



Tap Rock Resources, LLC

**Lea County, NM (NAD 83 NME)
(Zeus State) Sec-9_T24-S_R-33-E
Zeus State #184H**

OWB

Design: AWB

Standard Survey Report

27 June, 2019





Intrepid Survey Report



Company: Tap Rock Resources, LLC
Project: Lea County, NM (NAD 83 NME)
Site: (Zeus State) Sec-9_T24-S_R-33-E
Well: Zeus State #184H
Wellbore: OWB
Design: AWB

Local Co-ordinate Reference: Well Zeus State #184H
TVD Reference: KB @ 3640.5usft (H&P 388)
MD Reference: KB @ 3640.5usft (H&P 388)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 State #184H			
Well Position	+N/-S	0.0 usft	Northing:	447,193.00 usft
	+E/-W	0.0 usft	Easting:	777,441.00 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft
			Ground Level:	3,614.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/28/19	6.74	60.04	47,738.71479838

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 06/27/19				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
180.0	15,070.0	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	0.57	309.46	180.0	0.6	-0.7	0.6	0.32	0.32	0.00	
300.0	0.62	231.51	300.0	0.5	-1.7	0.6	0.62	0.04	-64.96	
394.0	0.70	223.07	394.0	-0.2	-2.5	-0.2	0.13	0.09	-8.98	
486.0	0.79	188.09	486.0	-1.2	-2.9	-1.2	0.50	0.10	-38.02	
578.0	1.01	189.05	578.0	-2.7	-3.1	-2.6	0.24	0.24	1.04	
670.0	0.75	195.03	670.0	-4.0	-3.4	-4.0	0.30	-0.28	6.50	
761.0	0.70	206.11	760.9	-5.1	-3.8	-5.1	0.16	-0.05	12.18	
853.0	1.80	248.91	852.9	-6.1	-5.4	-6.1	1.49	1.20	46.52	
945.0	3.21	240.56	944.8	-7.9	-9.0	-7.9	1.58	1.53	-9.08	



