



PHOENIX
TECHNOLOGY SERVICES

November 18, 2019

Oil Conservation Division
State of New Mexico
1625 N. French Drive
Hobbs, New Mexico 88240

HOBBS OCD
DEC 10 2019
RECEIVED

Dear District 1 - Hobbs

Re: Centennial Resources
Duck Hunt 1 State Com 502H
Lea County, NM
API #30-025-46346
Job No. 65513

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced well by Phoenix Technology Services, Inc. Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Freddy Hicks	502H	1,897	18,235	11/5/19	11/14/19	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 65513
 Client: Centennial Resources
 County & State: Lea County, New Mexico
 Well: Duck Hunt 1 State Com 502H
 API No: 30-025-46346
 Proposed Direction: 177.65°

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
1826.50 ft	1826.26 ft	0.60°	171.70°	16.48 S	16.39 W	Well Plan
Data Source Company:						Centennial

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
5-Nov-19	1,897 ft	1.33°	210.63°

Last Survey Date	Last Survey Depth	INC	AZM
14-Nov-19	18,235 ft	89.52°	183.27°

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
14-Nov-19	18,277 ft	89.52°	183.27°

Survey Instrument Type

Phoenix MWD

CORRECTION INFORMATION

Magnetic Declination Used	6.63 degrees
Grid Convergence Used	0.00 degrees
Total Correction	6.63 degrees

Corrected to True/Grid North

True North

TO THE BEST OF MY KNOWLEDGE, I
CERTIFY THIS SURVEY DATA TO BE TRUE
AND CORRECT.

Freddy Hicks

Signature

14-Nov-19

Date



PHOENIX
TECHNOLOGY SERVICES

Centennial Resources Development, Inc.

**Lea County, NM (NAD83 - UTM Zone 13)
Duck Hunt 1 State Com
502H**

OH / 65513

Survey: Phoenix MWD Surveys

Standard Survey Report

14 November, 2019





Survey Report



Company: Centennial Resources Development, Inc.
Project: Lea County, NM (NAD83 - UTM Zone 13)
Site: Duck Hunt 1 State Com
Well: 502H
Wellbore: OH / 65513
Design: Surveys (H&P 650)

Local Co-ordinate Reference: Well 502H
TVD Reference: RKB @ 3394.00usft (H&P 650)
MD Reference: RKB @ 3394.00usft (H&P 650)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA Compass

Project	Lea County, NM (NAD83 - UTM Zone 13)		
Map System:	Universal Transverse Mercator (US Survey Fee	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 Duck Hunt 1 State Com

Site Position:		Northing:	11,740,221.78 usft	Latitude:	32.332815
From:	Map	Easting:	2,129,032.10 usft	Longitude:	-103.417617
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.85 °

Well	502H					
Well Position	+N/-S	0.00 usft	Northing:	11,740,202.40 usft	Latitude:	32.332811
	+E/-W	0.00 usft	Easting:	2,127,818.34 usft	Longitude:	-103.421548
Position Uncertainty		1.00 usft	Wellhead Elevation:	usft	Ground Level:	3,367.50 usft

Wellbore OH / 65513

Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	User Defined	10/18/2019	(°) 6.63	(°) 60.03	(nT) 47,867.00000000

Design Surveys (H&P 650)

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	177.65

Survey Program Date 11/14/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
26.50	1,826.50	Wildfire MWD Surveys (OH / 65513)	MWD	OWSG MWD - Standard
1,897.00	18,277.00	Phoenix MWD Surveys (OH / 65513)	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)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,826.50	0.60	171.70	1,826.26	-16.48	-16.39	15.79	0.00	0.00	0.00
Tie In									
1,897.00	1.33	210.63	1,896.75	-17.55	-16.75	16.84	1.34	1.04	55.22
First Phoenix MWD Survey									
1,991.00	1.30	183.33	1,990.72	-19.55	-17.37	18.82	0.66	-0.03	-29.04
2,085.00	0.87	104.10	2,084.71	-20.79	-16.74	20.08	1.51	-0.46	-84.29
2,179.00	2.28	35.58	2,178.68	-19.44	-14.96	18.81	2.26	1.50	-72.89
2,273.00	4.79	30.38	2,272.49	-14.53	-11.88	14.03	2.69	2.67	-5.53
2,367.00	6.85	33.83	2,366.00	-6.49	-6.78	6.21	2.22	2.19	3.67

