

30-015-43703



**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAR 15 2018

Company: Baker Hughes, a GE Company
Customer/Operator: Chisholm Energy Operating, LLC
Date Range: 12/29/2017 - 1/30/2018
Rig Name: Nabors M55
Rig Elv/Dat: 22.00 (ft) / GL
Well: Cottonwood 29-32 Fed Com WCA No. 3H
Wellbore: Cottonwood 29-32 Fed Com WCA No. 3H

RECEIVED

Tie/ Proj	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Temperature (degF)	True Vertical Depth (ft)	Northing (ft)	Easting (ft)	DLS (deg/100ft)	Vertical Section (ft)
	185.00	0.99	357.28		184.99	1.60	-0.08	0.54	-1.60
Tie	350.00	0.49	340.46		349.98	3.50	-0.37	0.30	3.69
	476.00	0.80	349.82	71.62	475.97	4.87	-0.71	0.26	-4.88
	568.00	0.92	336.02	77.03	567.96	6.18	-1.12	0.26	-6.19
	665.00	0.94	326.77	87.84	664.95	7.56	-1.87	0.16	-7.57
	738.00	0.92	323.43	93.25	737.94	8.53	-2.55	0.08	-8.54
	833.00	1.01	325.32	85.14	832.93	9.83	-3.48	0.10	-9.85
	926.00	0.77	325.60	93.25	925.91	11.02	-4.30	0.26	-11.04
	1022.00	0.72	319.17	87.84	1021.91	12.01	-5.06	0.10	-12.03
	1117.00	0.93	324.63	93.25	1116.90	13.09	-5.89	0.24	-13.12
	1212.00	0.79	341.52	95.95	1211.89	14.34	-6.55	0.30	-14.37
	1306.00	0.60	23.85	98.66	1305.88	15.40	-6.56	0.57	-15.44
	1401.00	1.00	49.74	106.77	1400.87	16.39	-5.72	0.56	-16.42
	1496.00	0.98	57.81	109.47	1495.86	17.36	-4.40	0.15	-17.39
	1591.00	0.77	43.66	112.17	1590.85	18.26	-3.27	0.32	-18.27
	1686.00	0.70	37.34	117.58	1685.84	19.18	-2.48	0.11	-19.19
	1781.00	0.59	37.10	117.58	1780.83	20.03	-1.83	0.12	-20.04
	1876.00	0.72	30.96	120.28	1875.83	20.93	-1.23	0.16	-20.94
	1972.00	0.83	13.47	120.28	1971.82	22.13	-0.76	0.27	-22.13
	2066.00	1.80	355.28	122.98	2065.79	24.26	-0.72	1.11	-24.26
	2161.00	1.72	358.74	117.58	2160.75	27.17	-0.88	0.14	-27.18
	2257.00	1.55	353.69	112.17	2256.71	29.90	-1.05	0.23	-29.91
	2351.00	1.53	350.09	109.47	2350.67	32.40	-1.41	0.11	-32.41
	2446.00	1.41	347.97	112.17	2445.64	34.80	-1.87	0.14	-34.81
	2540.00	1.18	335.49	109.47	2539.62	36.81	-2.51	0.39	-36.82
	2635.00	1.45	328.75	106.77	2634.59	38.73	-3.54	0.33	-38.74
	2730.00	1.54	325.99	106.77	2729.56	40.81	-4.88	0.12	-40.84