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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)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
1,037.0	4.26	221.13	1,036.6	-11.8	-13.5	-11.7	1.77	1.14	-21.12
1,129.0	4.70	217.18	1,128.4	-17.3	-18.0	-17.2	0.58	0.48	-4.29
1,221.0	5.63	220.96	1,220.0	-23.8	-23.3	-23.6	1.08	1.01	4.11
1,279.0	6.42	226.32	1,277.7	-28.1	-27.5	-27.9	1.67	1.36	9.24
1,306.5	6.23	226.68	1,305.0	-30.2	-29.7	-30.0	0.70	-0.68	1.30
Rustler Anhydrite									
1,366.8	5.82	227.54	1,365.0	-34.5	-34.3	-34.3	0.70	-0.68	1.43
Top Salt									
1,441.0	5.32	228.78	1,438.8	-39.3	-39.7	-39.1	0.70	-0.68	1.67
1,536.0	5.54	229.31	1,533.4	-45.2	-46.5	-44.9	0.24	0.23	0.56
1,631.0	9.01	229.40	1,627.6	-53.1	-55.6	-52.7	3.65	3.65	0.09
1,726.0	11.30	222.98	1,721.1	-64.7	-67.6	-64.2	2.69	2.41	-6.76
1,820.0	12.09	219.38	1,813.2	-79.1	-80.1	-78.5	1.14	0.84	-3.83
1,915.0	11.78	219.82	1,906.1	-94.2	-92.6	-93.5	0.34	-0.33	0.46
2,010.0	11.43	221.13	1,999.2	-108.7	-105.0	-108.0	0.46	-0.37	1.38
2,105.0	10.99	221.84	2,092.4	-122.6	-117.3	-121.7	0.49	-0.46	0.75
2,200.0	10.33	221.49	2,185.7	-135.7	-128.9	-134.8	0.70	-0.69	-0.37
2,295.0	9.93	223.68	2,279.2	-148.0	-140.2	-147.0	0.58	-0.42	2.31
2,390.0	9.05	221.49	2,372.9	-159.5	-150.9	-158.5	1.00	-0.93	-2.31
2,484.0	8.97	222.98	2,465.8	-170.4	-160.8	-169.3	0.26	-0.09	1.59
2,579.0	11.60	226.76	2,559.2	-182.4	-172.8	-181.2	2.86	2.77	3.98
2,674.0	11.21	226.67	2,652.4	-195.3	-186.4	-193.9	0.41	-0.41	-0.09
2,769.0	10.68	228.96	2,745.6	-207.4	-199.8	-206.0	0.72	-0.56	2.41
2,864.0	9.98	229.48	2,839.1	-218.5	-212.7	-217.0	0.74	-0.74	0.55
2,959.0	9.19	231.77	2,932.8	-228.6	-224.9	-227.0	0.92	-0.83	2.41
3,054.0	9.05	227.81	3,026.6	-238.3	-236.4	-236.6	0.68	-0.15	-4.17
3,149.0	10.11	219.82	3,120.3	-249.7	-247.3	-247.9	1.79	1.12	-8.41
3,244.0	9.23	220.78	3,213.9	-261.9	-257.6	-260.0	0.94	-0.93	1.01
3,339.0	9.10	220.87	3,307.7	-273.3	-267.5	-271.4	0.14	-0.14	0.09
3,434.0	10.46	221.66	3,401.3	-285.4	-278.1	-283.5	1.44	1.43	0.83
3,529.0	9.49	220.08	3,494.9	-297.9	-288.9	-295.8	1.06	-1.02	-1.66
3,623.0	8.48	220.43	3,587.7	-309.1	-298.4	-306.9	1.08	-1.07	0.37
3,718.0	8.31	219.11	3,681.7	-319.7	-307.3	-317.5	0.27	-0.18	-1.39
3,813.0	9.01	223.51	3,775.6	-330.5	-316.7	-328.2	1.01	0.74	4.63
3,908.0	9.63	226.94	3,869.4	-341.3	-327.6	-338.9	0.88	0.65	3.61
4,003.0	11.08	227.02	3,962.8	-352.9	-340.1	-350.5	1.53	1.53	0.08
4,098.0	10.73	230.28	4,056.1	-364.8	-353.6	-362.3	0.75	-0.37	3.43
4,193.0	10.24	230.98	4,149.5	-375.8	-367.0	-373.1	0.53	-0.52	0.74
4,288.0	9.76	232.21	4,243.1	-386.0	-379.9	-383.3	0.55	-0.51	1.29
4,383.0	8.79	234.32	4,336.8	-395.2	-392.2	-392.4	1.08	-1.02	2.22
4,478.0	8.97	222.80	4,430.7	-404.9	-403.1	-402.0	1.88	0.19	-12.13
4,573.0	8.92	214.19	4,524.5	-416.4	-412.3	-413.4	1.41	-0.05	-9.06
4,667.0	9.63	217.00	4,617.3	-428.7	-421.1	-425.7	0.90	0.76	2.99
4,762.0	8.75	214.72	4,711.1	-441.0	-430.0	-437.9	1.00	-0.93	-2.40



