



Tap Rock Resources, LLC

Lea County, NM (NAD 83 NME)
(Zeus State) Sec-9_T24-S_R-33-E
Zeus State #144H

OWB

OCD – HOBBS
04/09/2020
RECEIVED

Design: AWB

Standard Survey Report

07 February, 2020





Operator: Tap Rock Resources LLC
Well Name: Zeus State #144H
County: Lea
State: New Mexico
Rig Name: H&P 376
API: 30-015-46623

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: 180' MD – 15,486' MD
Projection to Bit: 15,551' MD
Dates Performed: 01/25/2020 – 02/06/2020
Type of Survey: MWD

Sincerely,

A handwritten signature in blue ink, appearing to read "James Burleson".

James Burleson
Vice President of MWD Operations
Intrepid Directional Drilling Specialists



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus State #144H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3641.0usft (H&P 245)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3641.0usft (H&P 245)
Well:	Zeus State #144H	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 State #144H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 13' 37.757 N
		Longitude:	103° 34' 8.956 W
		Ground Level:	3,615.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2020/01/24	6.67	60.03	47,670.95096552

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	2020/02/07			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
180.0	15,551.0	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	0.26	307.72	180.0	0.2	-0.3	0.3	0.14	0.14	0.00
241.0	0.13	199.62	241.0	0.3	-0.5	0.3	0.53	-0.21	-177.21
329.0	0.62	251.65	329.0	0.0	-0.9	0.0	0.62	0.56	59.13
420.0	0.62	219.13	420.0	-0.5	-1.7	-0.5	0.38	0.00	-35.74
514.0	0.44	207.71	514.0	-1.2	-2.2	-1.2	0.22	-0.19	-12.15
606.0	0.48	253.23	606.0	-1.6	-2.7	-1.6	0.39	0.04	49.48
698.0	0.66	215.35	698.0	-2.2	-3.4	-2.2	0.44	0.20	-41.17
790.0	0.70	230.21	790.0	-3.0	-4.2	-3.0	0.20	0.04	16.15
883.0	0.40	236.89	883.0	-3.5	-4.9	-3.5	0.33	-0.32	7.18

