



Tap Rock Resources, LLC

**Lea County, NM (NAD 83 NME)
(Zeus State) Sec-9_T24-S_R-33-E
Zeus Unit State #186H**

OWB

Design: AWB

Standard Survey Report

19 November, 2019





Operator: Taprock Resources LLC
Well Name: Zeus Unit State #186H
County: Lea
State: New Mexico
Rig Name: H&P 388
API Number: 30-025-45845

Intrepid Directional Drilling Specialists certifies that the surveys performed on the above referenced well are true and correct MWD surveys, data provided as follows:

Surveyor: Intrepid Directional Drilling Specialists
Survey Depths: 9428' MD – 14804' MD
Projection to Bit: 14870' MD
Dates Performed: 11/06/2019 – 11/19/2019
Type of Survey: MWD

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim", with a stylized flourish at the end.

James Burleson
Vice President of MWD Operations
Intrepid Directional Drilling Specialists



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus Unit State #186H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3644.0usft (H&P 388)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3644.0usft (H&P 388)
Well:	Zeus Unit State #186H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Project	Lea 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	(Zeus State) Sec-9_T24-S_R-33-E		
Site Position:		Northing:	447,193.00 usft
From:	Map	Easting:	777,416.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 37.575 N
		Longitude:	103° 34' 11.577 W
		Grid Convergence:	0.41 °

Well	Zeus Unit State #186H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/26/19	6.70	60.03	47,695.31774767

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	359.59	

Survey Program	Date	11/19/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
44.6	9,334.0	Gyro Svys (OWB)	GYRO-NS	OWSG Gyrocompass Gyro	
9,428.0	14,870.0	Intrepid MWD Crv/Lat (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	
44.6	0.14	92.81	44.6	0.0	0.1	0.0	0.31	0.31	0.00	
139.4	0.55	192.18	139.4	-0.5	0.1	-0.5	0.62	0.43	104.83	
234.2	0.70	196.19	234.2	-1.5	-0.2	-1.5	0.16	0.16	4.23	
328.9	0.72	187.60	328.9	-2.6	-0.4	-2.6	0.11	0.02	-9.06	
423.7	0.77	184.66	423.7	-3.8	-0.6	-3.8	0.07	0.05	-3.10	
518.5	0.82	178.77	518.5	-5.1	-0.6	-5.1	0.10	0.05	-6.21	
613.3	0.80	176.60	613.3	-6.5	-0.5	-6.5	0.04	-0.02	-2.29	
708.1	0.76	179.41	708.1	-7.8	-0.5	-7.8	0.06	-0.04	2.96	
802.9	0.63	193.74	802.8	-8.9	-0.6	-8.9	0.23	-0.14	15.12	