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4,857.0	8.57	207.95	4,805.0	-453.2	-437.4	-450.0	1.09	-0.19	-7.13
4,952.0	8.92	211.12	4,898.9	-465.7	-444.5	-462.5	0.63	0.37	3.34
5,029.0	8.89	212.40	4,975.0	-475.9	-450.8	-472.6	0.26	-0.04	1.66
Base Salt									
5,047.0	8.88	212.70	4,992.8	-478.2	-452.3	-475.0	0.26	-0.04	1.67
5,142.0	7.82	213.31	5,086.8	-489.8	-459.8	-486.5	1.12	-1.12	0.64
5,237.0	7.69	221.66	5,180.9	-499.9	-467.6	-496.6	1.19	-0.14	8.79
5,266.4	7.69	224.39	5,210.0	-502.8	-470.3	-499.4	1.24	-0.01	9.30
Delaware Mountain Gp									
5,318.8	7.72	229.25	5,262.0	-507.6	-475.4	-504.2	1.24	0.07	9.27
Bell Canyon - Lamar									
5,330.0	7.74	230.28	5,273.1	-508.6	-476.5	-505.2	1.24	0.14	9.19
5,359.2	7.71	229.74	5,302.0	-511.1	-479.6	-507.7	0.27	-0.11	-1.84
Ramsey Sand									
5,411.0	7.65	228.78	5,353.3	-515.6	-484.8	-512.1	0.27	-0.11	-1.86
5,506.0	9.80	229.40	5,447.2	-525.1	-495.7	-521.5	2.27	2.26	0.65
5,601.0	10.59	228.78	5,540.7	-536.1	-508.4	-532.4	0.84	0.83	-0.65
5,696.0	10.64	229.40	5,634.1	-547.5	-521.6	-543.8	0.13	0.05	0.65
5,790.0	10.51	233.18	5,726.5	-558.3	-535.1	-554.5	0.75	-0.14	4.02
5,885.0	10.90	234.41	5,819.8	-568.7	-549.3	-564.8	0.48	0.41	1.29
5,980.0	11.08	232.65	5,913.1	-579.5	-563.9	-575.5	0.40	0.19	-1.85
6,075.0	11.34	232.12	6,006.3	-590.8	-578.5	-586.6	0.29	0.27	-0.56
6,170.0	10.64	232.03	6,099.5	-601.9	-592.8	-597.6	0.74	-0.74	-0.09
6,265.0	10.07	231.77	6,193.0	-612.4	-606.2	-608.1	0.60	-0.60	-0.27
6,269.1	10.07	231.73	6,197.0	-612.9	-606.8	-608.5	0.16	0.00	-0.93
Cherry Canyon									
6,360.0	10.07	230.89	6,286.5	-622.8	-619.2	-618.4	0.16	0.00	-0.93
6,454.0	9.80	229.66	6,379.1	-633.2	-631.7	-628.6	0.37	-0.29	-1.31
6,549.0	9.85	229.75	6,472.7	-643.7	-644.0	-639.0	0.06	0.05	0.09
6,644.0	10.59	238.45	6,566.2	-653.5	-657.7	-648.8	1.80	0.78	9.16
6,739.0	10.95	237.22	6,659.6	-662.9	-672.7	-658.1	0.45	0.38	-1.29
6,834.0	10.73	235.37	6,752.9	-672.8	-687.6	-667.9	0.43	-0.23	-1.95
6,929.0	10.24	235.99	6,846.3	-682.6	-701.8	-677.6	0.53	-0.52	0.65
7,024.0	9.67	235.99	6,939.8	-691.8	-715.5	-686.6	0.60	-0.60	0.00
7,119.0	9.49	236.69	7,033.5	-700.5	-728.6	-695.3	0.23	-0.19	0.74
7,214.0	9.05	235.55	7,127.3	-709.1	-741.3	-703.8	0.50	-0.46	-1.20
7,308.0	8.79	235.02	7,220.1	-717.4	-753.3	-712.0	0.29	-0.28	-0.56
7,403.0	8.57	235.64	7,314.1	-725.5	-765.1	-720.0	0.25	-0.23	0.65
7,498.0	8.53	235.37	7,408.0	-733.5	-776.7	-728.0	0.06	-0.04	-0.28
7,593.0	8.53	233.44	7,501.9	-741.7	-788.2	-736.1	0.30	0.00	-2.03
7,688.0	8.62	232.82	7,595.9	-750.2	-799.5	-744.5	0.14	0.09	-0.65
7,783.0	8.66	232.65	7,689.8	-758.9	-810.9	-753.0	0.05	0.04	-0.18
7,799.4	8.55	232.75	7,706.0	-760.4	-812.8	-754.5	0.66	-0.65	0.60
Brushy Canyon									