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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)
975.0	1.05	217.46	975.0	-4.4	-5.6	-4.3	0.75	0.71	-21.12
1,067.0	1.23	213.86	1,066.9	-5.9	-6.7	-5.8	0.21	0.20	-3.91
1,160.0	0.84	217.37	1,159.9	-7.2	-7.7	-7.2	0.42	-0.42	3.77
1,246.0	0.62	246.90	1,245.9	-7.9	-8.5	-7.9	0.50	-0.26	34.34
1,275.1	0.56	253.12	1,275.0	-8.0	-8.8	-8.0	0.30	-0.21	21.39
Rustler Anhydrite									
1,434.0	0.44	309.66	1,433.9	-7.9	-10.0	-7.8	0.30	-0.07	35.58
1,528.0	1.54	241.10	1,527.9	-8.2	-11.4	-8.2	1.53	1.17	-72.94
1,623.0	4.88	219.57	1,622.7	-12.0	-15.1	-11.9	3.68	3.52	-22.66
1,717.0	8.92	213.68	1,716.0	-21.1	-21.6	-21.0	4.36	4.30	-6.27
1,786.9	10.18	211.66	1,785.0	-30.9	-27.9	-30.7	1.87	1.81	-2.89
Top Salt									
1,812.0	10.64	211.05	1,809.7	-34.8	-30.3	-34.5	1.87	1.82	-2.43
1,907.0	10.42	212.54	1,903.1	-49.5	-39.4	-49.2	0.37	-0.23	1.57
2,001.0	10.46	214.74	1,995.5	-63.7	-48.8	-63.3	0.43	0.04	2.34
2,096.0	10.68	214.82	2,088.9	-78.0	-58.8	-77.6	0.23	0.23	0.08
2,190.0	10.77	215.44	2,181.2	-92.3	-68.8	-91.8	0.16	0.10	0.66
2,285.0	10.81	215.53	2,274.6	-106.8	-79.2	-106.2	0.05	0.04	0.09
2,380.0	9.58	212.89	2,368.1	-120.7	-88.6	-120.0	1.38	-1.29	-2.78
2,474.0	8.97	215.44	2,460.8	-133.2	-97.1	-132.5	0.78	-0.65	2.71
2,569.0	8.62	217.37	2,554.7	-144.9	-105.7	-144.2	0.48	-0.37	2.03
2,664.0	8.04	218.34	2,648.7	-155.8	-114.2	-155.0	0.63	-0.61	1.02
2,758.0	7.65	219.04	2,741.8	-165.8	-122.2	-164.9	0.43	-0.41	0.74
2,853.0	7.16	217.46	2,836.0	-175.4	-129.8	-174.5	0.56	-0.52	-1.66
2,948.0	7.69	218.08	2,930.3	-185.1	-137.3	-184.1	0.56	0.56	0.65
3,042.0	9.01	216.58	3,023.3	-196.0	-145.6	-194.9	1.42	1.40	-1.60
3,137.0	8.40	219.48	3,117.2	-207.3	-154.4	-206.2	0.79	-0.64	3.05
3,232.0	7.74	220.10	3,211.2	-217.6	-163.0	-216.4	0.70	-0.69	0.65
3,326.0	8.44	216.14	3,304.3	-228.0	-171.1	-226.7	0.95	0.74	-4.21
3,421.0	10.07	214.91	3,398.0	-240.4	-180.0	-239.1	1.73	1.72	-1.29
3,516.0	9.27	214.21	3,491.7	-253.5	-189.0	-252.2	0.85	-0.84	-0.74
3,611.0	8.44	214.82	3,585.6	-265.6	-197.3	-264.2	0.88	-0.87	0.64
3,705.0	7.65	214.12	3,678.6	-276.4	-204.8	-275.0	0.85	-0.84	-0.74
3,800.0	8.62	214.47	3,772.7	-287.5	-212.3	-286.0	1.02	1.02	0.37
3,895.0	10.59	216.67	3,866.3	-300.4	-221.6	-298.8	2.11	2.07	2.32
3,990.0	10.51	216.85	3,959.7	-314.4	-232.0	-312.7	0.09	-0.08	0.19
4,084.0	10.15	218.43	4,052.2	-327.7	-242.3	-326.0	0.49	-0.38	1.68
4,179.0	9.23	218.08	4,145.9	-340.3	-252.2	-338.4	0.97	-0.97	-0.37
4,274.0	8.44	217.02	4,239.7	-351.8	-261.1	-349.9	0.85	-0.83	-1.12
4,368.0	7.56	214.39	4,332.8	-362.4	-268.7	-360.5	1.01	-0.94	-2.80
4,463.0	6.33	209.46	4,427.1	-372.1	-274.8	-370.2	1.44	-1.29	-5.19
4,557.0	5.98	201.99	4,520.6	-381.2	-279.2	-379.2	0.93	-0.37	-7.95
4,652.0	5.23	201.47	4,615.1	-389.8	-282.6	-387.8	0.79	-0.79	-0.55
4,746.0	5.36	201.38	4,708.7	-397.9	-285.8	-395.8	0.14	0.14	-0.10

