

HOBBS OCD
OCT 04 2019
RECEIVED

**CENTENNIAL RESOURCE
DEVELOPMENT, LLC**

LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
SE SW SEC. 3 T21S R34E N.M.P.H
ASADERO 3 STATE COM 503H
08 July, 2019

Survey: FINAL SURVEYS





Project: LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
 Site: SE SW SEC. 3 T21S R34E N.M.P.H
 Well: ASADERO 3 STATE COM 503H
 Wellbore: JOB # 2019-395-650
 Design: FINAL SURVEYS



ANNOTATIONS

TYD	MD	Inc	Azi	+N-S	+E-W	VSec	Departure	Annotation
1784.82	1788.00	4.80	227.25	-18.32	8.39	-18.68	53.09	SURFACE CASING
5865.14	6837.00	7.30	87.57	-191.29	353.55	-18.88	420.53	ICP
10033.07	10069.00	1.57	134.21	-157.38	915.49	-124.19	844.23	KOP
10703.23	11302.00	92.73	255.81	842.62	470.13	971.49	1354.18	HZ LANDING
10688.33	18157.00	90.53	0.79	7448.07	455.94	7458.87	8258.79	LAST SURVEY JULY 8, 2019
10688.31	18130.00	94.03	0.79	7448.07	455.94	7458.87	8258.79	- CROSS SETBACK
10688.31	18140.00	95.03	0.79	7478.07	465.90	7492.53	8291.79	PROJECTION TO TD

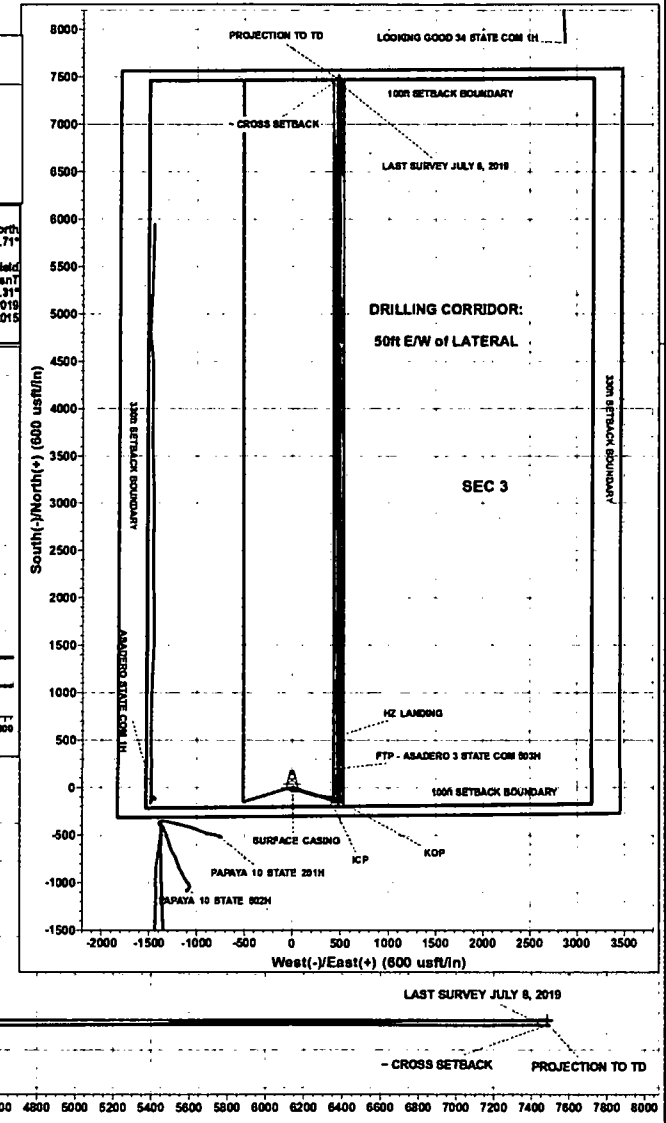
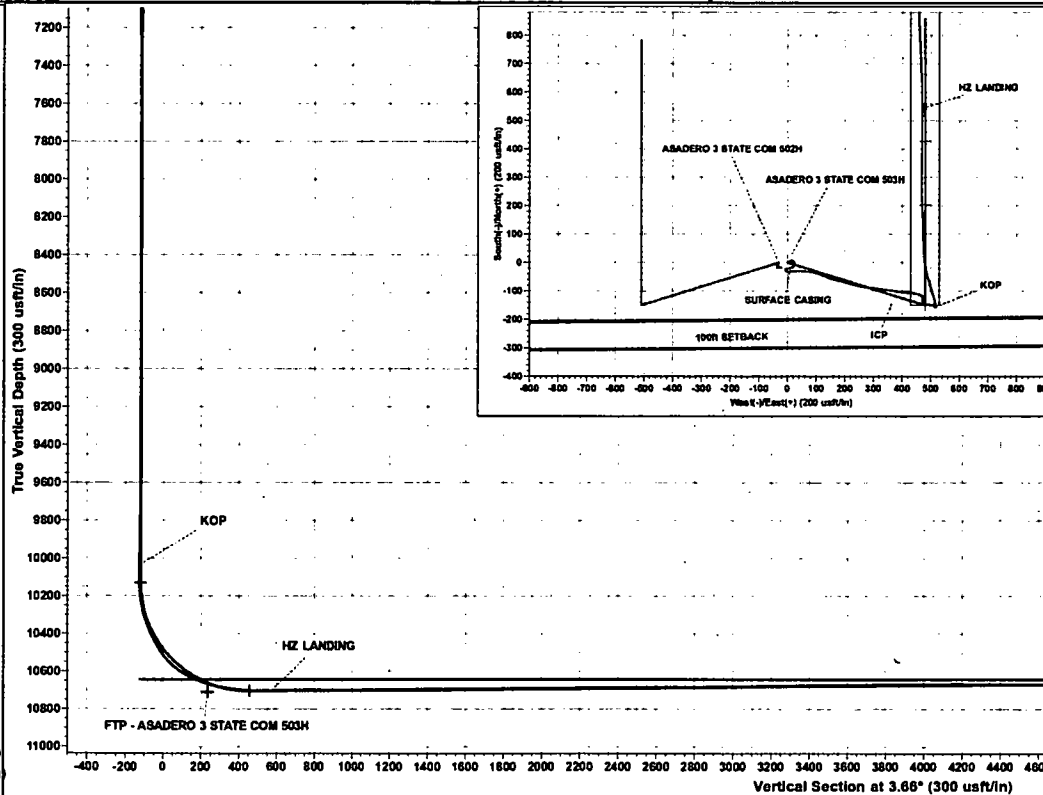
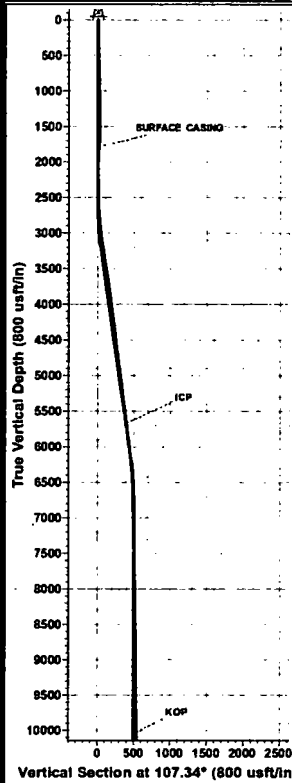
WELLBORE TARGET DETAILS (LAT/LONG)

