

HOBBS OCD
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**CENTENNIAL RESOURCE
DEVELOPMENT, LLC**

**LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
NE SE SEC. 1 T23S R34E
DUCK HUNT 1 STATE COM #301H
20 May, 2019**

Survey: FINAL SURVEYS



Survey Report



Company:	CENTENNIAL RESOURCE DEVELO	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #301H
Project:	LEA COUNTY, NM (NAD 83 - UTM Z	TVD Reference:	KB 26.5' @ 3392.00usft (H&P 650)
Site:	NE SE SEC. 1 T23S R34E	MD Reference:	KB 26.5' @ 3392.00usft (H&P 650)
Well:	DUCK HUNT 1 STATE COM #301H	North Reference:	True
Wellbore:	JOB # 2019-244-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Project LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)

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 NE SE SEC. 1 T23S R34E

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:	1.10 ft	Grid Convergence:	0.85 °

Well DUCK HUNT 1 STATE COM #301H

Well Position	+N/-S	0.00 usft	Northing:	11,740,221.78 usft	Latitude:	32.332815
	+E/-W	0.00 usft	Easting:	2,129,032.10 usft	Longitude:	-103.417617
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,365.50 usft

Wellbore JOB # 2019-244-650

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	19/03/2019	6.70	60.16	47,839

Design FINAL SURVEYS

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	176.85

Survey Program Date 20/05/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
26.50	17,029.00	FINAL SURVEYS (JOB # 2019-244-650)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea 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	3,392.00	0.00	0.00	0.00	0.00	0.00	0.00
26.50	0.00	0.00	26.50	3,365.50	0.00	0.00	0.00	0.00	0.00	0.00
144.50	0.50	245.75	144.50	3,247.50	-0.21	-0.47	0.19	0.42	0.42	0.00
203.50	0.50	117.75	203.50	3,188.50	-0.44	-0.48	0.41	1.52	0.00	-216.95
288.50	0.40	91.75	288.49	3,103.51	-0.62	0.15	0.63	0.26	-0.12	-30.59
372.50	0.50	119.75	372.49	3,019.51	-0.81	0.76	0.85	0.28	0.12	33.33
521.50	0.60	156.75	521.49	2,870.51	-1.85	1.63	1.94	0.24	0.07	24.83
611.50	0.80	187.75	611.48	2,780.52	-2.90	1.73	3.00	0.47	0.22	34.44
701.50	1.10	167.75	701.47	2,690.53	-4.37	1.83	4.47	0.49	0.33	-22.22
791.50	0.90	183.75	791.45	2,600.55	-5.92	1.97	6.02	0.38	-0.22	17.78
881.50	1.40	190.75	881.44	2,510.56	-7.71	1.72	7.79	0.58	0.56	7.78
971.50	1.40	198.75	971.41	2,420.59	-9.83	1.16	9.88	0.22	0.00	8.89
1,061.50	1.70	186.75	1,061.38	2,330.62	-12.19	0.65	12.21	0.49	0.33	-13.33

Survey Report



Company: CENTENNIAL RESOURCE DEVELOPMENT
Project: LEA COUNTY, NM (NAD 83 - UTM Zone 12N)
Site: NE SE SEC. 1 T23S R34E
Well: DUCK HUNT 1 STATE COM #301H
Wellbore: JOB # 2019-244-650
Design: FINAL SURVEYS

