

HOBBS OCD
JUL 09 2019
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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 #501H
07 May, 2019

Survey: FINAL SURVEYS





Project: LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
Site: NE SE SEC. 1 T23S R34E
Well: DUCK HUNT 1 STATE COM #501H
Wellbore: JOB # 2019-243-650
Design: FINAL SURVEYS



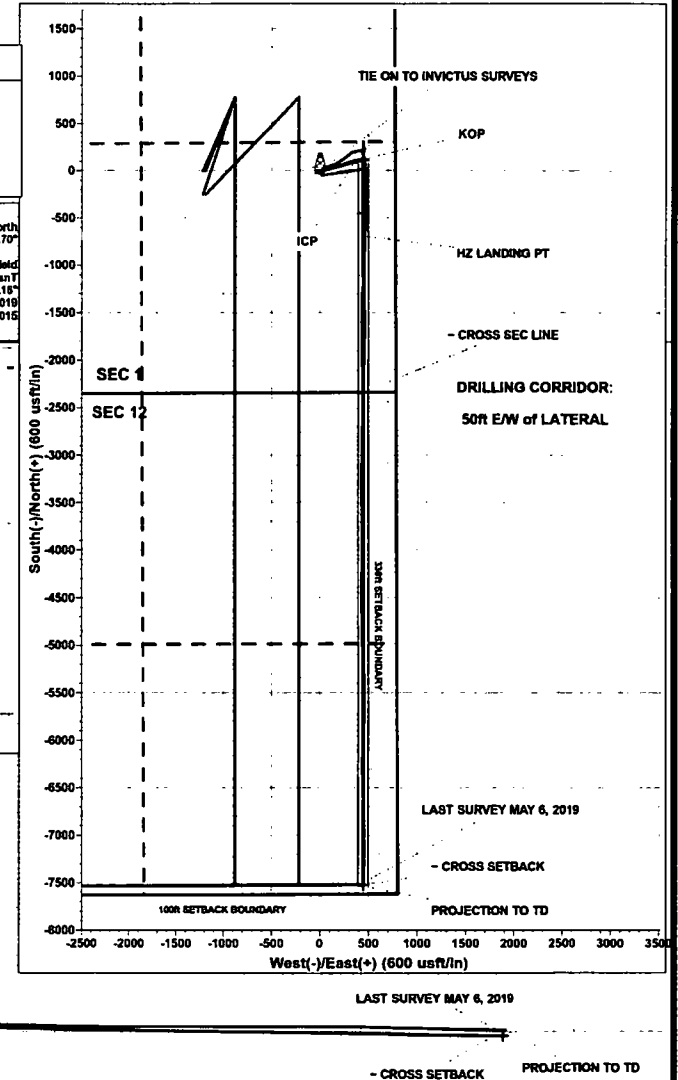
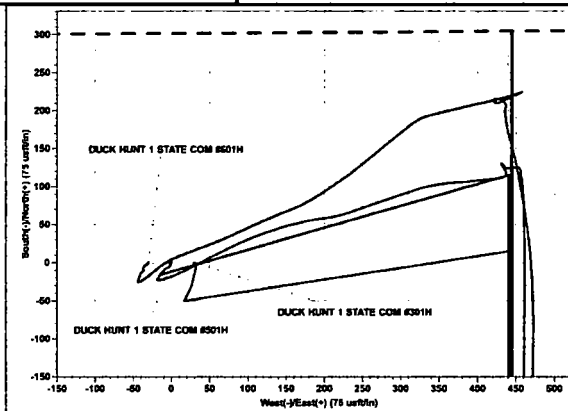
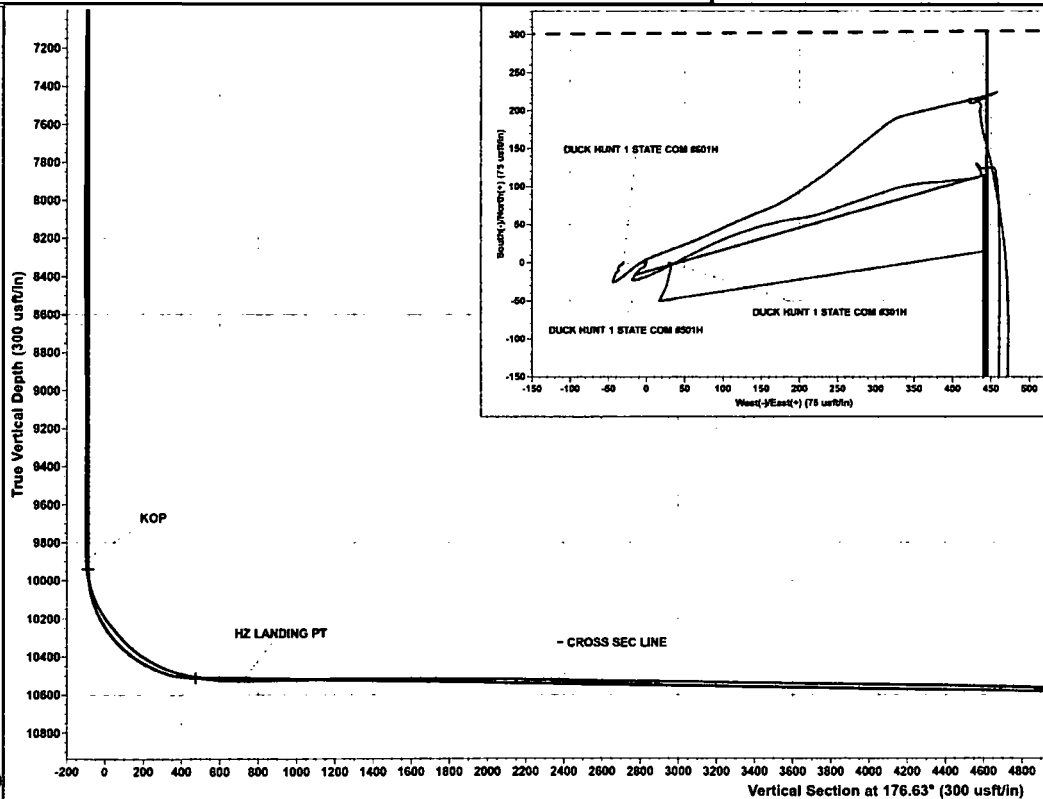
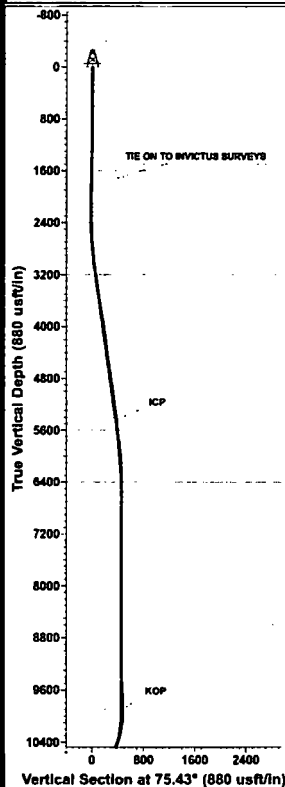
ANNOTATIONS									
TVD	MD	Inc	Azi	+N-S	+E-W	VSec	Departure	Annotation	
1829.10	1829.50	0.80	225.75	-14.28	-13.52	13.44	24.28	TIE ON TO INVICTUS SURVEYS	
5447.18	5475.50	5.29	83.17	103.75	357.54	-82.53	434.23	ICP	
8886.06	8920.00	2.11	152.86	123.84	454.95	-96.88	568.23	KOP	
10527.14	11079.00	90.25	180.03	-891.74	439.83	717.60	1382.20	HZ LANDING PT	
10522.85	12728.00	88.90	170.01	-239.73	439.55	2361.54	3031.18	- CROSS SEC LINE	
10592.22	17692.00	88.69	180.13	-7501.54	442.19	7314.58	8194.40	LAST SURVEY MAY 6, 2019	
10592.68	17912.00	88.69	180.13	-7521.54	442.19	7534.52	8214.48	- CROSS SETBACK	
10592.05	17924.00	88.69	180.13	-7533.53	442.12	7646.59	8228.48	PROJECTION TO TD	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
KOP - DUCK HUNT 1 STATE COM #501H (P2)	8938.57	114.59	440.95	11740342.37	2129441.26	32.333130	-103.416287
LTP/BHL - DUCK HUNT 1 STATE COM #501H (P2)	10622.50	-7521.25	443.28	11732708.36	2129556.39	32.312142	-103.416279
PP/FTP "NEW" - DUCK HUNT 1 STATE COM #501H (P2)	10511.47	-449.37	441.15	11739778.54	2129449.79	32.331579	-103.416288



