

SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 65376
 Client: Centennial Resources
 County & State: Lea County, New Mexico
 Well: Carne Asada State Com 501H
 API No: 30-025-46021
 Proposed Direction: 359.26°

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
1873.50 ft	1873.46 ft	0.60°	241.72°	1.6 S	.67 E	Gyro
Data Source Company:						Centennial

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
26-Sep-19	1,907 ft	0.49°	175.74°

Last Survey Date	Last Survey Depth	INC	AZM
7-Oct-19	18,073 ft	90.22°	1.83°

Survey Instrument Type
P-360

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
7-Oct-19	18,115 ft	90.22°	1.83°

CORRECTION INFORMATION

Magnetic Declination Used	6.70 degrees
Grid Convergence Used	degrees
Total Correction	6.70 degrees

Corrected to True/Grid North
True North

Larry Seebeck

Signature

10/7/2019

Date

BOBBS OCD
 DEC 18 2019
 RECEIVED



PHOENIX
TECHNOLOGY SERVICES

Centennial Resources Development, Inc.

**Lea County, NM (NAD83 - UTM Zone 13)
Carne Asada Sate Com
501H**

OH / 65376

Survey: Phoenix MWD Surveys

Standard Survey Report

08 October, 2019



Survey Report

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 501H
Project:	Lea County, NM (NAD83 - UTM Zone 13)	TVD Reference:	RKB @ 3662.30usft (H&P 650)
Site:	Came Asada Sate Com	MD Reference:	RKB @ 3662.30usft (H&P 650)
Well:	501H	North Reference:	True
Wellbore:	OH / 65376	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 650)	Database:	USA Compass

Project	Lea County, NM (NAD83 - UTM Zone 13)		
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)	Using geodetic scale factor	

Site		Came Asada Sate Com			
Site Position:		Northing:	11,767,032.87 usft	Latitude:	32.406371
From:	Map	Easting:	2,132,406.52 usft	Longitude:	-103.405399
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.85 °

Well	501H					
Well Position	+N/-S	0.00 usft	Northing:	11,767,032.87 usft	Latitude:	32.406371
	+E/-W	0.00 usft	Easting:	2,132,406.52 usft	Longitude:	-103.405399
Position Uncertainty		1.00 usft	Wellhead Elevation:	usft	Ground Level:	3,635.80 usft

Wellbore	OH / 65376				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	9/15/2019	6.70	60.07	47,952.00000000

Design	Surveys (H&P 650)				
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	157.31	

Survey Program	Date 10/8/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
26.50	1,873.50	Wildfire MWD Surveys (OH / 65376)	MWD	OWSG MWD - Standard
1,907.00	18,115.00	Phoenix MWD Surveys (OH / 65376)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

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)
	1,873.50	0.60	241.72	1,873.46	-1.60	0.67	1.73	0.00	0.00	0.00
Tie In	1,907.00	0.49	175.74	1,906.96	-1.83	0.53	1.89	1.79	-0.33	-196.96
First Phoenix MWD Survey	2,001.00	0.80	156.97	2,000.95	-2.83	0.81	2.93	0.39	0.33	-19.97
	2,095.00	1.06	129.34	2,094.94	-3.99	1.74	4.35	0.54	0.28	-29.39
	2,189.00	1.18	115.14	2,188.92	-4.95	3.29	5.83	0.32	0.13	-15.11
	2,282.00	1.20	108.71	2,281.90	-5.67	5.08	7.19	0.15	0.02	-6.91
	2,376.00	1.13	105.48	2,375.88	-6.23	6.91	8.41	0.10	-0.07	-3.44

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Well:	501H	North Reference:	True
Wellbore:	OH / 65376	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 650)	Database:	USA Compass