Local Co-ordinate Reference: Well DUCK HUNT 1 STATE COM #301H
TVD Reference: KB 26.5' @ 3392.00usft (H&P 650)
MD Reference: KB 26.5' @ 3392.00usft (H&P 650)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Database 1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,151.50	2.00	200.75	1,151.33	2,240.67	-14.99	-0.06	14.96	0.60	0.33	15.56
1,241.50	1.80	195.75	1,241.28	2,150.72	-17.82	-1.00	17.74	0.29	-0.22	-5.56
1,331.50	2.20	189.75	1,331.22	2,060.78	-20.88	-1.68	20.76	0.50	0.44	-6.67
1,421.50	2.30	191.75	1,421.16	1,970.84	-24.35	-2.34	24.19	0.14	0.11	2.22
1,511.50	2.40	191.75	1,511.08	1,880.92	-27.96	-3.09	27.75	0.11	0.11	0.00
1,600.50	2.90	205.75	1,599.99	1,792.01	-31.82	-4.45	31.52	0.92	0.56	15.73
1,690.50	2.90	202.75	1,689.87	1,702.13	-35.97	-6.32	35.57	0.17	0.00	-3.33
1,812.50	3.30	207.75	1,811.69	1,580.31	-41.92	-9.15	41.36	0.40	0.33	4.10
1,923.00	3.39	195.43	1,922.00	1,470.00	-47.88	-11.50	47.18	0.65	0.08	-11.15
2,018.00	2.70	182.60	2,016.87	1,375.13	-52.83	-12.35	52.07	1.02	-0.73	-13.51
2,112.00	1.39	160.53	2,110.81	1,281.19	-56.11	-12.07	55.37	1.60	-1.39	-23.48
2,206.00	0.39	88.72	2,204.80	1,187.20	-57.18	-11.37	56.47	1.41	-1.06	-76.39
2,300.00	0.34	99.30	2,298.80	1,093.20	-57.22	-10.77	56.54	0.09	-0.05	11.26
2,394.00	0.46	92.85	2,392.80	999.20	-57.28	-10.12	56.64	0.14	0.13	-6.86
2,489.00	0.48	67.74	2,487.79	904.21	-57.15	-9.37	56.55	0.22	0.02	-26.43
2,583.00	0.55	70.59	2,581.79	810.21	-56.85	-8.58	56.30	0.08	0.07	3.03
2,677.00	0.61	73.76	2,675.78	716.22	-56.56	-7.68	56.06	0.07	0.06	3.37
2,771.00	0.72	81.26	2,769.78	622.22	-56.33	-6.61	55.89	0.15	0.12	7.98
2,865.00	0.75	68.17	2,863.77	528.23	-56.01	-5.46	55.63	0.18	0.03	-13.93
2,959.00	0.78	70.69	2,957.76	434.24	-55.57	-4.28	55.26	0.05	0.03	2.68
START NUDGE										
3,053.00	0.97	66.97	3,051.75	340.25	-55.05	-2.95	54.81	0.21	0.20	-3.96
3,148.00	1.81	61.96	3,146.72	245.28	-54.03	-0.88	53.90	0.89	0.88	-5.27
3,242.00	3.61	69.01	3,240.61	151.39	-52.27	3.19	52.37	1.94	1.91	7.50
3,336.00	5.84	79.13	3,334.29	57.71	-50.31	10.65	50.82	2.52	2.37	10.77
3,430.00	6.92	80.76	3,427.71	-35.71	-48.50	20.94	49.58	1.16	1.15	1.73
3,524.00	7.31	81.33	3,520.98	-128.98	-46.69	32.44	48.40	0.42	0.41	0.61
3,618.00	7.65	82.21	3,614.18	-222.18	-44.94	44.55	47.32	0.38	0.36	0.94
3,712.00	8.08	80.79	3,707.30	-315.30	-43.03	57.27	46.11	0.50	0.46	-1.51
3,806.00	8.62	80.34	3,800.30	-408.30	-40.80	70.74	44.61	0.58	0.57	-0.48
3,900.00	8.68	82.11	3,893.23	-501.23	-38.64	84.71	43.23	0.29	0.06	1.88
3,995.00	8.61	81.07	3,987.15	-595.15	-36.55	98.83	41.92	0.18	-0.07	-1.09
4,089.00	8.16	81.37	4,080.15	-688.15	-34.46	112.38	40.57	0.48	-0.48	0.32
4,183.00	8.02	82.07	4,173.21	-781.21	-32.55	125.47	39.39	0.18	-0.15	0.74
4,277.00	8.05	82.18	4,266.29	-874.29	-30.75	138.48	38.30	0.04	0.03	0.12
4,371.00	7.77	81.52	4,359.39	-967.39	-28.92	151.29	37.18	0.31	-0.30	-0.70
4,465.00	7.60	82.53	4,452.55	-1,060.55	-27.17	163.74	36.12	0.23	-0.18	1.07
4,559.00	7.46	82.79	4,545.74	-1,153.74	-25.60	175.96	35.22	0.15	-0.15	0.28
4,654.00	7.37	83.16	4,639.94	-1,247.94	-24.10	188.12	34.39	0.11	-0.09	0.39
4,748.00	7.27	83.26	4,733.18	-1,341.18	-22.69	200.02	33.62	0.11	-0.11	0.11
4,841.00	7.03	83.39	4,825.46	-1,433.46	-21.34	211.51	32.91	0.26	-0.26	0.14
4,936.00	6.79	83.08	4,919.77	-1,527.77	-19.99	222.86	32.19	0.26	-0.25	-0.33
5,030.00	6.73	85.27	5,013.11	-1,621.11	-18.87	233.87	31.67	0.28	-0.06	2.33
5,124.00	6.97	85.34	5,106.44	-1,714.44	-17.95	245.04	31.37	0.26	0.26	0.07
5,218.00	7.38	85.22	5,199.70	-1,807.70	-16.99	256.74	31.05	0.44	0.44	-0.13
5,312.00	7.32	86.38	5,292.93	-1,900.93	-16.10	268.74	30.82	0.17	-0.06	1.23
5,390.00	7.30	86.98	5,370.30	-1,978.30	-15.53	278.64	30.79	0.10	-0.03	0.77
9 5/8" INT CASING POINT										
5,449.00	7.20	86.42	5,428.83	-2,036.83	-15.10	286.08	30.77	0.21	-0.17	-0.95
5,514.00	7.09	85.79	5,493.32	-2,101.32	-14.55	294.14	30.67	0.21	-0.17	-0.97
5,577.00	7.00	83.39	5,555.85	-2,163.85	-13.83	301.83	30.37	0.49	-0.14	-3.81
5,671.00	6.93	68.19	5,649.16	-2,257.16	-11.06	312.79	28.20	1.96	-0.07	-16.17
5,765.00	6.77	68.62	5,742.49	-2,350.49	-6.93	323.21	24.66	0.18	-0.17	0.46