Azimuths to True North
Magnetic North: 8.70°
Magnetic Field:
Strength: 47838.5nT
Dip Angle: 60.18°
Date: 10/03/2019
Model: IGRF2015



Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #501H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	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 #501H	North Reference:	True
Wellbore:	JOB # 2019-243-650	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 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	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 #501H					
Well Position	+N/-S	0.00 usft	Northing:	11,740,221.29 usft	Latitude:	32.332815
	+E/-W	0.00 usft	Easting:	2,129,002.11 usft	Longitude:	-103.417714
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,365.50 usft

Wellbore	JOB # 2019-243-650				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	19/03/2019	6.70	60.16	47,838

Design	FINAL SURVEYS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	176.63	

Survey Program	Date 07/05/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
26.50	17,924.00	FINAL SURVEYS (JOB # 2019-243-650)	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
139.50	0.30	210.75	139.50	3,252.50	-0.25	-0.15	0.24	0.27	0.27	0.00
226.50	0.50	286.75	226.50	3,165.50	-0.34	-0.63	0.30	0.59	0.23	87.36
311.50	0.70	298.75	311.49	3,080.51	0.02	-1.44	-0.10	0.28	0.24	14.12
398.50	0.30	328.75	398.49	2,993.51	0.47	-2.03	-0.58	0.53	-0.46	34.48
516.50	0.20	268.75	516.49	2,875.51	0.73	-2.39	-0.87	0.22	-0.08	-50.85
606.50	0.60	189.75	606.49	2,785.51	0.26	-2.63	-0.41	0.66	0.44	-87.78
697.50	0.80	150.75	697.48	2,694.52	-0.77	-2.40	0.62	0.55	0.22	-42.86
787.50	0.60	155.75	787.47	2,604.53	-1.74	-1.90	1.63	0.23	-0.22	5.56
876.50	0.70	177.75	876.47	2,515.53	-2.71	-1.69	2.61	0.30	0.11	24.72
967.50	0.60	200.75	967.46	2,424.54	-3.71	-1.83	3.60	0.30	-0.11	25.27
1,057.50	0.90	247.75	1,057.46	2,334.54	-4.42	-2.65	4.26	0.73	0.33	52.22