Name
 FTP - ASADERO 3 STATE COM 503H
 HZ LP - ASADERO 3 STATE COM 503H
 KOP - ASADERO 3 STATE COM 503H
 LTPDHL - ASADERO 3 STATE COM 503H

TYD	+N-S	+E-W	Northing	Eastings	Latitude	Longitude
10707.80	292.68	450.08	11801611.78	2115410.91	32.822191	-102.438849
10703.49	437.86	480.08	11801837.00	2115407.58	32.822721	-102.438849
10730.55	-130.20	480.25	11801235.18	2115418.20	32.801132	-102.438849
10842.00	7487.82	477.14	11808878.08	2115393.04	32.822070	-102.438849



Azimuths to True North
 Magnetic North: 8.71°
 Magnetic Field
 Strength: 47003.8nT
 Dip Angle: 60.31°
 Date: 04/09/2019
 Model: IGRF2015



Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well ASADERO 3 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Site:	SE SW SEC. 3 T21S R34E N.M.P.H	MD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Well:	ASADERO 3 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-395-650	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 SE SW SEC. 3 T21S R34E N.M.P.H

Site Position:		Northing:	11,801,402.21 usft	Latitude:	32.501544
From:	Map	Easting:	2,114,933.87 usft	Longitude:	-103.460406
Position Uncertainty:	0.00 usft	Slot Radius:	1.10 ft	Grid Convergence:	0.83 °

Well ASADERO 3 STATE COM 503H

Well Position	+N/-S	0.00 usft	Northing:	11,801,402.21 usft	Latitude:	32.501544
	+E/-W	0.00 usft	Easting:	2,114,933.87 usft	Longitude:	-103.460406
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,692.00 usft

Wellbore JOB # 2019-395-650

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/06/2019	6.71	60.31	47,910

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	3.66

Survey Program Date 08/07/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
159.00	18,140.00	FINAL SURVEYS (JOB # 2019-395-650)	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	3,718.50	0.00	0.00	0.00	0.00	0.00	0.00
159.00	0.80	63.30	158.99	3,559.51	0.50	0.99	0.56	0.50	0.50	0.00
251.00	0.80	82.30	250.99	3,467.51	0.87	2.20	1.01	0.29	0.00	20.65
342.00	1.30	71.80	341.97	3,376.53	1.28	3.81	1.52	0.59	0.55	-11.54
434.00	1.70	55.20	433.94	3,284.56	2.39	5.92	2.76	0.64	0.43	-18.04
518.00	2.50	65.10	517.88	3,200.62	3.87	8.61	4.41	1.04	0.95	11.79
610.00	2.50	59.80	609.79	3,108.71	5.72	12.16	6.49	0.25	0.00	-5.76
701.00	1.20	69.80	700.75	3,017.75	7.05	14.77	7.98	1.47	-1.43	10.99
793.00	0.80	132.80	792.73	2,925.77	6.95	16.15	7.96	1.19	-0.43	68.48
884.00	1.40	116.70	883.72	2,834.78	6.01	17.61	7.13	0.74	0.66	-17.69
975.00	1.40	116.60	974.69	2,743.81	5.02	19.59	6.26	0.00	0.00	-0.11
1,067.00	1.10	160.30	1,066.67	2,651.83	3.68	20.90	5.01	1.06	-0.33	47.50
1,158.00	1.40	160.20	1,157.65	2,560.85	1.81	21.57	3.19	0.33	0.33	-0.11