Survey Report



Company: CENTENNIAL RESOURCE DEVELOPMENT
Project: LEA COUNTY, NM (NAD 83 - UTM Zone 18N)
Site: NE SE SEC. 1 T23S R34E
Well: DUCK HUNT 1 STATE COM #301H
Wellbore: JOB # 2019-244-650
Design: FINAL SURVEYS

Local Co-ordinate Reference: Well DUCK HUNT 1 STATE COM #301H
TVD Reference: KB 26.5' @ 3392.00usft (H&P 650)
MD Reference: KB 26.5' @ 3392.00usft (H&P 650)
North Reference: True
Survey Calculation Method: Minimum Curvature
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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,859.00	6.41	67.42	5,835.87	-2,443.87	-2.90	333.22	21.18	0.41	-0.38	-1.28
5,953.00	5.98	67.60	5,929.32	-2,537.32	0.98	342.59	17.81	0.46	-0.46	0.19
6,047.00	5.89	71.03	6,022.82	-2,630.82	4.42	351.68	14.88	0.39	-0.10	3.65
6,141.00	5.41	72.48	6,116.36	-2,724.36	7.32	360.46	12.47	0.53	-0.51	1.54
6,235.00	5.51	69.53	6,209.93	-2,817.93	10.23	368.92	10.03	0.32	0.11	-3.14
6,330.00	5.37	66.80	6,304.51	-2,912.51	13.58	377.28	7.14	0.31	-0.15	-2.87
6,424.00	4.71	80.24	6,398.14	-3,006.14	15.96	385.12	5.19	1.43	-0.70	14.30
6,518.00	3.51	84.56	6,491.90	-3,099.90	16.89	391.79	4.63	1.32	-1.28	4.60
6,613.00	3.53	81.90	6,586.72	-3,194.72	17.58	397.58	4.26	0.17	0.02	-2.80
6,706.00	2.30	102.67	6,679.60	-3,287.60	17.57	402.24	4.52	1.72	-1.32	22.33
6,801.00	1.19	93.14	6,774.56	-3,382.56	17.10	405.08	5.15	1.20	-1.17	-10.03
6,895.00	1.09	78.76	6,868.54	-3,476.54	17.22	406.93	5.13	0.32	-0.11	-15.30
6,989.00	1.04	73.64	6,962.52	-3,570.52	17.64	408.63	4.81	0.11	-0.05	-5.45
7,084.00	0.91	76.92	7,057.51	-3,665.51	18.05	410.19	4.48	0.15	-0.14	3.45
7,178.00	0.73	80.42	7,151.50	-3,759.50	18.32	411.51	4.29	0.20	-0.19	3.72
7,272.00	0.77	65.89	7,245.49	-3,853.49	18.68	412.68	3.99	0.21	0.04	-15.46
7,366.00	0.71	74.95	7,339.48	-3,947.48	19.09	413.82	3.65	0.14	-0.06	9.64
7,461.00	0.85	92.20	7,434.47	-4,042.47	19.21	415.09	3.59	0.29	0.15	18.16
7,555.00	0.79	72.67	7,528.47	-4,136.47	19.38	416.40	3.50	0.30	-0.06	-20.78
7,650.00	0.55	75.79	7,623.46	-4,231.46	19.68	417.47	3.25	0.26	-0.25	3.28
7,744.00	0.21	66.25	7,717.46	-4,325.46	19.86	418.07	3.10	0.37	-0.36	-10.15
7,839.00	0.25	130.31	7,812.46	-4,420.46	19.80	418.38	3.18	0.26	0.04	67.43
7,933.00	0.25	74.64	7,906.45	-4,514.45	19.72	418.74	3.28	0.25	0.00	-59.22
8,027.00	0.13	159.59	8,000.45	-4,608.45	19.68	418.97	3.34	0.29	-0.13	90.37
8,121.00	0.21	200.25	8,094.45	-4,702.45	19.41	418.95	3.60	0.15	0.09	43.26
8,215.00	0.35	221.85	8,188.45	-4,796.45	19.04	418.70	3.96	0.18	0.15	22.98
8,309.00	0.43	229.21	8,282.45	-4,890.45	18.60	418.24	4.38	0.10	0.09	7.83
8,403.00	0.33	186.14	8,376.45	-4,984.45	18.10	417.94	4.86	0.31	-0.11	-45.82
8,497.00	0.33	181.64	8,470.45	-5,078.45	17.56	417.91	5.40	0.03	0.00	-4.79
8,592.00	0.51	228.51	8,565.44	-5,173.44	17.00	417.58	5.93	0.39	0.19	49.34
8,686.00	0.51	200.33	8,659.44	-5,267.44	16.33	417.12	6.58	0.26	0.00	-29.98
8,780.00	0.21	135.48	8,753.44	-5,361.44	15.82	417.10	7.09	0.49	-0.32	-68.99
8,874.00	0.77	161.39	8,847.44	-5,455.44	15.10	417.42	7.83	0.63	0.60	27.56
8,968.00	1.06	152.64	8,941.42	-5,549.42	13.73	418.02	9.23	0.34	0.31	-9.31
9,062.00	1.26	131.28	9,035.41	-5,643.41	12.27	419.20	10.75	0.50	0.21	-22.72
9,073.00	1.40	139.30	9,046.40	-5,654.40	12.09	419.38	10.94	2.11	1.27	72.91
KOP										
9,126.00	3.15	150.37	9,099.36	-5,707.36	10.33	420.52	12.75	3.38	3.29	20.89
9,136.00	3.48	151.21	9,109.34	-5,717.34	9.83	420.80	13.27	3.38	3.35	8.36
9,183.00	8.00	157.95	9,156.09	-5,764.09	5.55	422.72	17.65	9.71	9.62	14.34
9,230.00	12.78	157.90	9,202.31	-5,810.31	-2.31	425.90	25.67	10.17	10.17	-0.11
9,277.00	15.50	158.93	9,247.88	-5,855.88	-12.98	430.12	36.56	5.81	5.79	2.19
9,324.00	16.76	163.98	9,293.03	-5,901.03	-25.36	434.24	49.15	4.01	2.68	10.74
9,371.00	19.75	169.04	9,337.67	-5,945.67	-39.67	437.63	63.62	7.19	6.36	10.77
9,419.00	23.77	173.26	9,382.24	-5,990.24	-57.25	440.30	81.32	8.98	8.37	8.79
9,466.00	29.28	177.79	9,424.28	-6,032.28	-78.16	441.86	102.28	12.48	11.72	9.64
9,513.00	34.81	181.50	9,464.11	-6,072.11	-103.08	441.95	127.17	12.48	11.77	7.89
9,560.00	41.05	181.66	9,501.16	-6,109.16	-131.94	441.15	155.95	13.28	13.28	0.34
9,607.00	47.41	181.95	9,534.82	-6,142.82	-164.69	440.12	188.59	13.54	13.53	0.62
9,654.00	51.72	182.42	9,565.30	-6,173.30	-200.43	438.75	224.20	9.20	9.17	1.00
9,701.00	54.47	182.48	9,593.52	-6,201.52	-237.98	437.14	261.60	5.85	5.85	0.13
9,748.00	57.54	182.44	9,619.79	-6,227.79	-276.90	435.47	300.38	6.53	6.53	-0.09
9,795.00	60.32	182.31	9,644.05	-6,252.05	-317.12	433.80	340.45	5.92	5.91	-0.28

