



OCD – HOBBS
05/05/2020
RECEIVED

Tap Rock Resources, LLC

Lea County, NM (NAD 83 NME)
(Zeus State) Sec-9_T24-S_R-33-E
Zeus Unit State #173H

OWB

Design: AWB

Standard Survey Report

04 December, 2019





Operator: Taprock Resources LLC
Well Name: Zeus Unit State #173H
County: Lea
State: New Mexico
Rig Name: H&P 388
API Number: 30-025-45844

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: 9072.5' MD – 14606' MD
Projection to Bit: 14671' MD
Dates Performed: 11/20/2019 – 12/03/2019
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 #173H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3643.5usft (H&P 388)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3643.5usft (H&P 388)
Well:	Zeus Unit State #173H	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	Latitude:	32° 13' 37.575 N	
From:	Map	Easting:	777,416.00 usft	Longitude:	103° 34' 11.577 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Zeus Unit State #173H					
Well Position	+N/-S	0.0 usft	Northing:	446,981.00 usft	Latitude:	32° 13' 35.583 N
	+E/-W	0.0 usft	Easting:	775,904.00 usft	Longitude:	103° 34' 29.196 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,617.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/26/19	6.70	60.03	47,695.32339788

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	12/04/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
140.6	8,983.0	Gyro Svys (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
9,072.5	14,671.0	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	
140.6	0.58	197.78	140.6	-0.7	-0.2	-0.7	0.41	0.41	0.00	
235.0	0.67	199.15	235.0	-1.7	-0.5	-1.7	0.10	0.10	1.45	
329.4	0.77	199.85	329.4	-2.8	-0.9	-2.8	0.11	0.11	0.74	
423.8	0.98	191.80	423.8	-4.2	-1.3	-4.1	0.26	0.22	-8.53	
518.2	1.00	167.70	518.2	-5.8	-1.3	-5.7	0.44	0.02	-25.53	
612.6	0.68	184.52	612.5	-7.1	-1.2	-7.1	0.42	-0.34	17.82	
707.0	0.49	245.27	706.9	-7.8	-1.6	-7.8	0.65	-0.20	64.35	
801.4	1.10	252.22	801.3	-8.3	-2.8	-8.3	0.65	0.65	7.36	
895.8	1.20	255.62	895.7	-8.8	-4.6	-8.8	0.13	0.11	3.60	