	2825.00	1.57	324.32	106.77	2824.53	42.93	-6.35	0.06	-42.96
	2919.00	1.59	324.08	112.17	2918.49	45.03	-7.87	0.02	-45.07
	3014.00	1.49	320.05	117.58	3013.46	47.04	-9.43	0.16	-47.09
	3109.00	1.59	306.24	120.28	3108.42	48.77	-11.29	0.40	-48.83
	3204.00	1.61	299.59	122.98	3203.38	50.21	-13.51	0.20	-50.28
	3299.00	1.61	297.31	128.39	3298.35	51.48	-15.86	0.07	-51.56
	3394.00	2.10	288.01	109.47	3393.30	52.63	-18.70	0.60	-52.73
	3489.00	2.31	284.72	106.77	3488.23	53.65	-22.21	0.26	-53.77
	3584.00	2.35	286.95	104.06	3583.15	54.71	-25.92	0.10	-54.84
	3679.00	1.67	285.77	104.06	3678.09	55.65	-29.12	0.72	-55.80
	3774.00	1.31	277.70	106.77	3773.06	56.17	-31.53	0.44	-56.34
	3869.00	1.14	265.40	106.77	3868.04	56.24	-33.54	0.33	-56.42
	3964.00	1.21	272.17	106.77	3963.02	56.21	-35.49	0.16	-56.39
	4059.00	1.17	259.00	106.77	4058.00	56.06	-37.44	0.29	-56.25
	4154.00	1.04	256.68	106.77	4152.98	55.67	-39.23	0.14	-55.88
	4249.00	1.01	243.26	109.47	4247.96	55.10	-40.82	0.25	-55.31
	4344.00	1.07	240.57	109.47	4342.95	54.29	-42.34	0.08	-54.51
	4435.00	1.08	241.77	109.47	4433.93	53.46	-43.84	0.03	-53.69
	4533.00	1.08	233.62	109.47	4531.91	52.48	-45.39	0.16	-52.72
	4628.00	0.99	235.34	109.47	4626.90	51.48	-46.79	0.10	-51.73
	4723.00	0.97	231.50	109.47	4721.88	50.51	-48.09	0.07	-50.77
	4818.00	1.07	229.50	109.47	4816.87	49.44	-49.40	0.11	-49.70
	4912.00	1.26	228.86	109.47	4910.85	48.19	-50.84	0.20	-48.45
	5007.00	1.46	227.67	109.47	5005.82	46.69	-52.52	0.21	-46.96
	5100.00	1.70	229.19	109.47	5098.79	44.99	-54.44	0.26	-45.27
	5195.00	1.91	236.68	109.47	5193.74	43.20	-56.83	0.33	-43.49
	5294.00	1.76	240.17	106.77	5292.69	41.53	-59.53	0.19	-41.84
	5388.00	0.68	243.91	104.06	5386.67	40.57	-61.28	1.15	-40.89
	5483.00	0.39	174.16	106.77	5481.66	40.00	-61.76	0.69	-40.32
	5583.00	1.11	209.26	74.33	5581.65	38.82	-62.20	0.82	-39.14
	5678.00	1.90	214.27	74.33	5676.62	36.71	-63.53	0.84	-37.04
	5773.00	2.25	217.42	214.89	5771.56	33.93	-65.55	0.39	-34.27
	5868.00	1.85	229.73	106.77	5866.50	31.46	-67.86	0.62	-31.81
	5963.00	2.03	252.33	58.11	5961.45	29.96	-70.63	0.82	-30.32

