



Tap Rock Resources, LLC

**Eddy County, NM (NAD 83 NME)
(WTG Fed) Sec-27_T26-S_R-29-E
WTG Fed Com #215H**

OWB

Design: AWB

Standard Survey Report

15 September, 2020



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well WTG Fed Com #215H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2910.5usft (H&P 388)
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	MD Reference:	KB @ 2910.5usft (H&P 388)
Well:	WTG Fed Com #215H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Project	Eddy County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	(WTG Fed) Sec-27_T26-S_R-29-E		
Site Position:		Northing:	371,035.00 usft
From:	Map	Easting:	651,080.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 10.419 N
		Longitude:	103° 58' 45.255 W
		Grid Convergence:	0.19 °

Well	WTG Fed Com #215H		
Well Position	+N/-S	0.0 usft	Northing: 371,035.00 usft
	+E/-W	0.0 usft	Easting: 651,105.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 1' 10.419 N
		Longitude:	103° 58' 44.964 W
		Ground Level:	2,884.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/13/19	6.86	59.78	47,522.49839371

Design	AWB				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	181.14	

Survey Program	Date	09/15/20			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
180.0	17,392.0	Intrepid MWD (OWB)	MWD	OWSG MWD - Standard	

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
180.0	0.62	271.57	180.0	0.0	-1.0	0.0	0.34	0.34	0.00
332.0	1.71	190.63	332.0	-2.2	-2.2	2.2	1.13	0.72	-53.25
345.0	1.83	193.16	345.0	-2.6	-2.3	2.6	1.10	0.92	19.37
Rustler Anhydrite									
365.0	2.02	196.43	365.0	-3.2	-2.5	3.3	1.10	0.95	16.40
528.0	3.47	192.03	527.8	-10.8	-4.3	10.9	0.90	0.89	-2.70
623.0	2.51	193.09	622.6	-15.6	-5.4	15.7	1.01	-1.01	1.12
718.0	0.79	127.43	717.6	-18.1	-5.3	18.2	2.42	-1.81	-69.12
813.0	1.10	78.83	812.6	-18.3	-3.9	18.4	0.87	0.33	-51.16
908.0	0.92	17.22	907.6	-17.4	-2.8	17.4	1.10	-0.19	-64.85

