



Centennial Resource Development, LLC

Lea County, NM (NAD 83 - UTM Zone 13 - True)
Queso Blanco 13 State Com
Queso Blanco 13 State Com 602H

OH

Design: OH

Standard Survey Report

19 December, 2019

HOBBS OCD
FEB 16 2020
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Company:	Centennial Resource Development, LLC	Local Co-ordinate Reference:	Well Queso Blanco 13 State Com 602H
Project:	Lea County, NM (NAD 83 - UTM Zone 13 - True)	TVD Reference:	3507.4' GE + 26.5' KB @ 3533.90usft
Site:	Queso Blanco 13 State Com	MD Reference:	3507.4' GE + 26.5' KB @ 3533.90usft
Well:	Queso Blanco 13 State Com 602H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Project	Lea County, NM (NAD 83 - UTM Zone 13 - True)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	Queso Blanco 13 State Com				
Site Position:		Northing:	11,760,184.41 usft	Latitude:	32.387817
From:	Map	Easting:	2,125,768.87 usft	Longitude:	-103.427232
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.84 °

Well	Queso Blanco 13 State Com 602H					
Well Position	+N/-S	0.00 usft	Northing:	11,760,184.41 usft	Latitude:	32.387817
	+E/-W	0.00 usft	Easting:	2,125,768.87 usft	Longitude:	-103.427232
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,507.40 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/14/2019	6.64	60.20	47,801.10941293

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	357.62	

Survey Program	Date	12/19/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
140.50	1,795.50	Survey #1 (OH)	MWD	OWSG MWD - Standard	
1,907.00	18,499.00	Survey #2 (OH)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	
18,550.00	18,550.00	Survey #3 (OH)	BLIND	OWSG BLIND	

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	
SHL (QB 13 State Com 602H)										
140.50	1.10	277.69	140.49	0.18	-1.34	0.24	0.78	0.78	0.00	
231.50	1.20	290.69	231.47	0.63	-3.09	0.76	0.31	0.11	14.29	
373.50	1.30	212.69	373.45	-0.20	-5.35	0.03	1.11	0.07	-54.93	
561.50	1.00	205.69	561.41	-3.47	-7.22	-3.17	0.18	-0.16	-3.72	
719.50	0.90	222.69	719.39	-5.62	-8.66	-5.26	0.19	-0.06	10.76	
908.50	1.20	225.69	908.36	-8.10	-11.08	-7.63	0.16	0.16	1.59	
971.50	1.60	240.69	971.34	-8.99	-12.32	-8.47	0.86	0.63	23.81	