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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)
4,841.0	7.47	204.80	4,803.1	-407.6	-290.0	-405.5	2.26	2.22	3.60
4,936.0	7.08	198.39	4,897.4	-418.8	-294.5	-416.7	0.95	-0.41	-6.75
5,019.3	7.58	201.30	4,980.0	-428.8	-298.1	-426.6	0.75	0.61	3.49
Base Salt									
5,030.0	7.65	201.64	4,990.6	-430.1	-298.6	-428.0	0.75	0.62	3.23
5,125.0	8.26	210.17	5,084.7	-441.9	-304.4	-439.7	1.40	0.64	8.98
5,219.0	6.86	207.79	5,177.8	-452.7	-310.4	-450.5	1.53	-1.49	-2.53
5,256.0	6.29	207.18	5,214.6	-456.4	-312.3	-454.2	1.55	-1.54	-1.65
5,271.5	6.27	207.24	5,230.0	-458.0	-313.1	-455.7	0.16	-0.15	0.40
Delaware Mountain Gp									
5,276.5	6.26	207.26	5,235.0	-458.4	-313.4	-456.2	0.16	-0.15	0.41
Lamar									
5,301.7	6.22	207.37	5,260.0	-460.9	-314.6	-458.6	0.16	-0.15	0.41
Bell Canyon									
5,321.8	6.19	207.45	5,280.0	-462.8	-315.6	-460.5	0.16	-0.15	0.41
Ramsey Sand									
5,402.0	6.07	207.79	5,359.8	-470.4	-319.6	-468.1	0.16	-0.15	0.42
5,497.0	8.57	216.67	5,454.0	-480.5	-326.1	-478.2	2.88	2.63	9.35
5,592.0	11.12	219.04	5,547.6	-493.3	-336.1	-490.9	2.72	2.68	2.49
5,686.0	11.74	221.50	5,639.7	-507.5	-348.2	-505.0	0.84	0.66	2.62
5,781.0	11.78	220.45	5,732.7	-522.1	-360.9	-519.5	0.23	0.04	-1.11
5,875.0	11.87	221.68	5,824.7	-536.7	-373.5	-534.0	0.28	0.10	1.31
5,970.0	12.31	222.82	5,917.6	-551.4	-386.9	-548.6	0.53	0.46	1.20
6,065.0	11.52	220.63	6,010.6	-566.0	-400.0	-563.1	0.96	-0.83	-2.31
6,159.0	10.99	218.08	6,102.8	-580.2	-411.6	-577.2	0.77	-0.56	-2.71
6,254.0	10.55	218.78	6,196.1	-594.1	-422.7	-591.1	0.48	-0.46	0.74
6,258.0	10.55	218.68	6,200.0	-594.7	-423.1	-591.6	0.46	0.09	-2.46
Cherry Canyon									
6,348.0	10.64	216.49	6,288.5	-607.8	-433.2	-604.7	0.46	0.10	-2.44
6,443.0	10.46	216.85	6,381.9	-621.7	-443.6	-618.5	0.20	-0.19	0.38
6,538.0	10.59	219.39	6,475.3	-635.4	-454.3	-632.1	0.51	0.14	2.67
6,633.0	10.81	218.60	6,568.6	-649.1	-465.4	-645.7	0.28	0.23	-0.83
6,727.0	11.25	218.08	6,660.9	-663.2	-476.6	-659.8	0.48	0.47	-0.55
6,822.0	11.38	218.87	6,754.0	-677.8	-488.2	-674.3	0.21	0.14	0.83
6,917.0	9.80	225.02	6,847.4	-690.8	-499.8	-687.2	2.04	-1.66	6.47
7,011.0	9.19	227.13	6,940.1	-701.6	-510.9	-697.9	0.75	-0.65	2.24
7,106.0	8.88	225.11	7,034.0	-711.9	-521.7	-708.1	0.47	-0.33	-2.13
7,201.0	8.92	224.84	7,127.8	-722.3	-532.1	-718.5	0.06	0.04	-0.28
7,295.0	9.01	228.01	7,220.7	-732.4	-542.7	-728.5	0.53	0.10	3.37
7,390.0	7.87	227.30	7,314.6	-741.8	-553.0	-737.8	1.20	-1.20	-0.75
7,484.0	7.56	225.72	7,407.8	-750.5	-562.1	-746.4	0.40	-0.33	-1.68
7,579.0	6.81	222.30	7,502.0	-759.0	-570.4	-754.9	0.91	-0.79	-3.60
7,673.0	6.46	227.57	7,595.4	-766.7	-578.1	-762.5	0.75	-0.37	5.61
7,768.0	4.66	229.33	7,690.0	-772.8	-584.9	-768.6	1.90	-1.89	1.85