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7,878.0	8.04	233.26	7,783.8	-767.2	-821.9	-761.3	0.66	-0.65	0.65
7,973.0	7.96	232.21	7,877.9	-775.2	-832.4	-769.2	0.18	-0.08	-1.11
8,068.0	5.23	236.52	7,972.2	-781.6	-841.2	-775.6	2.92	-2.87	4.54
8,163.0	3.56	242.93	8,067.0	-785.3	-847.5	-779.3	1.83	-1.76	6.75
8,258.0	3.52	246.89	8,161.8	-787.8	-852.8	-781.7	0.26	-0.04	4.17
8,352.0	1.89	274.22	8,255.7	-788.8	-857.0	-782.7	2.16	-1.73	29.07
8,447.0	1.54	284.42	8,350.6	-788.4	-859.8	-782.2	0.49	-0.37	10.74
8,542.0	1.45	282.22	8,445.6	-787.8	-862.2	-781.6	0.11	-0.09	-2.32
8,637.0	1.36	278.88	8,540.6	-787.4	-864.5	-781.2	0.13	-0.09	-3.52
8,732.0	1.05	276.24	8,635.5	-787.1	-866.4	-780.9	0.33	-0.33	-2.78
8,827.0	1.05	273.69	8,730.5	-787.0	-868.2	-780.8	0.05	0.00	-2.68
8,922.0	1.01	275.98	8,825.5	-786.8	-869.9	-780.6	0.06	-0.04	2.41
9,017.0	0.97	277.91	8,920.5	-786.6	-871.5	-780.4	0.05	-0.04	2.03
9,111.0	0.97	267.19	9,014.5	-786.6	-873.1	-780.3	0.19	0.00	-11.40
9,206.0	1.05	283.62	9,109.5	-786.4	-874.7	-780.1	0.32	0.08	17.29
9,216.5	1.06	284.99	9,120.0	-786.4	-874.9	-780.1	0.25	0.07	12.98
Bone Spring Lime									
9,301.0	1.14	295.14	9,204.5	-785.8	-876.4	-779.5	0.25	0.10	12.02
9,338.6	1.00	303.11	9,242.0	-785.5	-877.1	-779.2	0.54	-0.37	21.22
Upper Avalon									
9,396.0	0.84	319.84	9,299.4	-784.9	-877.8	-778.6	0.54	-0.28	29.12
9,475.0	1.19	326.43	9,378.4	-783.7	-878.6	-777.4	0.47	0.44	8.34
9,593.0	6.24	348.05	9,496.1	-776.4	-880.6	-770.1	4.37	4.28	18.32
9,633.4	11.79	345.86	9,536.0	-770.3	-882.0	-764.0	13.77	13.74	-5.43
Middle Avalon									
9,640.0	12.70	345.68	9,542.5	-768.9	-882.4	-762.6	13.77	13.76	-2.69
9,688.0	19.03	347.17	9,588.6	-756.2	-885.4	-749.8	13.21	13.19	3.10
9,735.0	25.32	353.67	9,632.1	-738.7	-888.3	-732.3	14.35	13.38	13.83
9,783.0	30.99	359.04	9,674.4	-716.1	-889.6	-709.7	12.93	11.81	11.19
9,790.5	32.03	359.34	9,680.8	-712.2	-889.6	-705.8	13.97	13.81	4.06
FTP @ 9790.5'MD, 100'FSL & 1230.9'FEL									
9,830.0	37.49	0.70	9,713.3	-689.7	-889.6	-683.3	13.97	13.83	3.43
9,878.0	42.33	0.27	9,750.1	-658.9	-889.4	-652.5	10.10	10.08	-0.90
9,925.0	47.12	358.33	9,783.5	-625.8	-889.8	-619.5	10.60	10.19	-4.13
9,973.0	49.45	356.66	9,815.4	-590.1	-891.4	-583.7	5.50	4.85	-3.48
10,020.0	49.80	356.22	9,845.9	-554.3	-893.6	-547.9	1.03	0.74	-0.94
10,068.0	52.13	354.90	9,876.1	-517.2	-896.5	-510.7	5.30	4.85	-2.75
10,099.5	54.07	354.13	9,895.0	-492.1	-898.9	-485.6	6.47	6.17	-2.46
Lower Avalon									
10,115.0	55.03	353.76	9,904.0	-479.5	-900.2	-473.1	6.47	6.18	-2.37
10,163.0	57.85	352.62	9,930.5	-439.8	-905.0	-433.3	6.20	5.88	-2.38
10,210.0	60.92	351.39	9,954.5	-399.8	-910.6	-393.2	6.91	6.53	-2.62
10,258.0	64.22	350.77	9,976.6	-357.7	-917.2	-351.1	6.97	6.88	-1.29
10,305.0	67.43	351.74	9,995.8	-315.3	-923.7	-308.7	7.08	6.83	2.06
10,352.0	72.04	354.55	10,012.1	-271.5	-929.0	-264.9	11.30	9.81	5.98



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Site: (Zeus State) Sec-9_T24-S_R-33-E
Well: Zeus State #184H
Wellbore: OWB
Design: AWB

