



SUMMIT
OILFIELD SERVICES, INC

Company: Bonanza Creek
Lease/Well: Guttersen Ranch 33-9
County/State: Weld/CO

Job Number: 7430-512325658
Date: 3-4-19
Survey Type: Memory
Declination: 9.39

Instrument Number: GP1-1000
North Reference: True North
Survey Engineer: Nathan Proffitt

Summit Oilfield Services

*Minimum Curvature Method
Vertical Section Plane: 0.00
Vertical Section Reference:
Rectangular Coordinates Reference:*

Measured Depth	Inclin	Azimuth	Course Length	True Vertical Depth	N[+]/S[-]	E[+]/W[-]	Vertical Section	Dogleg Severity	Closure Distance	Closure Direction
0.00 ft	0.00	0.00	0.00 ft	0.00 ft	0.00 ft	0.00 ft	0.00 ft	0.00/100 ft	0.00 ft	0.00
100.00 ft	1.19	277.49	100.00 ft	99.99 ft	0.13 ft	-1.03 ft	0.13 ft	1.19/100 ft	1.03 ft	277.49
200.00 ft	0.16	212.84	100.00 ft	199.99 ft	0.15 ft	-2.13 ft	0.15 ft	1.13/100 ft	2.13 ft	274.14
300.00 ft	1.10	287.50	100.00 ft	299.98 ft	0.33 ft	-3.12 ft	0.33 ft	1.07/100 ft	3.14 ft	276.00
400.00 ft	0.36	211.90	100.00 ft	399.97 ft	0.35 ft	-4.20 ft	0.35 ft	1.07/100 ft	4.22 ft	274.81
500.00 ft	0.55	326.19	100.00 ft	499.97 ft	0.49 ft	-4.64 ft	0.49 ft	0.77/100 ft	4.66 ft	276.05
600.00 ft	0.21	300.45	100.00 ft	599.97 ft	0.99 ft	-5.07 ft	0.99 ft	0.37/100 ft	5.16 ft	281.03
700.00 ft	0.84	261.41	100.00 ft	699.96 ft	0.97 ft	-5.95 ft	0.97 ft	0.69/100 ft	6.03 ft	279.28
800.00 ft	1.18	306.44	100.00 ft	799.95 ft	1.48 ft	-7.50 ft	1.48 ft	0.84/100 ft	7.65 ft	281.13
900.00 ft	0.66	299.68	100.00 ft	899.94 ft	2.37 ft	-8.83 ft	2.37 ft	0.53/100 ft	9.14 ft	285.04
1000.00 ft	1.39	347.05	100.00 ft	999.92 ft	3.84 ft	-9.60 ft	3.84 ft	1.06/100 ft	10.34 ft	291.80
1100.00 ft	0.86	10.89	100.00 ft	1099.90 ft	5.76 ft	-9.73 ft	5.76 ft	0.69/100 ft	11.31 ft	300.64
1200.00 ft	1.29	321.93	100.00 ft	1199.88 ft	7.39 ft	-10.29 ft	7.39 ft	0.98/100 ft	12.67 ft	305.71
1300.00 ft	1.68	0.30	100.00 ft	1299.85 ft	9.75 ft	-10.97 ft	9.75 ft	1.04/100 ft	14.68 ft	311.62
1400.00 ft	0.88	359.75	100.00 ft	1399.83 ft	11.98 ft	-10.97 ft	11.98 ft	0.80/100 ft	16.25 ft	317.53



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Declination: 9.39

Instrument Number: GP1-1000
North Reference: True North
Survey Engineer: Nathan Proffitt