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 502H
Project:	Lea County, NM (NAD83 - UTM Zone 13)	TVD Reference:	RKB @ 3394.00usft (H&P 650)
Site:	Duck Hunt 1 State Com	MD Reference:	RKB @ 3394.00usft (H&P 650)
Well:	502H	North Reference:	True
Wellbore:	OH / 65513	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)
2,461.00	7.59	33.93	2,459.26	3.32	-0.19	-3.32	0.79	0.79	0.11
2,555.00	7.73	34.58	2,552.42	13.67	6.86	-13.38	0.18	0.15	0.69
2,649.00	7.82	34.16	2,645.55	24.17	14.04	-23.57	0.11	0.10	-0.45
2,742.00	7.74	34.94	2,737.70	34.54	21.18	-33.64	0.14	-0.09	0.84
2,836.00	7.22	35.20	2,830.90	44.56	28.21	-43.36	0.55	-0.55	0.28
2,930.00	6.51	33.09	2,924.22	53.85	34.52	-52.39	0.80	-0.76	-2.24
3,025.00	6.39	33.15	3,018.62	62.78	40.35	-61.08	0.13	-0.13	0.06
3,119.00	6.28	33.12	3,112.05	71.47	46.02	-69.52	0.12	-0.12	-0.03
3,213.00	6.53	34.46	3,205.46	80.18	51.86	-77.99	0.31	0.27	1.43
3,307.00	6.94	37.99	3,298.81	89.07	58.38	-86.60	0.62	0.44	3.76
3,401.00	7.65	41.60	3,392.05	98.22	66.03	-95.43	0.90	0.76	3.84
3,495.00	7.57	43.10	3,485.22	107.42	74.41	-104.28	0.23	-0.09	1.60
3,590.00	7.20	43.07	3,579.44	116.34	82.75	-112.85	0.39	-0.39	-0.03
3,684.00	7.56	44.70	3,672.66	125.04	91.13	-121.20	0.44	0.38	1.73
3,778.00	7.45	44.60	3,765.85	133.77	99.75	-129.57	0.12	-0.12	-0.11
3,872.00	6.40	46.69	3,859.16	141.70	107.85	-137.16	1.15	-1.12	2.22
3,966.00	6.08	39.38	3,952.61	149.15	114.82	-144.31	0.91	-0.34	-7.78
4,060.00	5.73	28.00	4,046.11	157.14	120.18	-152.08	1.30	-0.37	-12.11
4,154.00	5.09	24.47	4,139.69	165.08	124.11	-159.85	0.77	-0.68	-3.76
4,248.00	5.39	27.98	4,233.30	172.77	127.91	-167.38	0.47	0.32	3.73
4,342.00	6.18	33.49	4,326.82	180.89	132.77	-175.29	1.03	0.84	5.86
4,436.00	5.83	33.01	4,420.31	189.11	138.16	-183.29	0.38	-0.37	-0.51
4,531.00	5.71	34.09	4,514.83	197.07	143.44	-191.02	0.17	-0.13	1.14
4,625.00	6.42	35.37	4,608.30	205.23	149.10	-198.94	0.77	0.76	1.36
4,719.00	7.82	35.36	4,701.57	214.73	155.85	-208.16	1.49	1.49	-0.01
4,813.00	7.78	34.26	4,794.70	225.21	163.13	-218.33	0.16	-0.04	-1.17
4,907.00	7.88	35.32	4,887.83	235.72	170.44	-228.53	0.19	0.11	1.13
5,001.00	7.79	37.66	4,980.95	246.02	178.05	-238.51	0.35	-0.10	2.49
5,095.00	8.07	39.77	5,074.05	256.14	186.17	-248.29	0.43	0.30	2.24
5,189.00	7.91	35.54	5,167.14	266.47	194.15	-258.29	0.65	-0.17	-4.50
5,283.00	7.75	30.37	5,260.26	277.20	201.11	-268.72	0.77	-0.17	-5.50
5,377.00	7.39	28.60	5,353.44	287.98	207.21	-279.24	0.46	-0.38	-1.88
5,386.00	7.37	28.59	5,362.37	288.99	207.76	-280.23	0.22	-0.22	-0.11
5,461.00	7.22	27.87	5,436.76	297.38	212.27	-288.43	0.23	-0.20	-0.96
5,555.00	7.17	28.89	5,530.02	307.74	217.86	-298.55	0.15	-0.05	1.09
5,649.00	7.07	29.46	5,623.30	317.91	223.54	-308.48	0.13	-0.11	0.61
5,743.00	6.95	29.55	5,716.59	327.90	229.19	-318.23	0.13	-0.13	0.10
5,837.00	7.17	29.48	5,809.88	337.95	234.88	-328.04	0.23	0.23	-0.07
5,932.00	7.55	29.49	5,904.10	348.55	240.87	-338.38	0.40	0.40	0.01
6,026.00	7.34	27.18	5,997.31	359.26	246.66	-348.85	0.39	-0.22	-2.46
6,120.00	7.12	26.76	6,090.56	369.81	252.02	-359.16	0.24	-0.23	-0.45
6,214.00	7.09	26.45	6,183.84	380.20	257.23	-369.34	0.05	-0.03	-0.33
6,308.00	7.53	24.75	6,277.07	390.99	262.39	-379.90	0.52	0.47	-1.81