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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)
976.0	0.92	3.77	975.6	-16.3	-2.6	16.4	0.32	0.00	-19.78
1,071.0	2.42	18.10	1,070.5	-13.6	-1.9	13.7	1.63	1.58	15.08
1,166.0	3.16	29.87	1,165.4	-9.5	0.0	9.5	0.98	0.78	12.39
1,261.0	2.90	29.87	1,260.3	-5.1	2.5	5.1	0.27	-0.27	0.00
1,285.8	2.87	31.35	1,285.0	-4.0	3.1	4.0	0.32	-0.11	5.96
Top Salt									
1,356.0	2.81	35.67	1,355.2	-1.1	5.1	1.0	0.32	-0.09	6.16
1,450.0	2.46	25.57	1,449.1	2.6	7.3	-2.7	0.62	-0.37	-10.74
1,545.0	3.60	43.06	1,543.9	6.6	10.2	-6.8	1.53	1.20	18.41
1,640.0	4.04	48.33	1,638.7	11.0	14.7	-11.3	0.59	0.46	5.55
1,735.0	3.74	47.36	1,733.5	15.3	19.5	-15.7	0.32	-0.32	-1.02
1,830.0	3.60	55.19	1,828.3	19.1	24.2	-19.6	0.55	-0.15	8.24
1,925.0	2.99	47.63	1,923.1	22.5	28.5	-23.0	0.79	-0.64	-7.96
2,019.0	3.69	41.04	2,017.0	26.4	32.3	-27.0	0.85	0.74	-7.01
2,121.0	3.69	41.47	2,118.8	31.3	36.6	-32.1	0.03	0.00	0.42
2,215.0	3.43	49.65	2,212.6	35.4	40.8	-36.2	0.61	-0.28	8.70
2,310.0	3.82	65.64	2,307.4	38.6	45.8	-39.5	1.14	0.41	16.83
2,405.0	3.34	63.18	2,402.2	41.1	51.2	-42.1	0.53	-0.51	-2.59
2,499.0	4.40	66.26	2,496.0	43.8	56.9	-44.9	1.15	1.13	3.28
2,594.0	5.93	54.48	2,590.6	48.1	64.3	-49.4	1.95	1.61	-12.40
2,638.6	5.63	57.56	2,635.0	50.6	68.0	-52.0	0.96	-0.66	6.90
Base Salt									
2,689.0	5.32	61.43	2,685.2	53.1	72.1	-54.5	0.96	-0.62	7.69
2,783.0	4.22	60.28	2,778.8	56.9	79.0	-58.4	1.17	-1.17	-1.22
2,878.0	6.20	35.50	2,873.4	62.8	85.0	-64.5	3.11	2.08	-26.08
2,879.6	6.20	35.50	2,875.0	62.9	85.1	-64.6	0.00	0.00	0.00
Delaware Mountain Gp									
2,909.7	6.13	36.23	2,905.0	65.6	87.0	-67.3	0.34	-0.22	2.43
Lamar - Bell Canyon									
2,950.0	6.05	37.19	2,945.0	69.0	89.5	-70.8	0.32	-0.20	2.37
Ramsey Sand									
3,052.0	5.85	39.72	3,046.5	77.3	96.1	-79.2	0.32	-0.20	2.48
3,147.0	6.95	40.07	3,140.9	85.4	102.9	-87.4	1.16	1.16	0.37
3,242.0	9.67	44.38	3,234.9	95.5	112.2	-97.7	2.94	2.86	4.54
3,337.0	11.82	47.01	3,328.2	107.8	124.9	-110.3	2.32	2.26	2.77
3,431.0	11.91	46.05	3,420.2	121.1	138.9	-123.9	0.23	0.10	-1.02
3,526.0	12.13	45.08	3,513.1	135.0	153.0	-138.0	0.31	0.23	-1.02
3,621.0	12.70	45.34	3,605.9	149.4	167.5	-152.7	0.60	0.60	0.27
3,686.7	12.82	44.73	3,670.0	159.6	177.8	-163.1	0.28	0.19	-0.93
Cherry Canyon									
3,716.0	12.88	44.46	3,698.5	164.3	182.4	-167.9	0.28	0.19	-0.92
3,810.0	12.00	43.50	3,790.3	178.8	196.4	-182.7	0.96	-0.94	-1.02
3,905.0	12.44	42.18	3,883.2	193.6	210.1	-197.7	0.55	0.46	-1.39
4,000.0	12.48	41.21	3,975.9	208.9	223.7	-213.3	0.22	0.04	-1.02