Survey Report



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Project:	LEA COUNTY, NM (NAD 83 - UTM Zone 12N)	TVD Reference:	KB 26.5' @ 3392.00usft (H&P 650)
Site:	NE SE SEC. 1 T23S R34E	MD Reference:	KB 26.5' @ 3392.00usft (H&P 650)
Well:	DUCK HUNT 1 STATE COM #301H	North Reference:	True
Wellbore:	JOB # 2019-244-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,842.00	62.39	182.72	9,666.58	-6,274.58	-358.33	431.99	381.49	4.47	4.40	0.87
9,889.00	65.21	182.96	9,687.33	-6,295.33	-400.44	429.90	423.43	6.02	6.00	0.51
9,936.00	70.20	182.44	9,705.15	-6,313.15	-443.87	427.86	466.67	10.67	10.62	-1.11
9,983.00	75.56	181.77	9,718.98	-6,326.98	-488.74	426.21	511.39	11.49	11.40	-1.43
10,030.00	79.52	181.24	9,729.12	-6,337.12	-534.61	425.01	557.12	8.50	8.43	-1.13
10,077.00	82.43	180.75	9,736.49	-6,344.49	-581.01	424.20	603.41	6.28	6.19	-1.04
10,124.00	84.84	180.15	9,741.70	-6,349.70	-627.72	423.84	650.02	5.28	5.13	-1.28
10,171.00	87.78	180.94	9,744.73	-6,352.73	-674.61	423.39	696.82	6.48	6.26	1.68
HZ LANDING POINT										
10,177.00	87.94	180.89	9,744.95	-6,352.95	-680.61	423.29	702.81	2.81	2.68	-0.85
10,218.00	89.04	180.54	9,746.03	-6,354.03	-721.59	422.78	743.70	2.81	2.68	-0.85
10,265.00	90.56	179.94	9,746.19	-6,354.19	-768.59	422.58	790.61	3.48	3.23	-1.28
10,291.00	90.81	180.05	9,745.88	-6,353.88	-794.58	422.59	816.57	1.05	0.96	0.42
10,385.00	89.99	181.59	9,745.23	-6,353.23	-888.57	421.24	910.34	1.86	-0.87	1.64
10,479.00	90.41	182.14	9,744.90	-6,352.90	-982.52	418.18	1,003.98	0.74	0.45	0.59
10,573.00	90.32	181.75	9,744.30	-6,352.30	-1,076.46	414.99	1,097.61	0.43	-0.10	-0.41
10,667.00	90.39	181.46	9,743.72	-6,351.72	-1,170.42	412.36	1,191.28	0.32	0.07	-0.31
10,761.00	90.13	181.72	9,743.29	-6,351.29	-1,264.39	409.75	1,284.96	0.39	-0.28	0.28
10,855.00	90.22	181.66	9,743.00	-6,351.00	-1,358.34	406.98	1,378.63	0.12	0.10	-0.06
10,949.00	90.46	181.68	9,742.45	-6,350.45	-1,452.30	404.24	1,472.29	0.26	0.26	0.02
11,043.00	91.85	179.42	9,740.55	-6,348.55	-1,546.27	403.34	1,566.07	2.82	1.48	-2.40
11,137.00	91.71	177.34	9,737.63	-6,345.63	-1,640.18	405.99	1,659.99	2.22	-0.15	-2.21
11,232.00	91.88	176.94	9,734.66	-6,342.66	-1,735.02	410.73	1,754.94	0.46	0.18	-0.42
11,324.00	91.15	176.25	9,732.22	-6,340.22	-1,826.82	416.19	1,846.90	1.09	-0.79	-0.75
11,419.00	91.27	179.28	9,730.22	-6,338.22	-1,921.72	419.90	1,941.86	3.19	0.13	3.19