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well ASADERO 3 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Site:	SE SW SEC. 3 T21S R34E N.M.P.H	MD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Well:	ASADERO 3 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-395-650	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)
1,250.00	2.10	164.20	1,249.60	2,468.90	-0.86	22.41	0.57	0.77	0.76	4.35
1,341.00	3.00	167.70	1,340.51	2,377.99	-4.80	23.37	-3.30	1.00	0.99	3.85
1,432.00	2.10	193.00	1,431.43	2,287.07	-8.75	23.50	-7.23	1.56	-0.99	27.80
1,524.00	3.10	214.50	1,523.33	2,195.17	-12.44	21.71	-11.03	1.50	1.09	23.37
1,616.00	2.70	236.50	1,615.22	2,103.28	-15.69	18.50	-14.47	1.28	-0.43	23.91
1,708.00	3.10	247.70	1,707.10	2,011.40	-17.83	14.39	-16.87	0.75	0.43	12.17
SURFACE CASING										
1,786.00	4.60	257.20	1,784.92	1,933.58	-19.32	9.39	-18.68	2.08	1.92	12.18
1,910.00	5.97	254.97	1,908.39	1,810.11	-22.09	-1.69	-22.16	1.12	1.10	-1.80
2,005.00	1.81	243.81	2,003.15	1,715.35	-24.04	-7.81	-24.49	4.43	-4.38	-11.75
2,099.00	1.01	153.36	2,097.13	1,621.37	-25.43	-8.77	-25.94	2.21	-0.85	-96.22
2,192.00	1.08	156.80	2,190.12	1,528.38	-26.97	-8.06	-27.43	0.10	0.08	3.70
2,286.00	1.30	148.01	2,284.10	1,434.40	-28.69	-7.14	-29.09	0.30	0.23	-9.35
2,380.00	1.05	149.59	2,378.08	1,340.42	-30.34	-6.14	-30.67	0.27	-0.27	1.68
2,474.00	1.37	113.20	2,472.06	1,246.44	-31.52	-4.68	-31.76	0.87	0.34	-38.71
2,569.00	1.95	88.61	2,567.02	1,151.48	-31.93	-2.02	-31.99	0.95	0.61	-25.88
2,663.00	3.67	81.40	2,660.90	1,057.60	-31.44	2.56	-31.22	1.86	1.83	-7.67
2,757.00	5.16	87.48	2,754.62	963.88	-30.81	9.76	-30.12	1.66	1.59	6.47
2,851.00	5.33	90.27	2,848.23	870.27	-30.64	18.35	-29.41	0.33	0.18	2.97
2,945.00	6.01	86.79	2,941.77	776.73	-30.39	27.62	-28.56	0.81	0.72	-3.70
3,039.00	7.53	89.28	3,035.11	683.39	-30.03	38.70	-27.50	1.65	1.62	2.65
3,133.00	8.65	93.17	3,128.17	590.33	-30.35	51.91	-26.97	1.33	1.19	4.14
3,227.00	8.46	93.38	3,221.13	497.37	-31.15	65.87	-26.88	0.20	-0.20	0.22
3,321.00	8.58	96.33	3,314.09	404.41	-32.33	79.75	-27.18	0.48	0.13	3.14
3,415.00	9.25	104.83	3,406.96	311.54	-35.03	94.02	-28.97	1.57	0.71	9.04
3,509.00	9.91	108.36	3,499.65	218.85	-39.51	109.00	-32.48	0.94	0.70	3.76
3,603.00	9.18	111.42	3,592.35	126.15	-44.80	123.66	-36.83	0.95	-0.78	3.26
3,697.00	8.58	114.09	3,685.22	33.28	-50.40	137.04	-41.56	0.77	-0.64	2.84
3,791.00	7.57	110.90	3,778.29	-59.79	-55.47	149.23	-45.84	1.18	-1.07	-3.39
3,885.00	6.94	107.12	3,871.53	-153.03	-59.35	160.44	-49.00	0.84	-0.67	-4.02
3,979.00	7.10	103.47	3,964.83	-246.33	-62.38	171.51	-51.32	0.50	0.17	-3.88
4,073.00	7.43	101.96	4,058.08	-339.58	-64.99	183.11	-53.18	0.41	0.35	-1.61
4,167.00	7.12	104.25	4,151.32	-432.82	-67.68	194.70	-55.13	0.45	-0.33	2.44
4,245.00	7.24	104.83	4,228.71	-510.21	-70.13	204.14	-56.97	0.18	0.15	0.74
4,342.00	7.00	107.23	4,324.96	-606.46	-73.45	215.69	-59.54	0.39	-0.25	2.47
4,436.00	6.55	105.52	4,418.30	-699.80	-76.58	226.33	-61.99	0.52	-0.48	-1.82
4,531.00	5.86	105.69	4,512.75	-794.25	-79.34	236.22	-64.12	0.73	-0.73	0.18
4,625.00	5.69	106.02	4,606.27	-887.77	-81.92	245.32	-66.11	0.18	-0.18	0.35
4,719.00	7.07	99.97	4,699.69	-981.19	-84.21	255.49	-67.75	1.63	1.47	-6.44
4,813.00	8.38	98.99	4,792.83	-1,074.33	-86.28	267.96	-69.02	1.40	1.39	-1.04
4,907.00	8.24	97.40	4,885.84	-1,167.34	-88.22	281.40	-70.10	0.29	-0.15	-1.69
5,000.00	7.76	97.36	4,977.94	-1,259.44	-89.88	294.24	-70.94	0.52	-0.52	-0.04
5,094.00	7.36	97.36	5,071.12	-1,352.62	-91.47	306.50	-71.74	0.43	-0.43	0.00
5,189.00	6.97	96.45	5,165.38	-1,446.88	-92.90	318.27	-72.41	0.43	-0.41	-0.96
5,283.00	6.44	98.41	5,258.74	-1,540.24	-94.31	329.15	-73.13	0.61	-0.56	2.09
5,377.00	7.15	98.17	5,352.07	-1,633.57	-95.91	340.16	-74.03	0.76	0.76	-0.26
5,471.00	8.09	97.36	5,445.24	-1,726.74	-97.59	352.51	-74.91	1.01	1.00	-0.86
5,565.00	7.95	97.12	5,538.32	-1,819.82	-99.24	365.52	-75.73	0.15	-0.15	-0.26
5,659.00	7.61	96.08	5,631.46	-1,912.96	-100.71	378.16	-76.39	0.39	-0.36	-1.11
ICP										
5,697.00	7.30	97.57	5,669.14	-1,950.64	-101.29	383.05	-76.66	0.96	-0.82	3.92
5,836.00	6.82	98.59	5,807.08	-2,088.58	-103.69	399.97	-77.97	0.36	-0.35	0.73
5,931.00	6.87	96.27	5,901.41	-2,182.91	-105.15	411.19	-78.72	0.30	0.05	-2.44