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)
2,471.00	1.22	156.26	2,470.87	-7.41	8.22	10.00	1.06	0.09	53.45
2,565.00	1.62	179.44	2,564.84	-9.65	8.63	12.23	0.74	0.43	24.66
2,659.00	1.49	190.73	2,658.80	-12.18	8.42	14.48	0.35	-0.14	12.01
2,753.00	1.60	222.62	2,752.77	-14.35	7.30	16.05	0.91	0.12	33.93
2,847.00	1.55	232.31	2,846.74	-16.09	5.41	16.93	0.29	-0.05	10.31
2,941.00	1.48	238.34	2,940.70	-17.50	3.37	17.45	0.19	-0.07	6.41
3,035.00	1.37	244.12	3,034.67	-18.63	1.32	17.70	0.19	-0.12	6.15
3,128.00	1.01	265.81	3,127.65	-19.18	-0.50	17.50	0.61	-0.39	23.32
3,223.00	0.91	205.88	3,222.64	-19.92	-1.66	17.73	1.01	-0.11	-63.08
3,316.00	2.45	176.91	3,315.60	-22.57	-1.88	20.10	1.84	1.66	-31.15
3,410.00	3.89	175.96	3,409.46	-27.75	-1.54	25.01	1.53	1.53	-1.01
3,504.00	4.66	178.37	3,503.19	-34.75	-1.21	31.59	0.84	0.82	2.56
3,598.00	5.35	179.66	3,596.83	-42.95	-1.07	39.21	0.74	0.73	1.37
3,692.00	6.77	184.21	3,690.31	-52.86	-1.45	48.21	1.59	1.51	4.84
3,786.00	7.89	189.81	3,783.54	-64.74	-2.96	58.59	1.41	1.19	5.96
3,880.00	7.66	189.65	3,876.67	-77.28	-5.11	69.32	0.25	-0.24	-0.17
3,974.00	7.40	194.99	3,969.86	-89.30	-7.73	79.41	0.79	-0.28	5.68
4,068.00	6.73	198.18	4,063.15	-100.38	-11.01	88.36	0.83	-0.71	3.39
4,162.00	5.90	201.80	4,156.58	-110.10	-14.52	95.97	0.98	-0.88	3.85
4,256.00	5.23	205.41	4,250.14	-118.45	-18.16	102.28	0.80	-0.71	3.84
4,350.00	4.93	209.90	4,343.77	-125.83	-22.01	107.60	0.53	-0.32	4.78
4,444.00	5.30	211.31	4,437.39	-133.04	-26.28	112.60	0.42	0.39	1.50
4,538.00	5.00	210.69	4,531.01	-140.27	-30.62	117.60	0.32	-0.32	-0.66
4,632.00	5.31	219.79	4,624.63	-147.13	-35.50	122.05	0.93	0.33	9.68
4,726.00	6.27	232.21	4,718.16	-153.62	-42.34	125.40	1.67	1.02	13.21
4,821.00	6.28	233.37	4,812.59	-159.90	-50.61	128.00	0.13	0.01	1.22
4,914.00	6.32	233.41	4,905.03	-165.99	-58.80	130.45	0.04	0.04	0.04
5,009.00	6.26	232.81	4,999.46	-172.23	-67.12	133.01	0.09	-0.06	-0.63
5,102.00	5.62	233.72	5,091.96	-177.99	-74.84	135.35	0.70	-0.69	0.98
5,196.00	4.32	237.86	5,185.60	-182.60	-81.54	137.01	1.43	-1.38	4.40
5,290.00	3.72	241.97	5,279.37	-185.92	-87.23	137.87	0.71	-0.64	4.37
5,384.00	3.80	246.86	5,373.17	-188.57	-92.79	138.18	0.35	0.09	5.20
5,450.00	3.78	247.80	5,439.02	-190.26	-96.81	138.18	0.10	-0.03	1.42
5,541.00	3.99	245.99	5,529.81	-192.68	-102.48	138.23	0.27	0.23	-1.99
5,635.00	4.10	243.69	5,623.58	-195.50	-108.48	138.51	0.21	0.12	-2.45
5,730.00	2.28	205.21	5,718.44	-198.71	-112.33	140.00	2.86	-1.92	-40.51
5,824.00	1.77	196.46	5,812.38	-201.80	-113.54	142.38	0.63	-0.54	-9.31
5,918.00	1.53	128.04	5,906.35	-203.96	-112.96	144.60	1.98	-0.26	-72.79
6,012.00	1.24	94.82	6,000.32	-204.82	-110.96	146.16	0.89	-0.31	-35.34
6,106.00	1.49	64.12	6,094.30	-204.37	-108.85	146.56	0.81	0.27	-32.66
6,200.00	1.32	62.68	6,188.27	-203.34	-106.79	146.41	0.18	-0.18	-1.53
6,294.00	1.53	52.26	6,282.24	-202.08	-104.83	145.99	0.35	0.22	-11.09
6,389.00	1.51	56.91	6,377.21	-200.62	-102.78	145.44	0.13	-0.02	4.89