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7,788.1	4.20	228.23	7,710.0	-773.8	-586.1	-769.6	2.33	-2.29	-5.46
Brushy Canyon									
7,863.0	2.51	220.63	7,784.8	-776.9	-589.2	-772.6	2.33	-2.26	-10.15
7,957.0	1.27	181.16	7,878.7	-779.5	-590.6	-775.2	1.84	-1.32	-41.99
8,052.0	1.10	178.26	7,973.7	-781.5	-590.6	-777.2	0.19	-0.18	-3.05
8,147.0	1.71	184.94	8,068.7	-783.8	-590.7	-779.5	0.66	0.64	7.03
8,242.0	1.63	176.59	8,163.6	-786.5	-590.7	-782.3	0.27	-0.08	-8.79
8,336.0	0.97	116.39	8,257.6	-788.2	-589.9	-784.0	1.51	-0.70	-64.04
8,431.0	1.41	81.67	8,352.6	-788.4	-588.0	-784.2	0.87	0.46	-36.55
8,526.0	0.75	91.95	8,447.6	-788.3	-586.3	-784.0	0.72	-0.69	10.82
8,620.0	0.79	122.45	8,541.6	-788.6	-585.1	-784.4	0.43	0.04	32.45
8,715.0	1.14	75.34	8,636.5	-788.7	-583.6	-784.5	0.88	0.37	-49.59
8,810.0	1.80	43.35	8,731.5	-787.4	-581.7	-783.2	1.08	0.69	-33.67
8,904.0	1.23	38.25	8,825.5	-785.6	-580.0	-781.4	0.62	-0.61	-5.43
8,999.0	1.49	64.53	8,920.5	-784.2	-578.3	-780.1	0.70	0.27	27.66
9,094.0	1.41	48.80	9,015.4	-782.9	-576.3	-778.8	0.43	-0.08	-16.56
9,188.0	0.66	40.54	9,109.4	-781.7	-575.1	-777.6	0.81	-0.80	-8.79
9,198.6	0.63	40.63	9,120.0	-781.7	-575.0	-777.5	0.27	-0.27	0.82
Bone Spring Lime									
9,283.0	0.40	41.77	9,204.4	-781.1	-574.5	-777.0	0.27	-0.27	1.35
9,318.6	0.56	36.63	9,240.0	-780.9	-574.3	-776.7	0.47	0.46	-14.45
Upper Avalon									
9,378.0	0.84	32.54	9,299.4	-780.3	-573.9	-776.1	0.47	0.47	-6.88
9,472.0	0.62	44.23	9,393.4	-779.3	-573.2	-775.2	0.28	-0.23	12.44
9,567.0	0.35	294.54	9,488.4	-778.8	-573.1	-774.7	0.85	-0.28	-115.46
9,588.6	0.33	258.87	9,510.0	-778.8	-573.2	-774.7	0.97	-0.09	-165.10
Middle Avalon									
9,661.0	0.84	204.37	9,582.4	-779.3	-573.6	-775.2	0.97	0.70	-75.28
9,756.0	0.97	217.02	9,677.4	-780.6	-574.4	-776.5	0.25	0.14	13.32
9,850.0	0.84	218.96	9,771.4	-781.8	-575.3	-777.6	0.14	-0.14	2.06
9,945.0	1.67	287.25	9,866.3	-781.9	-577.1	-777.8	1.65	0.87	71.88
9,967.0	2.11	270.28	9,888.3	-781.8	-577.8	-777.7	3.22	2.00	-77.14
9,993.7	2.38	307.90	9,915.0	-781.5	-578.7	-777.3	5.51	1.02	140.98
Lower Avalon									
10,071.0	5.80	347.98	9,992.1	-776.7	-580.8	-772.5	5.51	4.42	51.84
10,166.0	16.66	352.64	10,085.2	-758.4	-583.6	-754.2	11.46	11.43	4.91
10,246.0	24.43	348.23	10,160.0	-730.8	-588.4	-726.6	9.90	9.71	-5.51
1st Bone Spring Sand									
10,247.9	24.62	348.16	10,161.8	-730.0	-588.6	-725.8	9.90	9.77	-3.80
FTP @ 10247.9'MD, 100'FSL & 730'FEL									
10,260.0	25.80	347.72	10,172.7	-725.0	-589.6	-720.7	9.90	9.78	-3.61
10,355.0	39.30	350.97	10,252.6	-674.8	-598.8	-670.5	14.32	14.21	3.42
10,450.0	48.66	352.90	10,320.9	-609.6	-608.0	-605.2	9.95	9.85	2.03
10,497.0	51.52	355.63	10,351.0	-573.7	-611.5	-569.3	7.54	6.09	5.81
10,544.0	55.34	355.89	10,379.0	-536.1	-614.3	-531.7	8.14	8.13	0.55