Measured Depth	Inclin	Azimuth	Course Length	True Vertical Depth	N[+]/S[-]	E[+]/W[-]	Vertical Section	Dogleg Severity	Closure Distance	Closure Direction
1500.00 ft	1.60	333.97	100.00 ft	1499.80 ft	14.01 ft	-11.59 ft	14.01 ft	0.90/100 ft	18.18 ft	320.41
1600.00 ft	1.29	6.03	100.00 ft	1599.77 ft	16.39 ft	-12.08 ft	16.39 ft	0.85/100 ft	20.36 ft	323.59
1700.00 ft	1.75	338.82	100.00 ft	1699.74 ft	18.93 ft	-12.52 ft	18.93 ft	0.84/100 ft	22.69 ft	326.53
1800.00 ft	0.90	318.02	100.00 ft	1799.71 ft	20.93 ft	-13.59 ft	20.93 ft	0.96/100 ft	24.96 ft	327.00
1900.00 ft	1.25	312.07	100.00 ft	1899.69 ft	22.25 ft	-14.93 ft	22.25 ft	0.37/100 ft	26.80 ft	326.14
2000.00 ft	0.78	318.61	100.00 ft	1999.68 ft	23.50 ft	-16.19 ft	23.50 ft	0.48/100 ft	28.54 ft	325.43
2100.00 ft	1.49	333.67	100.00 ft	2099.66 ft	25.17 ft	-17.22 ft	25.17 ft	0.76/100 ft	30.50 ft	325.62
2200.00 ft	1.08	336.53	100.00 ft	2199.63 ft	27.20 ft	-18.17 ft	27.20 ft	0.41/100 ft	32.71 ft	326.25
2300.00 ft	0.60	305.68	100.00 ft	2299.62 ft	28.37 ft	-18.97 ft	28.37 ft	0.65/100 ft	34.13 ft	326.23
2400.00 ft	0.76	233.50	100.00 ft	2399.62 ft	28.28 ft	-19.93 ft	28.28 ft	0.81/100 ft	34.60 ft	324.83
2500.00 ft	0.19	188.70	100.00 ft	2499.61 ft	27.72 ft	-20.48 ft	27.72 ft	0.63/100 ft	34.47 ft	323.54
2600.00 ft	1.29	196.89	100.00 ft	2599.60 ft	26.48 ft	-20.83 ft	26.48 ft	1.09/100 ft	33.69 ft	321.81
2700.00 ft	1.34	198.52	100.00 ft	2699.58 ft	24.30 ft	-21.53 ft	24.30 ft	0.07/100 ft	32.46 ft	318.45
2800.00 ft	1.44	234.68	100.00 ft	2799.55 ft	22.46 ft	-22.93 ft	22.46 ft	0.87/100 ft	32.10 ft	314.41
2900.00 ft	1.50	230.76	100.00 ft	2899.52 ft	20.91 ft	-24.97 ft	20.91 ft	0.12/100 ft	32.56 ft	309.94
3000.00 ft	1.31	199.66	100.00 ft	2999.49 ft	19.00 ft	-26.37 ft	19.00 ft	0.78/100 ft	32.50 ft	305.78
3100.00 ft	1.27	232.17	100.00 ft	3099.46 ft	17.24 ft	-27.63 ft	17.24 ft	0.72/100 ft	32.57 ft	301.97
3200.00 ft	1.13	235.33	100.00 ft	3199.44 ft	16.00 ft	-29.31 ft	16.00 ft	0.16/100 ft	33.39 ft	298.64
3300.00 ft	1.11	214.51	100.00 ft	3299.42 ft	14.64 ft	-30.67 ft	14.64 ft	0.40/100 ft	33.99 ft	295.53
3400.00 ft	0.81	205.30	100.00 ft	3399.41 ft	13.21 ft	-31.52 ft	13.21 ft	0.34/100 ft	34.17 ft	292.73
3500.00 ft	0.67	295.84	100.00 ft	3499.40 ft	12.83 ft	-32.35 ft	12.83 ft	1.06/100 ft	34.80 ft	291.63
3600.00 ft	0.79	279.45	100.00 ft	3599.40 ft	13.20 ft	-33.56 ft	13.20 ft	0.24/100 ft	36.06 ft	291.47



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Instrument Number: GP1-1000
North Reference: True North
Survey Engineer: Nathan Proffitt