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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)
4,094.0	13.23	41.74	4,067.6	224.6	237.6	-229.2	0.81	0.80	0.56
4,188.0	13.49	49.56	4,159.1	239.7	253.1	-244.7	1.94	0.28	8.32
4,283.0	13.41	48.33	4,251.4	254.2	269.7	-259.5	0.31	-0.08	-1.29
4,378.0	11.12	53.52	4,344.3	267.0	285.3	-272.6	2.67	-2.41	5.46
4,472.0	11.78	51.23	4,436.4	278.4	300.1	-284.3	0.85	0.70	-2.44
4,567.0	11.08	53.87	4,529.5	289.8	315.0	-296.0	0.92	-0.74	2.78
4,662.0	9.89	56.77	4,622.9	299.7	329.2	-306.2	1.37	-1.25	3.05
4,757.0	10.24	56.42	4,716.5	308.8	343.1	-315.6	0.37	0.37	-0.37
4,851.0	10.46	56.50	4,808.9	318.2	357.2	-325.2	0.23	0.23	0.09
4,946.0	8.70	58.17	4,902.6	326.7	370.5	-334.0	1.88	-1.85	1.76
5,040.0	7.08	60.11	4,995.7	333.3	381.5	-340.9	1.75	-1.72	2.06
5,054.4	7.07	60.28	5,010.0	334.2	383.1	-341.8	0.16	-0.05	1.19
Brushy Canyon									
5,135.0	7.03	61.25	5,090.0	339.1	391.7	-346.8	0.16	-0.05	1.20
5,230.0	6.86	61.60	5,184.3	344.5	401.8	-352.5	0.18	-0.18	0.37
5,325.0	6.51	61.87	5,278.7	349.8	411.5	-357.9	0.37	-0.37	0.28
5,420.0	6.68	61.07	5,373.0	355.0	421.1	-363.3	0.20	0.18	-0.84
5,515.0	5.98	59.49	5,467.5	360.2	430.2	-368.7	0.76	-0.74	-1.66
5,610.0	5.01	60.81	5,562.0	364.7	438.1	-373.4	1.03	-1.02	1.39
5,704.0	4.62	62.22	5,655.7	368.5	445.0	-377.3	0.43	-0.41	1.50
5,799.0	4.00	61.78	5,750.4	371.8	451.3	-380.7	0.65	-0.65	-0.46
5,894.0	4.04	62.39	5,845.2	375.0	457.2	-384.0	0.06	0.04	0.64
5,989.0	3.96	64.06	5,939.9	377.9	463.1	-387.1	0.15	-0.08	1.76
6,084.0	4.09	61.95	6,034.7	381.0	469.1	-390.2	0.21	0.14	-2.22
6,179.0	3.82	64.41	6,129.5	383.9	474.9	-393.3	0.34	-0.28	2.59
6,273.0	3.34	71.36	6,223.3	386.2	480.4	-395.6	0.69	-0.51	7.39
6,368.0	2.95	76.89	6,318.2	387.6	485.4	-397.2	0.52	-0.41	5.82
6,463.0	2.55	87.27	6,413.1	388.2	489.8	-397.9	0.67	-0.42	10.93
6,558.0	2.11	89.99	6,508.0	388.3	493.7	-398.1	0.48	-0.46	2.86
6,600.1	1.95	93.35	6,550.0	388.3	495.2	-398.1	0.48	-0.38	8.00
Bone Spring Lime									
6,652.0	1.76	98.34	6,601.9	388.1	496.9	-397.9	0.48	-0.36	9.60
6,718.1	1.90	107.02	6,668.0	387.7	498.9	-397.5	0.47	0.22	13.13
Upper Avalon									
6,747.0	1.98	110.38	6,696.9	387.4	499.8	-397.2	0.47	0.26	11.63
6,841.0	1.89	123.65	6,790.8	385.9	502.7	-395.9	0.49	-0.10	14.12
6,936.0	1.71	146.24	6,885.8	383.9	504.8	-393.9	0.76	-0.19	23.78
7,031.0	2.37	150.20	6,980.7	381.0	506.5	-391.0	0.71	0.69	4.17
7,102.3	2.29	161.52	7,052.0	378.4	507.7	-388.4	0.65	-0.11	15.87
Middle Avalon									
7,125.0	2.29	165.22	7,074.6	377.5	508.0	-387.5	0.65	-0.02	16.33
7,220.0	2.15	211.72	7,169.6	374.2	507.5	-384.2	1.85	-0.15	48.95
7,304.5	2.61	250.23	7,254.0	372.2	504.9	-382.1	1.93	0.54	45.58
Lower Avalon									