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus State #144H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3641.0usft (H&P 245)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3641.0usft (H&P 245)
Well:	Zeus State #144H	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)
10,591.0	60.04	355.10	10,404.2	-496.5	-617.5	-492.1	10.10	10.00	-1.68
10,639.0	61.67	353.87	10,427.5	-454.8	-621.5	-450.3	4.07	3.40	-2.56
10,686.0	64.35	353.69	10,448.9	-413.1	-626.0	-408.6	5.71	5.70	-0.38
10,734.0	66.07	354.04	10,469.0	-369.8	-630.7	-365.3	3.64	3.58	0.73
10,749.0	66.78	354.27	10,475.0	-356.1	-632.1	-351.6	4.92	4.72	1.54
2nd Bone Spring Carb									
10,828.0	70.51	355.45	10,503.7	-282.9	-638.7	-278.3	4.92	4.72	1.49
10,923.0	75.60	356.94	10,531.4	-192.2	-644.7	-187.6	5.56	5.36	1.57
11,017.0	81.32	358.00	10,550.2	-100.2	-648.7	-95.6	6.18	6.09	1.13
11,112.0	87.69	357.38	10,559.3	-5.8	-652.5	-1.1	6.74	6.71	-0.65
11,207.0	87.87	356.68	10,563.0	89.0	-657.5	93.7	0.76	0.19	-0.74
11,301.0	90.81	356.77	10,564.1	182.8	-662.8	187.6	3.13	3.13	0.10
11,396.0	92.31	357.30	10,561.5	277.7	-667.7	282.4	1.67	1.58	0.56
11,490.0	92.31	356.86	10,557.7	371.5	-672.5	376.3	0.47	0.00	-0.47
11,585.0	91.96	357.03	10,554.2	466.3	-677.6	471.1	0.41	-0.37	0.18
11,680.0	91.60	356.68	10,551.2	561.1	-682.8	565.9	0.53	-0.38	-0.37
11,775.0	91.56	356.50	10,548.6	655.9	-688.4	660.8	0.19	-0.04	-0.19
11,869.0	89.14	358.79	10,548.0	749.8	-692.3	754.7	3.54	-2.57	2.44
11,964.0	89.32	358.17	10,549.3	844.7	-694.8	849.7	0.68	0.19	-0.65
12,059.0	89.54	357.47	10,550.2	939.7	-698.4	944.6	0.77	0.23	-0.74
12,153.0	88.57	356.42	10,551.8	1,033.5	-703.4	1,038.5	1.52	-1.03	-1.12
12,248.0	88.66	355.27	10,554.1	1,128.2	-710.3	1,133.3	1.21	0.09	-1.21
12,343.0	88.97	354.75	10,556.1	1,222.8	-718.6	1,228.0	0.64	0.33	-0.55
12,437.0	90.15	357.47	10,556.8	1,316.6	-725.0	1,321.8	3.15	1.26	2.89
12,532.0	90.73	0.72	10,556.0	1,411.6	-726.5	1,416.7	3.47	0.61	3.42
12,627.0	90.33	359.76	10,555.2	1,506.6	-726.1	1,511.7	1.09	-0.42	-1.01
12,721.0	90.33	359.23	10,554.6	1,600.6	-726.9	1,605.7	0.56	0.00	-0.56
12,816.0	88.04	0.99	10,556.0	1,695.6	-726.7	1,700.7	3.04	-2.41	1.85
12,911.0	88.04	359.84	10,559.2	1,790.5	-726.0	1,795.6	1.21	0.00	-1.21
13,006.0	88.44	359.76	10,562.1	1,885.4	-726.4	1,890.6	0.43	0.42	-0.08
13,101.0	88.70	359.76	10,564.5	1,980.4	-726.8	1,985.6	0.27	0.27	0.00
13,195.0	89.23	359.67	10,566.2	2,074.4	-727.2	2,079.6	0.57	0.56	-0.10
13,290.0	89.01	359.84	10,567.7	2,169.4	-727.6	2,174.5	0.29	-0.23	0.18
13,384.0	89.36	359.40	10,569.0	2,263.4	-728.3	2,268.5	0.60	0.37	-0.47
13,479.0	90.15	358.79	10,569.4	2,358.4	-729.8	2,363.5	1.05	0.83	-0.64
13,574.0	90.07	0.63	10,569.2	2,453.4	-730.2	2,458.5	1.94	-0.08	1.94
13,668.0	89.98	2.92	10,569.2	2,547.3	-727.3	2,552.4	2.44	-0.10	2.44
13,763.0	88.31	2.30	10,570.6	2,642.2	-723.0	2,647.3	1.88	-1.76	-0.65
13,858.0	88.70	2.57	10,573.1	2,737.1	-719.0	2,742.1	0.50	0.41	0.28
13,952.0	89.10	2.30	10,574.9	2,831.0	-715.0	2,836.0	0.51	0.43	-0.29
14,047.0	88.84	2.39	10,576.6	2,925.9	-711.1	2,930.9	0.29	-0.27	0.09
14,141.0	88.88	2.57	10,578.5	3,019.8	-707.0	3,024.8	0.20	0.04	0.19
14,236.0	89.01	2.92	10,580.2	3,114.6	-702.5	3,119.6	0.39	0.14	0.37