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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)
990.2	1.20	258.88	990.1	-9.2	-6.6	-9.2	0.07	0.00	3.45
1,084.6	1.19	260.49	1,084.5	-9.6	-8.5	-9.5	0.04	-0.01	1.71
1,179.0	1.13	257.63	1,178.9	-10.0	-10.4	-9.9	0.09	-0.06	-3.03
1,264.2	1.24	254.92	1,264.0	-10.4	-12.1	-10.3	0.14	0.13	-3.19
Rustler Anhydrite									
1,273.4	1.25	254.65	1,273.2	-10.4	-12.3	-10.3	0.14	0.13	-2.88
1,367.8	1.81	243.14	1,367.6	-11.4	-14.6	-11.3	0.67	0.59	-12.19
1,462.2	2.78	226.60	1,461.9	-13.6	-17.6	-13.5	1.23	1.03	-17.52
1,556.6	4.57	228.29	1,556.1	-17.7	-22.1	-17.5	1.90	1.90	1.79
1,651.0	6.20	228.33	1,650.1	-23.6	-28.7	-23.4	1.73	1.73	0.04
1,745.4	8.86	226.89	1,743.7	-32.0	-37.8	-31.7	2.82	2.82	-1.53
1,768.0	8.93	225.80	1,766.0	-34.4	-40.3	-34.1	0.80	0.30	-4.82
Top Salt									
1,839.8	9.16	222.45	1,836.9	-42.5	-48.2	-42.1	0.80	0.32	-4.67
1,934.2	8.39	217.84	1,930.2	-53.4	-57.5	-53.0	1.10	-0.82	-4.88
2,028.6	7.66	218.29	2,023.7	-63.8	-65.6	-63.4	0.78	-0.77	0.48
2,123.0	7.16	220.45	2,117.3	-73.2	-73.3	-72.7	0.61	-0.53	2.29
2,217.4	7.18	211.73	2,211.0	-82.7	-80.2	-82.2	1.15	0.02	-9.24
2,311.8	7.62	209.87	2,304.6	-93.2	-86.5	-92.6	0.53	0.47	-1.97
2,406.2	7.57	209.85	2,398.2	-104.0	-92.7	-103.3	0.05	-0.05	-0.02
2,500.6	7.23	209.38	2,491.8	-114.6	-98.7	-113.9	0.37	-0.36	-0.50
2,595.0	7.78	209.12	2,585.4	-125.3	-104.7	-124.6	0.58	0.58	-0.28
2,689.4	8.24	210.06	2,678.8	-136.8	-111.2	-136.0	0.51	0.49	1.00
2,783.8	7.47	209.99	2,772.4	-147.9	-117.7	-147.1	0.82	-0.82	-0.07
2,878.2	7.20	209.98	2,866.0	-158.4	-123.7	-157.5	0.29	-0.29	-0.01
2,972.6	7.74	210.18	2,959.6	-169.0	-129.8	-168.1	0.57	0.57	0.21
3,067.0	7.86	209.34	3,053.1	-180.1	-136.2	-179.1	0.18	0.13	-0.89
3,161.4	7.16	211.39	3,146.7	-190.8	-142.4	-189.7	0.79	-0.74	2.17
3,255.8	6.49	209.34	3,240.4	-200.4	-148.1	-199.4	0.76	-0.71	-2.17
3,350.2	7.06	208.92	3,334.2	-210.2	-153.5	-209.1	0.61	0.60	-0.44
3,444.6	8.03	207.28	3,427.7	-221.1	-159.3	-220.0	1.05	1.03	-1.74
3,539.0	7.14	209.99	3,521.3	-232.0	-165.3	-230.9	1.02	-0.94	2.87
3,633.4	7.41	209.31	3,615.0	-242.4	-171.2	-241.2	0.30	0.29	-0.72
3,727.8	8.34	209.72	3,708.5	-253.7	-177.6	-252.4	0.99	0.99	0.43
3,822.2	7.80	210.83	3,801.9	-265.1	-184.3	-263.8	0.60	-0.57	1.18
3,916.6	8.13	213.93	3,895.4	-276.2	-191.3	-274.8	0.57	0.35	3.28
4,011.0	8.82	216.96	3,988.8	-287.5	-199.3	-286.1	0.87	0.73	3.21
4,105.4	7.99	217.00	4,082.2	-298.5	-207.6	-297.0	0.88	-0.88	0.04
4,199.8	7.42	216.58	4,175.7	-308.7	-215.2	-307.1	0.61	-0.60	-0.44
4,294.2	7.60	217.46	4,269.3	-318.5	-222.7	-316.9	0.23	0.19	0.93
4,388.6	7.14	217.81	4,362.9	-328.1	-230.0	-326.4	0.49	-0.49	0.37
4,483.0	6.01	208.73	4,456.7	-337.1	-236.0	-335.4	1.62	-1.20	-9.62
4,577.4	6.87	205.05	4,550.5	-346.5	-240.8	-344.8	1.01	0.91	-3.90