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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)
897.7	0.73	243.87	897.6	-9.7	-1.3	-9.7	0.62	0.11	52.89
992.5	0.70	233.57	992.4	-10.3	-2.3	-10.3	0.14	-0.03	-10.87
1,087.3	0.86	246.07	1,087.2	-10.9	-3.4	-10.9	0.25	0.17	13.19
1,182.1	0.82	221.29	1,182.0	-11.7	-4.5	-11.7	0.38	-0.04	-26.14
1,264.1	0.61	256.12	1,264.0	-12.3	-5.3	-12.2	0.58	-0.26	42.46
Rustler Anhydrite									
1,276.8	0.60	263.09	1,276.8	-12.3	-5.4	-12.2	0.58	-0.05	54.65
1,371.6	0.28	266.21	1,371.5	-12.4	-6.2	-12.3	0.34	-0.34	3.29
1,466.4	0.09	154.25	1,466.3	-12.4	-6.4	-12.4	0.34	-0.20	-118.11
1,561.2	0.38	337.94	1,561.1	-12.2	-6.4	-12.2	0.50	0.31	-186.00
1,656.0	0.77	277.80	1,655.9	-11.8	-7.2	-11.8	0.70	0.41	-63.45
1,750.8	0.91	229.15	1,750.7	-12.2	-8.4	-12.2	0.74	0.15	-51.32
1,766.1	1.20	227.38	1,766.0	-12.4	-8.6	-12.4	1.94	1.92	-11.55
Top Salt									
1,845.6	2.74	224.33	1,845.4	-14.4	-10.5	-14.3	1.94	1.93	-3.84
1,940.4	4.47	212.06	1,940.0	-19.1	-14.1	-19.0	1.99	1.83	-12.94
2,035.2	6.08	218.81	2,034.4	-26.2	-19.2	-26.0	1.82	1.70	7.12
2,130.0	6.10	213.31	2,128.7	-34.3	-25.1	-34.1	0.62	0.02	-5.80
2,224.7	6.94	217.16	2,222.8	-43.0	-31.3	-42.8	1.00	0.89	4.06
2,319.5	7.09	220.48	2,316.9	-52.1	-38.6	-51.8	0.46	0.16	3.50
2,414.3	7.05	227.51	2,411.0	-60.4	-46.7	-60.1	0.91	-0.04	7.42
2,509.1	6.72	223.29	2,505.1	-68.4	-54.8	-68.0	0.64	-0.35	-4.45
2,603.9	6.42	207.61	2,599.3	-77.1	-61.0	-76.7	1.91	-0.32	-16.54
2,698.7	6.30	217.12	2,693.5	-86.0	-66.6	-85.5	1.12	-0.13	10.03
2,793.5	6.09	218.08	2,787.7	-94.1	-72.9	-93.6	0.25	-0.22	1.01
2,888.3	5.85	215.66	2,882.0	-102.0	-78.8	-101.4	0.37	-0.25	-2.55
2,983.1	5.50	217.47	2,976.3	-109.5	-84.4	-108.9	0.41	-0.37	1.91
3,077.9	5.20	216.43	3,070.7	-116.6	-89.7	-115.9	0.33	-0.32	-1.10
3,172.6	6.75	215.57	3,165.0	-124.5	-95.5	-123.9	1.64	1.64	-0.91
3,267.4	7.08	206.47	3,259.1	-134.3	-101.3	-133.6	1.21	0.35	-9.60
3,362.2	6.79	210.20	3,353.2	-144.4	-106.7	-143.6	0.56	-0.31	3.94
3,457.0	6.22	209.55	3,447.4	-153.7	-112.1	-152.9	0.61	-0.60	-0.69
3,551.8	5.81	207.90	3,541.6	-162.4	-116.9	-161.6	0.47	-0.43	-1.74
3,646.6	5.71	208.76	3,635.9	-170.8	-121.4	-169.9	0.14	-0.11	0.91
3,741.4	6.26	212.77	3,730.2	-179.3	-126.4	-178.3	0.73	0.58	4.23
3,836.2	5.58	214.45	3,824.5	-187.4	-131.9	-186.5	0.74	-0.72	1.77
3,931.0	5.22	212.78	3,918.9	-194.8	-136.8	-193.8	0.41	-0.38	-1.76
4,025.8	5.02	214.18	4,013.3	-201.9	-141.5	-200.9	0.25	-0.21	1.48
4,120.5	5.02	209.90	4,107.7	-208.9	-145.9	-207.9	0.40	0.00	-4.52
4,215.3	5.13	211.02	4,202.1	-216.1	-150.1	-215.1	0.16	0.12	1.18
4,310.1	4.75	216.85	4,296.6	-222.9	-154.6	-221.8	0.66	-0.40	6.15
4,404.9	5.90	212.20	4,390.9	-230.2	-159.6	-229.0	1.29	1.21	-4.91
4,499.7	5.54	194.64	4,485.3	-238.7	-163.3	-237.5	1.88	-0.38	-18.53