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well ASADERO 3 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Site:	SE SW SEC. 3 T21S R34E N.M.P.H	MD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Well:	ASADERO 3 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-395-650	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)
6,025.00	6.90	95.39	5,994.73	-2,276.23	-106.29	422.40	-79.14	0.12	0.03	-0.94
6,119.00	7.06	94.60	6,088.03	-2,369.53	-107.29	433.78	-79.41	0.20	0.17	-0.84
6,213.00	6.32	100.03	6,181.39	-2,462.89	-108.65	444.63	-80.08	1.03	-0.79	5.78
6,307.00	6.24	105.88	6,274.83	-2,556.33	-110.95	454.64	-81.74	0.69	-0.09	6.22
6,401.00	5.11	114.81	6,368.37	-2,649.87	-114.11	463.36	-84.33	1.52	-1.20	9.50
6,495.00	3.03	144.65	6,462.14	-2,743.64	-117.89	468.59	-87.77	3.09	-2.21	31.74
6,589.00	2.85	172.50	6,556.02	-2,837.52	-122.23	470.34	-91.99	1.52	-0.19	29.63
6,683.00	2.92	173.27	6,649.90	-2,931.40	-126.93	470.92	-96.64	0.09	0.07	0.82
6,777.00	2.95	172.15	6,743.77	-3,025.27	-131.70	471.53	-101.37	0.07	0.03	-1.19
6,871.00	3.00	173.69	6,837.65	-3,119.15	-136.54	472.13	-106.16	0.10	0.05	1.64
6,965.00	2.14	152.49	6,931.55	-3,213.05	-140.54	473.21	-110.08	1.35	-0.91	-22.55
7,060.00	1.49	131.96	7,026.51	-3,308.01	-142.94	474.95	-112.37	0.96	-0.68	-21.61
7,154.00	1.69	135.20	7,120.47	-3,401.97	-144.74	476.84	-114.04	0.23	0.21	3.45
7,248.00	1.69	136.66	7,214.43	-3,495.93	-146.74	478.77	-115.91	0.05	0.00	1.55
7,342.00	1.11	129.26	7,308.40	-3,589.90	-148.32	480.42	-117.39	0.65	-0.62	-7.87
7,435.00	0.86	90.63	7,401.39	-3,682.89	-148.90	481.82	-117.87	0.75	-0.27	-41.54
7,529.00	0.86	74.06	7,495.38	-3,776.88	-148.71	483.20	-117.60	0.26	0.00	-17.63
7,623.00	0.76	69.51	7,589.37	-3,870.87	-148.30	484.46	-117.11	0.13	-0.11	-4.84
7,717.00	0.68	64.39	7,683.36	-3,964.86	-147.84	485.55	-116.58	0.11	-0.09	-5.45
7,811.00	0.70	81.08	7,777.36	-4,058.86	-147.51	486.62	-116.18	0.21	0.02	17.76
7,905.00	0.59	86.17	7,871.35	-4,152.85	-147.39	487.67	-115.99	0.13	-0.12	5.41
7,999.00	0.73	79.59	7,965.34	-4,246.84	-147.25	488.74	-115.79	0.17	0.15	-7.00
8,093.00	0.69	89.00	8,059.34	-4,340.84	-147.13	489.90	-115.59	0.13	-0.04	10.01
8,188.00	0.91	95.05	8,154.33	-4,435.83	-147.19	491.22	-115.57	0.25	0.23	6.37
8,282.00	1.01	107.52	8,248.31	-4,529.81	-147.50	492.75	-115.78	0.25	0.11	13.27
8,376.00	1.05	120.38	8,342.30	-4,623.80	-148.19	494.29	-116.37	0.25	0.04	13.68
8,470.00	1.13	125.96	8,436.28	-4,717.78	-149.17	495.78	-117.25	0.14	0.09	5.94
8,564.00	0.97	118.37	8,530.27	-4,811.77	-150.09	497.23	-118.08	0.23	-0.17	-8.07
8,658.00	0.87	92.36	8,624.25	-4,905.75	-150.50	498.64	-118.40	0.45	-0.11	-27.67
8,752.00	0.89	91.76	8,718.24	-4,999.74	-150.55	500.09	-118.36	0.02	0.02	-0.64
8,846.00	1.06	82.49	8,812.23	-5,093.73	-150.46	501.68	-118.16	0.25	0.18	-9.86
8,940.00	0.97	76.79	8,906.21	-5,187.71	-150.16	503.32	-117.76	0.14	-0.10	-6.06
9,034.00	0.79	58.27	9,000.20	-5,281.70	-149.64	504.64	-117.16	0.36	-0.19	-19.70
9,128.00	0.74	63.81	9,094.20	-5,375.70	-149.03	505.74	-116.48	0.09	-0.05	5.89
9,222.00	0.75	73.97	9,188.19	-5,469.69	-148.59	506.87	-115.97	0.14	0.01	10.81
9,316.00	0.48	98.34	9,282.18	-5,563.68	-148.48	507.85	-115.80	0.39	-0.29	25.93
9,410.00	0.34	102.53	9,376.18	-5,657.68	-148.60	508.52	-115.87	0.15	-0.15	4.46
9,504.00	0.57	145.76	9,470.18	-5,751.68	-149.04	509.05	-116.28	0.42	0.24	45.99
9,598.00	1.09	155.80	9,564.17	-5,845.67	-150.25	509.68	-117.44	0.57	0.55	10.68
9,692.00	1.01	143.36	9,658.15	-5,939.65	-151.73	510.54	-118.86	0.26	-0.09	-13.23
9,787.00	0.91	147.82	9,753.14	-6,034.64	-153.04	511.44	-120.11	0.13	-0.11	4.69
9,881.00	1.04	139.50	9,847.12	-6,128.62	-154.32	512.39	-121.33	0.20	0.14	-8.85
9,975.00	1.35	133.20	9,941.10	-6,222.60	-155.72	513.76	-122.65	0.36	0.33	-6.70
KOP										
10,069.00	1.57	134.21	10,035.07	-6,316.57	-157.38	515.49	-124.19	0.24	0.23	1.07
10,131.00	1.81	121.98	10,097.05	-6,378.55	-158.49	516.93	-125.21	0.70	0.39	-19.73
10,163.00	1.36	82.65	10,129.03	-6,410.53	-158.71	517.73	-125.38	3.59	-1.41	-122.91
10,210.00	4.96	357.91	10,175.97	-6,457.47	-156.61	518.21	-123.25	10.68	7.66	-180.30
10,257.00	9.60	346.95	10,222.58	-6,504.08	-150.76	517.25	-117.47	10.26	9.87	-23.32
10,304.00	14.56	347.25	10,268.53	-6,550.03	-141.17	515.06	-108.04	10.55	10.55	0.64
10,352.00	18.47	345.65	10,314.54	-6,596.04	-127.91	511.84	-95.02	8.20	8.15	-3.33
10,399.00	22.26	343.54	10,358.59	-6,640.09	-112.16	507.47	-79.57	8.21	8.06	-4.49
10,446.00	25.26	342.94	10,401.60	-6,683.10	-94.03	502.01	-61.83	6.40	6.38	-1.28