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Survey

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1,129.50	2.00	208.69	1,129.26	-12.49	-15.57	-11.83	0.67	0.25	-20.25
1,287.50	2.40	229.69	1,287.15	-17.05	-19.41	-16.22	0.57	0.25	13.29
1,444.50	2.20	228.69	1,444.02	-21.16	-24.18	-20.14	0.13	-0.13	-0.64
1,571.50	2.00	265.69	1,570.94	-22.94	-28.22	-21.75	1.06	-0.16	29.13
1,697.50	2.10	250.69	1,696.86	-23.87	-32.59	-22.49	0.43	0.08	-11.90
1,795.50	3.00	235.69	1,794.77	-25.91	-36.41	-24.37	1.14	0.92	-15.31
1,907.00	3.10	249.50	1,906.11	-28.61	-41.64	-26.85	0.66	0.09	12.39
2,001.00	4.14	237.74	1,999.92	-31.31	-46.89	-29.33	1.35	1.11	-12.51
2,095.00	6.93	237.74	2,093.48	-36.15	-54.56	-33.85	2.97	2.97	0.00
2,189.00	9.11	210.95	2,186.58	-45.56	-63.18	-42.89	4.54	2.32	-28.50
2,283.00	10.40	202.10	2,279.23	-59.80	-70.20	-56.84	2.10	1.37	-9.41
2,377.00	11.51	192.58	2,371.52	-76.82	-75.44	-73.62	2.25	1.18	-10.13
2,471.00	12.65	181.83	2,463.45	-96.26	-77.81	-92.95	2.68	1.21	-11.44
2,565.00	13.35	173.56	2,555.05	-117.34	-76.92	-114.04	2.11	0.74	-8.80
2,659.00	12.54	170.14	2,646.66	-138.18	-73.96	-134.98	1.19	-0.86	-3.64
2,754.00	11.74	169.53	2,739.53	-157.84	-70.44	-154.78	0.85	-0.84	-0.64
2,848.00	11.23	170.11	2,831.65	-176.26	-67.13	-173.32	0.56	-0.54	0.62
2,942.00	10.88	169.28	2,923.91	-194.00	-63.90	-191.17	0.41	-0.37	-0.88
3,035.00	10.32	169.29	3,015.32	-210.81	-60.72	-208.10	0.60	-0.60	0.01
3,129.00	9.61	167.09	3,107.90	-226.73	-57.40	-224.15	0.86	-0.76	-2.34
3,223.00	10.13	171.87	3,200.51	-242.56	-54.48	-240.08	1.03	0.55	5.09
3,317.00	11.05	176.18	3,292.91	-259.73	-52.71	-257.32	1.29	0.98	4.59
3,411.00	10.72	175.27	3,385.22	-277.43	-51.39	-275.06	0.40	-0.35	-0.97
3,505.00	9.98	173.10	3,477.69	-294.23	-49.69	-291.91	0.89	-0.79	-2.31
3,599.00	10.78	169.56	3,570.15	-310.96	-47.12	-308.74	1.09	0.85	-3.77
3,693.00	11.89	167.22	3,662.32	-329.05	-43.39	-326.97	1.28	1.18	-2.49
3,787.00	11.06	167.02	3,754.44	-347.28	-39.22	-345.35	0.88	-0.88	-0.21
3,881.00	9.82	168.17	3,846.88	-363.91	-35.55	-362.12	1.34	-1.32	1.22
3,975.00	9.41	174.55	3,939.56	-379.41	-33.18	-377.70	1.21	-0.44	6.79
4,069.00	10.11	181.47	4,032.20	-395.31	-32.66	-393.61	1.45	0.74	7.36
4,163.00	10.91	185.01	4,124.63	-412.42	-33.65	-410.66	1.09	0.85	3.77
4,257.00	10.36	186.56	4,217.01	-429.68	-35.39	-427.84	0.66	-0.59	1.65
4,351.00	10.09	188.38	4,309.52	-446.22	-37.56	-444.27	0.45	-0.29	1.94
4,445.00	9.80	191.77	4,402.11	-462.20	-40.39	-460.12	0.69	-0.31	3.61
4,539.00	10.28	188.62	4,494.67	-478.32	-43.28	-476.11	0.78	0.51	-3.35
4,633.00	11.00	185.07	4,587.05	-495.55	-45.33	-493.24	1.04	0.77	-3.78
4,727.00	11.05	184.90	4,679.32	-513.46	-46.89	-511.07	0.06	0.05	-0.18
4,821.00	10.94	182.76	4,771.59	-531.34	-48.09	-528.88	0.45	-0.12	-2.28
4,915.00	10.99	178.74	4,863.88	-549.21	-48.32	-546.73	0.82	0.05	-4.28
5,009.00	10.59	179.86	4,956.21	-566.80	-48.10	-564.32	0.48	-0.43	1.19
5,104.00	10.16	179.35	5,049.66	-583.91	-47.98	-581.41	0.46	-0.45	-0.54
5,197.00	9.73	179.47	5,141.26	-599.97	-47.82	-597.47	0.46	-0.46	0.13
5,291.00	9.57	180.45	5,233.93	-615.73	-47.81	-613.21	0.24	-0.17	1.04