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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)
7,315.0	2.73	253.73	7,264.5	372.0	504.4	-382.0	1.93	1.15	33.28
7,409.0	3.38	261.99	7,358.4	371.0	499.5	-380.9	0.83	0.69	8.79
7,503.0	4.04	275.79	7,452.2	370.9	493.5	-380.7	1.18	0.70	14.68
7,596.1	4.82	279.76	7,545.0	371.9	486.3	-381.5	0.90	0.84	4.27
1st Bone Spring Sand									
7,598.0	4.84	279.83	7,546.9	372.0	486.2	-381.6	0.90	0.85	3.56
7,693.0	3.56	285.28	7,641.6	373.4	479.4	-382.9	1.41	-1.35	5.74
7,788.0	2.51	304.27	7,736.5	375.4	474.8	-384.7	1.52	-1.11	19.99
7,882.0	1.76	314.29	7,830.4	377.5	472.1	-386.9	0.89	-0.80	10.66
7,884.6	1.73	314.26	7,833.0	377.6	472.0	-386.9	1.16	-1.16	-1.16
2nd Bone Spring Carb									
7,977.0	0.66	311.39	7,925.4	378.9	470.6	-388.2	1.16	-1.16	-3.11
8,072.0	0.35	260.85	8,020.4	379.2	469.9	-388.5	0.54	-0.33	-53.20
8,146.6	0.15	332.73	8,095.0	379.3	469.7	-388.5	0.45	-0.27	96.34
2nd Bone Spring Sand									
8,167.0	0.18	3.07	8,115.4	379.3	469.7	-388.6	0.45	0.17	148.78
8,261.0	0.70	51.41	8,209.4	379.8	470.1	-389.1	0.63	0.55	51.43
8,356.0	1.54	116.09	8,304.4	379.6	471.7	-388.9	1.47	0.88	68.08
8,451.0	3.38	143.08	8,399.3	376.8	474.5	-386.2	2.24	1.94	28.41
8,545.0	3.16	153.10	8,493.1	372.3	477.4	-381.7	0.65	-0.23	10.66
8,640.0	2.81	152.57	8,588.0	367.9	479.6	-377.4	0.37	-0.37	-0.56
8,735.0	2.15	127.70	8,682.9	364.8	482.1	-374.3	1.31	-0.69	-26.18
8,753.1	2.08	126.01	8,701.0	364.4	482.7	-373.9	0.52	-0.39	-9.33
3rd Bone Spring Carb									
8,830.0	1.80	117.41	8,777.9	363.0	484.9	-372.6	0.52	-0.36	-11.18
8,924.0	0.88	87.62	8,871.8	362.3	486.9	-371.9	1.20	-0.98	-31.69
9,019.0	0.79	98.08	8,966.8	362.3	488.3	-371.9	0.19	-0.09	11.01
9,114.0	1.10	142.72	9,061.8	361.4	489.5	-371.1	0.81	0.33	46.99
9,209.0	1.14	154.50	9,156.8	359.9	490.4	-369.6	0.25	0.04	12.40
9,303.0	0.97	169.71	9,250.8	358.2	491.0	-367.9	0.35	-0.18	16.18
9,398.0	1.05	176.65	9,345.8	356.6	491.2	-366.3	0.15	0.08	7.31
9,417.2	1.10	172.45	9,365.0	356.2	491.2	-365.9	0.48	0.26	-21.86
3rd Bone Spring Sand									
9,461.0	1.23	164.26	9,408.8	355.4	491.4	-365.1	0.48	0.30	-18.70
9,618.0	1.58	169.00	9,565.7	351.6	492.3	-361.3	0.23	0.22	3.02
9,713.0	6.55	172.96	9,660.4	344.9	493.2	-354.7	5.24	5.23	4.17
9,727.7	8.93	178.19	9,675.0	343.0	493.3	-352.7	16.87	16.19	35.58
3rd BS W Sand									
9,807.0	22.15	186.67	9,751.2	321.9	491.8	-331.6	16.87	16.67	10.69
9,821.9	22.92	186.70	9,765.0	316.2	491.1	-325.9	5.19	5.19	0.22
Wolfcamp A X Sand									
9,902.0	27.08	186.85	9,837.6	282.6	487.1	-292.2	5.19	5.19	0.18
9,938.5	27.86	188.36	9,870.0	265.9	484.9	-275.5	2.87	2.13	4.14
Wolfcamp A Y Sand									
9,997.0	29.14	190.63	9,921.4	238.4	480.3	-247.9	2.87	2.19	3.88

