

Continental Resources

Lea County, NM (NAD27)

Reed 24 25 B State 001H

Reed 24 25 B State 001H

OH

Design: OH

Standard Survey Report

30 August, 2018

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well Reed 24 25 B State 001H
Project:	Lea County, NM (NAD27)	TVD Reference:	GL 3942 + 25' KB @ 3967.00usft
Site:	Reed 24 25 B State 001H	MD Reference:	GL 3942 + 25' KB @ 3967.00usft
Well:	Reed 24 25 B State 001H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Project	Lea County, NM (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Reed 24 25 B State 001H			
Site Position:		Northing:	732,276.00 usft	Latitude: 33.009240
From: Map		Easting:	800,607.00 usft	Longitude: -103.352744
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.53 °

Well	Reed 24 25 B State 001H			
Well Position	+N/-S	0.00 usft	Northing:	732,276.00 usft
	+E/-W	0.00 usft	Easting:	800,607.00 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
			Ground Level:	3,942.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/11/2018	6.82	60.80	48,366.58968059

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	96.47	

Survey Program	Date	7/1/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	10,521.00	#2 Gyro Survey (OH)	NS-Gyro-DP	Fixed:v2:North seeking gyro in drill pipe	
10,521.00	11,879.00	#1 Legacy MWD (OH)	MWD	Fixed:v2:standard declination	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.27	277.81	100.00	0.03	-0.23	-0.24	0.27	0.27	0.00	
200.00	0.33	288.74	200.00	0.16	-0.74	-0.75	0.08	0.06	10.93	
300.00	0.32	269.73	300.00	0.25	-1.29	-1.31	0.11	-0.01	-19.01	
400.00	0.44	261.98	399.99	0.19	-1.95	-1.96	0.13	0.12	-7.75	
500.00	0.50	270.37	499.99	0.14	-2.77	-2.77	0.09	0.06	8.39	
600.00	0.44	266.85	599.99	0.12	-3.59	-3.58	0.07	-0.06	-3.52	
700.00	0.38	265.87	699.99	0.08	-4.30	-4.28	0.06	-0.06	-0.98	
800.00	0.34	253.62	799.98	-0.03	-4.92	-4.88	0.09	-0.04	-12.25	
900.00	0.40	257.25	899.98	-0.19	-5.54	-5.49	0.06	0.06	3.63	