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5,385.00	9.62	179.77	5,326.62	-631.40	-47.84	-628.86	0.13	0.05	-0.72
5,479.00	10.16	180.13	5,419.22	-647.54	-47.82	-645.00	0.58	0.57	0.38
5,645.00	10.18	180.64	5,582.61	-676.85	-48.02	-674.27	0.06	0.01	0.31
5,739.00	10.92	171.06	5,675.03	-693.96	-46.73	-691.41	2.02	0.79	-10.19
5,833.00	11.85	167.21	5,767.18	-712.16	-43.21	-709.75	1.28	0.99	-4.10
5,927.00	11.00	167.02	5,859.32	-730.32	-39.06	-728.06	0.91	-0.90	-0.20
6,021.00	10.53	165.65	5,951.66	-747.38	-34.92	-745.28	0.57	-0.50	-1.46
6,115.00	9.56	167.31	6,044.22	-763.31	-31.07	-761.36	1.08	-1.03	1.77
6,209.00	8.24	167.71	6,137.09	-777.51	-27.92	-775.68	1.41	-1.40	0.43
6,303.00	7.82	166.53	6,230.17	-790.31	-25.00	-788.59	0.48	-0.45	-1.26
6,397.00	8.10	165.36	6,323.26	-802.94	-21.84	-801.34	0.34	0.30	-1.24
6,491.00	8.15	161.14	6,416.32	-815.65	-18.01	-814.20	0.64	0.05	-4.49
6,585.00	8.01	159.83	6,509.38	-828.10	-13.60	-826.82	0.25	-0.15	-1.39
6,679.00	7.47	160.12	6,602.53	-840.00	-9.26	-838.89	0.58	-0.57	0.31
6,773.00	5.96	164.42	6,695.88	-850.44	-5.87	-849.47	1.69	-1.61	4.57
6,867.00	5.08	162.91	6,789.44	-859.12	-3.34	-858.24	0.95	-0.94	-1.61
6,961.00	5.00	156.15	6,883.08	-866.85	-0.46	-866.08	0.64	-0.09	-7.19
7,055.00	3.19	166.84	6,976.84	-873.14	1.79	-872.46	2.08	-1.93	11.37
7,149.00	2.58	179.97	7,070.72	-877.80	2.39	-877.14	0.95	-0.65	13.97
7,243.00	2.34	165.74	7,164.63	-881.78	2.86	-881.14	0.70	-0.26	-15.14
7,338.00	0.64	183.65	7,259.60	-884.19	3.31	-883.56	1.83	-1.79	18.85
7,432.00	0.50	68.82	7,353.60	-884.56	3.66	-883.95	1.03	-0.15	-122.16
7,526.00	0.55	86.37	7,447.59	-884.39	4.49	-883.81	0.18	0.05	18.67
7,620.00	0.89	108.80	7,541.59	-884.59	5.63	-884.06	0.46	0.36	23.86
7,714.00	1.11	117.24	7,635.57	-885.25	7.13	-884.78	0.28	0.23	8.98
7,808.00	0.96	144.07	7,729.56	-886.30	8.40	-885.88	0.53	-0.16	28.54
7,902.00	0.61	15.58	7,823.55	-886.46	9.00	-886.06	1.51	-0.37	-136.69
7,996.00	0.82	2.55	7,917.54	-885.30	9.16	-884.92	0.28	0.22	-13.86
8,090.00	0.83	22.96	8,011.54	-884.00	9.46	-883.63	0.31	0.01	21.71
8,184.00	1.05	19.57	8,105.52	-882.57	10.01	-882.22	0.24	0.23	-3.61
8,278.00	1.01	50.05	8,199.51	-881.22	10.94	-880.91	0.58	-0.04	32.43
8,372.00	0.69	93.45	8,293.50	-880.72	12.14	-880.47	0.74	-0.34	46.17
8,466.00	0.70	96.87	8,387.49	-880.83	13.27	-880.62	0.05	0.01	3.64
8,560.00	0.77	106.57	8,481.48	-881.08	14.45	-880.91	0.15	0.07	10.32
8,654.00	0.70	115.70	8,575.48	-881.50	15.57	-881.39	0.14	-0.07	9.71
8,748.00	0.66	104.31	8,669.47	-881.89	16.61	-881.82	0.15	-0.04	-12.12
8,842.00	0.46	132.77	8,763.47	-882.28	17.41	-882.24	0.36	-0.21	30.28
8,936.00	1.10	171.32	8,857.46	-883.43	17.83	-883.40	0.84	0.68	41.01
9,030.00	2.53	158.13	8,951.41	-886.24	18.74	-886.26	1.57	1.52	-14.03
9,124.00	3.41	156.20	9,045.28	-890.73	20.64	-890.81	0.94	0.94	-2.05
9,219.00	4.03	157.77	9,140.08	-896.40	23.04	-896.58	0.66	0.65	1.65
9,313.00	4.86	157.27	9,233.80	-903.13	25.83	-903.43	0.88	0.88	-0.53
9,407.00	3.44	170.13	9,327.55	-909.58	27.85	-909.96	1.80	-1.51	13.68
9,501.00	3.54	210.59	9,421.39	-914.86	26.86	-915.19	2.57	0.11	43.04