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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)
4,671.8	7.20	207.86	4,644.2	-356.9	-245.9	-355.1	0.50	0.35	2.98
4,766.2	6.32	200.27	4,738.0	-367.0	-250.5	-365.2	1.33	-0.93	-8.04
4,860.6	6.38	191.88	4,831.8	-377.0	-253.4	-375.1	0.98	0.06	-8.89
4,955.0	6.68	193.50	4,925.6	-387.4	-255.7	-385.6	0.37	0.32	1.72
5,001.8	6.80	194.96	4,972.0	-392.8	-257.1	-390.9	0.44	0.25	3.13
Base Salt									
5,049.4	6.92	196.40	5,019.3	-398.2	-258.6	-396.4	0.44	0.26	3.02
5,143.8	7.42	203.32	5,113.0	-409.3	-262.7	-407.4	1.06	0.53	7.33
5,238.2	6.32	201.54	5,206.7	-419.7	-267.0	-417.8	1.19	-1.17	-1.89
5,251.6	6.24	201.54	5,220.0	-421.1	-267.5	-419.2	0.57	-0.57	0.00
Delaware Mountain Gp									
5,259.6	6.20	201.54	5,228.0	-421.9	-267.8	-420.0	0.57	-0.57	0.00
Lamar									
5,284.8	6.05	201.54	5,253.0	-424.4	-268.8	-422.5	0.57	-0.57	0.00
Bell Canyon									
5,303.9	5.94	201.54	5,272.0	-426.2	-269.6	-424.3	0.57	-0.57	0.00
Ramsey Sand									
5,332.6	5.78	201.54	5,300.6	-429.0	-270.6	-427.0	0.57	-0.57	0.00
5,427.0	5.82	207.28	5,394.5	-437.6	-274.6	-435.7	0.62	0.04	6.08
5,521.4	7.56	210.22	5,488.2	-447.3	-279.9	-445.3	1.88	1.84	3.11
5,615.8	8.47	213.34	5,581.7	-458.4	-286.8	-456.4	1.07	0.96	3.31
5,710.2	8.11	214.34	5,675.1	-469.7	-294.4	-467.6	0.41	-0.38	1.06
5,804.6	7.98	214.46	5,768.6	-480.6	-301.9	-478.5	0.14	-0.14	0.13
5,899.0	8.16	214.59	5,862.1	-491.6	-309.4	-489.3	0.19	0.19	0.14
5,993.4	8.62	213.55	5,955.4	-503.0	-317.1	-500.7	0.51	0.49	-1.10
6,087.8	8.40	211.07	6,048.8	-514.8	-324.6	-512.4	0.45	-0.23	-2.63
6,182.2	6.75	206.75	6,142.4	-525.6	-330.6	-523.3	1.85	-1.75	-4.58
6,228.1	5.89	206.72	6,188.0	-530.2	-332.9	-527.8	1.88	-1.88	-0.07
Cherry Canyon									
6,276.6	4.98	206.67	6,236.3	-534.3	-335.0	-531.8	1.88	-1.87	-0.10
6,371.0	2.99	193.85	6,330.5	-540.3	-337.4	-537.9	2.30	-2.11	-13.58
6,465.4	0.98	171.20	6,424.8	-543.5	-337.9	-541.1	2.25	-2.13	-23.99
6,559.8	0.92	157.69	6,519.2	-545.0	-337.4	-542.6	0.25	-0.06	-14.31
6,654.2	0.99	163.47	6,613.6	-546.5	-336.9	-544.1	0.13	0.07	6.12
6,748.6	0.92	165.42	6,708.0	-548.0	-336.5	-545.6	0.08	-0.07	2.07
6,843.0	0.94	194.08	6,802.3	-549.5	-336.5	-547.1	0.49	0.02	30.36
6,937.4	0.83	221.93	6,896.7	-550.7	-337.1	-548.3	0.47	-0.12	29.50
7,031.8	0.74	224.26	6,991.1	-551.7	-338.0	-549.3	0.10	-0.10	2.47
7,126.2	0.74	219.27	7,085.5	-552.6	-338.8	-550.2	0.07	0.00	-5.29
7,220.6	0.97	211.03	7,179.9	-553.8	-339.6	-551.3	0.28	0.24	-8.73
7,315.0	1.02	206.82	7,274.3	-555.2	-340.4	-552.7	0.09	0.05	-4.46
7,409.4	1.00	199.43	7,368.7	-556.7	-341.1	-554.3	0.14	-0.02	-7.83
7,503.8	0.89	200.75	7,463.1	-558.2	-341.6	-555.7	0.12	-0.12	1.40
7,598.2	0.93	202.17	7,557.4	-559.6	-342.2	-557.1	0.05	0.04	1.50
7,692.6	1.28	206.83	7,651.8	-561.2	-342.9	-558.8	0.38	0.37	4.94