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well ASADERO 3 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Site:	SE SW SEC. 3 T21S R34E N.M.P.H	MD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Well:	ASADERO 3 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-395-650	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)
10,493.00	29.01	342.24	10,443.42	-6,724.92	-73.58	495.59	-41.83	8.01	7.98	-1.49
10,541.00	33.86	344.88	10,484.37	-6,765.87	-49.57	488.55	-18.32	10.50	10.10	5.50
10,588.00	40.18	349.84	10,521.88	-6,803.38	-21.97	482.45	8.83	14.86	13.45	10.55
10,635.00	46.22	353.52	10,556.13	-6,837.63	9.84	477.85	40.29	13.92	12.85	7.83
10,682.00	52.41	357.49	10,586.77	-6,868.27	45.35	475.12	75.55	14.64	13.17	8.45
10,730.00	60.16	359.00	10,613.39	-6,894.89	85.22	473.92	115.27	16.36	16.15	3.15
10,777.00	66.57	357.89	10,634.45	-6,915.95	127.20	472.77	157.08	13.80	13.64	-2.36
10,824.00	69.61	357.29	10,651.98	-6,933.48	170.76	470.94	200.44	6.58	6.47	-1.28
10,871.00	72.56	358.22	10,667.22	-6,948.72	215.18	469.20	244.66	6.55	6.28	1.98
10,918.00	76.16	359.35	10,679.89	-6,961.39	260.42	468.24	289.75	8.00	7.66	2.40
10,965.00	80.87	0.57	10,689.24	-6,970.74	306.47	468.21	335.70	10.34	10.02	2.60
11,013.00	82.87	0.46	10,696.03	-6,977.53	353.98	468.64	383.14	4.17	4.17	-0.23
11,060.00	85.74	0.47	10,700.70	-6,982.20	400.74	469.02	429.83	6.11	6.11	0.02
11,107.00	87.52	0.80	10,703.46	-6,984.96	447.66	469.54	476.69	3.85	3.79	0.70
HZ LANDING										
11,202.00	92.73	359.91	10,703.25	-6,984.75	542.62	470.13	571.49	5.56	5.48	-0.94
11,225.00	93.22	359.34	10,702.06	-6,983.56	565.59	469.98	594.41	3.27	2.13	-2.48
11,320.00	91.01	357.82	10,698.55	-6,980.05	660.49	467.62	688.96	2.82	-2.33	-1.60
11,414.00	89.71	356.62	10,697.96	-6,979.46	754.37	463.07	782.36	1.88	-1.38	-1.28
11,509.00	89.65	357.72	10,698.49	-6,979.99	849.25	458.38	876.75	1.16	-0.06	1.16
11,603.00	89.48	0.14	10,699.21	-6,980.71	943.23	456.62	970.42	2.58	-0.18	2.57
11,697.00	89.64	1.98	10,699.93	-6,981.43	1,037.20	458.36	1,064.32	1.96	0.17	1.96
11,792.00	90.17	2.37	10,700.08	-6,981.58	1,132.13	461.96	1,159.29	0.69	0.56	0.41
11,886.00	90.17	2.03	10,699.81	-6,981.31	1,226.06	465.57	1,253.26	0.36	0.00	-0.36
11,980.00	90.10	1.90	10,699.58	-6,981.08	1,320.01	468.80	1,347.21	0.16	-0.07	-0.14
12,074.00	90.72	2.20	10,698.91	-6,980.41	1,413.95	472.16	1,441.17	0.73	0.66	0.32
12,168.00	90.91	1.72	10,697.57	-6,979.07	1,507.88	475.37	1,535.12	0.55	0.20	-0.51
12,262.00	90.70	0.12	10,696.25	-6,977.75	1,601.86	476.88	1,629.00	1.72	-0.22	-1.70
12,356.00	90.63	358.89	10,695.16	-6,976.66	1,695.84	476.07	1,722.75	1.31	-0.07	-1.31
12,450.00	90.53	358.61	10,694.21	-6,975.71	1,789.82	474.02	1,816.40	0.32	-0.11	-0.30
12,544.00	90.59	358.90	10,693.29	-6,974.79	1,883.79	471.98	1,910.05	0.32	0.06	0.31
12,638.00	90.48	359.05	10,692.41	-6,973.91	1,977.77	470.30	2,003.73	0.20	-0.12	0.16
12,733.00	90.67	359.89	10,691.46	-6,972.96	2,072.76	469.42	2,098.48	0.91	0.20	0.88
12,827.00	90.41	359.80	10,690.58	-6,972.08	2,166.76	469.16	2,192.26	0.29	-0.28	-0.10
12,921.00	90.59	359.93	10,689.76	-6,971.26	2,260.75	468.94	2,286.05	0.24	0.19	0.14
13,015.00	90.56	0.14	10,688.81	-6,970.31	2,354.75	469.00	2,379.86	0.23	-0.03	0.22
13,109.00	90.40	0.73	10,688.02	-6,969.52	2,448.74	469.71	2,473.71	0.65	-0.17	0.63
13,203.00	90.60	0.86	10,687.20	-6,968.70	2,542.73	471.02	2,567.59	0.25	0.21	0.14
13,297.00	90.64	0.36	10,686.19	-6,967.69	2,636.72	472.02	2,661.45	0.53	0.04	-0.53
13,390.00	90.34	0.82	10,685.39	-6,966.89	2,729.71	472.97	2,754.31	0.59	-0.32	0.49
13,484.00	90.38	1.76	10,684.80	-6,966.30	2,823.68	475.09	2,848.23	1.00	0.04	1.00
13,578.00	91.05	2.57	10,683.63	-6,965.13	2,917.61	478.64	2,942.19	1.12	0.71	0.86
13,672.00	90.87	2.81	10,682.05	-6,963.55	3,011.49	483.05	3,036.16	0.32	-0.19	0.26
13,766.00	91.34	3.36	10,680.24	-6,961.74	3,105.34	488.11	3,130.14	0.77	0.50	0.59
13,860.00	91.23	2.28	10,678.13	-6,959.63	3,199.20	492.73	3,224.11	1.15	-0.12	-1.15
13,954.00	91.31	0.13	10,676.05	-6,957.55	3,293.15	494.71	3,317.99	2.29	0.09	-2.29
14,048.00	90.99	359.13	10,674.16	-6,955.66	3,387.13	494.10	3,411.74	1.12	-0.34	-1.06
14,142.00	90.35	358.30	10,673.06	-6,954.56	3,481.09	492.00	3,505.38	1.11	-0.68	-0.88
14,236.00	90.53	357.98	10,672.34	-6,953.84	3,575.04	488.94	3,598.94	0.39	0.19	-0.34
14,330.00	90.84	358.32	10,671.22	-6,952.72	3,668.99	485.91	3,692.50	0.49	0.33	0.36
14,424.00	90.50	358.42	10,670.12	-6,951.62	3,762.94	483.24	3,786.10	0.38	-0.36	0.11
14,518.00	90.77	358.54	10,669.08	-6,950.58	3,856.90	480.74	3,879.71	0.31	0.29	0.13
14,612.00	90.77	358.52	10,667.81	-6,949.31	3,950.86	478.33	3,973.32	0.02	0.00	-0.02