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9,595.00	4.68	219.11	9,515.15	-920.33	22.96	-920.49	1.37	1.21	9.06
9,689.00	3.90	222.18	9,608.88	-925.68	18.40	-925.64	0.86	-0.83	3.27
9,783.00	2.15	251.69	9,702.75	-928.60	14.57	-928.41	2.43	-1.86	31.39
9,877.00	1.09	272.49	9,796.71	-929.12	12.01	-928.81	1.27	-1.13	22.13
9,971.00	1.36	333.42	9,890.70	-928.08	10.61	-927.72	1.34	0.29	64.82
10,065.00	1.57	346.34	9,984.67	-925.83	9.81	-925.44	0.42	0.22	13.74
10,159.00	1.40	351.61	10,078.63	-923.44	9.34	-923.04	0.23	-0.18	5.61
10,253.00	0.68	26.29	10,172.62	-921.81	9.42	-921.40	0.98	-0.77	36.89
10,348.00	1.13	8.14	10,267.61	-920.38	9.80	-919.99	0.56	0.47	-19.11
10,442.00	1.40	3.37	10,361.58	-918.31	10.00	-917.93	0.31	0.29	-5.07
10,536.00	1.72	359.00	10,455.55	-915.76	10.04	-915.38	0.36	0.34	-4.65
KOP									
10,630.00	3.41	337.67	10,549.45	-911.76	8.96	-911.34	2.03	1.80	-22.69
10,683.00	4.84	338.69	10,602.32	-908.22	7.55	-907.75	2.70	2.70	1.92
10,742.00	6.21	341.43	10,661.04	-902.87	5.62	-902.33	2.36	2.32	4.64
10,789.00	12.46	341.34	10,707.39	-895.65	3.19	-895.01	13.30	13.30	-0.19
10,836.00	18.35	345.89	10,752.69	-883.66	-0.24	-882.89	12.78	12.53	9.68
10,883.00	24.35	341.75	10,796.44	-867.27	-5.08	-866.31	13.16	12.77	-8.81
10,930.00	28.59	339.57	10,838.51	-847.52	-12.04	-846.29	9.25	9.02	-4.64
10,977.00	32.76	336.74	10,878.93	-825.29	-21.00	-823.70	9.39	8.87	-6.02
11,024.00	37.96	334.79	10,917.24	-800.51	-32.18	-798.48	11.32	11.06	-4.15
11,071.00	40.95	333.71	10,953.53	-773.62	-45.16	-771.07	6.53	6.36	-2.30
11,118.00	45.36	334.83	10,987.81	-744.66	-59.11	-741.56	9.52	9.38	2.38
11,165.00	47.39	337.14	11,020.24	-713.58	-72.94	-709.94	5.60	4.32	4.91
11,212.00	50.04	339.98	11,051.25	-680.71	-85.83	-676.56	7.24	5.64	6.04
11,259.00	53.66	343.62	11,080.28	-645.61	-97.34	-641.00	9.82	7.70	7.74
11,306.00	56.76	344.30	11,107.10	-608.51	-108.00	-603.50	6.70	6.60	1.45
11,353.00	60.48	344.45	11,131.57	-569.88	-118.80	-564.45	7.92	7.91	0.32
11,400.00	64.69	346.51	11,153.20	-529.50	-129.25	-523.67	9.77	8.96	4.38
11,447.00	67.93	350.26	11,172.09	-487.35	-137.89	-481.20	10.04	6.89	7.98
11,494.00	70.64	355.15	11,188.72	-443.77	-143.45	-437.42	11.31	5.77	10.40
11,541.00	74.18	355.55	11,202.92	-399.12	-147.08	-392.66	7.58	7.53	0.85
11,588.00	80.61	354.80	11,213.17	-353.44	-150.94	-346.86	13.77	13.68	-1.60
11,609.18	83.91	354.06	11,216.03	-332.55	-152.98	-325.91	15.95	15.57	-3.49
LP (QB 13 State Com 602H)									
11,635.00	87.93	353.17	11,217.86	-306.96	-155.84	-300.22	15.95	15.58	-3.45
11,682.00	91.83	353.85	11,217.96	-260.27	-161.16	-253.35	8.42	8.30	1.45
11,713.00	92.34	354.21	11,216.83	-229.46	-164.38	-222.43	2.01	1.65	1.16
11,823.00	93.32	349.98	11,211.40	-120.67	-179.48	-113.10	3.94	0.89	-3.85
11,917.00	91.85	351.42	11,207.16	-28.00	-194.66	-19.89	2.19	-1.56	1.53
12,011.00	91.40	350.78	11,204.50	64.83	-209.19	73.47	0.83	-0.48	-0.68
12,105.00	91.04	352.61	11,202.49	157.82	-222.77	166.94	1.98	-0.38	1.95
12,199.00	91.22	354.65	11,200.64	251.21	-233.19	260.69	2.18	0.19	2.17