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10,061.4	37.91	186.94	9,975.0	203.3	475.0	-212.7	13.99	13.63	-5.73
Wolfcamp A Lower									
10,091.0	41.98	185.70	9,997.7	184.4	472.9	-193.7	13.99	13.73	-4.18
10,166.9	49.15	177.97	10,050.8	130.3	471.4	-139.7	11.91	9.45	-10.18
FTP @ 10166.9'MD, 330'FNL & 912.8'FWL									
10,186.0	51.03	176.30	10,063.1	115.7	472.1	-125.0	11.91	9.83	-8.77
10,281.0	56.44	175.33	10,119.3	39.3	477.7	-48.8	5.75	5.69	-1.02
10,376.0	65.89	180.61	10,165.1	-43.7	480.5	34.2	11.07	9.95	5.56
10,471.0	80.44	187.11	10,192.5	-134.1	474.2	124.7	16.65	15.32	6.84
10,565.0	82.64	183.86	10,206.4	-226.7	465.3	217.4	4.14	2.34	-3.46
10,596.5	84.11	182.68	10,210.0	-257.9	463.5	248.6	5.98	4.68	-3.75
Wolfcamp B									
10,657.0	86.95	180.43	10,214.7	-318.2	461.9	308.9	5.98	4.69	-3.72
10,752.0	87.65	179.02	10,219.2	-413.1	462.3	403.8	1.66	0.74	-1.48
10,846.0	87.82	179.02	10,222.9	-507.0	463.9	497.7	0.18	0.18	0.00
10,941.0	89.54	179.90	10,225.1	-602.0	464.8	592.6	2.03	1.81	0.93
11,036.0	91.34	180.17	10,224.4	-696.9	464.8	687.6	1.92	1.89	0.28
11,131.0	91.56	180.87	10,222.0	-791.9	463.9	782.5	0.77	0.23	0.74
11,225.0	92.75	181.40	10,218.4	-885.8	462.1	876.5	1.39	1.27	0.56
11,320.0	91.43	181.48	10,215.0	-980.7	459.7	971.4	1.39	-1.39	0.08
11,414.0	91.21	182.01	10,212.8	-1,074.7	456.8	1,065.4	0.61	-0.23	0.56
11,508.0	90.33	181.22	10,211.5	-1,168.6	454.2	1,159.3	1.26	-0.94	-0.84
11,603.0	90.86	182.19	10,210.5	-1,263.6	451.3	1,254.3	1.16	0.56	1.02
11,697.0	90.46	183.15	10,209.5	-1,357.5	447.0	1,348.3	1.11	-0.43	1.02
11,792.0	91.21	184.65	10,208.1	-1,452.2	440.5	1,443.2	1.77	0.79	1.58
11,886.0	89.45	181.66	10,207.5	-1,546.1	435.3	1,537.1	3.69	-1.87	-3.18
11,981.0	89.93	181.84	10,208.0	-1,641.0	432.4	1,632.1	0.54	0.51	0.19
12,076.0	90.15	181.57	10,208.0	-1,736.0	429.6	1,727.1	0.37	0.23	-0.28
12,171.0	89.85	183.07	10,208.0	-1,830.9	425.8	1,822.1	1.61	-0.32	1.58
12,266.0	89.27	182.89	10,208.7	-1,925.8	420.8	1,917.0	0.64	-0.61	-0.19
12,361.0	88.79	182.01	10,210.3	-2,020.7	416.8	2,012.0	1.06	-0.51	-0.93
12,455.0	88.22	182.45	10,212.8	-2,114.6	413.1	2,105.9	0.77	-0.61	0.47
12,550.0	88.88	181.66	10,215.2	-2,209.5	409.7	2,200.9	1.08	0.69	-0.83
12,644.0	88.57	180.34	10,217.3	-2,303.4	408.1	2,294.9	1.44	-0.33	-1.40
12,738.0	89.63	180.17	10,218.7	-2,397.4	407.6	2,388.8	1.14	1.13	-0.18
12,833.0	91.47	180.61	10,217.8	-2,492.4	407.0	2,483.8	1.99	1.94	0.46
12,927.0	91.69	180.08	10,215.2	-2,586.4	406.4	2,577.8	0.61	0.23	-0.56
13,022.0	92.84	180.61	10,211.5	-2,681.3	405.9	2,672.7	1.33	1.21	0.56
13,117.0	92.00	179.90	10,207.5	-2,776.2	405.4	2,767.6	1.16	-0.88	-0.75
13,211.0	93.01	180.17	10,203.4	-2,870.1	405.4	2,861.5	1.11	1.07	0.29
13,305.0	91.69	178.85	10,199.5	-2,964.0	406.2	2,955.4	1.99	-1.40	-1.40
13,400.0	92.40	179.46	10,196.1	-3,058.9	407.6	3,050.2	0.99	0.75	0.64
13,494.0	89.80	176.39	10,194.3	-3,152.8	411.0	3,144.0	4.28	-2.77	-3.27
13,589.0	89.01	176.74	10,195.3	-3,247.7	416.7	3,238.7	0.91	-0.83	0.37