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Well:	Reed 24 25 B State 001H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 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)
1,000.00	0.37	254.56	999.98	-0.35	-6.19	-6.11	0.04	-0.03	-2.69
1,100.00	0.30	241.09	1,099.98	-0.56	-6.73	-6.63	0.10	-0.07	-13.47
1,200.00	0.31	206.59	1,199.98	-0.93	-7.08	-6.93	0.18	0.01	-34.50
1,300.00	0.28	196.88	1,299.97	-1.41	-7.28	-7.07	0.06	-0.03	-9.71
1,400.00	0.30	218.99	1,399.97	-1.85	-7.51	-7.26	0.11	0.02	22.11
1,500.00	0.24	217.17	1,499.97	-2.22	-7.80	-7.50	0.06	-0.06	-1.82
1,600.00	0.26	177.30	1,599.97	-2.61	-7.92	-7.57	0.17	0.02	-39.87
1,700.00	0.28	151.15	1,699.97	-3.05	-7.79	-7.40	0.12	0.02	-26.15
1,800.00	0.29	135.43	1,799.97	-3.45	-7.49	-7.06	0.08	0.01	-15.72
1,900.00	0.31	151.65	1,899.97	-3.86	-7.19	-6.71	0.09	0.02	16.22
2,000.00	0.11	123.91	1,999.97	-4.16	-6.98	-6.47	0.22	-0.20	-27.74
2,100.00	0.12	179.67	2,099.97	-4.31	-6.90	-6.37	0.11	0.01	55.76
2,200.00	0.11	231.64	2,199.97	-4.48	-6.98	-6.43	0.10	-0.01	51.97
2,300.00	0.20	185.64	2,299.97	-4.71	-7.07	-6.49	0.15	0.09	-46.00
2,400.00	0.19	231.67	2,399.97	-4.99	-7.21	-6.61	0.15	-0.01	46.03
2,500.00	0.15	172.15	2,499.97	-5.22	-7.33	-6.69	0.17	-0.04	-59.52
2,600.00	0.22	123.07	2,599.96	-5.45	-7.15	-6.49	0.17	0.07	-49.08
2,700.00	0.61	91.44	2,699.96	-5.57	-6.46	-5.79	0.44	0.39	-31.63
2,800.00	0.79	95.04	2,799.95	-5.65	-5.24	-4.57	0.19	0.18	3.60
2,900.00	0.85	86.06	2,899.94	-5.66	-3.81	-3.15	0.14	0.06	-8.98
3,000.00	0.86	81.40	2,999.93	-5.49	-2.33	-1.69	0.07	0.01	-4.66
3,100.00	0.95	76.52	3,099.92	-5.19	-0.78	-0.19	0.12	0.09	-4.88
3,200.00	0.96	68.14	3,199.91	-4.68	0.80	1.33	0.14	0.01	-8.38
3,300.00	0.89	66.20	3,299.89	-4.06	2.29	2.73	0.08	-0.07	-1.94
3,400.00	0.79	68.35	3,399.88	-3.49	3.64	4.01	0.10	-0.10	2.15
3,500.00	0.74	62.35	3,499.87	-2.94	4.86	5.16	0.09	-0.05	-6.00
3,600.00	0.82	60.57	3,599.87	-2.28	6.05	6.27	0.08	0.08	-1.78
3,700.00	0.75	64.59	3,699.86	-1.65	7.27	7.41	0.09	-0.07	4.02
3,800.00	0.41	95.87	3,799.85	-1.41	8.21	8.32	0.45	-0.34	31.28
3,900.00	0.53	94.52	3,899.85	-1.48	9.03	9.14	0.12	0.12	-1.35
4,000.00	0.47	107.48	3,999.84	-1.64	9.88	10.00	0.13	-0.06	12.96
4,100.00	0.43	124.70	4,099.84	-1.98	10.58	10.74	0.14	-0.04	17.22
4,200.00	0.43	125.61	4,199.84	-2.41	11.20	11.40	0.01	0.00	0.91
4,300.00	0.57	138.05	4,299.83	-3.00	11.83	12.10	0.18	0.14	12.44
4,400.00	0.63	142.53	4,399.83	-3.80	12.50	12.85	0.08	0.06	4.48
4,500.00	0.64	150.10	4,499.82	-4.72	13.11	13.56	0.08	0.01	7.57
4,600.00	0.53	159.49	4,599.82	-5.64	13.55	14.10	0.15	-0.11	9.39
4,700.00	0.57	151.71	4,699.81	-6.51	13.95	14.60	0.08	0.04	-7.78
4,800.00	0.55	162.85	4,799.81	-7.41	14.33	15.07	0.11	-0.02	11.14
4,900.00	0.45	169.37	4,899.80	-8.25	14.54	15.38	0.11	-0.10	6.52
5,000.00	0.44	175.44	4,999.80	-9.02	14.65	15.57	0.05	-0.01	6.07
5,100.00	0.49	183.52	5,099.80	-9.83	14.65	15.66	0.08	0.05	8.08
5,200.00	0.54	174.42	5,199.79	-10.73	14.67	15.78	0.10	0.05	-9.10