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 502H
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Site:	Duck Hunt 1 State Com	MD Reference:	RKB @ 3394.00usft (H&P 650)
Well:	502H	North Reference:	True
Wellbore:	OH / 65513	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)
6,402.00	7.97	23.22	6,370.21	402.57	267.54	-391.26	0.52	0.47	-1.63
6,496.00	7.48	24.69	6,463.36	414.12	272.67	-402.59	0.56	-0.52	1.56
6,590.00	6.50	30.25	6,556.66	424.28	277.90	-412.52	1.27	-1.04	5.91
6,684.00	5.45	33.63	6,650.15	432.59	283.05	-420.62	1.18	-1.12	3.60
6,778.00	4.04	36.28	6,743.83	438.98	287.49	-426.82	1.52	-1.50	2.82
6,872.00	2.59	39.16	6,837.67	443.29	290.79	-431.00	1.55	-1.54	3.06
6,966.00	1.48	60.26	6,931.61	445.54	293.18	-433.14	1.41	-1.18	22.45
7,061.00	1.23	84.55	7,026.58	446.25	295.26	-433.76	0.65	-0.26	25.57
7,155.00	1.27	85.19	7,120.56	446.43	297.30	-433.86	0.05	0.04	0.68
7,250.00	1.27	91.10	7,215.54	446.50	299.41	-433.85	0.14	0.00	6.22
7,344.00	1.08	94.68	7,309.52	446.41	301.33	-433.67	0.22	-0.20	3.81
7,438.00	0.92	92.30	7,403.50	446.30	302.97	-433.50	0.18	-0.17	-2.53
7,532.00	0.52	107.63	7,497.49	446.14	304.13	-433.30	0.47	-0.43	16.31
7,626.00	0.37	124.54	7,591.49	445.84	304.79	-432.97	0.21	-0.16	17.99
7,720.00	0.20	142.57	7,685.49	445.54	305.13	-432.65	0.20	-0.18	19.18
7,814.00	0.08	250.64	7,779.49	445.39	305.17	-432.50	0.25	-0.13	114.97
7,908.00	0.31	290.88	7,873.49	445.46	304.87	-432.58	0.27	0.24	42.81
8,002.00	0.57	292.40	7,967.49	445.73	304.20	-432.88	0.28	0.28	1.62
8,096.00	0.82	287.41	8,061.48	446.10	303.13	-433.30	0.27	0.27	-5.31
8,190.00	1.02	292.56	8,155.47	446.63	301.71	-433.88	0.23	0.21	5.48
8,284.00	1.13	295.95	8,249.45	447.35	300.11	-434.67	0.14	0.12	3.61
8,378.00	1.07	300.95	8,343.43	448.21	298.52	-435.59	0.12	-0.06	5.32
8,472.00	1.06	310.22	8,437.42	449.22	297.11	-436.66	0.18	-0.01	9.86
8,566.00	1.10	320.79	8,531.40	450.48	295.87	-437.97	0.22	0.04	11.24
8,660.00	1.11	327.31	8,625.38	451.95	294.81	-439.48	0.13	0.01	6.94
8,754.00	0.97	322.35	8,719.37	453.35	293.83	-440.92	0.18	-0.15	-5.28
8,847.00	0.93	287.66	8,812.36	454.20	292.63	-441.82	0.61	-0.04	-37.30
8,941.00	1.05	264.45	8,906.34	454.35	291.05	-442.03	0.44	0.13	-24.69
9,036.00	1.08	258.11	9,001.33	454.08	289.30	-441.83	0.13	0.03	-6.67
9,130.00	1.24	272.17	9,095.31	453.93	287.42	-441.77	0.35	0.17	14.96
9,224.00	0.21	311.44	9,189.30	454.09	286.28	-441.97	1.15	-1.10	41.78
9,318.00	0.88	34.56	9,283.29	454.79	286.56	-442.66	0.94	0.71	88.43
9,412.00	1.79	9.76	9,377.27	456.84	287.21	-444.67	1.13	0.97	-26.38
9,506.00	2.09	12.24	9,471.21	459.96	287.83	-447.77	0.33	0.32	2.64
9,600.00	0.76	344.03	9,565.18	462.23	288.02	-450.03	1.56	-1.41	-30.01
9,694.00	0.50	260.12	9,659.18	462.76	287.44	-450.59	0.92	-0.28	-89.27
9,788.00	0.51	255.46	9,753.18	462.59	286.63	-450.44	0.04	0.01	-4.96
9,861.00	0.49	236.65	9,826.17	462.33	286.06	-450.21	0.23	-0.03	-25.77
9,869.00	0.48	234.57	9,834.17	462.29	286.00	-450.18	0.25	-0.13	-26.00
9,963.00	3.54	179.34	9,928.11	459.16	285.72	-447.06	3.50	3.26	-58.76
10,010.00	8.64	176.41	9,974.83	454.19	285.95	-442.08	10.87	10.85	-6.23
10,057.00	12.69	176.34	10,021.01	445.51	286.50	-433.38	8.62	8.62	-0.15
10,104.00	17.59	177.35	10,066.36	433.25	287.16	-421.11	10.44	10.43	2.15
10,152.00	21.06	178.33	10,111.65	417.38	287.75	-405.23	7.26	7.23	2.04



