68	270.12	883.67	6.07	-20.21	-19.86	0.42
914.00	1.58	266.75	913.66	6.05	-21.06	-20.53	0.46
976.00	0.83	255.70	975.65	5.89	-22.35	-21.48	1.26
1,006.00	0.53	258.21	1,005.64	5.80	-22.69	-21.71	1.00
1,053.00	0.31	45.28	1,052.64	5.85	-22.82	-21.83	1.72
1,130.00	0.46	32.85	1,129.64	6.26	-22.50	-21.82	0.22
1,189.00	0.93	50.55	1,188.64	6.76	-22.00	-21.72	0.87
1,283.00	1.75	74.07	1,282.61	7.64	-20.03	-20.65	1.03
1,378.00	2.14	75.50	1,377.56	8.48	-16.92	-18.65	0.41
1,410.00	2.10	79.45	1,409.54	8.74	-15.77	-17.87	0.47
1,473.00	2.04	83.41	1,472.49	9.08	-13.52	-16.27	0.25
1,537.00	1.92	81.16	1,536.46	9.37	-11.33	-14.68	0.22
1,568.00	1.85	77.85	1,567.44	9.56	-10.32	-13.98	0.42
1,663.00	1.95	73.43	1,662.39	10.34	-7.28	-11.99	0.19
1,758.00	2.12	76.05	1,757.33	11.23	-4.02	-9.90	0.20
1,853.00	1.91	83.90	1,852.27	11.82	-0.74	-7.61	0.36
1,948.00	2.05	84.59	1,947.21	12.15	2.52	-5.18	0.15
2,042.00	2.05	86.59	2,041.15	12.40	5.88	-2.64	0.08
2,122.00	2.52	87.94	2,121.09	12.55	9.06	-0.16	0.59
2,208.00	2.64	87.01	2,207.00	12.72	12.93	2.85	0.15
2,303.00	2.91	90.03	2,301.89	12.84	17.53	6.48	0.32
2,398.00	2.71	61.52	2,396.78	13.91	21.91	9.38	1.47
2,493.00	2.42	52.99	2,491.68	16.19	25.49	10.90	0.50
2,587.00	2.17	51.47	2,585.61	18.49	28.46	11.93	0.27
2,682.00	2.29	57.53	2,680.54	20.63	31.47	13.08	0.28
2,777.00	2.20	71.13	2,775.46	22.24	34.80	14.80	0.57
2,872.00	1.96	72.28	2,870.40	23.32	38.07	16.79	0.26
2,966.00	1.70	46.47	2,964.36	24.77	40.61	17.98	0.91
3,060.00	0.97	73.27	3,058.33	25.96	42.39	18.70	1.00
3,155.00	1.12	71.38	3,153.31	26.49	44.04	19.71	0.16
3,250.00	1.26	97.49	3,248.29	26.65	45.95	21.16	0.58
3,345.00	1.45	106.22	3,343.27	26.18	48.14	23.20	0.29
3,439.00	1.67	112.53	3,437.23	25.32	50.55	25.64	0.30
3,534.00	2.01	125.32	3,532.18	23.83	53.19	28.65	0.56
3,628.00	2.31	131.23	3,626.12	21.62	55.96	32.19	0.40
3,722.00	2.42	135.40	3,720.04	18.96	58.78	36.04	0.22
3,819.00	2.41	114.89	3,816.95	16.65	62.06	40.06	0.89
3,913.00	2.84	89.31	3,910.86	15.84	66.19	43.85	1.31