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Design:	OH	Database:	EDM 5000.14 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)
5,300.00	0.49	169.29	5,299.79	-11.62	14.79	16.01	0.07	-0.05	-5.13
5,400.00	0.46	171.42	5,399.79	-12.43	14.93	16.24	0.03	-0.03	2.13
5,500.00	0.48	169.49	5,499.78	-13.24	15.07	16.47	0.03	0.02	-1.93
5,600.00	0.58	166.81	5,599.78	-14.15	15.26	16.76	0.10	0.10	-2.68
5,700.00	0.53	172.04	5,699.77	-15.10	15.44	17.04	0.07	-0.05	5.23
5,800.00	0.56	183.01	5,799.77	-16.04	15.48	17.19	0.11	0.03	10.97
5,900.00	0.62	179.18	5,899.76	-17.07	15.46	17.29	0.07	0.06	-3.83
6,000.00	0.76	184.12	5,999.76	-18.28	15.42	17.38	0.15	0.14	4.94
6,100.00	0.68	187.14	6,099.75	-19.53	15.30	17.40	0.09	-0.08	3.02
6,200.00	0.63	197.34	6,199.74	-20.64	15.06	17.29	0.13	-0.05	10.20
6,300.00	0.70	202.58	6,299.74	-21.73	14.66	17.02	0.09	0.07	5.24
6,400.00	0.68	202.10	6,399.73	-22.84	14.21	16.69	0.02	-0.02	-0.48
6,500.00	0.64	206.04	6,499.72	-23.89	13.74	16.34	0.06	-0.04	3.94
6,600.00	0.63	206.23	6,599.72	-24.89	13.25	15.97	0.01	-0.01	0.19
6,700.00	0.59	227.85	6,699.71	-25.73	12.63	15.44	0.23	-0.04	21.62
6,800.00	0.62	238.83	6,799.70	-26.35	11.78	14.67	0.12	0.03	10.98
6,900.00	0.54	254.68	6,899.70	-26.76	10.86	13.81	0.18	-0.08	15.85
7,000.00	0.53	271.85	6,999.70	-26.87	9.95	12.91	0.16	-0.01	17.17
7,100.00	0.58	270.54	7,099.69	-26.85	8.98	11.95	0.05	0.05	-1.31
7,200.00	0.58	268.73	7,199.69	-26.85	7.97	10.94	0.02	0.00	-1.81
7,300.00	0.58	270.10	7,299.68	-26.86	6.95	9.94	0.01	0.00	1.37
7,400.00	0.55	278.24	7,399.68	-26.79	5.97	8.95	0.09	-0.03	8.14
7,500.00	0.56	289.61	7,499.67	-26.56	5.04	8.00	0.11	0.01	11.37
7,600.00	0.66	284.04	7,599.67	-26.26	4.02	6.95	0.12	0.10	-5.57
7,700.00	0.55	291.20	7,699.66	-25.94	3.01	5.92	0.13	-0.11	7.16
7,800.00	0.50	292.89	7,799.66	-25.60	2.16	5.03	0.05	-0.05	1.69
7,900.00	0.62	292.40	7,899.65	-25.23	1.26	4.09	0.12	0.12	-0.49
8,000.00	0.48	277.44	7,999.65	-24.97	0.35	3.15	0.20	-0.14	-14.96
8,100.00	0.39	272.30	8,099.64	-24.90	-0.41	2.40	0.10	-0.09	-5.14
8,200.00	0.34	240.66	8,199.64	-25.03	-1.01	1.82	0.20	-0.05	-31.64
8,300.00	0.32	240.57	8,299.64	-25.31	-1.51	1.35	0.02	-0.02	-0.09
8,400.00	0.30	232.20	8,399.64	-25.61	-1.96	0.94	0.05	-0.02	-8.37
8,500.00	0.22	186.71	8,499.64	-25.96	-2.19	0.75	0.21	-0.08	-45.49
8,600.00	0.28	151.26	8,599.64	-26.37	-2.10	0.89	0.16	0.06	-35.45
8,700.00	0.43	152.89	8,699.63	-26.91	-1.81	1.24	0.15	0.15	1.63
8,800.00	0.46	145.78	8,799.63	-27.58	-1.41	1.71	0.06	0.03	-7.11
8,900.00	0.38	144.98	8,899.63	-28.18	-0.99	2.19	0.08	-0.08	-0.80
9,000.00	0.35	150.21	8,999.63	-28.72	-0.65	2.59	0.04	-0.03	5.23
9,100.00	0.41	130.67	9,099.62	-29.22	-0.23	3.06	0.14	0.06	-19.54
9,200.00	0.45	131.22	9,199.62	-29.71	0.34	3.68	0.04	0.04	0.55
9,300.00	0.38	127.45	9,299.62	-30.17	0.90	4.29	0.08	-0.07	-3.77
9,400.00	0.33	136.52	9,399.62	-30.58	1.36	4.79	0.08	-0.05	9.07
9,500.00	0.28	139.53	9,499.62	-30.98	1.71	5.19	0.05	-0.05	3.01