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well WTG Fed Com #215H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2910.5usft (H&P 388)
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	MD Reference:	KB @ 2910.5usft (H&P 388)
Well:	WTG Fed Com #215H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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)
13,684.0	89.67	177.18	10,196.4	-3,342.5	421.7	3,333.5	0.83	0.69	0.46
13,778.0	93.98	180.43	10,193.4	-3,436.4	423.7	3,427.3	5.74	4.59	3.46
13,873.0	92.04	180.43	10,188.4	-3,531.3	423.0	3,522.2	2.04	-2.04	0.00
13,967.0	90.20	180.96	10,186.6	-3,625.3	421.8	3,616.2	2.04	-1.96	0.56
14,062.0	89.49	181.92	10,186.8	-3,720.2	419.4	3,711.1	1.26	-0.75	1.01
14,157.0	89.10	182.45	10,188.0	-3,815.2	415.8	3,806.1	0.69	-0.41	0.56
14,251.0	88.44	182.89	10,190.0	-3,909.0	411.4	3,900.1	0.84	-0.70	0.47
14,345.0	88.57	183.24	10,192.5	-4,002.9	406.4	3,994.0	0.40	0.14	0.37
14,440.0	87.56	183.15	10,195.7	-4,097.7	401.1	4,088.9	1.07	-1.06	-0.09
14,534.0	89.67	181.13	10,198.0	-4,191.6	397.6	4,182.8	3.11	2.24	-2.15
14,629.0	88.75	180.96	10,199.3	-4,286.5	395.9	4,277.8	0.98	-0.97	-0.18
14,724.0	90.02	180.25	10,200.3	-4,381.5	394.9	4,372.8	1.53	1.34	-0.75
14,818.0	89.19	180.17	10,200.9	-4,475.5	394.5	4,466.8	0.89	-0.88	-0.09
14,913.0	89.76	180.17	10,201.8	-4,570.5	394.2	4,561.8	0.60	0.60	0.00
15,008.0	89.85	180.69	10,202.1	-4,665.5	393.5	4,656.8	0.56	0.09	0.55
15,103.0	90.99	180.34	10,201.4	-4,760.5	392.7	4,751.7	1.26	1.20	-0.37
15,197.0	91.69	179.90	10,199.2	-4,854.5	392.5	4,845.7	0.88	0.74	-0.47
15,292.0	91.03	179.64	10,197.0	-4,949.4	392.9	4,940.6	0.75	-0.69	-0.27
15,387.0	90.42	179.64	10,195.8	-5,044.4	393.5	5,035.6	0.64	-0.64	0.00
15,482.0	89.93	179.38	10,195.5	-5,139.4	394.3	5,130.6	0.58	-0.52	-0.27
15,576.0	89.93	179.81	10,195.6	-5,233.4	394.9	5,224.5	0.46	0.00	0.46
15,671.0	90.59	180.52	10,195.2	-5,328.4	394.7	5,319.5	1.02	0.69	0.75
15,766.0	89.98	180.17	10,194.7	-5,423.4	394.1	5,414.5	0.74	-0.64	-0.37
15,860.0	90.51	180.61	10,194.3	-5,517.4	393.5	5,508.5	0.73	0.56	0.47
15,955.0	90.95	180.34	10,193.1	-5,612.4	392.7	5,603.5	0.54	0.46	-0.28
16,049.0	90.55	179.99	10,191.9	-5,706.4	392.4	5,697.5	0.57	-0.43	-0.37
16,144.0	89.89	179.73	10,191.5	-5,801.4	392.6	5,792.4	0.75	-0.69	-0.27
16,238.0	89.19	179.73	10,192.2	-5,895.4	393.1	5,886.4	0.74	-0.74	0.00
16,332.0	89.89	180.25	10,193.0	-5,989.4	393.1	5,980.4	0.93	0.74	0.55
16,427.0	91.34	180.17	10,192.0	-6,084.4	392.7	6,075.4	1.53	1.53	-0.08
16,521.0	91.21	179.90	10,189.9	-6,178.4	392.7	6,169.3	0.32	-0.14	-0.29
16,616.0	90.90	179.64	10,188.1	-6,273.3	393.1	6,264.3	0.43	-0.33	-0.27
16,711.0	91.82	179.81	10,185.9	-6,368.3	393.5	6,359.2	0.98	0.97	0.18
16,806.0	92.92	180.43	10,182.0	-6,463.2	393.3	6,454.1	1.33	1.16	0.65
16,901.0	92.48	180.78	10,177.5	-6,558.1	392.3	6,549.0	0.59	-0.46	0.37
16,995.0	92.00	180.96	10,173.8	-6,652.0	390.9	6,642.9	0.55	-0.51	0.19
17,090.0	92.04	180.61	10,170.5	-6,747.0	389.6	6,737.9	0.37	0.04	-0.37
17,185.0	91.69	180.34	10,167.4	-6,841.9	388.8	6,832.8	0.47	-0.37	-0.28
17,279.0	89.45	180.87	10,166.4	-6,935.9	387.8	6,926.8	2.45	-2.38	0.56
17,322.0	89.36	180.78	10,166.9	-6,978.9	387.2	6,969.8	0.30	-0.21	-0.21
LAST SVY									
17,322.8	89.36	180.78	10,166.9	-6,979.7	387.2	6,970.6	0.00	0.00	0.00
LTP @ 17322.8'MD, 100'FSL & 971'FWL									