Survey Report



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Site:	Duck Hunt 1 State Com	MD Reference:	RKB @ 3394.00usft (H&P 650)
Well:	502H	North Reference:	True
Wellbore:	OH / 65513	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)
10,199.00	25.42	179.06	10,154.82	398.85	288.16	-386.70	9.30	9.28	1.55
10,246.00	28.75	177.56	10,196.67	377.46	288.81	-365.30	7.23	7.09	-3.19
10,293.00	33.94	177.05	10,236.79	353.05	289.97	-340.86	11.06	11.04	-1.09
10,340.00	37.93	178.85	10,274.84	325.49	290.93	-313.29	8.78	8.49	3.83
10,387.00	41.96	180.64	10,310.87	295.32	291.05	-283.14	8.92	8.57	3.81
10,434.00	46.43	181.98	10,344.56	262.58	290.28	-250.45	9.72	9.51	2.85
10,481.00	51.50	182.69	10,375.40	227.17	288.83	-215.13	10.85	10.79	1.51
10,529.00	55.57	184.17	10,403.93	188.64	286.51	-176.74	8.83	8.48	3.08
10,576.00	61.29	183.17	10,428.52	148.70	283.96	-136.93	12.30	12.17	-2.13
10,623.00	65.76	181.23	10,449.47	106.67	282.36	-95.01	10.20	9.51	-4.13
10,670.00	70.67	180.50	10,466.91	63.05	281.70	-51.44	10.55	10.45	-1.55
10,717.00	74.69	180.49	10,480.90	18.19	281.31	-6.64	8.55	8.55	-0.02
10,764.00	78.53	179.98	10,491.78	-27.52	281.13	39.03	8.24	8.17	-1.09
10,811.00	81.29	178.72	10,500.02	-73.79	281.65	85.28	6.44	5.87	-2.68
10,858.00	82.00	178.81	10,506.84	-120.28	282.66	131.77	1.52	1.51	0.19
10,905.00	85.49	179.12	10,511.96	-166.98	283.50	178.47	7.45	7.43	0.66
10,955.00	87.28	179.56	10,515.12	-216.88	284.07	228.34	3.69	3.58	0.88
11,050.00	88.46	179.60	10,518.65	-311.81	284.77	323.22	1.24	1.24	0.04
11,144.00	88.54	179.32	10,521.11	-405.77	285.66	417.14	0.31	0.09	-0.30
11,237.00	88.85	178.97	10,523.23	-498.74	287.04	510.09	0.50	0.33	-0.38
11,331.00	89.13	177.93	10,524.88	-592.69	289.59	604.06	1.15	0.30	-1.11
11,425.00	89.05	177.40	10,526.38	-686.60	293.42	698.05	0.57	-0.09	-0.56
11,519.00	88.88	177.77	10,528.07	-780.50	297.38	792.04	0.43	-0.18	0.39
11,613.00	88.99	178.15	10,529.82	-874.42	300.72	886.02	0.42	0.12	0.40
11,707.00	88.99	178.44	10,531.48	-968.37	303.52	980.00	0.31	0.00	0.31
11,801.00	88.94	178.77	10,533.18	-1,062.32	305.81	1,073.97	0.36	-0.05	0.35
11,895.00	88.96	179.25	10,534.90	-1,156.29	307.43	1,167.93	0.51	0.02	0.51
11,989.00	88.91	179.79	10,536.65	-1,250.27	308.22	1,261.86	0.58	-0.05	0.57
12,083.00	89.02	180.04	10,538.34	-1,344.26	308.36	1,355.77	0.29	0.12	0.27
12,177.00	89.02	180.27	10,539.95	-1,438.24	308.10	1,449.67	0.24	0.00	0.24
12,271.00	89.02	180.65	10,541.56	-1,532.23	307.35	1,543.54	0.40	0.00	0.40
12,365.00	88.96	180.74	10,543.22	-1,626.20	306.21	1,637.39	0.12	-0.06	0.10
12,459.00	88.94	181.30	10,544.94	-1,720.17	304.53	1,731.21	0.60	-0.02	0.60
12,553.00	88.88	181.19	10,546.73	-1,814.13	302.49	1,825.01	0.13	-0.06	-0.12
12,647.00	88.57	181.05	10,548.82	-1,908.09	300.66	1,918.82	0.36	-0.33	-0.15
12,741.00	89.58	181.95	10,550.34	-2,002.05	298.20	2,012.59	1.44	1.07	0.96
12,836.00	89.55	182.46	10,551.06	-2,096.97	294.54	2,107.29	0.54	-0.03	0.54
12,930.00	90.17	182.16	10,551.29	-2,190.90	290.75	2,200.97	0.73	0.66	-0.32
13,024.00	90.36	182.50	10,550.85	-2,284.82	286.93	2,294.66	0.41	0.20	0.36
13,118.00	90.48	183.04	10,550.16	-2,378.70	282.39	2,388.28	0.59	0.13	0.57
13,212.00	89.75	181.11	10,549.97	-2,472.64	278.98	2,482.00	2.20	-0.78	-2.05
13,306.00	89.02	179.19	10,550.98	-2,566.63	278.74	2,575.90	2.19	-0.78	-2.04
13,400.00	89.22	177.29	10,552.43	-2,660.57	281.62	2,669.88	2.03	0.21	-2.02