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Site:	Reed 24 25 B State 001H	MD Reference:	GL 3942 + 25' KB @ 3967.00usft
Well:	Reed 24 25 B State 001H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 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)
9,600.00	0.30	103.51	9,599.61	-31.22	2.13	5.63	0.18	0.02	-36.02
9,700.00	0.24	91.71	9,699.61	-31.29	2.59	6.10	0.08	-0.06	-11.80
9,800.00	0.28	74.85	9,799.61	-31.23	3.04	6.54	0.09	0.04	-16.86
9,900.00	0.46	77.72	9,899.61	-31.08	3.67	7.14	0.18	0.18	2.87
10,000.00	0.62	103.00	9,999.61	-31.12	4.58	8.06	0.28	0.16	25.28
10,100.00	0.69	104.86	10,099.60	-31.40	5.69	9.19	0.07	0.07	1.86
10,200.00	0.85	100.71	10,199.59	-31.69	7.00	10.53	0.17	0.16	-4.15
10,300.00	0.95	92.17	10,299.58	-31.86	8.56	12.10	0.17	0.10	-8.54
10,400.00	0.98	85.22	10,399.56	-31.82	10.24	13.76	0.12	0.03	-6.95
10,500.00	0.90	73.49	10,499.55	-31.52	11.85	15.32	0.21	-0.08	-11.73
10,521.00	1.11	82.46	10,520.55	-31.45	12.21	15.67	1.25	1.00	42.71
10,588.00	0.90	67.69	10,587.54	-31.16	13.34	16.76	0.50	-0.31	-22.04
10,680.00	0.97	62.22	10,679.52	-30.53	14.70	18.04	0.12	0.08	-5.95
10,773.00	0.97	64.83	10,772.51	-29.83	16.10	19.36	0.05	0.00	2.81
10,805.00	1.05	61.77	10,804.51	-29.57	16.61	19.83	0.30	0.25	-9.56
10,848.00	1.02	59.86	10,847.50	-29.19	17.29	20.46	0.11	-0.07	-4.44
10,864.00	1.09	57.11	10,863.50	-29.04	17.54	20.70	0.54	0.44	-17.19
11,048.00	0.97	45.86	11,047.47	-27.00	20.12	23.04	0.13	-0.07	-6.11
11,234.00	1.64	52.07	11,233.42	-24.27	23.35	25.94	0.37	0.36	3.34
11,419.00	1.71	80.64	11,418.34	-22.20	28.16	30.49	0.45	0.04	15.44
11,603.00	1.33	87.39	11,602.28	-21.65	33.01	35.24	0.23	-0.21	3.67
11,787.00	2.42	120.20	11,786.18	-23.51	38.50	40.90	0.81	0.59	17.83
11,879.00	2.29	119.83	11,878.10	-25.40	41.77	44.37	0.14	-0.14	-0.40

Last Survey 11879'MD / 11878.13'TVD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	
		+N/-S (usft)	+E/-W (usft)
11,879.00	11,878.10	-25.40	41.77
Last Survey 11879'MD / 11878.13'TVD			

Checked By: _____ Approved By: _____ Date: _____