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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)
4,594.5	5.90	188.37	4,579.6	-248.0	-165.2	-246.8	0.76	0.38	-6.61
4,689.3	6.26	195.75	4,673.8	-257.8	-167.3	-256.6	0.91	0.38	7.79
4,784.1	6.90	190.29	4,768.0	-268.3	-169.7	-267.1	0.94	0.68	-5.76
4,878.9	7.89	191.16	4,862.0	-280.3	-172.0	-279.1	1.05	1.04	0.92
4,973.7	8.26	195.80	4,955.9	-293.3	-175.1	-292.0	0.79	0.39	4.90
4,990.0	8.10	197.25	4,972.0	-295.5	-175.8	-294.2	1.59	-0.96	8.92
Base Salt									
5,068.4	7.43	205.05	5,049.8	-305.4	-179.6	-304.1	1.59	-0.86	9.93
5,163.2	6.92	218.86	5,143.8	-315.4	-185.8	-314.0	1.89	-0.54	14.57
5,239.9	6.45	221.95	5,220.0	-322.2	-191.5	-320.8	0.77	-0.61	4.02
Delaware Mountain Gp									
5,248.0	6.40	222.30	5,228.0	-322.8	-192.1	-321.4	0.77	-0.60	4.35
Lamar									
5,258.0	6.34	222.74	5,238.0	-323.7	-192.9	-322.3	0.77	-0.60	4.42
5,273.2	6.38	223.30	5,253.0	-324.9	-194.0	-323.5	0.49	0.26	3.72
Bell Canyon									
5,292.3	6.43	224.00	5,272.0	-326.4	-195.5	-325.0	0.49	0.27	3.67
Ramsey Sand									
5,352.8	6.60	226.15	5,332.2	-331.3	-200.4	-329.8	0.49	0.28	3.55
5,447.6	6.67	226.26	5,426.3	-338.9	-208.3	-337.4	0.08	0.07	0.12
5,542.4	6.58	228.14	5,520.5	-346.3	-216.3	-344.7	0.25	-0.09	1.98
5,637.2	6.70	230.85	5,614.6	-353.4	-224.6	-351.8	0.35	0.13	2.86
5,732.0	6.59	223.27	5,708.8	-360.8	-232.7	-359.2	0.93	-0.12	-8.00
5,826.8	6.44	219.18	5,803.0	-368.9	-239.7	-367.2	0.51	-0.16	-4.31
5,921.6	6.79	222.58	5,897.1	-377.2	-246.9	-375.4	0.55	0.37	3.59
6,016.3	5.20	230.07	5,991.4	-384.1	-254.0	-382.2	1.87	-1.68	7.90
6,111.1	4.27	234.39	6,085.9	-388.9	-260.1	-387.0	1.05	-0.98	4.56
6,205.9	3.78	249.56	6,180.4	-392.0	-265.9	-390.1	1.23	-0.52	16.00
6,213.5	3.70	248.94	6,188.0	-392.2	-266.4	-390.3	1.22	-1.10	-8.21
Cherry Canyon									
6,300.7	2.78	239.16	6,275.0	-394.3	-270.8	-392.3	1.22	-1.05	-11.21
6,395.5	3.01	234.21	6,369.7	-396.9	-274.8	-394.9	0.36	0.24	-5.22
6,490.3	1.96	240.67	6,464.4	-399.2	-278.3	-397.2	1.14	-1.11	6.82
6,585.1	1.46	261.84	6,559.2	-400.1	-280.9	-398.1	0.84	-0.53	22.33
6,679.9	1.57	220.49	6,653.9	-401.3	-282.9	-399.3	1.13	0.12	-43.62
6,774.7	1.52	270.78	6,748.7	-402.3	-285.0	-400.2	1.39	-0.05	53.05
6,869.5	1.68	262.88	6,843.4	-402.4	-287.6	-400.4	0.29	0.17	-8.33
6,964.2	1.83	257.24	6,938.2	-402.9	-290.5	-400.8	0.24	0.16	-5.95
7,059.0	1.35	262.45	7,032.9	-403.4	-293.1	-401.3	0.53	-0.51	5.50
7,153.8	1.48	271.51	7,127.7	-403.5	-295.4	-401.4	0.27	0.14	9.56
7,248.6	1.49	266.87	7,222.5	-403.6	-297.9	-401.4	0.13	0.01	-4.90
7,343.4	1.44	272.79	7,317.2	-403.6	-300.3	-401.4	0.17	-0.05	6.25
7,438.2	1.44	270.52	7,412.0	-403.5	-302.7	-401.3	0.06	0.00	-2.39
7,533.0	1.75	294.13	7,506.7	-402.9	-305.2	-400.7	0.76	0.33	24.91
7,627.8	1.75	302.66	7,601.5	-401.5	-307.7	-399.3	0.27	0.00	9.00