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #501H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	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 #501H	North Reference:	True
Wellbore:	JOB # 2019-243-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	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)
1,147.50	0.70	205.75	1,147.45	2,244.55	-5.18	-3.55	4.97	0.67	-0.22	-46.67
1,237.50	0.90	223.75	1,237.44	2,154.56	-6.19	-4.27	5.93	0.35	0.22	20.00
1,326.50	0.90	248.75	1,326.43	2,065.57	-6.95	-5.41	6.62	0.44	0.00	28.09
1,366.50	1.10	250.75	1,366.42	2,025.58	-7.19	-6.06	6.82	0.51	0.50	5.00
1,505.50	1.20	236.75	1,505.39	1,886.61	-8.43	-8.54	7.91	0.21	0.07	-10.07
1,595.50	1.50	209.75	1,595.37	1,796.63	-9.97	-9.91	9.37	0.77	0.33	-30.00
1,685.50	1.70	220.75	1,685.34	1,706.66	-12.00	-11.37	11.31	0.41	0.22	12.22
1,775.50	1.10	225.75	1,775.31	1,616.69	-13.61	-12.86	12.83	0.68	-0.67	5.56
TIE ON TO INVICTUS SURVEYS										
1,828.50	0.90	225.75	1,828.30	1,563.70	-14.26	-13.52	13.44	0.38	-0.38	0.00
1,911.00	1.21	217.18	1,910.79	1,481.21	-15.41	-14.51	14.52	0.42	0.38	-10.39
2,005.00	1.24	212.10	2,004.76	1,387.24	-17.06	-15.65	16.11	0.12	0.03	-5.40
2,099.00	1.15	207.59	2,098.74	1,293.26	-18.76	-16.63	17.74	0.14	-0.10	-4.80
2,193.00	1.06	214.83	2,192.73	1,199.27	-20.31	-17.56	19.24	0.18	-0.10	7.70
2,287.00	1.12	212.42	2,286.71	1,105.29	-21.79	-18.55	20.67	0.08	0.06	-2.56
2,382.00	0.65	139.82	2,381.70	1,010.30	-22.99	-18.70	21.85	1.17	-0.49	-76.42
2,476.00	2.41	83.95	2,475.67	916.33	-23.19	-16.39	22.18	2.25	1.87	-59.44
2,570.00	4.28	73.55	2,569.50	822.50	-21.99	-11.06	21.30	2.08	1.99	-11.06
2,664.00	4.93	69.97	2,663.20	728.80	-19.61	-3.91	19.35	0.76	0.69	-3.81
2,758.00	5.33	67.03	2,756.82	635.18	-16.52	3.91	16.72	0.51	0.43	-3.13
2,852.00	5.67	64.75	2,850.39	541.61	-12.84	12.13	13.53	0.43	0.36	-2.43
2,946.00	6.28	63.52	2,943.88	448.12	-8.57	20.93	9.78	0.66	0.65	-1.31
3,040.00	7.03	64.59	3,037.24	354.76	-3.80	30.73	5.61	0.81	0.80	1.14
3,135.00	7.20	61.80	3,131.51	260.49	1.50	41.23	0.93	0.41	0.18	-2.94
3,229.00	7.52	62.33	3,224.74	167.26	7.14	51.87	-4.08	0.35	0.34	0.56
3,323.00	8.32	62.56	3,317.84	74.16	13.13	63.35	-9.38	0.85	0.85	0.24
3,418.00	9.02	64.94	3,411.76	-19.76	19.46	76.20	-14.94	0.83	0.74	2.51
3,512.00	9.36	65.59	3,504.55	-112.55	25.74	89.83	-20.41	0.38	0.36	0.69
3,606.00	9.40	67.98	3,597.29	-205.29	31.77	103.91	-25.60	0.42	0.04	2.54
3,700.00	9.53	70.73	3,690.01	-298.01	37.22	118.37	-30.19	0.50	0.14	2.93
3,793.00	9.87	70.83	3,781.68	-389.68	42.38	133.17	-34.47	0.37	0.37	0.11
3,888.00	9.95	73.84	3,875.27	-483.27	47.33	148.74	-38.50	0.55	0.08	3.17
3,982.00	9.38	76.02	3,967.93	-575.93	51.45	163.97	-41.71	0.72	-0.61	2.32
4,076.00	8.31	78.92	4,060.81	-668.81	54.60	178.07	-44.03	1.23	-1.14	3.09
4,170.00	7.40	80.96	4,153.93	-761.93	56.86	190.72	-45.54	1.01	-0.97	2.17
4,264.00	6.81	82.70	4,247.21	-855.21	58.52	202.22	-46.52	0.67	-0.63	1.85
4,359.00	6.88	78.94	4,341.53	-949.53	60.33	213.40	-47.67	0.48	0.07	-3.96
4,453.00	7.88	73.61	4,434.75	-1,042.75	63.22	225.10	-49.87	1.29	1.06	-5.67
4,547.00	8.55	70.50	4,527.79	-1,135.79	67.37	237.87	-53.26	0.86	0.71	-3.31
4,641.00	8.80	70.19	4,620.71	-1,228.71	72.14	251.22	-57.24	0.27	0.27	-0.33
4,735.00	8.47	70.99	4,713.65	-1,321.65	76.84	264.53	-61.14	0.37	-0.35	0.85
4,829.00	8.53	71.20	4,806.62	-1,414.62	81.34	277.68	-64.86	0.07	0.06	0.22
4,923.00	8.35	70.77	4,899.60	-1,507.60	85.83	290.72	-68.58	0.20	-0.19	-0.46
5,017.00	8.25	71.48	4,992.61	-1,600.61	90.22	303.56	-72.21	0.15	-0.11	0.76
5,111.00	7.77	72.30	5,085.70	-1,693.70	94.30	316.01	-75.54	0.52	-0.51	0.87
5,205.00	7.36	74.09	5,178.88	-1,786.88	97.88	327.85	-78.42	0.50	-0.44	1.90
5,299.00	6.66	77.73	5,272.17	-1,880.17	100.69	338.97	-80.57	0.88	-0.74	3.87
5,393.00	6.04	81.32	5,365.60	-1,973.60	102.59	349.19	-81.87	0.78	-0.66	3.82
5,412.00	5.89	81.49	5,384.49	-1,992.49	102.89	351.14	-82.05	0.79	-0.79	0.89
ICP										
5,475.00	5.89	83.17	5,447.16	-2,055.16	103.75	357.54	-82.53	0.27	-0.01	2.67
5,558.00	5.89	85.39	5,529.72	-2,137.72	104.60	366.01	-82.88	0.27	0.00	2.67
5,652.00	5.91	86.16	5,623.23	-2,231.23	105.31	375.65	-83.03	0.09	0.02	0.82