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well ASADERO 3 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Site:	SE SW SEC. 3 T21S R34E N.M.P.H	MD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Well:	ASADERO 3 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-395-650	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)
14,707.00	91.07	359.43	10,666.29	-6,947.79	4,045.83	476.63	4,067.99	1.01	0.32	0.96
14,801.00	89.68	0.33	10,665.67	-6,947.17	4,139.83	476.44	4,161.78	1.76	-1.48	0.96
14,895.00	89.75	1.12	10,666.14	-6,947.64	4,233.82	477.63	4,255.66	0.84	0.07	0.84
14,990.00	89.82	1.06	10,666.50	-6,948.00	4,328.80	479.43	4,350.56	0.10	0.07	-0.06
15,084.00	89.71	0.58	10,666.88	-6,948.38	4,422.79	480.78	4,444.45	0.52	-0.12	-0.51
15,178.00	89.61	0.01	10,667.44	-6,948.94	4,516.79	481.26	4,538.28	0.62	-0.11	-0.61
15,272.00	90.17	0.38	10,667.62	-6,949.12	4,610.79	481.58	4,632.11	0.71	0.60	0.39
15,366.00	90.18	0.53	10,667.33	-6,948.83	4,704.78	482.33	4,725.96	0.16	0.01	0.16
15,461.00	90.11	0.66	10,667.09	-6,948.59	4,799.78	483.31	4,820.83	0.16	-0.07	0.14
15,555.00	90.15	0.82	10,666.88	-6,948.38	4,893.77	484.53	4,914.71	0.18	0.04	0.17
15,649.00	90.26	0.73	10,666.54	-6,948.04	4,987.76	485.80	5,008.59	0.15	0.12	-0.10
15,743.00	90.25	0.60	10,666.12	-6,947.62	5,081.75	486.89	5,102.46	0.14	-0.01	-0.14
15,837.00	90.36	0.70	10,665.62	-6,947.12	5,175.75	487.96	5,196.33	0.16	0.12	0.11
15,931.00	90.21	0.75	10,665.16	-6,946.66	5,269.74	489.15	5,290.20	0.17	-0.16	0.05
16,025.00	90.36	0.62	10,664.69	-6,946.19	5,363.73	490.27	5,384.07	0.21	0.16	-0.14
16,119.00	90.22	0.54	10,664.21	-6,945.71	5,457.72	491.22	5,477.94	0.17	-0.15	-0.09
16,212.00	90.59	0.56	10,663.56	-6,945.06	5,550.72	492.11	5,570.80	0.40	0.40	0.02
16,307.00	89.68	0.53	10,663.33	-6,944.83	5,645.71	493.02	5,665.66	0.96	-0.96	-0.03
16,401.00	89.83	0.61	10,663.73	-6,945.23	5,739.70	493.95	5,759.52	0.18	0.16	0.09
16,495.00	89.66	0.54	10,664.15	-6,945.65	5,833.70	494.90	5,853.38	0.20	-0.18	-0.07
16,589.00	89.68	0.20	10,664.69	-6,946.19	5,927.70	495.50	5,947.23	0.36	0.02	-0.36
16,683.00	90.77	359.87	10,664.32	-6,945.82	6,021.69	495.56	6,041.04	1.21	1.16	-0.35
16,777.00	89.94	358.76	10,663.74	-6,945.24	6,115.68	494.44	6,134.76	1.47	-0.88	-1.18
16,872.00	89.68	358.37	10,664.06	-6,945.56	6,210.65	492.06	6,229.39	0.49	-0.27	-0.41
16,966.00	89.61	358.48	10,664.64	-6,946.14	6,304.61	489.47	6,323.00	0.14	-0.07	0.12
17,061.00	89.83	358.61	10,665.10	-6,946.60	6,399.58	487.06	6,417.62	0.27	0.23	0.14
17,155.00	89.78	358.13	10,665.42	-6,946.92	6,493.54	484.39	6,511.22	0.51	-0.05	-0.51
17,249.00	89.33	357.39	10,666.15	-6,947.65	6,587.47	480.72	6,604.71	0.92	-0.48	-0.79
17,343.00	89.71	357.31	10,666.94	-6,948.44	6,681.36	476.37	6,698.14	0.41	0.40	-0.09
17,438.00	89.91	357.09	10,667.26	-6,948.76	6,776.25	471.73	6,792.54	0.31	0.21	-0.23
17,532.00	89.61	357.94	10,667.65	-6,949.15	6,870.16	467.65	6,886.00	0.96	-0.32	0.90
17,626.00	89.87	358.40	10,668.08	-6,949.58	6,964.11	464.65	6,979.57	0.56	0.28	0.49
17,720.00	89.76	359.35	10,668.38	-6,949.88	7,058.09	462.81	7,073.24	1.02	-0.12	1.01
17,814.00	89.66	0.57	10,668.86	-6,950.36	7,152.09	462.74	7,167.04	1.30	-0.11	1.30
17,908.00	90.88	0.69	10,668.41	-6,949.91	7,246.08	463.77	7,260.91	1.30	1.30	0.13
18,002.00	89.65	359.93	10,667.98	-6,949.48	7,340.07	464.28	7,354.74	1.54	-1.31	-0.81
18,096.00	89.93	0.81	10,668.32	-6,949.82	7,434.07	464.89	7,448.59	0.98	0.30	0.94
LAST SURVEY JULY 8, 2019										
18,107.00	90.03	0.79	10,668.33	-6,949.83	7,445.07	465.04	7,459.57	0.93	0.91	-0.18
~ CROSS SETBACK										
18,130.00	90.03	0.79	10,668.31	-6,949.81	7,468.07	465.36	7,482.54	0.00	0.00	0.00
PROJECTION TO TD										
18,140.00	90.03	0.79	10,668.31	-6,949.81	7,478.07	465.50	7,492.53	0.00	0.00	0.00