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Site:	Came Asada Sate Com	MD Reference:	RKB @ 3662.30usft (H&P 650)
Well:	501H	North Reference:	True
Wellbore:	OH / 65376	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 650)	Database:	USA Compass

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)
6,483.00	1.50	51.45	6,471.17	-199.18	-100.78	144.88	0.15	-0.01	-5.81
6,577.00	1.31	44.56	6,565.15	-197.64	-99.07	144.13	0.27	-0.20	-7.33
6,671.00	1.23	42.51	6,659.12	-196.13	-97.63	143.29	0.10	-0.09	-2.18
6,765.00	1.38	54.01	6,753.10	-194.73	-96.03	142.61	0.32	0.16	12.23
6,860.00	1.07	58.67	6,848.08	-193.59	-94.35	142.21	0.34	-0.33	4.91
6,954.00	0.58	52.41	6,942.07	-192.85	-93.22	141.95	0.53	-0.52	-6.66
7,048.00	0.79	75.35	7,036.06	-192.39	-92.22	141.92	0.36	0.22	24.40
7,143.00	0.77	102.57	7,131.05	-192.36	-90.96	142.38	0.39	-0.02	28.65
7,237.00	1.06	112.60	7,225.04	-192.84	-89.54	143.37	0.35	0.31	10.67
7,330.00	1.05	107.08	7,318.02	-193.42	-87.93	144.52	0.11	-0.01	-5.94
7,424.00	1.14	96.05	7,412.01	-193.77	-86.18	145.52	0.24	0.10	-11.73
7,518.00	1.52	100.36	7,505.98	-194.09	-84.02	146.65	0.42	0.40	4.59
7,612.00	1.65	87.94	7,599.95	-194.27	-81.45	147.81	0.39	0.14	-13.21
7,706.00	1.61	90.51	7,693.91	-194.23	-78.77	148.81	0.09	-0.04	2.73
7,800.00	2.00	90.24	7,787.86	-194.25	-75.81	149.97	0.41	0.41	-0.29
7,895.00	1.78	95.98	7,882.81	-194.41	-72.69	151.32	0.31	-0.23	6.04
7,989.00	2.17	94.48	7,976.75	-194.70	-69.46	152.83	0.42	0.41	-1.60
8,083.00	2.09	98.49	8,070.69	-195.09	-65.99	154.53	0.18	-0.09	4.27
8,177.00	2.18	90.43	8,164.62	-195.36	-62.51	156.12	0.33	0.10	-8.57
8,271.00	2.30	93.76	8,258.55	-195.50	-58.84	157.66	0.19	0.13	3.54
8,365.00	2.05	93.47	8,352.48	-195.72	-55.28	159.25	0.27	-0.27	-0.31
8,460.00	1.91	80.46	8,447.43	-195.56	-52.02	160.36	0.49	-0.15	-13.69
8,554.00	1.51	83.20	8,541.38	-195.16	-49.25	161.05	0.43	-0.43	2.91
8,648.00	1.34	76.41	8,635.36	-194.75	-46.95	161.56	0.25	-0.18	-7.22
8,742.00	0.78	55.46	8,729.34	-194.13	-45.35	161.61	0.72	-0.60	-22.29
8,836.00	0.59	245.06	8,823.34	-193.97	-45.26	161.49	1.45	-0.20	-181.28
8,930.00	0.98	289.72	8,917.33	-193.90	-46.46	160.97	0.74	0.41	47.51
9,024.00	1.35	291.63	9,011.31	-193.22	-48.25	159.66	0.40	0.39	2.03
9,118.00	1.66	287.25	9,105.28	-192.41	-50.58	158.01	0.35	0.33	-4.66
9,213.00	2.44	271.47	9,200.22	-191.95	-53.91	156.30	1.01	0.82	-16.61
9,307.00	3.18	263.23	9,294.10	-192.21	-58.50	154.76	0.89	0.79	-8.77
9,401.00	3.15	278.84	9,387.96	-192.12	-63.64	152.70	0.91	-0.03	16.61
9,495.00	2.33	273.06	9,481.85	-191.62	-68.10	150.52	0.92	-0.87	-6.15
9,589.00	2.59	274.05	9,575.77	-191.37	-72.13	148.73	0.28	0.28	1.05
9,679.00	2.40	276.40	9,665.68	-191.01	-76.03	146.90	0.24	-0.21	2.61
9,776.00	4.87	326.55	9,762.50	-187.35	-80.32	141.86	3.92	2.55	51.70
9,823.00	10.15	346.48	9,809.09	-181.66	-82.39	135.81	12.36	11.23	42.40
9,870.00	14.48	1.26	9,855.01	-171.75	-83.23	126.34	11.33	9.21	31.45
9,917.00	19.73	3.20	9,899.91	-157.94	-82.66	113.83	11.23	11.17	4.13
9,964.00	22.84	5.31	9,943.70	-140.93	-81.37	98.63	6.81	6.62	4.49
10,011.00	28.07	359.95	9,986.13	-120.78	-80.53	80.36	12.15	11.13	-11.40
10,058.00	33.24	358.00	10,026.55	-96.83	-80.99	58.09	11.20	11.00	-4.15
10,105.00	38.70	357.44	10,064.57	-69.25	-82.10	32.22	11.64	11.62	-1.19
10,152.00	43.93	357.36	10,099.86	-38.27	-83.51	3.09	11.13	11.13	-0.17