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7,738.8	1.23	203.68	7,698.0	-562.1	-343.4	-559.7	0.19	-0.11	-6.82
Brushy Canyon									
7,787.0	1.18	200.11	7,746.2	-563.1	-343.7	-560.6	0.19	-0.10	-7.40
7,881.4	0.94	203.59	7,840.6	-564.7	-344.4	-562.2	0.26	-0.25	3.69
7,975.8	0.78	191.61	7,935.0	-566.0	-344.8	-563.6	0.25	-0.17	-12.69
8,070.2	0.94	191.44	8,029.4	-567.4	-345.1	-564.9	0.17	0.17	-0.18
8,164.6	1.18	196.95	8,123.8	-569.1	-345.5	-566.6	0.28	0.25	5.84
8,259.0	1.28	220.89	8,218.1	-570.8	-346.5	-568.3	0.55	0.11	25.36
8,353.4	1.45	225.35	8,312.5	-572.5	-348.1	-570.0	0.21	0.18	4.72
8,447.8	1.53	218.12	8,406.9	-574.3	-349.7	-571.8	0.22	0.08	-7.66
8,542.2	1.66	217.87	8,501.2	-576.4	-351.3	-573.8	0.14	0.14	-0.26
8,636.6	1.84	215.13	8,595.6	-578.7	-353.0	-576.2	0.21	0.19	-2.90
8,731.0	1.85	229.30	8,689.9	-580.9	-355.0	-578.4	0.48	0.01	15.01
8,825.4	1.25	241.86	8,784.3	-582.4	-357.1	-579.8	0.73	-0.64	13.31
8,919.8	1.02	290.11	8,878.7	-582.6	-358.8	-580.0	1.01	-0.24	51.11
8,983.0	1.03	301.54	8,941.9	-582.1	-359.8	-579.5	0.32	0.02	18.09
9,142.0	1.58	296.50	9,100.8	-580.4	-363.0	-577.8	0.35	0.35	-3.17
9,164.2	3.95	327.79	9,123.0	-579.6	-363.7	-577.0	12.31	10.70	141.07
Bone Spring Lime									
9,237.0	12.79	340.01	9,195.0	-569.9	-367.8	-567.2	12.31	12.13	16.78
9,301.9	21.26	342.70	9,257.0	-551.9	-373.7	-549.2	13.10	13.04	4.14
Upper Avalon									
9,332.0	25.19	343.35	9,284.6	-540.5	-377.2	-537.8	13.10	13.07	2.16
9,406.7	34.15	346.76	9,349.5	-504.8	-386.6	-502.0	12.20	12.00	4.56
FTP @ 9406.7'MD, 100'FSL & 377.2'FWL									
9,426.0	36.48	347.39	9,365.2	-493.9	-389.1	-491.1	12.20	12.06	3.28
9,521.0	44.84	355.66	9,437.3	-432.8	-397.8	-430.0	10.45	8.80	8.71
9,616.0	52.09	358.38	9,500.2	-361.9	-401.4	-359.0	7.93	7.63	2.86
9,687.6	58.42	358.58	9,541.0	-303.1	-402.9	-300.2	8.84	8.84	0.28
Middle Avalon									
9,710.0	60.40	358.64	9,552.4	-283.8	-403.4	-280.9	8.84	8.84	0.26
9,805.0	65.71	355.57	9,595.5	-199.3	-407.7	-196.3	6.29	5.59	-3.23
9,900.0	71.65	351.96	9,630.0	-111.4	-417.4	-108.4	7.18	6.25	-3.80
9,994.0	80.62	351.08	9,652.5	-21.2	-430.9	-18.1	9.59	9.54	-0.94
10,089.0	84.09	351.61	9,665.1	71.9	-445.0	75.1	3.69	3.65	0.56
10,185.0	88.44	352.05	9,671.4	166.7	-458.6	170.0	4.55	4.53	0.46
10,280.0	89.89	354.69	9,672.8	261.0	-469.6	264.4	3.17	1.53	2.78
10,374.0	89.85	358.82	9,673.0	354.9	-474.9	358.2	4.39	-0.04	4.39
10,469.0	91.30	0.58	9,672.0	449.8	-475.4	453.2	2.40	1.53	1.85
10,564.0	90.81	0.05	9,670.3	544.8	-474.9	548.2	0.76	-0.52	-0.56
10,659.0	90.07	358.91	9,669.5	639.8	-475.8	643.2	1.43	-0.78	-1.20
10,753.0	91.82	358.82	9,668.0	733.8	-477.6	737.2	1.86	1.86	-0.10
10,848.0	91.16	359.70	9,665.5	828.7	-478.8	832.1	1.16	-0.69	0.93
10,943.0	89.80	0.75	9,664.7	923.7	-478.5	927.1	1.81	-1.43	1.11