Local Co-ordinate Reference: Well Zeus State #184H
TVD Reference: KB @ 3640.5usft (H&P 388)
MD Reference: KB @ 3640.5usft (H&P 388)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
10,399.0	76.13	356.57	10,025.0	-226.5	-932.5	-219.8	9.63	8.70	4.30
10,447.0	82.81	356.57	10,033.7	-179.4	-935.3	-172.7	13.92	13.92	0.00
10,477.0	87.96	355.70	10,036.2	-149.6	-937.3	-142.9	17.41	17.17	-2.90
10,571.0	91.87	355.87	10,036.3	-55.9	-944.2	-49.1	4.16	4.16	0.18
10,666.0	89.71	355.78	10,035.0	38.9	-951.1	45.7	2.28	-2.27	-0.09
10,761.0	89.01	355.61	10,036.0	133.6	-958.3	140.4	0.76	-0.74	-0.18
10,856.0	89.89	355.96	10,037.0	228.3	-965.2	235.2	1.00	0.93	0.37
10,951.0	90.24	355.96	10,036.8	323.1	-971.9	330.0	0.37	0.37	0.00
11,046.0	90.20	355.52	10,036.5	417.8	-979.0	424.8	0.47	-0.04	-0.46
11,140.0	90.64	355.34	10,035.8	511.5	-986.5	518.6	0.51	0.47	-0.19
11,235.0	90.55	357.80	10,034.8	606.3	-992.2	613.4	2.59	-0.09	2.59
11,330.0	90.81	357.98	10,033.7	701.3	-995.7	708.4	0.33	0.27	0.19
11,425.0	90.02	359.56	10,033.0	796.2	-997.7	803.4	1.86	-0.83	1.66
11,520.0	91.12	0.09	10,032.0	891.2	-998.0	898.4	1.29	1.16	0.56
11,615.0	89.45	0.18	10,031.6	986.2	-997.8	993.4	1.76	-1.76	0.09
11,710.0	88.88	359.91	10,033.0	1,081.2	-997.7	1,088.3	0.66	-0.60	-0.28
11,805.0	89.41	0.18	10,034.4	1,176.2	-997.6	1,183.3	0.63	0.56	0.28
11,900.0	87.87	0.27	10,036.6	1,271.2	-997.2	1,278.3	1.62	-1.62	0.09
11,995.0	88.57	0.70	10,039.6	1,366.1	-996.4	1,373.2	0.86	0.74	0.45
12,089.0	89.05	0.70	10,041.5	1,460.1	-995.3	1,467.2	0.51	0.51	0.00
12,184.0	89.67	0.79	10,042.6	1,555.1	-994.1	1,562.2	0.66	0.65	0.09
12,279.0	88.04	0.44	10,044.5	1,650.1	-993.0	1,657.1	1.75	-1.72	-0.37
12,374.0	88.48	0.53	10,047.4	1,745.0	-992.2	1,752.1	0.47	0.46	0.09
12,469.0	89.05	0.27	10,049.4	1,840.0	-991.6	1,847.0	0.66	0.60	-0.27
12,564.0	89.19	0.18	10,050.9	1,935.0	-991.2	1,942.0	0.18	0.15	-0.09
12,659.0	89.85	0.09	10,051.7	2,030.0	-991.0	2,037.0	0.70	0.69	-0.09
12,754.0	89.80	359.65	10,052.0	2,125.0	-991.2	2,132.0	0.47	-0.05	-0.46
12,848.0	90.24	359.91	10,051.9	2,219.0	-991.5	2,226.0	0.54	0.47	0.28
12,943.0	90.95	0.01	10,051.0	2,314.0	-991.6	2,321.0	0.75	0.75	0.10
13,038.0	88.79	358.86	10,051.2	2,409.0	-992.6	2,416.0	2.57	-2.27	-1.21
13,133.0	88.66	358.51	10,053.3	2,503.9	-994.7	2,511.0	0.39	-0.14	-0.37
13,228.0	89.54	358.42	10,054.8	2,598.9	-997.3	2,605.9	0.93	0.93	-0.09
13,323.0	90.95	358.24	10,054.4	2,693.8	-1,000.1	2,700.9	1.50	1.48	-0.19
13,417.0	91.96	358.33	10,052.0	2,787.7	-1,002.9	2,794.8	1.08	1.07	0.10
13,512.0	91.38	359.39	10,049.2	2,882.7	-1,004.8	2,889.8	1.27	-0.61	1.12
13,607.0	91.82	0.88	10,046.6	2,977.6	-1,004.5	2,984.8	1.63	0.46	1.57
13,702.0	88.84	359.39	10,046.0	3,072.6	-1,004.3	3,079.7	3.51	-3.14	-1.57
13,797.0	89.89	359.30	10,047.1	3,167.6	-1,005.4	3,174.7	1.11	1.11	-0.09
13,892.0	89.36	359.91	10,047.7	3,262.6	-1,006.0	3,269.7	0.85	-0.56	0.64
13,987.0	90.24	359.74	10,048.0	3,357.6	-1,006.3	3,364.7	0.94	0.93	-0.18
14,081.0	88.53	359.74	10,049.0	3,451.6	-1,006.8	3,458.7	1.82	-1.82	0.00
14,176.0	90.77	0.44	10,049.6	3,546.6	-1,006.6	3,553.7	2.47	2.36	0.74
14,271.0	88.09	359.47	10,050.6	3,641.6	-1,006.7	3,648.7	3.00	-2.82	-1.02