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well WTG Fed Com #215H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2910.5usft (H&P 388)
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	MD Reference:	KB @ 2910.5usft (H&P 388)
Well:	WTG Fed Com #215H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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)
17,392.0	89.36	180.78	10,167.7	-7,048.9	386.2	7,039.8	0.00	0.00	0.00
Projection to TD @ 17392'MD, 30.9'FSL & 969.8FWL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP (WTG Fed Com # - hit/miss target - Shape - Point	0.00	0.00	10,164.0	-6,980.0	362.0	364,055.00	651,467.00	32° 0' 1.331 N	103° 58' 41.026 W
- actual wellpath misses target center by 25.3usft at 17322.8usft MD (10166.9 TVD, -6979.7 N, 387.2 E)									
PBHL (WTG Fed Corr - actual wellpath misses target center by 35.8usft at 17392.0usft MD (10167.7 TVD, -7048.9 N, 386.2 E) - Rectangle (sides W100.0 H2,288.1 D30.0)	-0.40	179.84	10,164.0	-7,075.0	362.0	363,960.00	651,467.00	32° 0' 0.391 N	103° 58' 41.030 W
P.I. (WTG Fed Com # - actual wellpath misses target center by 41.2usft at 15130.1usft MD (10200.9 TVD, -4787.6 N, 392.5 E) - Rectangle (sides W100.0 H4,917.0 D30.0)	-0.40	181.73	10,180.0	-4,787.0	357.0	366,248.00	651,462.00	32° 0' 23.034 N	103° 58' 41.000 W
FTP (WTG Fed Com # - actual wellpath misses target center by 129.8usft at 10266.1usft MD (10111.0 TVD, 51.6 N, 476.7 E) - Point	0.00	0.00	10,212.0	128.0	505.0	371,163.00	651,610.00	32° 1' 11.669 N	103° 58' 39.094 W

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well WTG Fed Com #215H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2910.5usft (H&P 388)
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	MD Reference:	KB @ 2910.5usft (H&P 388)
Well:	WTG Fed Com #215H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
345.0	345.0	Rustler Anhydrite			
1,285.8	1,285.0	Top Salt			
2,638.6	2,635.0	Base Salt			
2,879.6	2,875.0	Delaware Mountain Gp			
2,909.7	2,905.0	Lamar			
2,909.7	2,905.0	Bell Canyon			
2,950.0	2,945.0	Ramsey Sand			
3,686.7	3,670.0	Cherry Canyon			
5,054.4	5,010.0	Brushy Canyon			
6,600.1	6,550.0	Bone Spring Lime			
6,718.1	6,668.0	Upper Avalon			
7,102.3	7,052.0	Middle Avalon			
7,304.5	7,254.0	Lower Avalon			
7,596.1	7,545.0	1st Bone Spring Sand			
7,884.6	7,833.0	2nd Bone Spring Carb			
8,146.6	8,095.0	2nd Bone Spring Sand			
8,753.1	8,701.0	3rd Bone Spring Carb			
9,417.2	9,365.0	3rd Bone Spring Sand			
9,727.7	9,675.0	3rd BS W Sand			
9,821.9	9,765.0	Wolfcamp A X Sand			
9,938.5	9,870.0	Wolfcamp A Y Sand			
10,061.4	9,975.0	Wolfcamp A Lower			
10,596.5	10,210.0	Wolfcamp B			

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,166.9	10,050.8	130.3	471.4	FTP @ 10166.9'MD, 330'FNL & 912.8'FWL
17,322.0	10,166.9	-6,978.9	387.2	LAST SVY
17,322.8	10,166.9	-6,979.7	387.2	LTP @ 17322.8'MD, 100'FSL & 971'FWL
17,392.0	10,167.7	-7,048.9	386.2	Projection to TD @ 17392'MD, 30.9'FSL & 969.8'FWL

Checked By: _____ Approved By: _____ Date: _____