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus Unit State #173H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3643.5usft (H&P 388)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3643.5usft (H&P 388)
Well:	Zeus Unit State #173H	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)
11,038.0	91.34	0.14	9,663.8	1,018.7	-477.7	1,022.1	1.74	1.62	-0.64
11,132.0	89.41	359.79	9,663.2	1,112.7	-477.8	1,116.1	2.09	-2.05	-0.37
11,227.0	89.19	0.58	9,664.3	1,207.7	-477.5	1,211.1	0.86	-0.23	0.83
11,322.0	89.76	0.23	9,665.2	1,302.7	-476.8	1,306.1	0.70	0.60	-0.37
11,416.0	88.00	0.40	9,667.0	1,396.7	-476.3	1,400.0	1.88	-1.87	0.18
11,511.0	89.19	1.02	9,669.4	1,491.6	-475.1	1,495.0	1.41	1.25	0.65
11,606.0	87.34	0.75	9,672.2	1,586.6	-473.7	1,589.9	1.97	-1.95	-0.28
11,701.0	87.25	0.23	9,676.7	1,681.5	-472.8	1,684.8	0.55	-0.09	-0.55
11,796.0	87.74	359.61	9,680.9	1,776.4	-473.0	1,779.7	0.83	0.52	-0.65
11,890.0	88.35	359.87	9,684.1	1,870.3	-473.4	1,873.7	0.71	0.65	0.28
11,985.0	88.62	359.61	9,686.6	1,965.3	-473.8	1,968.6	0.39	0.28	-0.27
12,080.0	91.43	0.23	9,686.6	2,060.3	-474.0	2,063.6	3.03	2.96	0.65
12,174.0	89.19	358.91	9,686.1	2,154.3	-474.7	2,157.6	2.77	-2.38	-1.40
12,269.0	88.40	358.20	9,688.0	2,249.2	-477.1	2,252.6	1.12	-0.83	-0.75
12,364.0	89.63	357.68	9,689.7	2,344.1	-480.5	2,347.5	1.41	1.29	-0.55
12,459.0	88.48	358.82	9,691.2	2,439.1	-483.4	2,442.5	1.70	-1.21	1.20
12,554.0	86.46	358.82	9,695.4	2,534.0	-485.3	2,537.4	2.13	-2.13	0.00
12,648.0	89.14	359.79	9,699.1	2,627.9	-486.5	2,631.3	3.03	2.85	1.03
12,743.0	92.70	0.14	9,697.5	2,722.8	-486.5	2,726.3	3.77	3.75	0.37
12,838.0	95.47	0.93	9,690.8	2,817.6	-485.6	2,821.0	3.03	2.92	0.83
12,933.0	94.24	1.98	9,682.7	2,912.2	-483.2	2,915.6	1.70	-1.29	1.11
13,027.0	90.46	2.25	9,678.9	3,006.1	-479.8	3,009.4	4.03	-4.02	0.29
13,122.0	91.03	2.60	9,677.6	3,101.0	-475.8	3,104.3	0.70	0.60	0.37
13,217.0	93.10	2.77	9,674.2	3,195.8	-471.3	3,199.1	2.19	2.18	0.18
13,312.0	91.96	2.33	9,670.0	3,290.6	-467.1	3,293.9	1.29	-1.20	-0.46
13,407.0	90.02	1.37	9,668.4	3,385.5	-464.0	3,388.8	2.28	-2.04	-1.01
13,501.0	90.20	0.75	9,668.2	3,479.5	-462.3	3,482.7	0.69	0.19	-0.66
13,596.0	90.55	0.58	9,667.6	3,574.5	-461.2	3,577.7	0.41	0.37	-0.18
13,691.0	93.19	0.93	9,664.5	3,669.4	-459.9	3,672.6	2.80	2.78	0.37
13,786.0	89.93	359.87	9,661.9	3,764.4	-459.3	3,767.6	3.61	-3.43	-1.12
13,881.0	85.76	358.56	9,665.5	3,859.3	-460.6	3,862.5	4.60	-4.39	-1.38
13,975.0	85.27	357.85	9,672.8	3,953.0	-463.5	3,956.2	0.92	-0.52	-0.76
14,070.0	88.70	357.85	9,677.8	4,047.7	-467.1	4,051.0	3.61	3.61	0.00
14,165.0	90.29	357.50	9,678.6	4,142.7	-470.9	4,145.9	1.71	1.67	-0.37
14,260.0	91.52	359.96	9,677.1	4,237.6	-473.0	4,240.9	2.89	1.29	2.59
14,355.0	90.77	0.05	9,675.2	4,332.6	-473.0	4,335.9	0.80	-0.79	0.09
14,449.0	91.03	359.61	9,673.8	4,426.6	-473.3	4,429.9	0.54	0.28	-0.47
14,544.0	92.57	359.79	9,670.8	4,521.5	-473.8	4,524.8	1.63	1.62	0.19
14,596.6	92.20	359.19	9,668.6	4,574.1	-474.3	4,577.4	1.35	-0.71	-1.15
LTP @ 14596.6'MD, 100'FNL & 324.5'FWL									
14,606.0	92.13	359.08	9,668.2	4,583.5	-474.4	4,586.7	1.35	-0.71	-1.14
LAST SVY									
14,671.0	92.13	359.08	9,665.8	4,648.4	-475.4	4,651.7	0.00	0.00	0.00
Projection to TD @ 14671'MD, 25.7'FNL & 328.9'FWL									