Company:	Centennial Resource Development, LLC	Local Co-ordinate Reference:	Well Queso Blanco 13 State Com 602H
Project:	Lea County, NM (NAD 83 - UTM Zone 13 - True)	TVD Reference:	3507.4' GE + 26.5' KB @ 3533.90usft
Site:	Queso Blanco 13 State Com	MD Reference:	3507.4' GE + 26.5' KB @ 3533.90usft
Well:	Queso Blanco 13 State Com 602H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
12,294.00	90.99	353.60	11,198.81	345.70	-242.92	355.49	1.13	-0.24	-1.11
12,388.00	90.87	357.84	11,197.28	439.40	-249.93	449.41	4.51	-0.13	4.51
12,482.00	91.25	358.34	11,195.54	533.33	-253.06	543.39	0.67	0.40	0.53
12,576.00	91.20	358.32	11,193.53	627.27	-255.80	637.36	0.06	-0.05	-0.02
12,670.00	91.29	358.32	11,191.49	721.21	-258.56	731.33	0.10	0.10	0.00
12,764.00	91.34	357.31	11,189.33	815.11	-262.14	825.30	1.08	0.05	-1.07
12,858.00	91.27	357.97	11,187.19	909.01	-266.01	919.28	0.71	-0.07	0.70
12,953.00	91.27	357.65	11,185.09	1,003.92	-269.64	1,014.25	0.34	0.00	-0.34
13,047.00	91.19	357.95	11,183.07	1,097.82	-273.24	1,108.23	0.33	-0.09	0.32
13,141.00	91.04	359.18	11,181.24	1,191.78	-275.60	1,202.20	1.32	-0.16	1.31
13,235.00	91.23	0.16	11,179.38	1,285.75	-276.14	1,296.12	1.06	0.20	1.04
13,329.00	91.20	359.96	11,177.39	1,379.73	-276.04	1,390.01	0.22	-0.03	-0.21
13,423.00	90.99	359.16	11,175.59	1,473.71	-276.76	1,483.94	0.88	-0.22	-0.85
13,517.00	91.18	0.15	11,173.81	1,567.69	-277.33	1,577.86	1.07	0.20	1.05
13,611.00	91.27	0.12	11,171.80	1,661.67	-277.11	1,671.75	0.10	0.10	-0.03
13,705.00	91.19	359.32	11,169.78	1,755.65	-277.57	1,765.67	0.86	-0.09	-0.85
13,799.00	91.57	0.03	11,167.52	1,849.62	-278.10	1,859.58	0.86	0.40	0.76
13,893.00	91.60	359.69	11,164.92	1,943.58	-278.33	1,953.47	0.36	0.03	-0.36
13,987.00	91.69	359.87	11,162.22	2,037.54	-278.69	2,047.36	0.21	0.10	0.19