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 502H
Project:	Lea County, NM (NAD83 - UTM Zone 13)	TVD Reference:	RKB @ 3394.00usft (H&P 650)
Site:	Duck Hunt 1 State Com	MD Reference:	RKB @ 3394.00usft (H&P 650)
Well:	502H	North Reference:	True
Wellbore:	OH / 65513	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)
13,494.00	87.34	175.32	10,555.25	-2,754.32	287.68	2,763.80	2.90	-2.00	-2.10
13,570.00	87.53	174.94	10,558.65	-2,829.97	294.12	2,839.65	0.56	0.25	-0.50
13,588.00	86.95	174.65	10,559.52	-2,847.87	295.75	2,857.61	3.60	-3.22	-1.61
13,682.00	89.55	175.04	10,562.39	-2,941.44	304.20	2,951.44	2.80	2.77	0.41
13,776.00	90.14	175.61	10,562.64	-3,035.13	311.86	3,045.36	0.87	0.63	0.61
13,871.00	90.39	175.75	10,562.20	-3,129.86	319.01	3,140.31	0.30	0.26	0.15
13,965.00	90.17	176.23	10,561.74	-3,223.63	325.59	3,234.26	0.56	-0.23	0.51
14,058.00	90.03	176.59	10,561.58	-3,316.44	331.41	3,327.24	0.42	-0.15	0.39
14,153.00	90.03	177.22	10,561.53	-3,411.30	336.54	3,422.23	0.66	0.00	0.66
14,247.00	90.08	178.93	10,561.44	-3,505.25	339.70	3,516.23	1.82	0.05	1.82
14,341.00	90.08	180.55	10,561.31	-3,599.24	340.12	3,610.16	1.72	0.00	1.72
14,435.00	89.66	180.75	10,561.52	-3,693.24	339.06	3,704.03	0.49	-0.45	0.21
14,528.00	89.92	181.00	10,561.86	-3,786.22	337.64	3,796.89	0.39	0.28	0.27
14,623.00	89.92	181.45	10,562.00	-3,881.20	335.61	3,891.70	0.47	0.00	0.47
14,717.00	90.22	182.06	10,561.88	-3,975.16	332.73	3,985.46	0.72	0.32	0.65
14,811.00	90.06	182.40	10,561.65	-4,069.09	329.07	4,079.16	0.40	-0.17	0.36
14,905.00	89.44	182.36	10,562.06	-4,163.00	325.17	4,172.84	0.66	-0.66	-0.04
14,999.00	89.36	182.23	10,563.05	-4,256.92	321.40	4,266.52	0.16	-0.09	-0.14
15,093.00	89.30	182.16	10,564.15	-4,350.85	317.80	4,360.22	0.10	-0.06	-0.07