**Provide Signature Page for
Directional Survey**

Survey does not
go to total depth -
Contact operator -



6058.00	2.67	246.08	106.77	6056.37	28.55	-74.26	0.72	-28.94
6157.00	2.63	251.12	109.47	6155.26	26.88	-78.51	0.24	-27.29
6247.00	2.48	241.96	112.17	6245.17	25.29	-82.19	0.48	-25.72
6342.00	2.56	235.58	112.17	6340.08	23.13	-85.75	0.31	-23.58
6437.00	2.85	236.77	244.62	6434.97	20.63	-89.47	0.31	-21.10
6532.00	2.32	251.01	112.17	6529.88	18.71	-93.27	0.87	-19.20
6626.00	1.58	256.72	282.47	6623.82	17.80	-96.33	0.81	-18.30
6722.00	1.53	282.71	204.08	6719.79	17.78	-98.87	0.73	-18.29
6816.00	1.97	274.53	117.58	6813.74	18.18	-101.70	0.54	-18.71
6911.00	1.81	289.83	117.58	6908.69	18.82	-104.74	0.56	-19.37
7006.00	1.58	285.28	120.28	7003.65	19.67	-107.42	0.28	-20.23
7101.00	1.99	267.61	120.28	7098.61	19.95	-110.33	0.72	-20.53
7197.00	1.74	258.73	120.28	7194.55	19.59	-113.42	0.40	-20.19
7290.00	2.16	232.55	122.98	7287.50	18.25	-116.20	1.05	-18.86
7385.00	2.66	237.50	204.08	7382.42	15.98	-119.48	0.57	-16.60
7448.00	2.38	228.21	122.98	7445.36	14.32	-121.69	0.78	-14.96
7474.00	2.55	231.43	117.58	7471.33	13.60	-122.54	0.84	-14.24
7504.00	2.81	229.15	117.58	7501.30	12.70	-123.62	0.94	-13.35
7536.00	1.99	235.42	120.28	7533.27	11.88	-124.67	2.69	-12.53
7568.00	3.27	100.06	120.28	7565.26	11.40	-124.23	15.28	-12.05
7599.00	4.81	80.13	122.98	7596.18	11.47	-122.08	6.65	-12.11
7631.00	7.76	54.50	122.98	7627.99	12.95	-119.00	12.51	-13.58
7662.00	10.53	56.59	122.98	7658.59	15.73	-114.93	9.00	-16.33
7694.00	13.22	63.22	128.39	7689.91	18.99	-109.22	9.41	-19.56
7726.00	15.96	67.86	128.39	7720.87	22.30	-101.88	9.30	-22.83
7757.00	19.10	68.30	128.39	7750.43	25.78	-93.21	10.14	-26.27
7789.00	22.63	68.17	128.39	7780.33	30.01	-82.63	11.03	-30.44
7820.00	25.73	71.08	128.39	7808.60	34.41	-70.72	10.71	-34.78
7852.00	28.42	75.65	128.39	7837.10	38.55	-56.77	10.62	-38.84
7884.00	31.43	81.59	131.09	7864.83	41.66	-41.13	13.19	-41.87
7915.00	34.16	87.56	131.09	7890.90	43.21	-24.44	13.64	-43.34
7947.00	37.75	88.94	131.09	7916.80	43.77	-5.66	11.50	-43.80
7978.00	42.00	89.24	131.09	7940.58	44.09	14.21	13.72	-44.01
8010.00	45.87	90.86	131.09	7963.62	44.06	36.41	12.59	-43.87
8042.00	49.28	93.82	131.09	7985.21	43.08	60.00	12.65	-42.76