14,081.00	91.62	0.21	11,159.50	2,131.50	-278.62	2,141.24	0.37	-0.07	0.36
14,175.00	91.93	359.79	11,156.59	2,225.46	-278.62	2,235.11	0.56	0.33	-0.45
14,269.00	91.91	358.64	11,153.44	2,319.39	-279.91	2,329.02	1.22	-0.02	-1.22
14,363.00	91.76	359.90	11,150.43	2,413.34	-281.11	2,422.93	1.35	-0.16	1.34
14,457.00	91.79	0.29	11,147.52	2,507.29	-280.95	2,516.80	0.42	0.03	0.41
14,551.00	91.76	0.64	11,144.61	2,601.24	-280.19	2,610.64	0.37	-0.03	0.37
14,645.00	91.72	0.39	11,141.76	2,695.20	-279.35	2,704.48	0.27	-0.04	-0.27
14,739.00	91.71	359.59	11,138.94	2,789.15	-279.36	2,798.35	0.85	-0.01	-0.85
14,833.00	91.19	0.64	11,136.56	2,883.12	-279.17	2,892.23	1.25	-0.55	1.12
14,927.00	91.36	358.55	11,134.47	2,977.09	-279.84	2,986.15	2.23	0.18	-2.22
15,021.00	91.12	359.22	11,132.44	3,071.05	-281.67	3,080.10	0.76	-0.26	0.71
15,115.00	91.62	359.35	11,130.19	3,165.01	-282.84	3,174.03	0.55	0.53	0.14
15,209.00	91.32	358.76	11,127.78	3,258.97	-284.39	3,267.97	0.70	-0.32	-0.63
15,303.00	91.23	359.01	11,125.69	3,352.93	-286.22	3,361.93	0.28	-0.10	0.27
15,397.00	90.78	358.96	11,124.04	3,446.90	-287.88	3,455.89	0.48	-0.48	-0.05
15,491.00	90.77	359.75	11,122.77	3,540.88	-288.94	3,549.83	0.84	-0.01	0.84
15,585.00	90.98	1.04	11,121.33	3,634.87	-288.29	3,643.71	1.39	0.22	1.37
15,678.00	90.92	2.22	11,119.79	3,727.82	-285.65	3,736.47	1.27	-0.06	1.27
15,772.00	90.98	1.46	11,118.23	3,821.76	-282.63	3,830.20	0.81	0.06	-0.81
15,866.00	90.91	2.51	11,116.68	3,915.68	-279.37	3,923.91	1.12	-0.07	1.12
15,966.00	91.08	1.41	11,114.94	4,015.61	-275.95	4,023.61	1.11	0.17	-1.10
16,065.81	91.01	1.61	11,114.22	4,055.40	-274.90	4,063.32	0.54	-0.18	0.51
S13/12 Crossing									
16,054.00	90.92	1.86	11,113.41	4,103.56	-273.44	4,111.38	0.54	-0.18	0.51
16,148.00	90.85	1.80	11,111.96	4,197.50	-270.44	4,205.11	0.10	-0.07	-0.06