15,187.00	89.41	182.12	10,565.20	-4,444.78	314.29	4,453.93	0.12	0.12	-0.04
15,281.00	89.41	182.57	10,566.17	-4,538.69	310.45	4,547.61	0.48	0.00	0.48
15,375.00	89.50	182.40	10,567.07	-4,632.60	306.37	4,641.27	0.20	0.10	-0.18
15,469.00	89.27	182.20	10,568.07	-4,726.52	302.60	4,734.95	0.32	-0.24	-0.21
15,563.00	88.99	181.78	10,569.50	-4,820.45	299.33	4,828.67	0.54	-0.30	-0.45
15,657.00	89.44	182.46	10,570.79	-4,914.38	295.86	4,922.38	0.87	0.48	0.72
15,751.00	89.36	181.55	10,571.77	-5,008.31	292.57	5,016.10	0.97	-0.09	-0.97
15,845.00	89.33	181.46	10,572.85	-5,102.27	290.10	5,109.88	0.10	-0.03	-0.10
15,939.00	89.86	181.69	10,573.51	-5,196.24	287.52	5,203.66	0.61	0.56	0.24
16,033.00	89.58	180.90	10,573.97	-5,290.21	285.39	5,297.46	0.89	-0.30	-0.84
16,127.00	89.94	180.01	10,574.37	-5,384.21	284.65	5,391.35	1.02	0.38	-0.95
16,221.00	89.89	178.63	10,574.51	-5,478.20	285.76	5,485.31	1.47	-0.05	-1.47
16,315.00	89.92	177.91	10,574.66	-5,572.15	288.60	5,579.30	0.77	0.03	-0.77
16,409.00	89.92	177.59	10,574.79	-5,666.08	292.29	5,673.30	0.34	0.00	-0.34
16,503.00	89.52	177.06	10,575.25	-5,759.98	296.68	5,767.30	0.71	-0.43	-0.56
16,597.00	90.00	176.95	10,575.65	-5,853.85	301.59	5,861.29	0.52	0.51	-0.12
16,691.00	89.94	176.35	10,575.70	-5,947.69	307.08	5,955.28	0.64	-0.06	-0.64
16,785.00	89.72	176.35	10,575.97	-6,041.49	313.06	6,049.25	0.23	-0.23	0.00
16,879.00	89.61	175.76	10,576.52	-6,135.27	319.53	6,143.21	0.64	-0.12	-0.63
16,972.00	89.50	175.73	10,577.25	-6,228.01	326.43	6,236.16	0.12	-0.12	-0.03
17,067.00	89.05	176.90	10,578.45	-6,322.80	332.54	6,331.12	1.32	-0.47	1.23
17,114.00	89.02	177.37	10,579.24	-6,369.74	334.89	6,378.11	1.00	-0.06	1.00
17,161.00	89.05	177.97	10,580.03	-6,416.69	336.80	6,425.11	1.28	0.06	1.28
17,255.00	88.96	178.73	10,581.66	-6,510.64	339.50	6,519.08	0.81	-0.10	0.81