Survey Report



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Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	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 #501H	North Reference:	True
Wellbore:	JOB # 2019-243-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	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)
5,746.00	5.71	84.06	5,716.74	-2,324.74	106.12	385.13	-83.27	0.31	-0.21	-2.23
5,840.00	5.49	83.56	5,810.29	-2,418.29	107.11	394.25	-83.72	0.24	-0.23	-0.53
5,934.00	5.27	85.48	5,903.88	-2,511.88	107.95	403.02	-84.05	0.30	-0.23	2.04
6,028.00	5.11	83.48	5,997.50	-2,605.50	108.77	411.48	-84.37	0.26	-0.17	-2.13
6,122.00	5.10	84.55	6,091.12	-2,699.12	109.64	419.80	-84.75	0.10	-0.01	1.14
6,216.00	4.15	80.08	6,184.82	-2,792.82	110.62	427.31	-85.29	1.08	-1.01	-4.76
6,311.00	3.12	72.24	6,279.62	-2,887.62	112.00	433.16	-86.32	1.20	-1.08	-8.25
6,405.00	1.39	51.83	6,373.55	-2,981.55	113.49	436.49	-87.61	2.00	-1.84	-21.71
6,499.00	0.50	12.07	6,467.54	-3,075.54	114.59	437.48	-88.65	1.12	-0.95	-42.30
6,594.00	0.42	349.31	6,562.53	-3,170.53	115.34	437.50	-89.40	0.21	-0.08	-23.96
6,687.00	0.66	331.54	6,655.53	-3,263.53	116.15	437.18	-90.22	0.31	0.26	-19.11
6,782.00	0.67	3.87	6,750.52	-3,358.52	117.18	436.96	-91.27	0.39	0.01	34.03
6,876.00	0.76	345.60	6,844.52	-3,452.52	118.33	436.84	-92.43	0.26	0.10	-19.44
6,970.00	0.51	358.56	6,938.51	-3,546.51	119.36	436.67	-93.46	0.31	-0.27	13.79
7,065.00	0.74	344.58	7,033.50	-3,641.50	120.37	436.50	-94.48	0.29	0.24	-14.72
7,159.00	0.63	334.92	7,127.50	-3,735.50	121.42	436.12	-95.55	0.17	-0.12	-10.28
7,253.00	0.61	345.26	7,221.49	-3,829.49	122.37	435.77	-96.52	0.12	-0.02	11.00
7,347.00	0.33	349.79	7,315.49	-3,923.49	123.12	435.60	-97.28	0.30	-0.30	4.82
7,442.00	0.61	14.70	7,410.49	-4,018.49	123.88	435.68	-98.04	0.36	0.29	26.22
7,536.00	0.49	340.65	7,504.48	-4,112.48	124.75	435.67	-98.90	0.36	-0.13	-36.22
7,631.00	0.28	339.05	7,599.48	-4,207.48	125.35	435.45	-99.51	0.22	-0.22	-1.68
7,725.00	0.58	344.13	7,693.48	-4,301.48	126.02	435.24	-100.19	0.32	0.32	5.40
7,820.00	0.64	318.56	7,788.47	-4,396.47	126.88	434.76	-101.08	0.29	0.06	-26.92
7,914.00	0.58	324.61	7,882.47	-4,490.47	127.66	434.13	-101.90	0.09	-0.06	6.44
8,008.00	0.51	304.91	7,976.46	-4,584.46	128.29	433.52	-102.56	0.21	-0.07	-20.96
8,102.00	0.85	308.74	8,070.45	-4,678.45	128.96	432.63	-103.29	0.36	0.36	4.07
8,196.00	0.83	312.97	8,164.44	-4,772.44	129.86	431.59	-104.25	0.07	-0.02	4.50
8,290.00	0.56	308.00	8,258.44	-4,866.44	130.61	430.73	-105.04	0.29	-0.29	-5.29
8,384.00	0.82	153.09	8,352.44	-4,960.44	130.29	430.67	-104.73	1.43	0.28	-164.80
8,478.00	1.27	153.80	8,446.42	-5,054.42	128.76	431.43	-103.15	0.48	0.48	0.76
8,572.00	1.05	157.31	8,540.40	-5,148.40	127.03	432.23	-101.38	0.25	-0.23	3.73
8,667.00	0.74	142.91	8,635.39	-5,243.39	125.74	432.93	-100.05	0.40	-0.33	-15.16
8,761.00	0.49	143.57	8,729.38	-5,337.38	124.93	433.54	-99.21	0.27	-0.27	0.70
8,855.00	0.68	154.34	8,823.38	-5,431.38	124.10	434.02	-98.35	0.23	0.20	11.46
8,949.00	0.56	170.92	8,917.37	-5,525.37	123.15	434.33	-97.38	0.23	-0.13	17.64
9,043.00	0.49	159.07	9,011.37	-5,619.37	122.32	434.55	-96.54	0.14	-0.07	-12.61
9,137.00	0.25	36.60	9,105.37	-5,713.37	122.11	434.81	-96.31	0.70	-0.26	-130.29
9,231.00	0.75	54.41	9,199.36	-5,807.36	122.63	435.43	-96.80	0.55	0.53	18.95
9,325.00	2.03	80.83	9,293.33	-5,901.33	123.25	437.58	-97.29	1.49	1.36	28.11
9,419.00	2.10	80.84	9,387.27	-5,995.27	123.79	440.92	-97.64	0.07	0.07	0.01
9,513.00	1.94	80.65	9,481.22	-6,089.22	124.33	444.19	-97.98	0.17	-0.17	-0.20
9,607.00	1.63	89.68	9,575.17	-6,183.17	124.59	447.10	-98.07	0.44	-0.33	9.61
9,701.00	1.40	90.97	9,669.14	-6,277.14	124.58	449.58	-97.91	0.25	-0.24	1.37
9,795.00	1.65	81.23	9,763.10	-6,371.10	124.77	452.07	-97.95	0.38	0.27	-10.36
9,857.00	1.34	91.07	9,825.08	-6,433.08	124.89	453.68	-97.98	0.65	-0.50	15.87
KOP										
9,920.00	2.11	152.66	9,888.06	-6,496.06	123.84	454.95	-96.86	3.00	1.23	97.76
9,937.00	2.53	159.88	9,905.04	-6,513.04	123.21	455.22	-96.22	3.00	2.46	42.50
9,984.00	6.00	172.40	9,951.91	-6,559.91	119.80	455.90	-92.77	7.60	7.38	26.64
10,032.00	11.88	172.37	9,999.30	-6,607.30	112.41	456.89	-85.34	12.25	12.25	-0.06
10,079.00	16.25	173.69	10,044.88	-6,652.88	101.08	458.26	-73.94	9.32	9.30	2.81
10,126.00	22.07	175.93	10,089.26	-6,697.26	85.72	459.61	-58.53	12.48	12.38	4.77
10,173.00	26.98	178.44	10,132.01	-6,740.01	66.24	460.52	-39.03	10.68	10.45	5.34