11,514.00	90.57	178.59	9,728.69	-6,336.69	-2,016.69	421.66	2,036.78	1.03	-0.74	-0.73
11,608.00	89.68	179.48	9,728.49	-6,336.49	-2,110.67	423.25	2,130.71	1.34	-0.95	0.95
11,702.00	89.17	179.54	9,729.43	-6,337.43	-2,204.66	424.05	2,224.61	0.55	-0.54	0.06
11,796.00	89.64	179.50	9,730.41	-6,338.41	-2,298.65	424.84	2,318.50	0.50	0.50	-0.04
11,890.00	89.40	179.05	9,731.19	-6,339.19	-2,392.64	426.03	2,412.41	0.54	-0.26	-0.48
11,984.00	89.71	179.10	9,731.92	-6,339.92	-2,486.63	427.54	2,506.34	0.33	0.33	0.05
12,078.00	89.20	178.92	9,732.82	-6,340.82	-2,580.61	429.17	2,600.27	0.58	-0.54	-0.19
12,172.00	89.08	181.98	9,734.23	-6,342.23	-2,674.59	428.43	2,694.06	3.26	-0.13	3.26
12,266.00	89.41	181.55	9,735.47	-6,343.47	-2,768.53	425.53	2,787.71	0.58	0.35	-0.46
12,360.00	89.34	181.08	9,736.49	-6,344.49	-2,862.50	423.38	2,881.42	0.51	-0.07	-0.50
12,455.00	89.30	181.41	9,737.62	-6,345.62	-2,957.47	421.31	2,976.13	0.35	-0.04	0.35
12,549.00	88.80	180.79	9,739.18	-6,347.18	-3,051.44	419.51	3,069.86	0.85	-0.53	-0.66
12,643.00	88.49	181.61	9,741.40	-6,349.40	-3,145.39	417.54	3,163.56	0.93	-0.33	0.87
12,732.00	88.74	183.07	9,743.55	-6,351.55	-3,234.29	413.91	3,252.13	1.66	0.28	1.64
12,826.00	88.78	184.53	9,745.59	-6,353.59	-3,328.06	407.68	3,345.41	1.55	0.04	1.55
12,920.00	89.04	183.42	9,747.38	-6,355.38	-3,421.81	401.17	3,438.67	1.21	0.28	-1.18
13,015.00	89.06	181.69	9,748.95	-6,356.95	-3,516.70	396.93	3,533.18	1.82	0.02	-1.82
13,109.00	88.92	180.31	9,750.61	-6,358.61	-3,610.67	395.29	3,626.92	1.48	-0.15	-1.47
13,203.00	89.01	180.12	9,752.31	-6,360.31	-3,704.66	394.94	3,720.74	0.22	0.10	-0.20
13,297.00	88.91	179.86	9,754.01	-6,362.01	-3,798.64	394.96	3,814.59	0.30	-0.11	-0.28
13,391.00	89.02	178.73	9,755.71	-6,363.71	-3,892.62	396.11	3,908.49	1.21	0.12	-1.20
13,485.00	88.95	177.63	9,757.37	-6,365.37	-3,986.55	399.10	4,002.45	1.17	-0.07	-1.17
13,579.00	88.49	177.18	9,759.47	-6,367.47	-4,080.43	403.35	4,096.42	0.68	-0.49	-0.48
13,673.00	88.08	176.98	9,762.29	-6,370.29	-4,174.27	408.14	4,190.37	0.49	-0.44	-0.21
13,767.00	88.56	176.98	9,765.04	-6,373.04	-4,268.10	413.09	4,284.33	0.51	0.51	0.00
13,861.00	88.09	178.24	9,767.79	-6,375.79	-4,361.97	417.01	4,378.28	1.43	-0.50	1.34
13,956.00	88.54	179.99	9,770.59	-6,378.59	-4,456.92	418.47	4,473.16	1.90	0.47	1.84
14,050.00	88.40	180.20	9,773.09	-6,381.09	-4,550.88	418.32	4,566.98	0.27	-0.15	0.22