Company:	Centennial Resources Development, Inc.	Local Co-ordinate Reference:	Well 502H
Project:	Lea County, NM (NAD83 - UTM Zone 13)	TVD Reference:	RKB @ 3394.00usft (H&P 650)
Site:	Duck Hunt 1 State Com	MD Reference:	RKB @ 3394.00usft (H&P 650)
Well:	502H	North Reference:	True
Wellbore:	OH / 65513	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)
17,349.00	88.82	178.77	10,583.48	-6,604.60	341.55	6,613.05	0.15	-0.15	0.04
17,443.00	88.94	179.00	10,585.32	-6,698.56	343.38	6,707.01	0.28	0.13	0.24
17,537.00	89.05	179.55	10,586.97	-6,792.54	344.57	6,800.96	0.60	0.12	0.59
17,631.00	89.16	180.31	10,588.44	-6,886.53	344.69	6,894.87	0.82	0.12	0.81
17,725.00	88.60	180.76	10,590.28	-6,980.51	343.81	6,988.73	0.76	-0.60	0.48
17,819.00	88.94	181.15	10,592.29	-7,074.47	342.24	7,082.55	0.55	0.36	0.41
17,913.00	88.91	181.48	10,594.06	-7,168.43	340.08	7,176.35	0.35	-0.03	0.35
18,007.00	89.02	181.62	10,595.76	-7,262.38	337.54	7,270.11	0.19	0.12	0.15
18,101.00	89.05	182.17	10,597.34	-7,356.32	334.43	7,363.84	0.59	0.03	0.59
18,195.00	89.78	183.01	10,598.30	-7,450.21	330.19	7,457.49	1.18	0.78	0.89
18,235.00	89.52	183.27	10,598.54	-7,490.16	327.99	7,497.30	0.92	-0.65	0.65
Final Phoenix MWD Survey									
18,277.00	89.52	183.27	10,598.90	-7,532.09	325.60	7,539.10	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)	
1,826.50	1,826.26	-16.48	-16.39	Tie In
1,897.00	1,896.75	-17.55	-16.75	First Phoenix MWD Survey
18,235.00	10,598.55	-7,490.16	327.99	Final Phoenix MWD Survey
18,277.00	10,598.90	-7,532.09	325.60	Projection to TD