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7,722.6	0.84	21.12	7,696.2	-400.1	-308.7	-397.9	1.88	-0.96	82.77
7,724.3	0.83	21.90	7,698.0	-400.1	-308.7	-397.9	0.85	-0.54	44.45
Brushy Canyon									
7,817.4	0.69	83.38	7,791.0	-399.4	-307.9	-397.2	0.85	-0.15	66.08
7,912.1	0.80	102.37	7,885.8	-399.5	-306.7	-397.3	0.28	0.12	20.03
8,006.9	0.78	114.72	7,980.6	-399.9	-305.4	-397.7	0.18	-0.02	13.03
8,101.7	0.88	173.65	8,075.4	-400.9	-304.8	-398.7	0.87	0.11	62.17
8,196.5	0.63	144.47	8,170.2	-402.0	-304.4	-399.8	0.48	-0.26	-30.78
8,291.3	0.78	198.99	8,264.9	-403.0	-304.3	-400.9	0.70	0.16	57.52
8,386.1	0.93	193.02	8,359.7	-404.4	-304.7	-402.2	0.18	0.16	-6.30
8,480.9	1.01	186.79	8,454.5	-406.0	-304.9	-403.8	0.14	0.08	-6.57
8,575.7	1.23	191.18	8,549.3	-407.8	-305.2	-405.6	0.25	0.23	4.63
8,670.5	1.39	186.73	8,644.0	-409.9	-305.6	-407.8	0.20	0.17	-4.69
8,765.3	1.29	180.43	8,738.8	-412.2	-305.7	-410.0	0.19	-0.11	-6.65
8,860.0	1.34	155.51	8,833.6	-414.2	-305.3	-412.0	0.60	0.05	-26.29
8,954.8	1.49	160.94	8,928.3	-416.4	-304.4	-414.2	0.21	0.16	5.73
9,049.6	1.33	165.61	9,023.1	-418.6	-303.7	-416.5	0.21	-0.17	4.93
9,144.4	1.16	176.45	9,117.8	-420.7	-303.4	-418.5	0.31	-0.18	11.44
9,149.6	1.17	175.66	9,123.0	-420.8	-303.4	-418.6	0.34	0.15	-15.36
Bone Spring Lime									
9,239.2	1.33	163.56	9,212.6	-422.7	-303.0	-420.5	0.34	0.18	-13.50
9,283.6	1.18	155.32	9,257.0	-423.6	-302.7	-421.4	0.53	-0.35	-18.55
Upper Avalon									
9,334.0	1.04	143.32	9,307.4	-424.4	-302.2	-422.2	0.53	-0.27	-23.82
Tie to Gyro									
9,428.0	1.49	135.58	9,401.4	-426.0	-300.8	-423.8	0.51	0.48	-8.23
9,523.0	3.43	11.04	9,496.3	-424.1	-299.4	-421.9	4.68	2.04	-131.09
9,568.0	8.87	4.75	9,541.0	-419.3	-298.9	-417.1	12.17	12.10	-13.99
Middle Avalon									
9,618.0	14.95	3.13	9,589.9	-409.0	-298.2	-406.8	12.17	12.15	-3.24
9,713.0	23.25	355.74	9,679.6	-378.0	-298.9	-375.8	9.08	8.74	-7.78
9,807.0	35.21	358.56	9,761.5	-332.2	-301.0	-330.1	12.80	12.72	3.00
9,902.0	50.29	8.05	9,831.2	-268.2	-296.5	-266.1	17.22	15.87	9.99
9,997.0	62.15	11.56	9,883.9	-190.6	-282.9	-188.6	12.85	12.48	3.69
10,052.0	65.85	11.40	9,908.0	-142.2	-273.1	-140.2	6.74	6.73	-0.28
Lower Avalon									
10,091.0	68.48	11.30	9,923.1	-106.9	-266.0	-105.0	6.74	6.73	-0.27
10,186.0	74.11	12.35	9,953.6	-18.9	-247.6	-17.1	6.02	5.93	1.11
10,281.0	77.63	12.44	9,976.8	71.1	-227.8	72.7	3.71	3.71	0.09
10,375.0	79.69	12.62	9,995.3	161.0	-207.8	162.5	2.20	2.19	0.19
10,470.0	81.19	11.12	10,011.0	252.7	-188.6	254.0	2.22	1.58	-1.58
10,565.0	81.58	7.70	10,025.3	345.3	-173.2	346.6	3.58	0.41	-3.60
10,660.0	85.67	4.44	10,035.8	439.2	-163.2	440.3	5.49	4.31	-3.43
10,754.0	87.91	5.59	10,041.1	532.7	-155.0	533.8	2.68	2.38	1.22