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus Unit State #173H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3643.5usft (H&P 388)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3643.5usft (H&P 388)
Well:	Zeus Unit State #173H	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)

Design Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	
FTP (Zeus Unit State	- Shape								Latitude
- actual wellpath misses target center by 224.2usft at 9616.0usft MD (9500.2 TVD, -361.9 N, -401.4 E)									Longitude
- Point									
LTP (Zeus Unit State :									
- actual wellpath misses target center by 26.1usft at 14595.4usft MD (9668.6 TVD, 4572.9 N, -474.2 E)									
- Point									
PBHL (Zeus Unit State :									
- actual wellpath misses target center by 28.7usft at 14665.4usft MD (9666.0 TVD, 4642.9 N, -475.4 E)									
- Rectangle (sides W100.0 H5,175.0 D30.0)									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,264.2	1,264.0	Rustler Anhydrite				
1,768.0	1,766.0	Top Salt				
5,001.8	4,972.0	Base Salt				
5,251.6	5,220.0	Delaware Mountain Gp				
5,259.6	5,228.0	Lamar				
5,284.8	5,253.0	Bell Canyon				
5,303.9	5,272.0	Ramsey Sand				
6,228.1	6,188.0	Cherry Canyon				
7,738.8	7,698.0	Brushy Canyon				
9,164.2	9,123.0	Bone Spring Lime				
9,301.9	9,257.0	Upper Avalon				
9,687.6	9,541.0	Middle Avalon				

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,406.7	9,349.5	-504.8	-386.6	FTP @ 9406.7'MD, 100'FSL & 377.2'FWL
14,596.6	9,668.6	4,574.1	-474.3	LTP @ 14596.6'MD, 100'FNL & 324.5'FWL
14,606.0	9,668.2	4,583.5	-474.4	LAST SVY
14,671.0	9,665.8	4,648.4	-475.4	Projection to TD @ 14671'MD, 25.7'FNL & 328.9'FWL

Checked By: _____ Approved By: _____ Date: _____