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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)
10,199.00	48.60	355.42	10,132.35	-4.39	-85.67	-29.00	10.37	9.94	-4.13
10,246.00	51.25	355.60	10,162.60	31.46	-88.48	-63.16	5.65	5.64	0.38
10,293.00	53.06	356.61	10,191.44	68.49	-91.00	-98.29	4.21	3.85	2.15
10,340.00	58.07	357.03	10,218.00	107.18	-93.14	-134.82	10.68	10.66	0.89
10,387.00	64.71	356.17	10,240.50	148.34	-95.60	-173.74	14.22	14.13	-1.83
10,434.00	68.06	358.98	10,259.33	191.36	-97.41	-214.12	8.99	7.13	5.98
10,481.00	69.95	358.45	10,276.17	235.23	-98.39	-254.97	4.16	4.02	-1.13
10,529.00	74.41	358.18	10,290.85	280.89	-99.74	-297.62	9.31	9.29	-0.56
10,576.00	81.31	358.91	10,300.73	326.80	-100.90	-340.43	14.76	14.68	1.55
10,623.00	86.86	358.46	10,305.57	373.52	-101.97	-383.94	11.85	11.81	-0.96
10,654.00	88.32	358.79	10,306.87	404.48	-102.72	-412.79	4.83	4.71	1.06
10,749.00	90.20	358.70	10,308.10	499.44	-104.80	-501.21	1.98	1.98	-0.09
10,843.00	91.46	357.30	10,306.74	593.37	-108.08	-589.13	2.00	1.34	-1.49
10,937.00	91.37	356.31	10,304.42	687.20	-113.31	-677.72	1.06	-0.10	-1.05
11,031.00	91.43	357.24	10,302.12	781.02	-118.60	-766.32	0.99	0.06	0.99
11,125.00	91.40	359.82	10,299.80	874.95	-121.01	-853.91	2.74	-0.03	2.74
11,220.00	91.34	0.98	10,297.53	969.92	-120.35	-941.27	1.22	-0.06	1.22
11,314.00	91.20	0.93	10,295.45	1,063.88	-118.78	-1,027.35	0.16	-0.15	-0.05
11,408.00	91.40	1.30	10,293.31	1,157.84	-116.95	-1,113.33	0.45	0.21	0.39
11,502.00	91.43	1.11	10,290.99	1,251.79	-114.98	-1,199.25	0.20	0.03	-0.20
11,596.00	91.29	1.19	10,288.76	1,345.75	-113.09	-1,285.20	0.17	-0.15	0.09
11,689.00	91.37	1.44	10,286.60	1,438.70	-110.96	-1,370.14	0.28	0.09	0.27
11,784.00	91.85	1.43	10,283.93	1,533.63	-108.58	-1,456.80	0.51	0.51	-0.01
11,879.00	91.82	1.35	10,280.89	1,628.55	-106.28	-1,543.49	0.09	-0.03	-0.08
11,973.00	91.74	1.00	10,277.97	1,722.49	-104.35	-1,629.41	0.38	-0.09	-0.37
12,068.00	91.85	1.30	10,274.99	1,817.42	-102.44	-1,716.26	0.34	0.12	0.32
12,162.00	91.82	0.56	10,271.98	1,911.36	-100.92	-1,802.34	0.79	-0.03	-0.79
12,256.00	91.87	1.04	10,268.96	2,005.30	-99.61	-1,888.50	0.51	0.05	0.51
12,350.00	91.76	1.24	10,265.98	2,099.24	-97.74	-1,974.45	0.24	-0.12	0.21
12,445.00	90.98	1.46	10,263.71	2,194.18	-95.50	-2,061.18	0.85	-0.82	0.23
12,539.00	90.90	1.62	10,262.17	2,288.14	-92.97	-2,146.88	0.19	-0.09	0.17
12,633.00	90.90	1.54	10,260.69	2,382.09	-90.38	-2,232.56	0.09	0.00	-0.09
12,727.00	90.73	1.20	10,259.35	2,476.05	-88.14	-2,318.39	0.40	-0.18	-0.36
12,821.00	90.73	0.21	10,258.16	2,570.04	-86.98	-2,404.65	1.05	0.00	-1.05
12,915.00	91.01	1.50	10,256.73	2,664.01	-85.58	-2,490.81	1.40	0.30	1.37
13,009.00	90.73	1.01	10,255.30	2,757.98	-83.52	-2,576.71	0.60	-0.30	-0.52
13,103.00	91.04	1.41	10,253.85	2,851.95	-81.53	-2,662.64	0.54	0.33	0.43
13,197.00	90.84	0.03	10,252.31	2,945.92	-80.35	-2,748.89	1.48	-0.21	-1.47
13,291.00	90.90	359.51	10,250.88	3,039.91	-80.73	-2,835.74	0.56	0.06	-0.55
13,385.00	90.90	359.05	10,249.40	3,133.89	-81.91	-2,922.91	0.49	0.00	-0.49
13,479.00	90.76	359.40	10,248.04	3,227.87	-83.18	-3,010.10	0.40	-0.15	0.37
13,573.00	90.78	359.11	10,246.78	3,321.86	-84.40	-3,097.28	0.31	0.02	-0.31
13,667.00	90.92	359.25	10,245.38	3,415.84	-85.75	-3,184.51	0.21	0.15	0.15