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #501H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	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 #501H	North Reference:	True
Wellbore:	JOB # 2019-243-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	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)
10,220.00	32.54	178.89	10,172.79	-6,780.79	42.93	461.06	-15.73	11.84	11.83	0.96
10,267.00	36.83	179.39	10,211.43	-6,819.43	16.19	461.46	10.99	9.15	9.13	1.06
10,314.00	38.75	179.94	10,248.57	-6,856.57	-12.61	461.62	39.74	4.15	4.09	1.17
10,361.00	40.81	181.12	10,284.69	-6,892.69	-42.68	461.34	69.74	4.67	4.38	2.51
10,408.00	43.75	180.04	10,319.46	-6,927.46	-74.29	461.02	101.28	6.44	6.26	-2.30
10,455.00	47.81	179.94	10,352.23	-6,960.23	-107.96	461.03	134.90	8.64	8.64	-0.21
10,502.00	52.79	181.24	10,382.25	-6,990.25	-144.11	460.64	170.96	10.81	10.60	2.77
10,549.00	57.27	182.21	10,409.18	-7,017.18	-182.60	459.48	209.31	9.68	9.53	2.06
10,596.00	61.30	181.53	10,433.18	-7,041.18	-222.97	458.16	249.54	8.66	8.57	-1.45
10,643.00	65.94	181.03	10,454.06	-7,062.06	-265.06	457.23	291.50	9.92	9.87	-1.06
10,690.00	70.10	180.55	10,471.65	-7,079.65	-308.63	456.63	334.96	8.90	8.85	-1.02
10,736.00	74.44	180.48	10,485.65	-7,093.65	-352.43	456.23	378.66	9.44	9.43	-0.15
10,784.00	76.80	179.83	10,497.57	-7,105.57	-398.92	456.11	425.07	5.09	4.92	-1.35
10,828.00	80.18	178.04	10,506.35	-7,114.35	-442.02	456.92	468.14	8.65	7.68	-4.07
10,875.00	81.48	177.37	10,513.84	-7,121.84	-488.38	458.77	514.53	3.10	2.77	-1.43
10,922.00	83.98	179.05	10,519.79	-7,127.79	-534.98	460.23	561.13	6.39	5.32	3.57
10,969.00	86.95	180.43	10,523.50	-7,131.50	-581.82	460.44	607.91	6.96	6.32	2.94
11,016.00	87.37	179.90	10,525.83	-7,133.83	-628.77	460.30	654.76	1.44	0.89	-1.13
HZ LANDING PT										
11,079.00	90.25	180.93	10,527.14	-7,135.14	-691.74	459.85	717.60	4.85	4.57	1.63
11,111.00	90.90	181.03	10,526.82	-7,134.82	-723.74	459.30	749.51	2.06	2.03	0.31
11,159.00	91.19	181.46	10,525.94	-7,133.94	-771.72	458.26	797.34	1.08	0.60	0.90
11,205.00	91.42	181.14	10,524.90	-7,132.90	-817.69	457.21	843.18	0.86	0.50	-0.70
11,232.00	90.96	181.26	10,524.34	-7,132.34	-844.68	456.65	870.09	1.76	-1.70	0.44
11,326.00	90.64	181.90	10,523.02	-7,131.02	-938.64	454.06	963.72	0.76	-0.34	0.68
11,420.00	90.67	182.95	10,521.95	-7,129.95	-1,032.54	450.08	1,057.24	1.12	0.03	1.12
11,514.00	90.67	182.94	10,520.85	-7,128.85	-1,126.41	445.25	1,150.66	0.01	0.00	-0.01
11,608.00	90.63	183.45	10,519.78	-7,127.78	-1,220.26	440.01	1,244.04	0.54	-0.04	0.54
11,702.00	90.38	184.02	10,518.96	-7,126.96	-1,314.06	433.89	1,337.31	0.66	-0.27	0.61
11,796.00	90.01	181.69	10,518.64	-7,126.64	-1,407.93	429.21	1,430.75	2.51	-0.39	-2.48
11,890.00	90.10	180.85	10,518.54	-7,126.54	-1,501.91	427.13	1,524.44	0.90	0.10	-0.89
11,984.00	90.11	179.87	10,518.37	-7,126.37	-1,595.91	426.53	1,618.24	1.04	0.01	-1.04
12,078.00	90.13	179.05	10,518.18	-7,126.18	-1,689.90	427.42	1,712.12	0.87	0.02	-0.87
12,172.00	90.26	178.30	10,517.86	-7,125.86	-1,783.87	429.59	1,806.06	0.81	0.14	-0.80
12,267.00	89.72	178.39	10,517.87	-7,125.87	-1,878.83	432.34	1,901.02	0.58	-0.57	0.09
12,361.00	89.23	179.04	10,518.73	-7,126.73	-1,972.81	434.45	1,994.95	0.87	-0.52	0.69
12,455.00	89.33	178.91	10,519.91	-7,127.91	-2,066.78	436.13	2,088.86	0.17	0.11	-0.14
12,549.00	88.95	178.80	10,521.33	-7,129.33	-2,160.75	438.01	2,182.78	0.42	-0.40	-0.12
12,643.00	90.10	180.11	10,522.11	-7,130.11	-2,254.74	438.90	2,276.66	1.85	1.22	1.39
- CROSS SEC LINE										
12,728.00	88.90	179.01	10,522.85	-7,130.85	-2,339.73	439.55	2,361.54	1.92	-1.41	-1.30
12,737.00	88.77	178.89	10,523.03	-7,131.03	-2,348.73	439.72	2,370.53	1.92	-1.41	-1.30
12,831.00	88.74	178.50	10,525.07	-7,133.07	-2,442.68	441.86	2,464.45	0.42	-0.03	-0.41
12,925.00	88.61	178.20	10,527.25	-7,135.25	-2,536.62	444.57	2,558.38	0.35	-0.14	-0.32
13,020.00	89.27	178.22	10,529.01	-7,137.01	-2,631.56	447.53	2,653.33	0.70	0.69	0.02
13,114.00	89.20	179.77	10,530.26	-7,138.26	-2,725.53	449.18	2,747.24	1.65	-0.07	1.65
13,207.00	89.30	180.23	10,531.48	-7,139.48	-2,818.52	449.18	2,840.07	0.51	0.11	0.49
13,302.00	89.33	180.76	10,532.61	-7,140.61	-2,913.51	448.36	2,934.84	0.56	0.03	0.56
13,396.00	89.21	180.49	10,533.81	-7,141.81	-3,007.50	447.34	3,028.61	0.31	-0.13	-0.29
13,490.00	89.12	180.44	10,535.18	-7,143.18	-3,101.49	446.57	3,122.39	0.11	-0.10	-0.05
13,584.00	89.09	180.68	10,536.65	-7,144.65	-3,195.47	445.65	3,216.15	0.26	-0.03	0.26
13,678.00	89.51	181.66	10,537.80	-7,145.80	-3,289.44	443.73	3,309.85	1.13	0.45	1.04
13,772.00	89.08	181.23	10,538.95	-7,146.95	-3,383.40	441.36	3,403.51	0.65	-0.46	-0.46