Company:	Centennial Resource Development, LLC	Local Co-ordinate Reference:	Well Queso Blanco 13 State Com 602H
Project:	Lea County, NM (NAD 83 - UTM Zone 13 - True)	TVD Reference:	3507.4' GE + 26.5' KB @ 3533.90usft
Site:	Queso Blanco 13 State Com	MD Reference:	3507.4' GE + 26.5' KB @ 3533.90usft
Well:	Queso Blanco 13 State Com 602H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
16,242.00	90.55	2.64	11,110.81	4,291.42	-266.80	4,298.80	0.95	-0.32	0.89
16,336.00	90.57	2.42	11,109.89	4,385.33	-262.65	4,392.45	0.23	0.02	-0.23
16,430.00	90.69	2.81	11,108.86	4,479.22	-258.36	4,486.09	0.43	0.13	0.41
16,524.00	90.81	2.01	11,107.63	4,573.13	-254.41	4,579.75	0.86	0.13	-0.85
16,618.00	90.53	0.52	11,106.53	4,667.10	-252.34	4,673.55	1.61	-0.30	-1.59
16,713.00	90.24	359.35	11,105.89	4,762.09	-252.44	4,768.47	1.27	-0.31	-1.23
16,807.00	90.10	1.16	11,105.61	4,856.09	-252.03	4,862.37	1.93	-0.15	1.93
16,901.00	90.84	359.60	11,104.84	4,950.08	-251.40	4,956.25	1.84	0.79	-1.66
16,995.00	90.04	359.65	11,104.12	5,044.08	-252.02	5,050.19	0.85	-0.85	0.05
17,089.00	90.29	0.13	11,103.84	5,138.07	-252.20	5,144.12	0.58	0.27	0.51
17,183.00	90.63	359.49	11,103.09	5,232.07	-252.51	5,238.04	0.77	0.36	-0.68
17,277.00	90.20	359.00	11,102.41	5,326.06	-253.75	5,332.00	0.69	-0.46	-0.52
17,371.00	90.36	0.59	11,101.95	5,420.05	-254.09	5,425.93	1.70	0.17	1.69
17,465.00	90.25	359.53	11,101.45	5,514.05	-253.99	5,519.84	1.13	-0.12	-1.13
17,559.00	90.39	359.13	11,100.92	5,608.04	-255.09	5,613.80	0.45	0.15	-0.43
17,653.00	90.13	359.28	11,100.50	5,702.03	-256.39	5,707.76	0.32	-0.28	0.16
17,747.00	90.32	358.81	11,100.13	5,796.02	-257.96	5,801.73	0.54	0.20	-0.50
17,841.00	90.50	358.47	11,099.46	5,889.99	-260.19	5,895.71	0.41	0.19	-0.36
17,935.00	90.36	359.07	11,098.75	5,983.97	-262.21	5,989.69	0.66	-0.15	0.64
18,029.00	90.55	358.86	11,098.00	6,077.95	-263.90	6,083.66	0.30	0.20	-0.22
18,123.00	89.65	359.13	11,097.84	6,171.93	-265.55	6,177.63	1.00	-0.96	0.29
18,218.00	90.57	358.85	11,097.66	6,266.92	-267.23	6,272.61	1.01	0.97	-0.29
18,311.00	90.66	358.89	11,096.66	6,359.89	-269.06	6,365.58	0.11	0.10	0.04
18,405.00	90.45	358.46	11,095.75	6,453.86	-271.23	6,459.56	0.51	-0.22	-0.46
18,499.00	89.36	358.85	11,095.90	6,547.83	-273.44	6,553.54	1.23	-1.16	0.41
18,539.68	89.36	358.85	11,096.36	6,588.51	-274.26	6,594.21	0.00	0.00	0.00
PBHL (QB 13 State Com 602H)									
18,550.00	89.36	358.85	11,096.47	6,598.82	-274.46	6,604.53	0.00	0.00	0.00
BHL									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,536.00	10,455.55	-915.76	10.04	KOP
16,005.81	11,114.22	4,055.40	-274.90	S13/12 Crossing
18,550.00	11,096.47	6,598.82	-274.46	BHL

Checked By: _____ Approved By: _____ Date: _____



Total Directional
Services, LLC
USA Operations

Final MWD Survey Certification

Lea County, New Mexico

Client: Centennial Resources Development Inc.

Well Name: Queso Blanco 13 State Com 602H

Total Job No: 2019-812-650

API No: 30-025-46399

Start Date: December 5, 2019

End Date: December 16, 2019

Start Depth: 1,851'

End Depth: 18,550'

I, Chris Meredith, MWD Operator, hereby certify that; I am employed by Total Directional Services, LLC and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Total Directional Services, LLC. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: 12/16/19

Signed: *Chris Meredith*