Intrepid Survey Report



Company: Tap Rock Resources, LLC
Project: Lea County, NM (NAD 83 NME)
Site: (Zeus State) Sec-9_T24-S_R-33-E
Well: Zeus State #184H
Wellbore: OWB
Design: AWB

Local Co-ordinate Reference: Well Zeus State #184H
TVD Reference: KB @ 3640.5usft (H&P 388)
MD Reference: KB @ 3640.5usft (H&P 388)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
14,366.0	88.40	359.30	10,053.5	3,736.5	-1,007.7	3,743.6	0.37	0.33	-0.18
14,461.0	89.63	359.12	10,055.1	3,831.5	-1,009.0	3,838.6	1.31	1.29	-0.19
14,556.0	88.18	358.68	10,056.9	3,926.5	-1,010.8	3,933.6	1.60	-1.53	-0.46
14,651.0	88.53	359.30	10,059.6	4,021.4	-1,012.5	4,028.5	0.75	0.37	0.65
14,746.0	89.41	359.83	10,061.3	4,116.4	-1,013.2	4,123.5	1.08	0.93	0.56
14,841.0	89.85	0.01	10,062.0	4,211.4	-1,013.4	4,218.5	0.50	0.46	0.18
14,935.0	91.30	0.01	10,061.0	4,305.4	-1,013.4	4,312.5	1.54	1.54	0.00
14,995.7	91.83	359.85	10,059.4	4,366.1	-1,013.4	4,373.2	0.91	0.87	-0.25
LTP @ 14995.7'MD, 100'FNL & 1318'FEL									
15,005.0	91.91	359.83	10,059.1	4,375.4	-1,013.5	4,382.5	0.91	0.87	-0.25
LAST SVY									
15,070.0	91.91	359.83	10,056.9	4,440.3	-1,013.7	4,447.5	0.00	0.00	0.00
Projection to TD @ 15070'MD, 25.8'FNL & 1317.9'FEL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
FTP (Zeus State #184	0.00	0.00	10,035.8	-713.0	-979.0	446,480.00	776,462.00	32° 13' 30.586 N	103° 34' 22.741 W
- actual wellpath misses target center by 261.8usft at 10021.9usft MD (9847.1 TVD, -552.9 N, -893.7 E)									
- Point									
PBHL (Zeus State #184	0.20	359.59	10,051.4	4,461.0	-1,016.0	451,654.00	776,425.00	32° 14' 21.786 N	103° 34' 22.746 W
- actual wellpath misses target center by 21.5usft at 15070.0usft MD (10056.9 TVD, 4440.3 N, -1013.7 E)									
- Rectangle (sides W100.0 H5,179.0 D30.0)									
LTP (Zeus State #184	0.00	0.00	10,051.4	4,366.0	-1,015.0	451,559.00	776,426.00	32° 14' 20.846 N	103° 34' 22.742 W
- actual wellpath misses target center by 8.1usft at 14995.9usft MD (10059.4 TVD, 4366.3 N, -1013.4 E)									
- Point									



Intrepid Survey Report



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Project: Lea County, NM (NAD 83 NME)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.15 Single User Db

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,306.5	1,305.0	Rustler Anhydrite			
1,366.8	1,365.0	Top Salt			
5,029.0	4,975.0	Base Salt			
5,266.4	5,210.0	Delaware Mountain Gp			
5,318.8	5,262.0	Bell Canyon			
5,318.8	5,262.0	Lamar			
5,359.2	5,302.0	Ramsey Sand			
6,269.1	6,197.0	Cherry Canyon			
7,799.4	7,706.0	Brushy Canyon			
9,216.5	9,120.0	Bone Spring Lime			
9,338.6	9,242.0	Upper Avalon			
9,633.4	9,536.0	Middle Avalon			
10,099.5	9,895.0	Lower Avalon			

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,790.5	9,680.8	-712.2	-889.6	FTP @ 9790.5'MD, 100'FSL & 1230.9'FEL
14,995.7	10,059.4	4,366.1	-1,013.4	LTP @ 14995.7'MD, 100'FNL & 1318'FEL
15,005.0	10,059.1	4,375.4	-1,013.5	LAST SVY
15,070.0	10,056.9	4,440.3	-1,013.7	Projection to TD @ 15070'MD, 25.8'FNL & 1317.9'FEL

Checked By: _____ Approved By: _____ Date: _____