Survey Report



Company: CENTENNIAL RESOURCE DEVELOPMENT
Project: LEA COUNTY, NM (NAD 83 - UTM Zone 18N)
Site: NE SE SEC. 1 T23S R34E
Well: DUCK HUNT 1 STATE COM #301H
Wellbore: JOB # 2019-244-650
Design: FINAL SURVEYS

Local Co-ordinate Reference: Well DUCK HUNT 1 STATE COM #301H
TVD Reference: KB 26.5' @ 3392.00usft (H&P 650)
MD Reference: KB 26.5' @ 3392.00usft (H&P 650)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Database 1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,144.00	88.23	180.26	9,775.86	-6,383.86	-4,644.84	417.94	4,660.78	0.19	-0.18	0.06
14,238.00	88.82	180.11	9,778.28	-6,386.28	-4,738.81	417.64	4,754.59	0.65	0.63	-0.16
14,332.00	88.91	180.02	9,780.14	-6,388.14	-4,832.79	417.53	4,848.42	0.14	0.10	-0.10
14,426.00	88.89	180.27	9,781.95	-6,389.95	-4,926.77	417.29	4,942.25	0.27	-0.02	0.27
14,520.00	88.98	179.86	9,783.69	-6,391.69	-5,020.76	417.19	5,036.08	0.45	0.10	-0.44
14,614.00	88.80	179.70	9,785.51	-6,393.51	-5,114.74	417.55	5,129.94	0.26	-0.19	-0.17
14,708.00	89.96	179.75	9,786.53	-6,394.53	-5,208.73	418.00	5,223.82	1.24	1.23	0.05
14,803.00	89.96	179.81	9,786.60	-6,394.60	-5,303.73	418.36	5,318.69	0.06	0.00	0.06
14,896.00	90.20	179.58	9,786.47	-6,394.47	-5,396.73	418.86	5,411.58	0.36	0.26	-0.25
14,990.00	90.42	179.58	9,785.96	-6,393.96	-5,490.72	419.55	5,505.47	0.23	0.23	0.00
15,084.00	91.58	179.41	9,784.32	-6,392.32	-5,584.70	420.37	5,599.36	1.25	1.23	-0.18
15,178.00	90.60	179.23	9,782.53	-6,390.53	-5,678.68	421.49	5,693.25	1.06	-1.04	-0.19
15,272.00	89.85	179.66	9,782.16	-6,390.16	-5,772.67	422.40	5,787.15	0.92	-0.80	0.46
15,366.00	89.86	179.66	9,782.40	-6,390.40	-5,866.67	422.96	5,881.04	0.01	0.01	0.00
15,460.00	89.83	179.89	9,782.65	-6,390.65	-5,960.67	423.33	5,974.92	0.25	-0.03	0.24
15,554.00	89.83	179.39	9,782.93	-6,390.93	-6,054.67	423.92	6,068.81	0.53	0.00	-0.53
15,649.00	89.87	179.61	9,783.18	-6,391.18	-6,149.66	424.75	6,163.71	0.24	0.04	0.23
15,743.00	90.01	179.58	9,783.28	-6,391.28	-6,243.66	425.41	6,257.60	0.15	0.15	-0.03
15,837.00	89.89	179.70	9,783.36	-6,391.36	-6,337.66	426.00	6,351.49	0.18	-0.13	0.13
15,931.00	89.82	179.41	9,783.60	-6,391.60	-6,431.66	426.73	6,445.38	0.32	-0.07	-0.31
16,025.00	89.45	179.19	9,784.20	-6,392.20	-6,525.65	427.88	6,539.29	0.46	-0.39	-0.23
16,119.00	87.80	179.47	9,786.45	-6,394.45	-6,619.61	428.98	6,633.18	1.78	-1.76	0.30
16,213.00	88.86	179.91	9,789.19	-6,397.19	-6,713.57	429.49	6,727.02	1.22	1.13	0.47
16,307.00	89.40	180.17	9,790.62	-6,398.62	-6,807.56	429.42	6,820.86	0.64	0.57	0.28
16,401.00	89.28	179.50	9,791.70	-6,399.70	-6,901.55	429.69	6,914.73	0.72	-0.13	-0.71
16,495.00	89.16	179.14	9,792.98	-6,400.98	-6,995.53	430.81	7,008.63	0.40	-0.13	-0.38
16,589.00	89.43	179.58	9,794.14	-6,402.14	-7,089.52	431.86	7,102.54	0.55	0.29	0.47
16,683.00	89.45	179.32	9,795.06	-6,403.06	-7,183.51	432.76	7,196.44	0.28	0.02	-0.28
16,777.00	89.30	179.55	9,796.08	-6,404.08	-7,277.50	433.69	7,290.33	0.29	-0.16	0.24
16,871.00	89.28	179.42	9,797.25	-6,405.25	-7,371.49	434.53	7,384.23	0.14	-0.02	-0.14
16,966.00	89.45	179.33	9,798.30	-6,406.30	-7,466.48	435.57	7,479.13	0.20	0.18	-0.09
LAST SURVEY MAY 19, 2019										
16,996.00	89.39	179.20	9,798.60	-6,406.60	-7,496.47	435.95	7,509.10	0.48	-0.20	-0.43
EXTRAPOLATION TO TD										
17,029.00	89.39	179.20	9,798.96	-6,406.96	-7,529.47	436.41	7,542.07	0.00	0.00	0.00