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #501H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	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 #501H	North Reference:	True
Wellbore:	JOB # 2019-243-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	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)
13,867.00	89.02	181.15	10,540.53	-7,148.53	-3,478.37	439.39	3,498.20	0.11	-0.06	-0.08
13,961.00	89.09	181.27	10,542.08	-7,150.08	-3,572.34	437.41	3,591.88	0.15	0.07	0.13
14,055.00	89.23	181.48	10,543.46	-7,151.46	-3,666.30	435.15	3,685.55	0.27	0.15	0.22
14,149.00	89.23	181.19	10,544.72	-7,152.72	-3,760.27	432.96	3,779.23	0.31	0.00	-0.31
14,243.00	89.23	181.01	10,545.98	-7,153.98	-3,854.24	431.16	3,872.93	0.19	0.00	-0.19
14,337.00	89.20	179.73	10,547.27	-7,155.27	-3,948.23	430.55	3,966.72	1.36	-0.03	-1.36
14,431.00	89.34	180.37	10,548.47	-7,156.47	-4,042.22	430.47	4,060.54	0.70	0.15	0.68
14,525.00	89.34	180.96	10,549.55	-7,157.55	-4,136.21	429.38	4,154.30	0.63	0.00	0.63
14,619.00	89.24	181.11	10,550.72	-7,158.72	-4,230.18	427.68	4,248.02	0.19	-0.11	0.16
14,713.00	89.23	180.88	10,551.97	-7,159.97	-4,324.16	426.05	4,341.74	0.24	-0.01	-0.24
14,807.00	88.53	180.61	10,553.81	-7,161.81	-4,418.13	424.83	4,435.48	0.80	-0.74	-0.29
14,901.00	88.76	178.77	10,556.03	-7,164.03	-4,512.10	425.33	4,529.31	1.97	0.24	-1.96
14,995.00	88.66	178.85	10,558.15	-7,166.15	-4,606.06	427.29	4,623.22	0.14	-0.11	0.09
15,089.00	88.77	178.52	10,560.26	-7,168.26	-4,700.01	429.44	4,717.13	0.37	0.12	-0.35
15,183.00	88.71	177.89	10,562.32	-7,170.32	-4,793.94	432.39	4,811.08	0.67	-0.06	-0.67
15,277.00	88.86	178.42	10,564.32	-7,172.32	-4,887.87	435.41	4,905.02	0.59	0.16	0.56
15,371.00	88.70	178.37	10,566.32	-7,174.32	-4,981.81	438.04	4,998.95	0.18	-0.17	-0.05
15,465.00	88.71	178.27	10,568.44	-7,176.44	-5,075.75	440.80	5,092.89	0.11	0.01	-0.11
15,559.00	88.69	177.72	10,570.58	-7,178.58	-5,169.67	444.09	5,186.84	0.59	-0.02	-0.59
15,654.00	88.95	177.36	10,572.53	-7,180.53	-5,264.56	448.16	5,281.81	0.47	0.27	-0.38
15,748.00	89.04	177.24	10,574.18	-7,182.18	-5,358.44	452.59	5,375.78	0.16	0.10	-0.13
15,842.00	89.26	178.49	10,575.58	-7,183.58	-5,452.36	456.09	5,469.75	1.35	0.23	1.33
15,936.00	89.94	180.25	10,576.23	-7,184.23	-5,546.35	457.13	5,563.64	2.01	0.72	1.87
16,030.00	90.28	181.27	10,576.05	-7,184.05	-5,640.34	455.88	5,657.39	1.14	0.36	1.09
16,124.00	90.35	181.59	10,575.53	-7,183.53	-5,734.31	453.53	5,751.06	0.35	0.07	0.34
16,218.00	90.21	182.61	10,575.08	-7,183.08	-5,828.24	450.09	5,844.63	1.10	-0.15	1.09
16,312.00	89.72	181.43	10,575.13	-7,183.13	-5,922.18	446.78	5,938.21	1.36	-0.52	-1.26
16,406.00	90.44	181.98	10,575.00	-7,183.00	-6,016.14	443.98	6,031.84	0.96	0.77	0.59
16,500.00	90.18	183.25	10,574.49	-7,182.49	-6,110.04	439.69	6,125.32	1.38	-0.28	1.35
16,594.00	90.07	181.40	10,574.29	-7,182.29	-6,203.96	435.88	6,218.85	1.97	-0.12	-1.97
16,688.00	90.26	178.92	10,574.02	-7,182.02	-6,297.95	435.61	6,312.67	2.65	0.20	-2.64
16,782.00	90.20	178.05	10,573.64	-7,181.64	-6,391.91	438.10	6,406.62	0.93	-0.06	-0.93
16,877.00	90.14	177.81	10,573.36	-7,181.36	-6,486.85	441.53	6,501.59	0.26	-0.06	-0.25
16,971.00	89.41	178.06	10,573.73	-7,181.73	-6,580.79	444.92	6,595.57	0.82	-0.78	0.27
17,065.00	89.04	179.31	10,575.00	-7,183.00	-6,674.75	447.08	6,689.50	1.39	-0.39	1.33
17,159.00	89.26	180.25	10,576.39	-7,184.39	-6,768.74	447.44	6,783.34	1.03	0.23	1.00
17,253.00	88.77	180.77	10,578.01	-7,186.01	-6,862.72	446.60	6,877.11	0.76	-0.52	0.55
17,347.00	88.80	180.94	10,580.00	-7,188.00	-6,956.69	445.20	6,970.83	0.18	0.03	0.18
17,441.00	88.69	180.36	10,582.06	-7,190.06	-7,050.66	444.13	7,064.58	0.63	-0.12	-0.62
17,535.00	88.57	180.10	10,584.31	-7,192.31	-7,144.64	443.75	7,158.37	0.30	-0.13	-0.28
17,629.00	88.74	180.53	10,586.51	-7,194.51	-7,238.61	443.24	7,252.15	0.49	0.18	0.46
17,723.00	88.78	180.32	10,588.55	-7,196.55	-7,332.58	442.54	7,345.92	0.23	0.04	-0.22
17,818.00	88.77	180.00	10,590.58	-7,198.58	-7,427.56	442.27	7,440.72	0.34	-0.01	-0.34
LAST SURVEY MAY 6, 2019										
17,892.00	88.69	180.13	10,592.22	-7,200.22	-7,501.54	442.19	7,514.56	0.21	-0.11	0.18
~ CROSS SETBACK										
17,912.00	88.69	180.13	10,592.68	-7,200.68	-7,521.54	442.15	7,534.52	0.00	0.00	0.00
PROJECTION TO TD										
17,924.00	88.69	180.13	10,592.95	-7,200.95	-7,533.53	442.12	7,546.50	0.00	0.00	0.00