Measured Depth	Inclin	Azimuth	Course Length	True Vertical Depth	N[+]/S[-]	E[+]/W[-]	Vertical Section	Dogleg Severity	Closure Distance	Closure Direction
3700.00 ft	0.82	195.91	100.00 ft	3699.39 ft	12.62 ft	-34.44 ft	12.62 ft	1.08/100 ft	36.68 ft	290.13
3800.00 ft	1.06	212.66	100.00 ft	3799.38 ft	11.15 ft	-35.14 ft	11.15 ft	0.36/100 ft	36.87 ft	287.61
3900.00 ft	0.46	274.09	100.00 ft	3899.37 ft	10.40 ft	-36.04 ft	10.40 ft	0.93/100 ft	37.51 ft	286.10
4000.00 ft	0.68	180.99	100.00 ft	3999.36 ft	9.84 ft	-36.44 ft	9.84 ft	0.84/100 ft	37.75 ft	285.11
4100.00 ft	0.93	192.94	100.00 ft	4099.35 ft	8.46 ft	-36.64 ft	8.46 ft	0.30/100 ft	37.60 ft	283.01
4200.00 ft	0.83	257.03	100.00 ft	4199.34 ft	7.51 ft	-37.52 ft	7.51 ft	0.94/100 ft	38.27 ft	281.32
4300.00 ft	0.19	174.01	100.00 ft	4299.34 ft	7.18 ft	-38.21 ft	7.18 ft	0.83/100 ft	38.88 ft	280.65
4400.00 ft	0.96	231.15	100.00 ft	4399.34 ft	6.50 ft	-38.84 ft	6.50 ft	0.87/100 ft	39.38 ft	279.49
4500.00 ft	0.70	245.68	100.00 ft	4499.33 ft	5.72 ft	-40.05 ft	5.72 ft	0.33/100 ft	40.46 ft	278.13
4600.00 ft	0.47	260.37	100.00 ft	4599.32 ft	5.40 ft	-41.02 ft	5.40 ft	0.27/100 ft	41.37 ft	277.50
4700.00 ft	0.60	89.53	100.00 ft	4699.32 ft	5.33 ft	-40.90 ft	5.33 ft	1.07/100 ft	41.24 ft	277.43
4800.00 ft	0.77	71.43	100.00 ft	4799.31 ft	5.55 ft	-39.74 ft	5.55 ft	0.27/100 ft	40.12 ft	277.95
4900.00 ft	1.56	41.46	100.00 ft	4899.29 ft	6.79 ft	-38.20 ft	6.79 ft	0.98/100 ft	38.80 ft	280.07
5000.00 ft	1.13	59.40	100.00 ft	4999.26 ft	8.31 ft	-36.45 ft	8.31 ft	0.60/100 ft	37.38 ft	282.84
5100.00 ft	0.37	75.09	100.00 ft	5099.25 ft	8.89 ft	-35.29 ft	8.89 ft	0.77/100 ft	36.39 ft	284.15
5200.00 ft	0.49	254.23	100.00 ft	5199.25 ft	8.86 ft	-35.38 ft	8.86 ft	0.87/100 ft	36.47 ft	284.06
5300.00 ft	0.55	192.79	100.00 ft	5299.25 ft	8.28 ft	-35.90 ft	8.28 ft	0.53/100 ft	36.84 ft	282.99
5400.00 ft	1.49	200.04	100.00 ft	5399.23 ft	6.60 ft	-36.45 ft	6.60 ft	0.95/100 ft	37.04 ft	280.26
5500.00 ft	1.17	193.25	100.00 ft	5499.21 ft	4.38 ft	-37.13 ft	4.38 ft	0.35/100 ft	37.39 ft	276.73
5600.00 ft	1.45	238.00	100.00 ft	5599.18 ft	2.71 ft	-38.44 ft	2.71 ft	1.03/100 ft	38.53 ft	274.04
5700.00 ft	2.00	235.18	100.00 ft	5699.14 ft	1.05 ft	-40.95 ft	1.05 ft	0.55/100 ft	40.96 ft	271.46
5800.00 ft	1.31	248.61	100.00 ft	5799.09 ft	-0.37 ft	-43.44 ft	-0.37 ft	0.79/100 ft	43.44 ft	269.52



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5900.00 ft	0.75	225.85	100.00 ft	5899.08 ft	-1.24 ft	-44.98 ft	-1.24 ft	0.68/100 ft	44.99 ft	268.42
6000.00 ft	1.39	206.26	100.00 ft	5999.06 ft	-2.78 ft	-45.98 ft	-2.78 ft	0.73/100 ft	46.06 ft	266.54
6100.00 ft	1.71	218.57	100.00 ft	6099.02 ft	-5.03 ft	-47.44 ft	-5.03 ft	0.46/100 ft	47.71 ft	263.95
6200.00 ft	0.74	221.38	100.00 ft	6199.00 ft	-6.68 ft	-48.80 ft	-6.68 ft	0.97/100 ft	49.25 ft	262.21
6300.00 ft	1.12	223.13	100.00 ft	6298.99 ft	-7.88 ft	-49.89 ft	-7.88 ft	0.38/100 ft	50.51 ft	261.03
6400.00 ft	1.09	275.87	100.00 ft	6398.97 ft	-8.49 ft	-51.51 ft	-8.49 ft	0.98/100 ft	52.21 ft	260.64
6500.00 ft	2.05	255.78	100.00 ft	6498.93 ft	-8.83 ft	-54.20 ft	-8.83 ft	1.09/100 ft	54.91 ft	260.74
6600.00 ft	4.68	243.49	100.00 ft	6598.75 ft	-11.09 ft	-59.58 ft	-11.09 ft	2.71/100 ft	60.61 ft	259.45