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus Unit State #186H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3644.0usft (H&P 388)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3644.0usft (H&P 388)
Well:	Zeus Unit State #186H	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)
10,849.0	88.92	4.00	10,043.7	627.3	-147.1	628.3	1.98	1.06	-1.67
10,944.0	89.05	1.54	10,045.4	722.2	-142.5	723.2	2.59	0.14	-2.59
11,039.0	86.42	359.35	10,049.1	817.1	-141.8	818.1	3.60	-2.77	-2.31
11,133.0	86.15	359.08	10,055.2	910.9	-143.0	911.9	0.41	-0.29	-0.29
11,228.0	87.47	359.87	10,060.5	1,005.7	-143.9	1,006.7	1.62	1.39	0.83
11,323.0	87.78	0.14	10,064.5	1,100.6	-143.9	1,101.6	0.43	0.33	0.28
11,418.0	88.57	0.67	10,067.5	1,195.6	-143.2	1,196.6	1.00	0.83	0.56
11,512.0	89.32	1.10	10,069.2	1,289.6	-141.8	1,290.5	0.92	0.80	0.46
11,607.0	90.20	1.37	10,069.6	1,384.5	-139.7	1,385.5	0.97	0.93	0.28
11,702.0	93.10	0.31	10,066.9	1,479.5	-138.3	1,480.4	3.25	3.05	-1.12
11,797.0	91.52	359.35	10,063.1	1,574.4	-138.6	1,575.3	1.95	-1.66	-1.01
11,891.0	91.78	359.08	10,060.3	1,668.3	-139.9	1,669.3	0.40	0.28	-0.29
11,986.0	88.97	357.76	10,059.7	1,763.3	-142.5	1,764.3	3.27	-2.96	-1.39
12,081.0	87.52	358.73	10,062.6	1,858.2	-145.4	1,859.2	1.84	-1.53	1.02
12,176.0	87.82	359.17	10,066.5	1,953.1	-147.2	1,954.1	0.56	0.32	0.46
12,270.0	88.35	359.61	10,069.6	2,047.0	-148.2	2,048.1	0.73	0.56	0.47
12,365.0	88.66	0.05	10,072.1	2,142.0	-148.5	2,143.0	0.57	0.33	0.46
12,460.0	89.54	0.75	10,073.6	2,237.0	-147.8	2,238.0	1.18	0.93	0.74
12,555.0	89.71	1.28	10,074.2	2,332.0	-146.1	2,333.0	0.59	0.18	0.56
12,649.0	91.08	1.90	10,073.6	2,425.9	-143.5	2,426.9	1.60	1.46	0.66
12,744.0	91.78	2.69	10,071.2	2,520.8	-139.7	2,521.8	1.11	0.74	0.83
12,839.0	93.76	3.57	10,066.6	2,615.6	-134.5	2,616.5	2.28	2.08	0.93
12,934.0	92.57	2.07	10,061.4	2,710.3	-129.9	2,711.2	2.01	-1.25	-1.58
13,028.0	93.14	0.14	10,056.7	2,804.2	-128.1	2,805.0	2.14	0.61	-2.05
13,123.0	92.44	358.82	10,052.1	2,899.1	-128.9	2,899.9	1.57	-0.74	-1.39
13,218.0	90.95	359.17	10,049.3	2,994.0	-130.6	2,994.8	1.61	-1.57	0.37
13,313.0	94.07	359.70	10,045.1	3,088.9	-131.5	3,089.7	3.33	3.28	0.56
13,408.0	89.93	359.87	10,041.8	3,183.8	-131.9	3,184.7	4.36	-4.36	0.18
13,502.0	91.08	359.96	10,041.0	3,277.8	-132.0	3,278.7	1.23	1.22	0.10
13,597.0	87.52	359.08	10,042.1	3,372.8	-132.8	3,373.6	3.86	-3.75	-0.93
13,692.0	88.31	359.26	10,045.6	3,467.7	-134.2	3,468.6	0.85	0.83	0.19
13,787.0	89.98	359.35	10,047.0	3,562.7	-135.3	3,563.6	1.76	1.76	0.09
13,882.0	89.32	358.91	10,047.6	3,657.7	-136.8	3,658.6	0.83	-0.69	-0.46
13,976.0	90.81	359.00	10,047.5	3,751.6	-138.5	3,752.5	1.59	1.59	0.10
14,071.0	90.07	358.64	10,046.7	3,846.6	-140.4	3,847.5	0.87	-0.78	-0.38
14,166.0	88.75	358.38	10,047.7	3,941.6	-142.9	3,942.5	1.42	-1.39	-0.27
14,261.0	86.86	358.29	10,051.3	4,036.5	-145.7	4,037.4	1.99	-1.99	-0.09
14,355.0	87.60	359.00	10,055.9	4,130.3	-147.9	4,131.3	1.09	0.79	0.76
14,450.0	88.92	359.87	10,058.8	4,225.3	-148.8	4,226.2	1.66	1.39	0.92
14,545.0	90.33	0.75	10,059.4	4,320.3	-148.3	4,321.2	1.75	1.48	0.93
14,640.0	92.13	1.37	10,057.4	4,415.2	-146.6	4,416.2	2.00	1.89	0.65
14,735.0	93.80	2.07	10,052.4	4,510.1	-143.7	4,511.0	1.91	1.76	0.74
14,804.0	95.03	2.42	10,047.1	4,578.8	-141.0	4,579.7	1.85	1.78	0.51