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 501H
Project:	Lea County, NM (NAD83 - UTM Zone 13)	TVD Reference:	RKB @ 3662.30usft (H&P 650)
Site:	Came Asada Sate Com	MD Reference:	RKB @ 3662.30usft (H&P 650)
Well:	501H	North Reference:	True
Wellbore:	OH / 65376	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 650)	Database:	USA Compass

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)
13,761.00	90.90	359.29	10,243.89	3,509.82	-86.95	-3,271.67	0.05	-0.02	0.04
13,855.00	91.06	0.00	10,242.28	3,603.80	-87.53	-3,358.61	0.77	0.17	0.76
13,949.00	91.04	359.42	10,240.56	3,697.78	-88.00	-3,445.50	0.62	-0.02	-0.62
14,043.00	90.92	359.42	10,238.95	3,791.77	-88.96	-3,532.57	0.13	-0.13	0.00
14,137.00	91.29	358.87	10,237.14	3,885.74	-90.36	-3,619.81	0.71	0.39	-0.59
14,231.00	91.57	359.01	10,234.80	3,979.69	-92.10	-3,707.16	0.33	0.30	0.15
14,325.00	91.20	359.64	10,232.52	4,073.66	-93.20	-3,794.28	0.78	-0.39	0.67
14,419.00	92.10	359.90	10,229.82	4,167.62	-93.58	-3,881.11	1.00	0.96	0.28
14,513.00	91.23	359.20	10,227.09	4,261.57	-94.32	-3,968.08	1.19	-0.93	-0.74
14,607.00	91.54	359.20	10,224.81	4,355.54	-95.63	-4,055.28	0.33	0.33	0.00
14,702.00	91.32	358.86	10,222.44	4,450.49	-97.24	-4,143.50	0.43	-0.23	-0.36
14,795.00	91.37	358.92	10,220.26	4,543.45	-99.04	-4,229.96	0.08	0.05	0.06
14,889.00	91.46	357.45	10,217.94	4,637.37	-102.02	-4,317.76	1.57	0.10	-1.56
14,983.00	90.84	356.05	10,216.05	4,731.20	-107.34	-4,406.38	1.63	-0.66	-1.49
15,077.00	91.54	357.91	10,214.10	4,825.04	-112.30	-4,494.87	2.11	0.74	1.98
15,171.00	91.62	359.10	10,211.51	4,918.97	-114.75	-4,582.48	1.27	0.09	1.27
15,266.00	91.34	1.11	10,209.05	5,013.94	-114.57	-4,670.02	2.14	-0.29	2.12
15,360.00	91.57	1.30	10,206.67	5,107.89	-112.60	-4,755.93	0.32	0.24	0.20
15,454.00	92.58	1.35	10,203.26	5,201.80	-110.42	-4,841.74	1.08	1.07	0.05