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well ASADERO 3 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Site:	SE SW SEC. 3 T21S R34E N.M.P.H	MD Reference:	KB 26.5 @ 3718.50usft (H&P 650)
Well:	ASADERO 3 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-395-650	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
FTP - ASADERO 3 STA - survey misses target center by 43.57usft at 10871.00usft MD (10667.22 TVD, 215.18 N, 469.20 E) - Point	0.00	0.00	10,707.50	202.66	480.08	11,801,611.75	2,115,410.91	32.502101	-103.458849
LTP/BHL - ASADERO 3 - survey misses target center by 28.83usft at 18129.93usft MD (10668.31 TVD, 7468.00 N, 465.36 E) - Rectangle (sides W7,617.82 H100.00 D0.00)	0.00	0.00	10,642.00	7,467.82	477.14	11,808,875.08	2,115,303.06	32.522070	-103.458858
HZ LP - ASADERO 3 S1 - survey misses target center by 10.84usft at 11087.46usft MD (10702.49 TVD, 428.14 N, 469.29 E) - Point	0.00	0.00	10,703.49	427.96	480.08	11,801,837.00	2,115,407.66	32.502721	-103.458849
KOP - ASADERO 3 STA - survey misses target center by 38.48usft at 10164.52usft MD (10130.56 TVD, -158.70 N, 517.77 E) - Point	0.00	0.00	10,130.55	-150.00	480.28	11,801,259.18	2,115,416.20	32.501132	-103.458848

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,786.00	1,784.92	-19.32	9.39	SURFACE CASING
5,697.00	5,669.14	-101.29	383.05	ICP
10,069.00	10,035.07	-157.38	515.49	KOP
11,202.00	10,703.25	542.62	470.13	HZ LANDING
18,107.00	10,668.33	7,445.07	465.04	LAST SURVEY JULY 8, 2019
18,130.00	10,668.31	7,468.07	465.36	~ CROSS SETBACK
18,140.00	10,668.31	7,478.07	465.50	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____



Total Directional
Services, LLC

USA Operations

Final MWD Survey Certification

Lea County, New Mexico

Client: Centennial Resource Development

Well Name: Asadero 3 State Com #503H

Total Job No: 2019-395-650

API No: 30-025-46064

Start Date: 6/23/2019

End Date: 7/7/2019

Measured Start Depth: 0' feet

Measured End Depth: 18,140' feet

Vertical Section from well center at TD: 7,492.53 feet

I, Eric Miller, 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: 7/7/2019

Signed: *Eric Miller*