8073.00	53.41	95.61	131.09	8004.57	41.08	84.12	14.06	-40.63
8105.00	56.78	98.07	131.09	8022.88	37.94	110.16	12.27	-37.36
8137.00	60.67	99.56	131.09	8039.49	33.74	137.18	12.79	-33.02
8168.00	65.16	99.68	128.39	8053.60	29.13	164.39	14.49	-28.27
8199.00	67.29	98.82	122.98	8066.10	24.57	192.39	7.32	-23.56
8231.00	67.11	99.52	128.39	8078.50	19.87	221.51	2.09	-18.71
8263.00	66.94	99.07	122.98	8090.99	15.11	250.58	1.40	-13.80
8294.00	66.74	98.49	128.39	8103.18	10.76	278.75	1.84	-9.30
8326.00	66.49	98.72	125.69	8115.88	6.37	307.79	1.02	-4.76
8357.00	66.55	98.60	128.39	8128.23	2.09	335.90	0.40	-0.33
8389.00	66.63	98.95	128.39	8140.95	2.39	364.92	1.03	4.30
8420.00	66.79	97.98	128.39	8153.21	-6.59	393.09	2.92	8.64
8452.00	67.09	98.87	128.39	8165.74	-10.90	422.21	2.73	13.11
8484.00	67.88	102.26	128.39	8178.00	-16.32	451.27	10.09	18.68
8515.00	69.15	107.19	77.03	8189.36	-23.65	479.15	15.35	26.16
8547.00	71.34	109.94	128.39	8200.17	-33.25	507.69	10.59	35.90
8578.00	72.65	112.02	131.09	8209.76	-43.80	535.22	7.65	46.60
8609.00	73.63	115.44	131.09	8218.75	-55.74	562.37	11.02	58.69
8641.00	74.44	116.92	131.09	8227.55	-69.32	589.98	5.12	72.40
8673.00	74.12	121.21	131.09	8236.23	-84.28	616.90	12.94	87.50
8704.00	73.54	122.82	166.23	8244.86	-100.06	642.14	5.33	103.42
8736.00	73.40	127.31	209.48	8253.97	-117.68	667.24	13.46	121.17
8767.00	74.21	130.80	131.09	8262.62	-136.43	690.36	11.12	140.04
8799.00	74.50	134.80	133.80	8271.25	-157.36	712.96	12.07	161.10
8830.00	73.43	136.28	139.20	8279.81	-178.63	733.83	5.74	182.47
8862.00	74.14	140.12	133.80	8288.75	-201.53	754.30	11.73	205.48
8893.00	74.52	142.16	133.80	8297.13	-224.77	773.03	6.45	228.82
8925.00	76.17	145.92	133.80	8305.22	-249.83	791.20	12.48	253.97
8957.00	77.07	148.89	133.80	8312.63	-276.05	807.97	9.46	280.28
8988.00	77.60	152.25	133.80	8319.43	-302.39	822.83	10.71	306.69
9020.00	78.49	154.67	133.80	8326.06	-330.40	836.81	7.90	334.77
9052.00	79.75	157.57	77.03	8332.10	-359.13	849.53	9.73	363.57
9083.00	82.71	160.75	133.80	8336.83	-387.75	860.42	13.93	392.25
9115.00	83.17	164.47	101.36	8340.76	-418.05	869.91	11.63	422.60
9146.00	85.32	167.80	133.80	8343.87	-447.99	877.30	12.74	452.58
9178.00	85.80	170.88	133.80	8346.35	-479.34	883.20	9.71	483.96
9209.00	86.17	173.78	136.50	8348.52	-509.99	887.33	9.41	514.63