15,548.00	92.16	0.67	10,199.38	5,295.70	-108.77	-4,927.74	0.85	-0.45	-0.72
15,642.00	90.31	0.10	10,197.35	5,389.67	-108.14	-5,014.19	2.06	-1.97	-0.61
15,736.00	90.28	0.22	10,196.87	5,483.67	-107.88	-5,100.81	0.13	-0.03	0.13
15,830.00	90.59	359.62	10,196.15	5,577.67	-108.01	-5,187.58	0.72	0.33	-0.64
15,924.00	90.84	0.36	10,194.98	5,671.66	-108.02	-5,274.30	0.83	0.27	0.79
16,018.00	90.53	1.45	10,193.86	5,765.64	-106.54	-5,360.44	1.21	-0.33	1.16
16,112.00	90.48	1.75	10,193.03	5,859.60	-103.91	-5,446.11	0.32	-0.05	0.32
16,206.00	90.42	1.70	10,192.29	5,953.55	-101.08	-5,531.70	0.08	-0.06	-0.05
16,300.00	90.25	1.04	10,191.74	6,047.52	-98.84	-5,617.53	0.73	-0.18	-0.70
16,394.00	89.10	0.56	10,192.27	6,141.51	-97.52	-5,703.74	1.33	-1.22	-0.51
16,488.00	89.27	359.39	10,193.61	6,235.50	-97.57	-5,790.47	1.26	0.18	-1.24
16,583.00	89.72	359.82	10,194.45	6,330.49	-98.22	-5,878.36	0.66	0.47	0.45
16,677.00	89.36	359.97	10,195.20	6,424.49	-98.39	-5,965.15	0.41	-0.38	0.16
16,771.00	88.46	359.05	10,196.99	6,518.47	-99.20	-6,052.16	1.37	-0.96	-0.98
16,865.00	88.04	359.81	10,199.86	6,612.42	-100.13	-6,139.20	0.92	-0.45	0.81
16,959.00	88.54	0.43	10,202.67	6,706.38	-99.93	-6,225.81	0.85	0.53	0.66
17,053.00	89.89	1.93	10,203.95	6,800.34	-98.00	-6,311.75	2.15	1.44	1.60
17,147.00	90.17	1.74	10,203.90	6,894.29	-94.99	-6,397.27	0.36	0.30	-0.20
17,241.00	89.83	1.59	10,203.90	6,988.26	-92.26	-6,482.90	0.40	-0.36	-0.16
17,335.00	92.49	1.59	10,202.00	7,082.19	-89.65	-6,568.56	2.83	2.83	0.00
17,429.00	91.23	0.51	10,198.95	7,176.12	-87.93	-6,654.56	1.77	-1.34	-1.15
17,523.00	90.17	0.67	10,197.80	7,270.11	-86.96	-6,740.90	1.14	-1.13	0.17
17,618.00	90.20	1.93	10,197.49	7,365.08	-84.81	-6,827.69	1.33	0.03	1.33
17,712.00	90.08	2.12	10,197.27	7,459.02	-81.48	-6,913.08	0.24	-0.13	0.20