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Zeus State #144H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3641.0usft (H&P 245)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3641.0usft (H&P 245)
Well:	Zeus State #144H	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)
14,331.0	90.42	1.25	10,580.7	3,209.6	-699.0	3,214.5	2.30	1.48	-1.76
14,425.0	90.07	1.07	10,580.3	3,303.6	-697.1	3,308.5	0.42	-0.37	-0.19
14,520.0	90.81	1.16	10,579.6	3,398.5	-695.3	3,403.4	0.78	0.78	0.09
14,615.0	91.91	0.02	10,577.3	3,493.5	-694.3	3,498.4	1.67	1.16	-1.20
14,709.0	90.46	359.76	10,575.4	3,587.5	-694.5	3,592.4	1.57	-1.54	-0.28
14,804.0	88.88	359.58	10,575.9	3,682.5	-695.0	3,687.3	1.67	-1.66	-0.19
14,899.0	89.54	359.58	10,577.2	3,777.5	-695.7	3,782.3	0.69	0.69	0.00
14,993.0	90.51	358.97	10,577.2	3,871.4	-696.9	3,876.3	1.22	1.03	-0.65
15,088.0	88.26	359.40	10,578.2	3,966.4	-698.2	3,971.3	2.41	-2.37	0.45
15,183.0	87.74	359.23	10,581.5	4,061.4	-699.4	4,066.3	0.58	-0.55	-0.18
15,277.0	88.44	358.79	10,584.6	4,155.3	-701.0	4,160.2	0.88	0.74	-0.47
15,372.0	89.49	359.05	10,586.4	4,250.3	-702.8	4,255.2	1.14	1.11	0.27
15,467.0	89.67	358.88	10,587.1	4,345.2	-704.5	4,350.2	0.26	0.19	-0.18
15,470.0	89.72	358.91	10,587.1	4,348.2	-704.6	4,353.2	1.86	1.63	0.89
LTP @ 15470'MD, 100'FNL & 809.4'FEL									
15,486.0	89.98	359.05	10,587.1	4,364.2	-704.9	4,369.2	1.86	1.63	0.89
LAST SVY									
15,551.0	89.98	359.05	10,587.1	4,429.2	-705.9	4,434.2	0.00	0.00	0.00
Projection to TD @ 15551'MD, 19'FNL & 810.2'FEL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Zeus State #144	0.00	0.00	10,560.0	-730.0	-684.0	446,483.00	776,957.00	32° 13' 30.581 N	103° 34' 16.979 W
- hit/miss target									
- Shape									
- Point									
- actual wellpath misses target center by 270.7usft at 10500.6usft MD (10353.3 TVD, -570.9 N, -611.8 E)									
LTP (Zeus State #144	0.00	0.00	10,575.0	4,348.0	-720.0	451,561.00	776,921.00	32° 14' 20.831 N	103° 34' 16.979 W
- hit/miss target									
- Shape									
- Point									
- actual wellpath misses target center by 19.6usft at 15470.0usft MD (10587.1 TVD, 4348.2 N, -704.6 E)									
PBHL (Zeus State #14	0.32	359.59	10,575.0	4,443.0	-721.0	451,656.00	776,920.00	32° 14' 21.772 N	103° 34' 16.982 W
- hit/miss target									
- Shape									
- Point									
- actual wellpath misses target center by 23.7usft at 15551.0usft MD (10587.1 TVD, 4429.2 N, -705.9 E)									
- Rectangle (sides W100.0 H5,173.0 D30.0)									