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well DUCK HUNT 1 STATE COM #501H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	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 #501H	North Reference:	True
Wellbore:	JOB # 2019-243-650	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
KOP - DUCK HUNT 1 S - survey misses target center by 16.12usft at 9970.86usft MD (9938.83 TVD, 121.05 N, 455.72 E) - Point	0.00	0.00	9,938.57	114.59	440.95	11,740,342.37	2,129,441.26	32.333130	-103.416287
PP/FTP *NEW* - DUCK - survey misses target center by 16.48usft at 10835.44usft MD (10507.61 TVD, -449.35 N, 457.17 E) - Point	0.00	0.00	10,511.47	-449.37	441.15	11,739,778.54	2,129,449.79	32.331579	-103.416286
KOP - DUCK HUNT 1 S - survey misses target center by 48.91usft at 9908.94usft MD (9877.00 TVD, 124.17 N, 454.75 E) - Point	0.00	0.00	9,876.50	77.25	440.96	11,740,305.04	2,129,441.82	32.333027	-103.416287
LTP/BHL - DUCK HUNT - survey misses target center by 29.85usft at 17912.00usft MD (10592.68 TVD, -7521.54 N, 442.15 E) - Point	0.00	0.00	10,622.50	-7,521.25	443.28	11,732,708.36	2,129,556.39	32.312142	-103.416279
LTP/BHL - DUCK HUNT - survey misses target center by 29.85usft at 17912.00usft MD (10592.68 TVD, -7521.54 N, 442.15 E) - Point	0.00	0.00	10,622.50	-7,521.25	443.28	11,732,708.36	2,129,556.39	32.312142	-103.416279
PP/FTP - DUCK HUNT - survey misses target center by 20.87usft at 10935.73usft MD (10521.12 TVD, -548.64 N, 460.41 E) - Point	0.00	0.00	10,513.04	-549.37	441.18	11,739,678.57	2,129,451.30	32.331305	-103.416286

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,828.50	1,828.30	-14.26	-13.52	TIE ON TO INVICTUS SURVEYS
5,475.00	5,447.16	103.75	357.54	ICP
9,920.00	9,888.06	123.84	454.95	KOP
11,079.00	10,527.14	-691.74	459.85	HZ LANDING PT
12,728.00	10,522.85	-2,339.73	439.55	~ CROSS SEC LINE
17,892.00	10,592.22	-7,501.54	442.19	LAST SURVEY MAY 6, 2019
17,912.00	10,592.68	-7,521.54	442.15	~ CROSS SETBACK
17,924.00	10,592.95	-7,533.53	442.12	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____