Survey Report



Company:	CENTENNIAL RESOURCE DEVELO	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #301H
Project:	LEA COUNTY, NM (NAD 83 - UTM Z)	TVD Reference:	KB 26.5' @ 3392.00usft (H&P 650)
Site:	NE SE SEC. 1 T23S R34E	MD Reference:	KB 26.5' @ 3392.00usft (H&P 650)
Well:	DUCK HUNT 1 STATE COM #301H	North Reference:	True
Wellbore:	JOB # 2019-244-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP/BHL - DUCK HUI	0.00	0.00	9,860.50	-7,521.30	413.28	11,732,708.36	2,129,556.39	32.312142	-103.416279
- survey misses target center by 65.79usft at 17021.16usft MD (9798.87 TVD, -7521.63 N, 436.30 E)									
- Point									
KOP - DUCK HUNT 1	0.00	0.00	9,178.09	14.55	410.98	11,740,242.40	2,129,442.77	32.332855	-103.416287
- survey misses target center by 17.70usft at 9202.34usft MD (9175.20 TVD, 2.75 N, 423.85 E)									
- Point									
PPI/FTP - DUCK HUN	0.00	0.00	9,750.98	-549.41	411.18	11,739,678.57	2,129,451.30	32.331305	-103.416286
- survey misses target center by 23.27usft at 10048.29usft MD (9732.27 TVD, -552.62 N, 424.65 E)									
- Point									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,053.00	3,051.75	-55.05	-2.95	START NUDGE
5,449.00	5,428.83	-15.10	286.08	9 5/8" INT CASING POINT
9,126.00	9,099.36	10.33	420.52	KOP
10,177.00	9,744.95	-680.61	423.29	HZ LANDING POINT
16,996.00	9,798.60	-7,496.47	435.95	LAST SURVEY MAY 19, 2019
17,029.00	9,798.96	-7,529.47	436.41	EXTRAPOLATION TO TD

Checked By: _____	Approved By: _____	Date: _____
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Total Directional
Services, LLC
USA Operations

Final MWD Survey Certification

Lea County, New Mexico

Client: Centennial Development Resources LLC

Well Name: Duck Hunt 1 State Com 301H

Total Job No: 2019-244-650

API No: 30-025-45562

Start Date: 5/9/2019

End Date: 5/19/2019

Measured Start Depth: 1,745 feet

Measured End Depth with PTB: 17,029 feet

Vertical Section from well center at TD: 7,542.01 feet

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: 5/19/2019

Signed: *Chris Meredith*



Project: LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
Site: NE SE SEC. 1 T23S R34E
Well: DUCK HUNT 1 STATE COM #301H
Wellbore: JOB # 2019-244-650
Design: FINAL SURVEYS



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1690.50	2.90	202.75	1689.87	-35.97	-6.32	0.00	0.00	35.57
1812.50	3.30	207.80	1811.69	-41.92	-9.15	0.40	36.57	41.36
2150.00	0.00	0.00	2149.00	-50.53	-13.69	0.98	180.00	49.70
3001.00	0.00	0.00	3000.00	-50.53	-13.69	0.00	0.00	49.70
3733.97	7.33	81.29	3730.98	-43.44	32.59	1.00	81.29	45.16
6367.54	7.33	81.29	6343.02	-7.46	364.70	0.00	0.00	12.56
7100.51	0.00	0.00	7074.00	14.55	410.98	1.00	180.00	8.02
9204.60	0.00	0.00	9178.09	14.55	410.98	0.00	0.00	8.02
10095.61	89.10	179.98	9750.98	-549.41	411.18	10.00	179.98	571.15
17068.35	89.10	179.98	9860.50	-7521.30	413.28	0.00	94.40	7532.64