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus Unit State #186H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3644.0usft (H&P 388)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3644.0usft (H&P 388)
Well:	Zeus Unit State #186H	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)
LAST SVY									
14,806.7	95.03	2.42	10,046.9	4,581.5	-140.9	4,582.4	0.00	0.00	0.00
LTP @ 14806.7'MD, 100'FNL & 638.4'FEL									
14,870.0	95.03	2.42	10,041.3	4,644.5	-138.2	4,645.4	0.00	0.00	0.00
Projection to TD @ 14870'MD, 37'FNL & 635.3'FEL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Zeus Unit State - actual wellpath misses target center by 352.5usft at 9902.0usft MD (9831.2 TVD, -268.2 N, -296.5 E) - Point	0.00	0.00	10,037.0	-498.0	-126.0	446,477.00	775,802.00	32° 13' 30.603 N	103° 34' 30.424 W
PBHL (Zeus Unit State - actual wellpath misses target center by 37.0usft at 14870.0usft MD (10041.3 TVD, 4644.5 N, -138.2 E) - Rectangle (sides W100.0 H5,175.0 D35.0)	0.40	359.59	10,068.0	4,651.0	-163.0	451,626.00	775,765.00	32° 14' 21.556 N	103° 34' 30.432 W
LTP (Zeus Unit State - actual wellpath misses target center by 29.7usft at 14803.8usft MD (10047.2 TVD, 4578.6 N, -141.0 E) - Point	0.00	0.00	10,068.0	4,581.0	-162.0	451,556.00	775,766.00	32° 14' 20.863 N	103° 34' 30.426 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,264.1	1,264.0	Rustler Anhydrite				
1,766.1	1,766.0	Top Salt				
4,990.0	4,972.0	Base Salt				
5,239.9	5,220.0	Delaware Mountain Gp				
5,248.0	5,228.0	Lamar				
5,273.2	5,253.0	Bell Canyon				
5,292.3	5,272.0	Ramsey Sand				
6,213.5	6,188.0	Cherry Canyon				
7,724.3	7,698.0	Brushy Canyon				
9,149.6	9,123.0	Bone Spring Lime				
9,283.6	9,257.0	Upper Avalon				
9,568.0	9,541.0	Middle Avalon				
10,052.0	9,908.0	Lower Avalon				



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Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3644.0usft (H&P 388)
Well:	Zeus Unit State #186H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,334.0	9,307.4	-424.4	-302.2	Tie to Gyro
14,804.0	10,047.1	4,578.8	-141.0	LAST SVY
14,806.7	10,046.9	4,581.5	-140.9	LTP @ 14806.7'MD, 100'FNL & 638.4'FEL
14,870.0	10,041.3	4,644.5	-138.2	Projection to TD @ 14870'MD, 37'FNL & 635.3'FEL

Checked By: _____ Approved By: _____ Date: _____