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Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB @ 3641.0usft (H&P 245)
Site:	(Zeus State) Sec-9_T24-S_R-33-E	MD Reference:	KB @ 3641.0usft (H&P 245)
Well:	Zeus State #144H	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 (°)
1,275.1	1,275.0	Rustler Anhydrite			
1,786.9	1,785.0	Top Salt			
5,019.3	4,980.0	Base Salt			
5,271.5	5,230.0	Delaware Mountain Gp			
5,276.5	5,235.0	Lamar			
5,301.7	5,260.0	Bell Canyon			
5,321.8	5,280.0	Ramsey Sand			
6,258.0	6,200.0	Cherry Canyon			
7,788.1	7,710.0	Brushy Canyon			
9,198.6	9,120.0	Bone Spring Lime			
9,318.6	9,240.0	Upper Avalon			
9,588.6	9,510.0	Middle Avalon			
9,993.7	9,915.0	Lower Avalon			
10,246.0	10,160.0	1st Bone Spring Sand			
10,749.0	10,475.0	2nd Bone Spring Carb			

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,247.9	10,161.8	-730.0	-588.6	FTP @ 10247.9'MD, 100'FSL & 730'FEL
15,470.0	10,587.1	4,348.2	-704.6	LTP @ 15470'MD, 100'FNL & 809.4'FEL
15,486.0	10,587.1	4,364.2	-704.9	LAST SVY
15,551.0	10,587.1	4,429.2	-705.9	Projection to TD @ 15551'MD, 19'FNL & 810.2'FEL

Checked By: _____ Approved By: _____ Date: _____