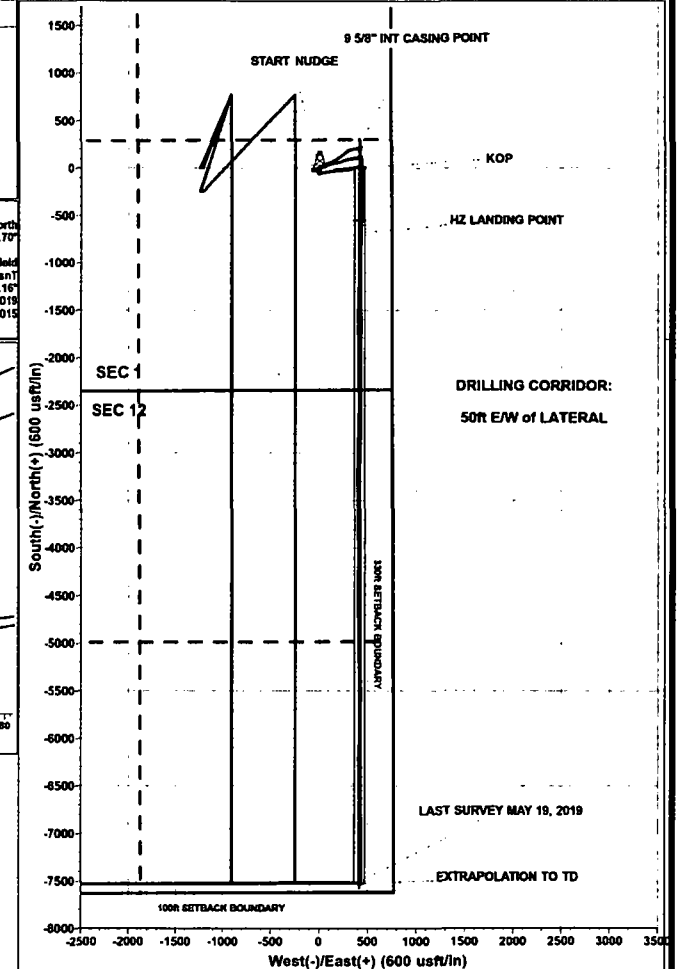
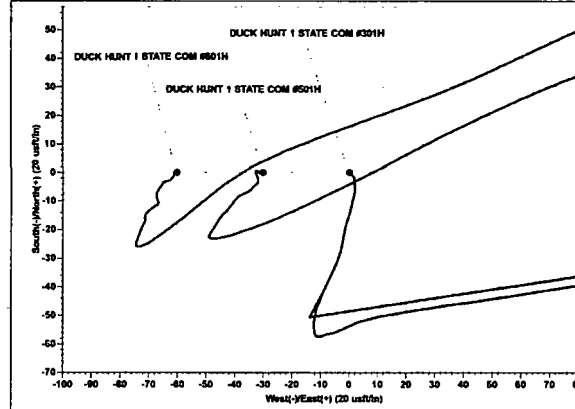
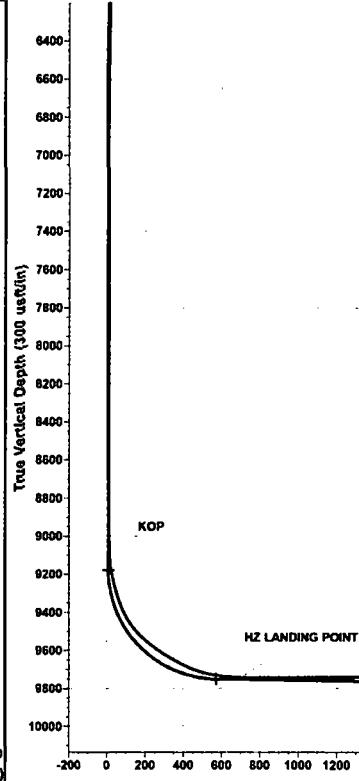
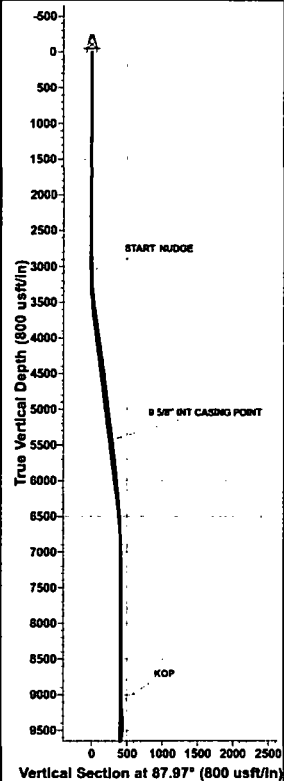
Annotation
TIE ON TO SURVEYS
PROJECTION TO TD - SURFACE
EOD TO VERTICAL
START NUDDGE (1°/100R BUR)
EOB TO 7.33° INC
END OF TANGENT
EOD TO VERTICAL
KOP (10°/100R BUR)
PP/FTP: 1780R FSL & 330R FEL of Sec 1
LTP/BHL: 100R FSL & 330R FEL of Sec 12

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP - DUCK HUNT 1 STATE COM #301H	9178.09	14.55	410.98	11740242.40	2129442.77	32.332855	-103.416287
LTP/BHL - DUCK HUNT 1 STATE COM #301H	9860.50	-7521.30	413.28	11732708.36	2129558.39	32.312142	-103.416279
PP/FTP - DUCK HUNT 1 STATE COM #301H	9750.98	-549.41	411.18	11739678.57	2129451.30	32.331305	-103.416285



Azimuths to True North
Magnetic North: 6.70°
Magnetic Field
Strength: 47833.5nT
Dip Angle: 60.16°
Date: 18/03/2019
Model: IGRF2015



LAST SURVEY MAY 19, 2019

EXTRAPOLATION TO TD