Survey Report for SPU Cockroft 1294 23-41DH1R - Sperry MWD Original Hole Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
4,008.00	2.76	61.33	4,005.75	16.97	70.55	46.69	1.43
4,103.00	2.30	77.39	4,100.66	18.48	74.41	48.91	0.88
4,198.00	2.29	47.81	4,195.58	20.17	77.68	50.53	1.23
4,293.00	1.90	59.58	4,290.52	22.24	80.44	51.52	0.61
4,388.00	1.94	52.37	4,385.47	24.02	83.08	52.59	0.26
4,483.00	1.52	77.60	4,480.43	25.28	85.58	53.86	0.90
4,578.00	1.85	100.97	4,575.39	25.25	88.32	56.07	0.79
4,673.00	1.89	121.99	4,670.34	24.13	91.15	59.02	0.72
4,767.00	2.49	137.21	4,764.27	21.81	93.85	62.57	0.88
4,862.00	2.18	139.75	4,859.19	18.92	96.42	66.35	0.34
4,957.00	2.74	141.02	4,954.10	15.78	99.02	70.31	0.59
5,052.00	1.86	136.47	5,049.02	12.89	101.51	74.03	0.95
5,147.00	2.47	152.62	5,143.96	9.96	103.51	77.38	0.90
5,242.00	2.93	153.31	5,238.85	5.97	105.54	81.38	0.49
5,337.00	3.36	161.61	5,333.71	1.16	107.51	85.82	0.66
5,432.00	3.21	162.74	5,428.55	-4.02	109.18	90.24	0.17
5,527.00	2.54	165.14	5,523.43	-8.60	110.51	94.03	0.72
5,621.00	3.02	140.55	5,617.32	-12.52	112.62	98.05	1.35
5,716.00	3.99	140.49	5,712.15	-17.01	116.31	103.69	1.02
5,811.00	3.73	130.00	5,806.93	-21.54	120.78	109.98	0.79
5,906.00	3.60	131.23	5,901.74	-25.49	125.39	116.03	0.16
6,000.00	3.29	129.04	5,995.57	-29.14	129.70	121.67	0.36
6,095.00	3.80	136.65	6,090.38	-33.14	133.98	127.49	0.73
6,189.00	4.19	137.43	6,184.16	-37.94	138.44	133.93	0.42
6,282.00	3.87	137.99	6,276.93	-42.77	142.84	140.34	0.35
6,356.00	2.87	122.41	6,350.80	-45.62	146.08	144.63	1.82
6,399.00	2.91	126.49	6,393.74	-46.85	147.86	146.80	0.49
6,431.00	3.18	122.91	6,425.70	-47.81	149.26	148.49	1.03
6,462.00	4.31	124.17	6,456.63	-48.93	150.95	150.52	3.65
6,494.00	5.39	127.05	6,488.52	-50.52	153.14	153.22	3.46
6,526.00	6.60	127.05	6,520.34	-52.53	155.81	156.56	3.78
6,557.00	8.03	126.30	6,551.09	-54.88	158.98	160.51	4.62
6,589.00	9.56	124.94	6,582.71	-57.73	162.96	165.40	4.82
6,620.00	10.75	123.78	6,613.23	-60.81	167.47	170.86	3.89
6,651.00	11.90	123.97	6,643.62	-64.20	172.52	176.94	3.71
6,683.00	13.34	122.01	6,674.85	-68.01	178.39	183.92	4.69
6,715.00	14.76	121.00	6,705.89	-72.06	185.01	191.66	4.50
6,746.00	15.93	122.58	6,735.78	-76.39	191.98	199.84	4.01
6,778.00	17.69	123.10	6,766.42	-81.41	199.76	209.07	5.52
6,809.00	18.77	125.67	6,795.86	-86.89	207.76	218.76	4.34
6,840.00	20.19	125.00	6,825.08	-92.86	216.19	229.10	4.64
6,872.00	21.82	124.96	6,854.96	-99.44	225.59	240.56	5.09
6,904.00	23.86	125.40	6,884.45	-106.60	235.74	252.98	6.40
6,935.00	25.93	124.82	6,912.56	-114.10	246.42	266.03	6.72
6,967.00	28.50	122.78	6,941.02	-122.23	258.58	280.64	8.54
6,997.00	30.46	122.18	6,967.13	-130.16	271.03	295.37	6.61
7,029.00	32.04	121.18	6,994.49	-138.87	285.16	311.91	5.20
7,061.00	33.28	120.96	7,021.43	-147.78	299.95	329.11	3.89
7,092.00	34.34	121.07	7,047.19	-156.67	314.74	346.28	3.43
7,124.00	35.81	121.87	7,073.38	-166.27	330.42	364.60	4.81
7,156.00	37.68	121.97	7,099.02	-176.39	346.67	383.68	5.85

Survey Report for SPU Cockroft 1294 23-41DH1R - Sperry MWD Original Hole Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
7,187.00	40.10	123.03	7,123.14	-186.85	363.08	403.10	8.10
7,219.00	41.65	122.55	7,147.34	-198.19	380.68	424.00	4.94
7,251.00	43.57	123.26	7,170.89	-209.96	398.87	445.62	6.19
7,282.00	45.30	123.25	7,193.03	-221.86	417.02	467.29	5.58
7,314.00	47.44	122.96	7,215.10	-234.51	436.42	490.41	6.72
7,345.00	50.12	122.95	7,235.53	-247.20	455.98	513.68	8.65
7,377.00	52.45	122.84	7,255.54	-260.76	476.95	538.60	7.29
7,409.00	54.61	123.30	7,274.56	-274.80	498.51	564.29	6.85
7,440.00	56.19	123.21	7,292.16	-288.79	519.85	589.77	5.10
7,472.00	57.97	124.47	7,309.56	-303.75	542.16	616.60	6.47
7,503.00	60.04	123.58	7,325.52	-318.62	564.18	643.15	7.12
7,535.00	62.44	123.86	7,340.91	-334.19	587.51	671.17	7.54
7,567.00	64.50	124.18	7,355.21	-350.21	611.24	699.77	6.50
7,598.00	65.58	124.54	7,368.29	-366.07	634.44	727.86	3.64
7,630.00	65.91	124.75	7,381.43	-382.65	658.44	757.02	1.19
7,662.00	65.89	124.25	7,394.50	-399.20	682.51	786.21	1.43
7,693.00	66.11	124.02	7,407.11	-415.09	705.95	814.51	0.98
7,725.00	66.24	123.85	7,420.04	-431.43	730.24	843.76	0.63
7,756.00	66.52	124.13	7,432.46	-447.31	753.79	872.13	1.23
7,787.00	67.69	124.96	7,444.52	-463.51	777.31	900.67	4.51
7,819.00	70.47	124.74	7,455.94	-480.58	801.84	930.55	8.71
7,850.00	72.69	126.49	7,465.74	-497.71	825.75	959.96	8.94
7,882.00	75.19	126.27	7,474.59	-515.95	850.50	990.70	7.84
7,914.00	77.75	126.87	7,482.07	-534.49	875.49	1,021.81	8.21
7,945.00	79.64	126.62	7,488.15	-552.67	899.84	1,052.21	6.15
7,977.00	81.67	127.01	7,493.35	-571.59	925.12	1,083.78	6.46
8,008.00	84.48	127.36	7,497.08	-590.19	949.64	1,114.55	9.13
8,040.00	86.79	127.09	7,499.52	-609.49	975.04	1,146.45	7.27
8,072.00	88.80	128.16	7,500.75	-629.01	1,000.36	1,178.42	7.11
Last Sperry MWD Survey at 8072.00 ft							
8,132.00	88.80	128.16	7,502.01	-666.07	1,047.53	1,238.38	0.00
Straight Line Projection to TD @ 8132.00 MD ft.							