9241.00	86.82	177.87	139.20	8350.48	-541.84	889.65	12.92	546.49
9273.00	89.54	180.47	139.20	8351.49	-573.81	890.11	11.76	578.46
9305.00	90.93	181.43	139.20	8351.36	-605.80	889.58	5.28	610.45
9336.00	91.39	181.61	274.36	8350.73	-636.79	888.76	1.59	641.43
9368.00	91.85	181.90	139.20	8349.83	-668.76	887.78	1.70	673.40
9399.00	91.79	181.49	139.20	8348.84	-699.73	886.87	1.34	704.36
9464.00	92.07	181.52	144.61	8346.66	-764.67	885.16	0.43	769.30
9558.00	92.10	182.02	147.31	8343.24	-858.56	882.26	0.53	863.17
9653.00	90.25	179.78	147.31	8341.29	-953.52	880.77	3.06	958.12
9747.00	90.49	179.57	150.02	8340.68	-1047.52	881.30	0.34	1052.12
9842.00	91.23	180.07	150.02	8339.25	-1142.51	881.60	0.94	1147.11
9936.00	92.80	180.20	152.72	8335.95	-1236.44	881.38	1.68	1241.04
10031.00	93.30	179.52	152.72	8330.89	-1331.31	881.61	0.89	1335.91
10126.00	93.09	178.74	152.72	8325.60	-1426.15	883.05	0.85	1430.75
10221.00	94.94	177.78	152.72	8318.95	-1520.87	885.93	2.19	1525.49
10316.00	94.85	177.22	152.72	8310.84	-1615.43	890.05	0.59	1620.07
10411.00	96.21	179.29	155.42	8301.69	-1709.94	892.94	2.60	1714.59
10506.00	96.15	178.74	155.42	8291.46	-1804.37	894.56	0.58	1809.03
10601.00	94.51	180.68	158.12	8282.63	-1898.95	895.04	2.67	1903.61
10696.00	94.72	180.22	158.12	8274.99	-1993.64	894.29	0.53	1998.29
10791.00	95.59	180.55	158.12	8266.45	-2088.25	893.66	0.98	2092.90
10886.00	92.53	181.05	158.12	8259.73	-2182.99	892.33	3.26	2187.64
10980.00	89.54	180.49	155.42	8258.03	-2276.96	891.07	3.24	2281.59
11076.00	89.69	179.98	355.45	8258.68	-2372.95	890.68	0.55	2377.59
11171.00	89.66	180.18	158.12	8259.22	-2467.95	890.54	0.21	2472.58
11265.00	90.34	180.08	150.02	8259.22	-2561.95	890.33	0.73	2566.58
11359.00	91.66	181.17	152.72	8257.58	-2655.93	889.31	1.82	2660.55
11454.00	91.42	181.45	152.72	8255.02	-2750.87	887.13	0.39	2755.48
11548.00	89.04	181.10	160.83	8254.64	-2844.84	885.04	2.56	2849.43
11643.00	88.80	181.17	158.12	8256.44	-2939.80	883.16	0.26	2944.39
11738.00	90.03	179.45	158.12	8257.41	-3034.79	882.65	2.23	3039.37
11833.00	91.57	178.35	158.12	8256.08	-3129.76	884.47	1.99	3134.35
11928.00	91.48	177.64	160.83	8253.55	-3224.67	887.79	0.75	3229.27
12022.00	92.81	177.93	166.23	8250.03	-3318.53	891.42	1.45	3323.15
12117.00	93.64	178.18	168.94	8244.69	-3413.32	894.64	0.91	3417.96
12211.00	90.62	178.75	168.94	8241.19	-3507.21	897.16	3.27	3511.86
12306.00	92.04	178.84	168.94	8238.99	-3602.16	899.16	1.50	3606.82
12399.00	92.81	178.94	147.31	8235.05	-3695.06	900.96	0.83	3699.73
12493.00	89.66	179.46	150.02	8233.03	-3789.02	902.27	3.40	3793.69
12588.00	89.72	179.41	152.72	8233.54	-3884.01	903.20	0.08	3888.69
12682.00	90.18	179.78	152.72	8233.62	-3978.01	903.87	0.63	3982.69
12777.00	90.34	180.06	155.42	8233.19	-4073.01	904.00	0.34	4077.69
12871.00	90.59	179.89	155.42	8232.43	-4167.01	904.04	0.32	4171.68
12966.00	90.68	180.21	193.27	8231.38	-4262.00	903.96	0.35	4266.68
13061.00	91.23	179.81	193.27	8229.79	-4356.99	903.94	0.72	4361.66
13156.00	91.63	179.54	193.27	8227.42	-4451.96	904.48	0.51	4456.63
13251.00	91.41	179.22	158.12	8224.90	-4546.92	905.51	0.41	4551.60
13345.00	92.04	179.89	158.12	8222.07	-4640.87	906.24	0.98	4645.55
13440.00	91.63	177.92	158.12	8219.03	-4735.80	908.05	2.12	4740.49
13534.00	91.98	178.98	158.12	8216.07	-4829.72	910.60	1.19	4834.42
13629.00	91.33	178.05	158.12	8213.33	-4924.64	913.06	1.19	4929.36
13724.00	92.19	177.88	158.12	8210.41	-5019.54	916.43	0.92	5024.27
13817.00	92.01	178.58	158.12	8207.00	-5112.43	919.30	0.78	5117.17
13912.00	91.91	176.77	163.53	8203.75	-5207.29	923.15	1.91	5212.06
14007.00	91.97	176.90	163.53	8200.54	-5302.09	928.39	0.15	5306.88
14102.00	92.16	176.73	166.23	8197.11	-5396.89	933.67	0.27	5401.70
14197.00	92.10	176.60	166.23	8193.58	-5491.66	939.19	0.15	5496.50
14292.00	92.25	177.05	166.23	8189.98	-5586.44	944.45	0.50	5591.31
14387.00	92.62	177.03	166.23	8185.94	-5681.23	949.35	0.39	5686.13
14482.00	92.93	176.97	168.94	8181.34	-5775.99	954.32	0.33	5780.91
14577.00	92.69	177.08	166.23	8176.68	-5870.75	959.24	0.28	5875.69
14671.00	91.54	177.99	166.23	8173.21	-5964.59	963.28	1.56	5969.56
14766.00	91.70	178.46	168.94	8170.53	-6059.51	966.22	0.52	6064.49