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 501H
Project:	Lea County, NM (NAD83 - UTM Zone 13)	TVD Reference:	RKB @ 3662.30usft (H&P 650)
Site:	Came Asada Sate Com	MD Reference:	RKB @ 3662.30usft (H&P 650)
Well:	501H	North Reference:	True
Wellbore:	OH / 65376	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 650)	Database:	USA Compass

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)
17,806.00	90.20	1.68	10,197.04	7,552.97	-78.37	-6,998.55	0.49	0.13	-0.47
17,900.00	90.17	1.56	10,196.73	7,646.93	-75.71	-7,084.21	0.13	-0.03	-0.13
17,994.00	90.28	1.11	10,196.36	7,740.91	-73.52	-7,170.07	0.49	0.12	-0.48
18,073.00	90.22	1.83	10,196.02	7,819.88	-71.49	-7,242.14	0.91	-0.08	0.91
Final Phoenix MWD Survey									
18,115.00	90.22	1.83	10,195.86	7,861.86	-70.15	-7,280.36	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,873.50	1,873.46	-1.60	0.67	Tie In
1,907.00	1,906.96	-1.83	0.53	First Phoenix MWD Survey
18,073.00	10,196.02	7,819.88	-71.49	Final Phoenix MWD Survey
18,115.00	10,195.86	7,861.86	-70.15	Projection to TD

Hydraulic Fracturing Fluid Product Component Information Disclosure

	10/19/2019
	10/27/2019
	New Mexico
	Lea
	30-025-46021-00-00
	Centennial Resource Production, LLC
	Came Asada State Com 501H
	32.40637100
	-103.40539900
	NAD83
	NO
	NO
	10,196
	15,840,510
	0



Hydraulic Fracturing Fluid Composition:

Water	Operator	Carrier/Base Fluid					
		Water	7732-18-5	100.00000	86.73082	None	
Sand (100 Mesh Proppant)	Hi Crush	Proppant					
		Crystalline Silica (quartz)	14808-60-7	100.00000	13.15357	None	
XP 1909FR	Innospec	Friction Reducer					
		Ethoxylated alcohol	68551-12-2	50.00000	0.03791	None	
		Ethoxylated alcohol	68002-97-1	50.00000	0.03791	None	
		Ethoxylated alcohol	68439-50-9	50.00000	0.03791	None	
		Petroleum distillates	64742-47-8	30.00000	0.02275	None	
Biosuite GQ 123	ProFrac	Biocide					
		Water	7732-18-5	100.00000	0.01715	None	
		Glutaral	111-30-8	15.00000	0.00257	None	
		Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.00000	0.00086	None	
		Didecyldimethylammounium Chloride	7173-51-5	5.00000	0.00086	None	
		Ethanol	64-17-5	1.00000	0.00017	None	
ScaleCease 7103	Innospec	Scale Inhibitor					

			Mixture	Proprietary	100.00000	0.02142	None
Detour 2550	Innsopac	Diverting Agent					
			Polylactic Resin	9051-89-2	100.00000	0.00123	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Ethoxylated alcohol	68002-97-1	50.00000	0.03791	
			Ethoxylated alcohol	68439-50-9	50.00000	0.03791	
			Ethoxylated alcohol	68551-12-2	50.00000	0.03791	
			Glutaral	111-30-8	15.00000	0.00257	
			Didecyltrimethylammonium Chloride	7173-51-5	5.00000	0.00086	
			Quaternary Ammonium Compounds, benzyl-C12-16- alkyldimethyl, chlorides	68424-85-1	5.00000	0.00086	
			Ethanol	64-17-5	1.00000	0.00017	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)