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
0.00	0.00	0.00	0.00	Tie-On to Surface @ 0.00 ft.
266.00	265.99	1.29	-1.99	First Sperry MWD Survey @ 266.00 ft.
8,072.00	7,500.75	-629.01	1,000.36	Last Sperry MWD Survey at 8072.00 ft
8,132.00	7,502.01	-666.07	1,047.53	Straight Line Projection to TD @ 8132.00 MD ft.

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	+E/-W (ft)	Start TVD (ft)
Target	SPU Cockroft 1294 23-41DH1R_Plan D Rev 0_BH Tgt	126.42	Slot	0.00	0.00	0.00

Survey Report for SPU Cockroft 1294 23-41DH1R - Sperry MWD Original Hole Surveys

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
266.00	7,314.00	Sperry MWD Original Hole Surveys	MWD
7,345.00	7,783.00	Sperry MWD Surveys ST 1	MWD
7,810.00	12,400.00	Sperry MWD Surveys ST 2	MWD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
SPU Cockroft 1294 23- - survey misses target center by 4285.90ft at 8132.00ft MD (7502.01 TVD, -666.07 N, 1047.53 E) - Point	0.00	0.00	7,426.00	-3,278.96	4,444.00	429,950.58	1,334,221.91	38° 59' 25.206 N	107° 50' 33.396 W
SPU Cockroft 1294 23- - survey misses target center by 15.44ft at 12.07ft MD (12.07 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	12.00	-7.23	-13.64	433,336.70	1,329,850.97	38° 59' 57.548 N	107° 51' 29.851 W
SPU Cockroft 1294 23- - survey hits target center - Polygon	0.00	0.00	12.00	0.04	0.00	433,343.61	1,329,864.79	38° 59' 57.620 N	107° 51' 29.678 W
SPU Cockroft 1294 23- - survey hits target center - Polygon	0.00	0.00	12.00	0.04	0.00	433,343.61	1,329,864.79	38° 59' 57.620 N	107° 51' 29.678 W
SPU Cockroft 1294 23- - survey misses target center by 15.44ft at 12.07ft MD (12.07 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	12.00	-7.23	-13.64	433,336.70	1,329,850.97	38° 59' 57.548 N	107° 51' 29.851 W
SPU Cockroft 1294 23- - survey misses target center by 15.44ft at 12.07ft MD (12.07 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	12.00	-7.23	-13.64	433,336.70	1,329,850.97	38° 59' 57.548 N	107° 51' 29.851 W
SPU Cockroft 1294 23- - survey hits target center - Polygon	0.00	0.00	12.00	0.04	0.00	433,343.61	1,329,864.79	38° 59' 57.620 N	107° 51' 29.678 W
SPU Cockroft 1294 23- - survey misses target center by 4287.53ft at 8132.00ft MD (7502.01 TVD, -666.07 N, 1047.53 E) - Point	0.00	0.00	7,361.50	-3,278.96	4,444.00	429,950.58	1,334,221.91	38° 59' 25.206 N	107° 50' 33.396 W

**North Reference Sheet for Sec. 23-T12S-R94W - SPU Cockroft 1294 23-41DH1R -
SPU Cockroft 1294 23-41DH1R ST2**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to KB-24' @ 8560.00ft (DHS 20). Northing and Easting are relative to SPU Cockroft 1294 23-41DH1R

Coordinate System is US State Plane 1927 (Exact solution), Colorado Central 502 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 105° 30' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 39° 45' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99993748

Grid Coordinates of Well: 433,343.57 ft N, 1,329,864.79 ft E

Geographical Coordinates of Well: 38° 59' 57.62" N, 107° 51' 29.68" W

Grid Convergence at Surface is: -1.49°

Based upon Minimum Curvature type calculations, at a Measured Depth of 8,132.00ft
the Bottom Hole Displacement is 1,241.36ft in the Direction of 122.45° (True).

Magnetic Convergence at surface is: -11.55° (3 December 2012, , BGGM2012)

